

SCHEDULE OF RATES

FOR TERM CONTRACTS FOR BUILDING WORKS

2023 EDITION

Volume 2

(Building Services Works)



ARCHITECTURAL SERVICES DEPARTMENT
HONG KONG

ARCHITECTURAL SERVICES DEPARTMENT

HONG KONG

February 2023

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Section 00

GENERAL REGULATIONS

SECTION 00**GENERAL REGULATIONS****Associated documents****GR.01**

This Schedule of Rates (hereinafter referred to as "this Schedule" or "the Schedule") shall be read and used in conjunction with : -

- (a) The General Conditions of Contract and Special Conditions of Contract adopted for the Term Contract.
- (b) The Conditions of Tender, Form of Tender and Articles of Agreement of the Term Contract.
- (c) Drawings, Specification and Employer's Requirements of the Term Contract.
- (d) The term "Specification" shall mean the General Specification, Codes of Practice and other documents referred herein below, Particular Specifications and all other specification requirements issued therein and referred to in the Term Contract.
- (e) The General Specifications and other documents for building works including but not limited to the document as listed below including all current amendments issued thereto, and any further document all as referred to in the Term Contract : -
 - (i) General Specification for Building issued by Architectural Services Department.
 - (ii) Appropriate Sections of General Specification for Civil Engineering Works issued by Civil Engineering and Development Department.
 - (iii) Design Manual - Barrier Free Access issued by Buildings Department.
 - (iv) Code of Practice for Fire Safety in Buildings issued by Buildings Department.
 - (v) Code of Practice for Structural Use of Concrete issued by Buildings Department.
 - (vi) The Fresh Water Plumbing Maintenance Guide, Handbook on Plumbing Installation for Buildings, Hong Kong Waterworks Standard Requirements for Plumbing Installations in Buildings, Maintenance of Internal Plumbing and Circular Letters issued to Licensed Plumbers and Authorized Persons by Water Supplies Department.
 - (vii) Geotechnical Manual for Slopes, Geoguide 5 - Guide To Slope Maintenance and other relevant Geoguides issued by Geotechnical Engineering Office, Civil Engineering Department.
 - (viii) Technical Guidelines on Minor Works Control System, issued by Buildings Department.
 - (ix) Technical Memorandum for the Assessment of Noise from places other than Domestic premises, Public Places or Construction Sites, issued by Environmental Protection Department.

Associated documents (Cont'd)**GR.01 (Cont'd)**

- (f) The General Specifications, Codes of Practice and other documents for building services installations including but not limited to the document as listed below, which are issued by Architectural Services Department or Electrical and Mechanical Services Department including all current amendments issued thereto, and any further document all as referred to in the Term Contract : -
- (i) General Specification for Building Services Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
 - (ii) General Requirements for Electronic Contract (ESG01) issued by Electrical and Mechanical Services Department.
 - (iii) General Specification for Public Address Systems (ESG11) issued by Electrical and Mechanical Services Department.
 - (iv) General Technical Specification for Closed Circuit Television Systems (ESG14) issued by Electrical and Mechanical Services Department.
 - (v) General Technical Specification for Uninterruptible Power Supply (UPS) (ESG15) issued by Electrical and Mechanical Services Department.
 - (vi) Code of Practice for the Electricity (Wiring) Regulations issued by Electrical and Mechanical Services Department.
 - (vii) Code of Practice for Energy Efficiency of Building Services Installation issued by Electrical and Mechanical Services Department.
 - (viii) Code of Practice on Working near Electricity Supply Lines issued by Electrical and Mechanical Services Department.
 - (ix) Code of Practice on Avoiding Danger from Gas Pipes issued by Electrical and Mechanical Services Department.
 - (x) Code of Practice for Hong Kong LPG Industry issued by Electrical and Mechanical Services Department.
 - (xi) Code of Practice GU01, GU03 - 06, GU09, GU12, GU13, GU15 and GU21 issued by Electrical and Mechanical Services Department.
 - (xii) Code of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment issued by Fire Services Department.
 - (xiii) Code of Practice for Lift Works and Escalator Works issued by Electrical and Mechanical Services Department.
 - (xiv) Code of Practice for Prevention of Legionnaires' Disease, issued by the Legionnaires' Disease Committee

Associated documents (Cont'd)**GR.01 (Cont'd)**

- (f) (xv) Testing and Commissioning Procedure for Electrical Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xvi) Testing and Commissioning Procedure for Air-conditioning, Refrigeration, Ventilation Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xvii) Testing and Commissioning Procedure for Fire Services Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xviii) Testing and Commissioning Procedure for Lift, Escalator and Passenger Conveyor Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xix) Testing and Commissioning Procedure for Liquefied Petroleum Gas Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xx) Testing and Commissioning Procedure for Catering Equipment Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxi) Testing and Commissioning Procedure for Swimming Pool Water Treatment Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxii) Testing and Commissioning Procedure for Broadcast Reception Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxiii) Testing and Commissioning Procedure for Burglar Alarm and Security Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxiv) Testing and Commissioning Procedure for Emergency Generator Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxv) Testing and Commissioning Procedure for Steam Boiler and Calorifier Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxvi) Testing and Commissioning Procedure for Plumbing Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.
- (xxvii) Testing and Commissioning Procedure for Drainage Installation in Government Buildings of the Hong Kong Special Administrative Region issued by Architectural Services Department.

Associated documents (Cont'd)**GR.01 (Cont'd)**

- (g) Particular Specification(s) and all other specification requirements issued and referred to in the Term Contract.
- (h) Any Amendments and Corrigenda to the Schedule of Rates issued and referred to in the Term Contract.

All items of works contained in this Schedule and in the Amendments and Corrigenda to the Schedule of Rates issued and referred to in the Term Contract, shall be executed in accordance with the conditions and stipulations as provided in the above mentioned documents, and in compliance with all requirements on workmanship, materials, plant, measurements and any other requirements as stipulated in the above documents.

Due allowance is deemed to have been made in the Contract Percentages for complying with the requirements in the Specification and/or Employer's Requirements as adopted in the Term Contract.

Definitions generally**GR.02**

Where any of the definitions given in these General Regulations are at variance with those given in the Special Conditions preceding the Sections throughout this Schedule, the definitions given in the Sections in this Schedule shall take priority.

“approved” shall mean approved in writing by the Maintenance Surveyor but this approval shall not relieve the Contractor from responsibilities imposed by the Term Contract.

“described” shall mean described in the Specification and all current amendments (if any) issued thereto.

“ditto” shall mean the whole of the work described in detail in the preceding item, except as qualified in the description in which it occurs.

"means" shall mean a methodology with provision of all ancillary materials by which a work/service is achieved.

“origin” shall mean the place or country where the material (which shall be natural material only) is originally produced.

“proprietary” shall mean a proprietary material or product, protected by a patent or registered trade mark ® or a trade mark symbol ™ or similar recognizable trade mark or copyright, that is manufactured and marketed by the owner who has exclusive rights of use, or other material or product that the Contractor could provide authentication documents on its make and origin as required by the Maintenance Surveyor and to his satisfaction.

“Schedule” shall mean this Schedule of Rates.

“specified” shall mean specified in the Specification and all current amendments (if any) issued thereto.

**Definitions
generally
(Cont'd)****GR.02
(Cont'd)**

"submission" shall mean the submission of all documents like design, calculation, working drawings, shop drawings, records, etc. as required in the Special Conditions to each Section of the Schedule including obtaining the approval of the Maintenance Surveyor on the submission.

"Term Contract" shall mean the Contract referring this Schedule as forming part of the Contract.

Abbreviations

"exc." shall mean exceeding.

"n.e." shall mean not exceeding.

"c/w" shall mean complete with.

"xx - yy" shall mean a range of dimensions exceeding the first dimension as stated but not exceeding the second, for example: "1.50 - 3.00" shall mean exceeding 1.50 and not exceeding 3.00.

"bore" shall mean nominal internal diameter.

"dia" shall mean nominal diameter.

"mm" shall mean millimetre.

"m" shall mean linear metre.

"m²" shall mean square metre.

"m³" shall mean cubic metre.

"kg" shall mean kilogram.

"AL" shall mean Accredited Laboratory which is an independent body accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS).

"BIM" shall mean Building Information Modelling.

"B.S." shall mean British Standard.

"DIN" shall mean German Institute for Standardization.

"DBH" shall mean diameter of trunk of tree or plant measured at a height of 1.3 m above ground level.

"DfMA" shall mean Design for Manufacture and Assembly.

"EN" shall mean European Standard.

"FRR" shall mean fire resistance rating.

"G.S." shall mean the General Specification and other documents referred in General Regulations Clause GR.01(e) and (f) where appropriate.

**Abbreviations
(Cont'd)****GR.02
(Cont'd)**

"MDF"	shall mean medium density fibreboard.
"MiC"	shall mean Modular Integrated Construction
"PWL"	shall mean Public Works Laboratories.
"RSE"	shall mean Registered Structural Engineer.
"TCP"	shall mean Technically Competent Person.

**Methods of
measurement****GR.03**

All works including "Supply only of materials" measured and paid for under this Schedule shall be measured in accordance with the conditions and rules detailed herein irrespective of any local or trade customs.

All works shall be measured net as completed or fixed in its place. Due consideration has been made in the Schedule rates for works executed in small quantities, narrow widths, short lengths, isolated patches, repairs, any height or locations above or below ground, difficult positions or confined spaces or any other exceptional circumstances; and no additional payment for such circumstances shall be made except where specifically provided for in this Schedule.

All works of "Supply only of materials" shall be the net quantities specified in a Works Order. No allowance or payment shall be made to the Contractor for small quantities, short lengths, breakage or damage or delivery to store/fabricate in any designated location as directed by the Maintenance Surveyor or any other circumstance except where specifically provided for in this Schedule.

Any disadvantage which may be entailed by items being performed under exceptional circumstances must be regarded as being offset by other items which may be proven exceptionally advantageous, and due allowance is deemed to have been made in the Contract Percentages.

Overtime**GR.04**

All works shall be deemed to be executed during any working hour in a 24 hour-day (from 00:00 hour to 24:00 hour) including Sundays and General Holidays. No additional payment shall be made for any overtime including : -

- (a) Overtime which is ordered by the Maintenance Surveyor in accordance with the Conditions of Contract to expedite slow progress of the work caused by default, negligence or omission by the Contractor.
- (b) Watchmen or security guard at any time.

**Deductions for
voids****GR.05**

Where a minimum area is defined for the deduction of voids, such minimum shall refer only to openings or wants detached from the boundaries of the space measured. Openings and wants caused by projections from the boundary of the space measured shall always be the subject of deduction, irrespective of size.

Curved or circular works**GR.06**

Except where specified items are included in this Schedule for curved or circular work, all work shall be measured and priced as if straight and flat. Where specific items for curved work or circular work are included, the maximum radius stated in such description shall be the limit for which curved or circular work shall be paid for and any work curved to a radius greater than this limit shall be measured and priced as if straight and flat.

Works executed by Specialist Sub-contractors, sub-contractors, etc.**GR.07**

Where appropriate throughout this Schedule and where specified in the Term Contract, the following categories of works shall be executed by :-

- (a) Specialist Sub-contractors included in the list of Approved Suppliers of Materials and Specialist Contractors for Public Works maintained by Development Bureau namely :-
- (i) Air-conditioning Installation
 - (ii) Audio Electronics Installation
 - (iii) Broadcast Reception Installation
 - (iv) Burglar Alarm and Security Installation
 - (v) Catering Equipment Installation
 - (vi) Design, Manufacture and Installation of Glass (or Fibre) Reinforced Plastic Units
 - (vii) Diesel Generator Installation
 - (viii) Electrical Installation
 - (ix) Electrical and Mechanical Installation for Sewage Treatment and Screening Plant
 - (x) Electronic Timing and Display Installation
 - (xi) Fabrication of Steel Pipe Specials
 - (xii) Fabrication of Unfired Pressure Vessels
 - (xiii) Fire Service Installation
 - (xiv) Fountain Installation
 - (xv) Industrial Type Electrical Installation
 - (xvi) Landscaping
 - (xvii) Landslip Preventive/Remedial Works to Slopes/Retaining Walls
 - (xviii) Lift, Escalator and Passenger Conveyor Installation

**Works executed
by Specialist
Sub-contractors,
sub-contractors,
etc.
(Cont'd)**

**GR.07
(Cont'd)**

- (a)
 - (xix) Liquefied Petroleum Gas Installation
 - (xx) Low Voltage Cubicle Switchboard Installation
 - (xxi) Mechanical Handling and Lifting Installation
 - (xxii) Mechanical Plant and Equipment Installation
 - (xxiii) Plumbing Installation
 - (xxiv) Radio Electronics Installation
 - (xxv) Repair and Restoration of Historic Buildings
 - (xxvi) Repair of Motors, Transformers and Switchgear
 - (xxvii) Road Marking
 - (xxviii) Soil and Rock Testing
 - (xxix) Space Frame Systems
 - (xxx) Steam and Compressed Air Installation
 - (xxxi) Structural Steelwork
 - (xxxii) Supply and Installation of Pumpsets and Associated Pipework
 - (xxxiii) Supply and Installation of Water Treatment Plant
 - (xxxiv) Supply of Bituminous Pavement Materials and Construction of Special Bituminous Surfacing
 - (xxxv) Swimming Pool Water Treatment Installation
 - (xxxvi) Turn-key Interior Design and Fitting-out Works
 - (xxxvii) Uninterruptible Power Supply Installation
 - (xxxviii) Video Electronics Installation
- (b) Maintenance Surveyor's approved sub-contractors or applicators namely :-
 - (i) Medical Gas
 - (ii) Town Gas
 - (iii) Curtain Walling
 - (iv) Fuel Supply
 - (v) Chimney

Works executed by Specialist Sub-contractors, sub-contractors, etc. (Cont'd)	GR.07 (Cont'd)	<p>The above categories of specialist works are not exhaustive. Other categories of works, if specified in the Term Contract, shall also be executed by Specialist Sub-contractors or other approved sub-contractors or applicators.</p> <p>Due allowance is deemed to have been made in the Contract Percentages for complying with these requirements.</p>
Latest standards, specification and drawings referred to in this Schedule	GR.08	<p>Where materials, workmanship and works are specified in this Schedule to be in conformity with certain British Standards or other International Standards, or to be in accordance with certain G.S. Items, Code of Practice, drawings and the like, they shall deem to be referred to the latest relevant and equivalent standards and amendments as specified in the Specification; or where no specific dates are stated, they shall deem to be referred to the latest relevant and equivalent standards, specification and drawings current and published before the date of first notice of tender invitation for the Term Contract unless otherwise specified. If conflict occurs between various standards, then the more onerous is to apply.</p> <p>Due allowance is deemed to have been made in the Contract Percentages for complying with these requirements.</p>
Imperial equivalents where required or necessary	GR.09	<p>Whenever practicable, the Contractor shall supply materials in metric sizes and execute the works strictly in accordance with the metric dimensions specified. Imperial equivalents may be accepted only when circumstances prohibit compliance with this sub-clause (for example, statutory obligations) or where the Maintenance Surveyor considers it impracticable, undesirable or impossible to use metric sizes or dimensions or when suitable materials are not available in metric sizes.</p> <p>The provision of this sub-clause shall not apply to materials which are specified in this Schedule by their actual manufactured sizes or their metric equivalents (for example, roof tiles, plywood, building boards, p.v.c. pipes, mosaic tiles) or classified in accordance with the relevant British Standards (for example, copper pipes) or other International Standards.</p>
Schedule rates	GR.10	<p>The rates throughout this Schedule shall include for : -</p> <ol style="list-style-type: none"> (a) All materials supplied, and all works and services executed complying strictly with the Specification as detailed in General Regulations Clause GR.01 and the provision or execution of all samples of materials or finished works in patterns where required. (b) Provision of all materials and cutting and wastage on the same, except where otherwise stated, including collection, loading, conveyance, delivery, unloading, stacking, storage of the same, multi-handling between positions as directed on Site and provision of storage accommodation, handling, hoisting, lowering, distributing, etc. to specified location. (c) Provision of all labour including contributions to Mandatory Provident Fund, paid leave, travelling expenses, lodging allowance or living accommodation and any other allowances as required. (d) Provision of all tools, plant, temporary water, power and lighting, watching and work sheds.

**Schedule rates
(Cont'd)**

**GR.10
(Cont'd)**

- (e) All expenses for delivery, distribution or transportation of articles, materials, labour, personnel, tools, plant, work sheds etc. by all means including land, sea or air except otherwise specifically provided for in the Special Conditions of each Section in this Schedule or when specifically required and ordered by the Maintenance Surveyor.
- (f) Executing work in any position, location, on-Site, off-Site and height unless otherwise stated.
- (g) Providing record of photograph, location plan and schedule of existing trees, if any, within and in close vicinity (within 2.00 m) of the site boundary and works areas including protective and preservative works/measures such as tree surgery works, temporary fencing, etc. and the like, allowance for method of operation and vehicular access for tree preservation throughout the period of the Works and removing all temporary protective and preservative works/measures on completion and making good all works disturbed.
- (h) Setting up monitor points for controlling noise, vibration, settlement and lateral movement imposed on adjoining properties including provision of equipment, technical and supervisory personnel carrying out daily monitoring and submission of records as directed by the Maintenance Surveyor.
- (i) Providing and maintaining temporary access and road as G.S. Item 1.28 and making good to match existing.
- (j) Providing and maintaining temporary drainage system as G.S. Item 1.29 and making good to match existing.
- (k) Provision of drawings including shop drawings and/or as built drawings, and operation and maintenance manuals, and carrying out tests on samples or finished works including the submission of test reports and test certificates to the satisfaction of the Maintenance Surveyor; unless specifically provided otherwise in the Schedule.
- (l) Allowance for the works to be executed by Specialist Sub-contractors, Maintenance Surveyor's approved sub-contractors and applicators where required in the Specification, or as stated in the Special Conditions of each Section of the Schedule.
- (m) Carrying out tests by the Public Works Laboratories (PWL) or by an independent body accredited by the Hong Kong Laboratory Accreditation Scheme (HOKLAS) (hereinafter referred to as the "Accredited Laboratory") (AL) including provision and submission of sampling and analysis methodology to the Maintenance Surveyor for approval prior to conducting any tests. The testing laboratories to be engaged by the Contractor shall be approved by the Maintenance Surveyor. The testing laboratories shall submit test results directly from the laboratory to the Maintenance Surveyor in sealed envelopes.
- (n) Providing proof for equivalency by PWL/AL with the standards/requirements specified in the Contract for any alternative standards on the materials/products.
- (o) Conducting compliance tests on structural works by the PWL/AL. The testing laboratories to be engaged by the Contractor shall be approved by the Maintenance Surveyor. The testing laboratories shall submit test results directly from the laboratory to the Maintenance Surveyor in sealed envelopes.

**Schedule rates
(Cont'd)**

**GR.10
(Cont'd)**

- (p) Certification including the employment of independent certification bodies wherever required or necessary.
- (q) Provision, erection, maintenance, alteration, dismantling and clearing away of the following temporary works and protective measures that are required for the execution and completion of the Works unless specifically provided otherwise in the Schedule : -
- (i) All bamboo, metal or proprietary scaffolding, staging, ladders, trestles, cradles, gondolas, platforms and similar items complete with all netting, coverings, screens, dust sheets, barricades, catch-fans, protective canopies, etc.
The Contractor shall comply with all necessary strengthening measures on bamboo scaffolding and submit all relevant checklists/documents required by Maintenance Surveyor for inspection/consent in any stages of scaffolding works.
- (ii) All types of hoardings and walkways complete with gateways, adequate lighting, associated power supply and electrical work as required by the Maintenance Surveyor including the types of hoardings and walkways (including internal metal/aluminium hoardings) referred to in Section 10 - Steel and Metal Work of this Schedule and other proprietary hoardings and walkways systems, and the submission of detailed drawings together with supporting calculations certified by TCP or RSE for approval and provision of operation manuals of other proprietary hoardings and walkways systems not referred to in Section 10 - Steel and Metal Work; and
- (iii) Similar temporary measures including but not limited to protective shield coverings, fences, barriers and the like and/or other protective measures specifically covered by the Special Conditions of each Section in this Schedule, and the erection, alteration and dismantling of such temporary measures on a daily basis where required by the Maintenance Surveyor for all necessary protection to new works and the public from harm, dust or nuisance.
- The drawings referred to in Section 10 - Steel and Metal Work of this Schedule and in sub-clause (ii) above are not exhaustive and would be subject to change. The Contractor is deemed to allow for complying with the requirements as stipulated in General Regulations Clause GR.08.
- (r) Clearing away debris, surplus materials or other materials arising from the works and leaving the works and areas affected by the works clean and tidy on completion to the satisfaction of the Maintenance Surveyor.
- (s) Provision of mechanical dump truck covers in accordance with Particular Specification for Mechanical Dump Truck Covers.
- (t) All superintendence, establishment charges, overhead, expenses and profit.
- (u) Any cost and/or expenses incurred for carrying out the works at all times including working outside normal working hours as provided in General Regulations Clause GR.04.

**Schedule rates
(Cont'd)**

**GR.10
(Cont'd)**

- (v) Any costs and/or expenses in supplying materials or products to match existing works, finishes or systems when instructed by the Maintenance Surveyor, except when such materials or products are not specifically mentioned in this Schedule.
- (w) Any other expenses incurred in conforming with the Term Contract.
- (x) Reinstatement and making good surfaces disturbed.
- (y) Imperial equivalents wherever required or necessary.
- (z) All funds/subsidies to be granted from relevant authorities/associations/organizations in connection with adoption of designated technologies/requirements, including but not limited to the advanced construction technology e.g. Building Information Modelling, Modular Integrated Construction, etc.
- (aa) All work, services and obligations for or related to ensuring that all workers involved in site works wear site uniform when they are on the site as prescribed in the Term Contract. There shall be no measurement or separate payment for any of such work, services and obligations.
- (ab) The provision of implementation of and compliance with the Sub-contractor Management Plan (SMP) including submission and quarterly updating of SMP in the form and contents as prescribed in the Term Contract. There shall be no separate items in this Schedule for measurement of "complete Sub-contractor Management Plan" and "quarterly updating of Sub-contractor Management Plan".
- (ac) The provision of implementation of and compliance with the Mandatory Construction Tradesman Collaborative Training Scheme (CICTS) including submission and quarterly updating of training plan in the form and contents as prescribed in the Term Contract. There shall be no measurement or separate payment for any of such work, services and obligations.
- (ad) The provision of engagement of the tree management personnel registered under the Registration Scheme for Tree Management Personnel launched by the Development Bureau in undertaking respective types of tree-related works as stipulated in the Term Contract. There shall be no separate items in this Schedule for measurement or payment of the same.

Where the Contractor considers any of the rate contained in the Schedule is insufficient or inadequate or involves any fund/subsidy to be granted, the Contractor is deemed to have made all necessary allowances in the Contract Percentages adjustment and/or in any other priced works as contained in the Schedule and in compliance with all requirements as stipulated in the items in the Term Contract for executing the Term Contract.

**Schedule rates and
application of
Contract
Percentages**

GR.11

The Schedule rates in this Schedule are derived from the basic rates of provisions of labour, materials, plant and all other provisions as stated in this Schedule including adjustments made to the basic rates giving due consideration of factors including market trends, trade practices and the management efficiency and bidding strategies of contractors as reflected in the past term contracts procurement.

Schedule rates and application of Contract Percentages (Cont'd)

GR.11 (Cont'd)

The Schedule rates also take into account conditions under which term contracts works are executed, which may include but not be limited to works executed in small quantities or large quantities, narrow widths, short lengths, isolated patches, repairs, any height or locations above or below ground, difficult positions or confined spaces, on-Site, off-Site or any other exceptional circumstances of the works.

The Schedule rates shall apply to the valuation of works instructed by the Maintenance Surveyor, and in all cases, the Schedule rates to be paid for the works shall be determined and applied before applying any relevant Contract Percentages.

The Contract Percentages including any percentage addition/adjustment as priced and included in the Contract shall include the Contractor's profits and overheads, attendance, all costs and expenses incurred in connection with the Works and are necessary in fulfilling the requirements of the Term Contract where they are not separately itemized or stated in this Schedule, including the works or services assessed under proportional rate items, star rate items and re-applicable rate items.

Rates for items not specifically mentioned in this Schedule

GR.12

Rates for items not specifically mentioned in this Schedule shall be valued as follows :-

- (a) Proportional rate When an article, a material, workmanship or service is of similar form, character or quality to that detailed in the Schedule or executed under similar conditions and circumstances as described therein, then at a rate equal to a Schedule rate but with a fair adjustment for the difference in form, character and quality or in conditions and circumstances, and such rate to be agreed upon between the Maintenance Surveyor and the Contractor.
- Such proportional rate shall be subject to relevant Contract Percentages adjustment.
- (b) Star rate When an article, a material, workmanship or service is not of similar form, character or quality to that detailed in the Schedule or not executed under similar conditions and circumstances as described therein, or when work or material of any kind which is not detailed in the Schedule, then at a reasonable rate to be agreed upon between the Maintenance Surveyor and the Contractor.
- Such star rate shall not be subject to relevant Contract Percentages adjustment unless otherwise specifically stated.
- (c) Re-applicable rate A rate fixed in accordance with the Term Contract requirements and to be re-applicable in any other Works Orders as approved by the Maintenance Surveyor for the whole duration of the Term Contract and not subject to adjustment of fluctuation and Contract Percentages adjustment.

Materials supplied by Government or other designated suppliers

GR.13

When materials are supplied to the Contractor by Government or other designated suppliers, no allowance shall be made to the Contractor other than the payment for "Fix only" ("Lay only" or "Set only", etc.) as detailed under the appropriate items of this Schedule.

“Supply only”**GR.14**

The term “Supply only” used throughout this Schedule shall mean the provision completed by the Contractor of an article, a fitting or a material. The rates for such items shall include for, where applicable, obtaining and taking delivery of the articles, fittings or materials, transporting by land, sea, or air to sites or Government stores or other designated locations as directed by the Maintenance Surveyor, and all necessary off-loading and moving into sites, Government stores or other designated locations.

The rates listed in the “SUPPLY ONLY OF MATERIALS” in each Section of this Schedule shall include all the foregoing charges and allowance for off-Site fabrication, replacement of materials damaged during delivery to sites, off-loading and moving into sites, Government stores or other designated locations as directed by the Maintenance Surveyor.

**“Take down
 (“Take up” or
 “Take out”, etc.)
 and clear away”****GR.15**

The term “Take down (“Take up” or “Take out”, etc.) and clear away” used throughout this Schedule shall mean execution completed by the Contractor of the work of taking down, taking up or taking out of the existing articles, fittings or materials either in whole or in part and removing from Site and disposing of the same. The rates for such items shall include for all or any of the following : -

- (a) Works executed by skilled labourers of the required trades, unless specifically provided otherwise in the Schedule.
- (b) Payment of all fees and charges.
- (c) Taking down, taking up or taking out of the articles, fittings or materials either in whole or in part together with any associated plugs, holdfasts, lugs, brackets and other fixings and all necessary cutting out and disposal.
- (d) Making good any works disturbed and any damage to surrounding surfaces and filling up all mortices, holes, etc. or alternatively leaving the same open and clean to receive readily new articles, fittings or materials.
- (e) Reinstatement and making good surfaces disturbed.
- (f) Preparing edges, ends or surfaces of remaining materials to receive junctions with new.
- (g) Taking up or removing covers, access doors, etc. and the like for the execution of the works and re-fixing the same on completion.

The articles, fittings, or materials taken down shall become property of the Contractor. Unless otherwise specified, due allowance for credits has been considered in the Schedule rates where applicable.

“Take down (“Take up” or “Take out”, etc.) and set aside for re-use”

GR.16

The term “Take down (“Take up” or “Take out”, etc.) and set aside for re-use” used throughout this Schedule shall mean execution completed by the Contractor of the work of taking down, taking up or taking out of the existing articles, fittings or materials either in whole or in part and setting the same aside on site or transporting to Government stores or other Government sites for subsequent re-use. The rates for such items shall include for all or any of the following : -

- (a) Works executed by skilled labourers of the required trades, unless specifically provided otherwise in the Schedule.
- (b) Payment of all fees and charges.
- (c) Carefully taking down, taking up or taking out of the articles, fittings or materials together with associated plugs, holdfasts, lugs, brackets and other fixings and all necessary cutting out and disposal.
- (d) Thoroughly cleaning, oiling and adjusting the articles, fittings or materials ready for re-use, dismantling, re-assembling again as necessary, moving and stacking or putting into stores on sites or alternatively loading, transporting, unloading and moving to Government stores or other Government sites.
- (e) Making good any works disturbed and any damage to surrounding surfaces and filling up all mortices, holes, etc. or alternatively leaving the same open and clean to receive readily re-used or new articles, fittings or materials.
- (f) Reinstatement and making good surfaces disturbed.
- (g) Preparing edges, ends or surfaces of remaining materials to receive junctions with re-used or new.
- (h) Repairing or replacing at Contractor's own cost any damage caused to the articles, fittings or materials during taking down, taking up, taking out, etc. and transit.
- (i) Taking up or removing covers, access doors, etc. and the like for the execution of the works and re-fixing the same on completion.

**“Fix only”
 (“Lay only”
 or “Set only”,
 etc.)**

GR.17

The term “Fix only” (“Lay only” or “Set only”, etc.) used throughout this Schedule shall mean execution completed by the Contractor of the work of fixing, laying, setting, jointing, re-fixing, re-laying, re-setting and re-jointing the articles, fittings or materials made available free of charge to the Contractor by Government or it has been previously taken down. The prior taking down of the existing articles, fittings or materials shall be measured separately and paid for at the appropriate rates under applicable Sections of this Schedule. The rates for such items shall include for any or all of the following : -

- (a) Works executed by skilled labourers of the required trades, unless specifically provided otherwise in the Schedule.
- (b) Payment of all fees and charges.
- (c) Taking delivery of the articles, fittings or materials at Government stores or other designated suppliers, loading, transporting to sites, unloading, checking and examining the same and storing on sites and returning any crates and other packings to Government stores, if required.
- (d) Taking the articles, fittings or materials from stores on sites, sorting, cutting and fitting, fabricating, assembling, moving, hoisting, distributing at locations, fixing, laying, setting, jointing, re-fixing, re-laying, re-setting and re-jointing in new or existing work, opening or position.
- (e) Providing all fixing and jointing materials such as nails, bolts, nuts, washers, screws, gaskets, mastic, adhesive, mortar and the like or other fixing and jointing materials made available from taking down.
- (f) Executing all plugging and screwing, jointing, cutting all mortices and grouting the same, and executing all cutting, fitting, easing or adapting necessary to the articles, fittings or materials to the positions in which the same are to be fixed, and oiling and leaving in good working order.
- (g) Making good any damage caused to the articles, fittings or materials and surrounding surfaces and making good new or existing finishes up to the same.
- (h) Reinstatement and making good surfaces disturbed.

When the articles, fittings or materials despite having been taken down from another positions and set aside for re-use or having been delivered by Government or other designated suppliers or their agents are made available on site, no deduction shall be made from the rates of “Fix only” (“Lay only” or “Set only”, etc.) for transporting the said articles, fittings or materials to Site.

**Built up fittings or
 composite units**

GR.18

The rates for "Take down and clear away", "Take down and set aside for re-use" and "Fix only" of constituent components shall be measured as the appropriate items in the respective Sections unless otherwise provided in this Schedule. The fittings and composite units shall only be valued as a whole unit and shall not be broken down and measured as constituent components or vice versa.

Nominated Sub-contractors' accounts	GR.19	When works are carried out by Nominated Sub-contractors and facilities for the execution of such works are afforded to the Nominated Sub-contractors by the Contractor and accounts for such works are paid by the Contractor in accordance with the Conditions of Contract, the percentage addition allowed to the Contractor on the net cost of such works shall be as that contained in the Form of Tender for "Profit and Attendance on Nominated Sub-contractors' Works".
"Making good"	GR.20	The term "Making good" shall be understood as including all labour and materials necessary to bring the disturbed area to the same appearance, colour, texture, etc., in the same materials as the surrounding work and shall include for painting, colouring and/or varnishing any new work to match the surrounding existing work to the entire satisfaction of the Maintenance Surveyor.
Daywork	GR.21	When daywork is ordered by the Maintenance Surveyor, measurement of daywork shall be made according to the Special Conditions set out in Section 17 - Labour and Section 18 - Temporary Plant and Facilities of this Schedule.
"Utility Connection and Pavement Works"	GR.22	<p>The term "Utility Connection and Pavement Works" shall mean the works of drainage connection, water supply connection, construction of run-in and reinstatement of footways which shall be executed complete by contractors selected and employed by the Contractor from the "List of Approved Contractor for Public Works in Group A, B or C for Road & Drainage Works" for the drainage connection and construction of run-in and reinstatement of footways and from the "List of Approved Contractors for Public Works in Group A, B or C for Waterworks" for the water supply connection work.</p> <p>When Utility Connection and Pavement Works are required to be executed under the Term Contract and are ordered specifically by the Maintenance Surveyor for such purpose, the Contractor shall be reimbursed a lump sum fee payment as included in Item 03062 in Section 03 – Excavation of this Schedule for compliance with the requirements stated herein and as provided in the Term Contract for the Utility Connection and Pavement Works. This lump sum fee payment is an allowance made for all costs and expenses other than the valued works executed in connection with the Utility Connection and Pavement Works under the relevant Sections in this Schedule, and shall include for the following : -</p> <ol style="list-style-type: none"> (a) Complying with the requirements and procedures in connection with the Utility Connection And Pavement Works specified in the Particular Specification referred to in the Term Contract and submitting assessments and reports as required. (b) Liaising with the relevant authorities and utility companies, preparing and submitting relevant drawings, programmes and documents and completing all the forms in connection with the Utility Connection and Pavement Works. (c) Submitting all the detailed particulars in connection with the granting of an Excavation Permit [Note : Excavation Permit means any excavation permit issued by the Government in respect of the Utility Connection and Pavement Works under Section 10A of the Land (Miscellaneous Provisions) Ordinance] as required by the Maintenance Surveyor. (d) Obtaining approvals and permits from relevant utility companies or Government departments.

**“Utility Connection
And Pavement
Works”
(Cont'd)**

**GR.22
(Cont'd)**

- (e) Complying with the conditions of any Excavation Permit applicable to the Utility Connection and Pavement Works.
- (f) Providing and maintaining temporary road or access where required for pedestrian and vehicular traffic diversions and subsequent clearing away after completion of the Works.
- (g) Providing and maintaining traffic control as G.S. Item 1.21.
- (h) Locating and protecting existing utility services as G.S. Item 1.25.
- (i) Carrying out all necessary site inspections (including handing over inspections) jointly with the relevant authorities and utility companies.
- (j) Provision of identification tapes along the water connection mains.
- (k) Cleaning and sterilization of fresh water mains for making connections.
- (l) Provision of as built drawings and test reports as specified.
- (m) Protection of curbs, masking and unmasking of drainage channels, manhole covers, gully gratings, expansion joints, road studs and road marking.
- (n) Provision, maintenance and removal of all measures to maintain traffic flow including labour and temporary traffic diversion lighting and signs and paying all charges incurred.
- (o) Provision, maintenance and removal of temporary road, walkway, covers to trenches and the like.
- (p) Making good all surfaces, features, etc. and the like disturbed by all temporary road, access, traffic control, pedestrian footway, etc. and the like to match existing and including all requirements as stipulated in the Term Contract for carrying out the Utility Connection and Pavement Works.

This lump sum fee payment shall only be paid once for each location specified in the Works Order. Works executed in connection with the Utility Connection and Pavement Works shall be measured separately in accordance with the General Regulations and the Special Conditions of the relevant Sections in this Schedule.

**Submission of
measurement
and accounts**

GR.23

All quantities shall be measured and rounded to the nearest two decimals of a unit.

**Materials/
Products****GR.24**

All materials/products shall generally be based on the corresponding properties and/or performance standards as stipulated in the Specification (as defined in General Regulations Clause GR.01(d) herein) and/or as set out in this Schedule.

Where materials, products or works in this Schedule are stipulated as "proprietary", "approved", of "specific quality" or by their origins of which properties and/or performance standards are specified without their brand names, authentication documents on such materials, products or works including certificates of origins, technical literature and catalogues, test certificates and/or compliance test reports, manufacturers' guarantees or warranties, samples and mock-ups of these materials, products or works together with other documents required by the Maintenance Surveyor should be submitted or provided for the Maintenance Surveyor's written approval before purchase, delivery and execution. If any of these materials, products or works delivered or executed without the Maintenance Surveyor's prior written approval, or are not carried out to the Maintenance Surveyor's satisfaction, they should be removed or reinstated by the Contractor at his own expenses. The Maintenance Surveyor may also adjust this payment to the Contractor in accordance with General Regulations Clause GR.26.

For all materials, products and works within the definition of "proprietary" in General Regulations Clause GR.02, the Contractor, if required by the Maintenance Surveyor, shall provide a certificate of patent or registered trade mark or copy right; or provide authentication documents like the make or origin of the materials or products, test reports, test certificates, operation and maintenance manuals, warranties and manufacturer's guarantees and any other document that could provide the authentication to the same effect; and provide local project reference to demonstrate that the materials, products and works have proven track record of similar application, all to the satisfaction of the Maintenance Surveyor. The Contractor shall further be required to have specific proprietary materials/products/works executed by approved sub-contractors/applicators and submit technical literature, method statements, etc. where required by the Maintenance Surveyor or as stated in the Term Contract.

Due allowance is deemed to have been made in the Contract Percentages for complying with all of the above requirements.

**Materials/Products
specified as
"specific quality"****GR.25**

Certain materials/products in this Schedule are stipulated as of "specific quality". These shall generally be materials/products of significance, such as those that are safety critical, prestigious in nature, or such are required to create a specific visual impact to the completed works, or are critical to the completed works from their functionality, operation and maintenance perspectives that the quality of such materials/products exceeds the requirement generally stated in the General Specification and in the Term Contract.

The Contractor shall provide authentication of documentary evidence and proof including those specified in this Clause and General Regulations Clause GR.24 herein to identify and justify the properties and/or performance standards of "specific quality" of the subject materials/products are generally of higher quality than that specified in the General Specification and the requirements as stated in the Specification of the Term Contract, for the Maintenance Surveyor's approval. Such proof may include carrying out appropriate quality tests to verify the quality of the subject materials/products is of quality higher than that specified in the General Specification, or obtaining certification from an independent testing authority/expert (to be approved by the Maintenance Surveyor) confirming of such specific quality.

Materials/Products specified as "specific quality" (Cont'd)

GR.25 (Cont'd)

If the documentary evidences are in languages other than English, the Contractor shall be responsible and bear the cost and expenses to employ a qualified translation agent for any English translation to the satisfaction of the Maintenance Surveyor.

Due allowance is deemed to have been made in the Contract Percentages for complying with all of the above requirements.

Payment for materials/products

GR.26

Throughout this Schedule and including items valued under General Regulations Clause GR.12, the payment of materials/products shall generally be assessed according to the corresponding properties or performance standards as set out in this Schedule (with reference to the Specification) regardless of whether the materials/products are specified with brand names or referred as "proprietary", "approved", of "specific quality" or by their origins, or not.

The onus of proof is vested with the Contractor to identify the origins, properties and/or performance standards of materials/products used in the works corresponding to those set out in this Schedule (with reference to the Specification) and/or approved or accepted by the Maintenance Surveyor, and to provide the necessary documentary evidence and authentications including but not limited to certificates of origins, certificates of patent, registered trade marks or copy rights, local job references to demonstrate that the materials, products and works have proven track records of similar applications, technical literature and catalogues, test certificates and/or compliance test reports, manufacturers' guarantees or warranties, sub-contractors' or applicators' warranties and the like of the materials/products specified or approved all to the satisfaction of the Maintenance Surveyor, and for use by the Maintenance Surveyor for payment of the corresponding materials/products as set out in this Schedule.

In the absence of any documentary evidence and authentications that are required to demonstrate the conformity or compliance of the materials/products/works with the respective "proprietary", "approved", of "specific quality", origins or brand names, the assessment of such materials/products/works may be based on the basic costs of the materials/products/works that are available in the Schedule as ascertained by the Maintenance Surveyor, or otherwise the Maintenance Surveyor shall withhold or deduct the value of such materials/products/works that are not being carried out to his satisfaction from the final value of the works.

Adjustment to unit rates exceeding \$99,999.99

GR.27

Whenever the unit rate for an item exceeds \$99,999.99, it has been divided by a factor ("adjustment factor") to reduce the figure to fall within \$99,999.99 ("adjusted rate") for inclusion in this Schedule. Such unit rate before adjustment is described in the item description as the actual rate. When the adjusted rate is to be used for all purposes under the Term Contract, such adjusted rate shall be multiplied by the adjustment factor to revert it back to the actual rate before making any adjustment of the relevant Contract Percentages.

Application of Schedule rates

GR.28

This Schedule comprises Volume 1 for Builder's Works and Volume 2 for Building Services Works (B.S. Works). The compilation of unit rates in these two volumes of Schedule of Rates are made with due consideration on the specific natures, purposes and requirements which would vary for the execution of the builder's works and the building services works.

Where similar Schedule rates are found in different Sections, whether within the same volume or different volume of the Schedule, such valuation shall in so far as reasonable be based on Schedule rates of the same Section under which the works are executed.

Section 01

CONTRACT FACILITIES AND SPECIAL ATTENDANCES

SECTION 01

CONTRACT FACILITIES AND SPECIAL ATTENDANCES

SPECIAL CONDITIONS

Contract Requirements

- SC01.01** This Section shall be read and used in conjunction with the Specification and the Employer's Requirements adopted in the Contract.
- Contract Facilities stated in this Section shall refer to land transport facilities, contract equipment and contract staff services provided by the Contractor for the exclusive use by the Maintenance Surveyor, his representatives, the Employer or his staff all in accordance with the requirements of the Contract for the Contract Period or such other period as instructed by the Maintenance Surveyor.
- Special Attendances stated in this Section shall mean the Contractor's provision of means of access for the works in Works Orders of incidental minor maintenance and repair nature at a height of over 10 metre where no other proper means of access is available. Payments of Special Attendances shall satisfy the conditions as stated in Special Conditions Clause SC01.13 below.
- The Contractor shall arrange for the provisions of Contract Facilities and Special Attendances to be readily available for use at the time or any time, for the duration and in the manner as specified in the Contract, or otherwise as may be instructed by the Maintenance Surveyor.

Particular Preamble

- SC01.02** The rates appearing in this Section are allowances for providing the Contract Facilities as required in the Contract and Special Attendances. The Contractor is deemed to have allowed in his Contract Percentage(s) for this and other Sections in the Schedule of Rates of any insufficiency of rates and all other expenses incurred under the Contract for : -
- (a) Meeting all contractual and statutory obligations in connection with the provision of Contract Facilities and Special Attendances, and any other related obligations, liabilities, risks and profit borne by the Contractor;
 - (b) Any of the Contract Facilities requirement which is impracticable or not available (e.g. when the model satisfying the contract requirement is no longer available or out of stock), the Contractor shall provide similar facilities and services satisfying the requirement of the Contract and accepted by the Maintenance Surveyor;
 - (c) Any item or part thereof of any Contract Facilities that is required and specified in the Contract but the methods of measurement provided hereunder do not measure or have excluded such item or part thereof in this Section;
 - (d) The payment for Special Attendances shall in no way vitiate the provisions as stipulated in General Regulations for all works and services carried out under the Contract;
 - (e) Any further period of Contract Facilities provided beyond the period of measurement as provided in the Special Conditions contained in this Section and without any confirmation from the Maintenance Surveyor; and
 - (f) All other allowance as stipulated in the Contract in connection with the provision of the Contract Facilities and Special Attendances.

SPECIAL CONDITIONS

Rates generally	SC01.03	<p>The rates in this Section shall generally include for :-</p> <p>(a) Maintenance, repairs, service charges, tax, licence and any other government fees and charges in connection with the use of the Contract Facilities and provisions of Special Attendances.</p> <p>(b) Provisions of all insurances on the Contract Facilities against accident, damage, loss by theft or fire, etc.</p> <p>(c) Replacement of contract staff.</p> <p>(d) Replacement of damaged or lost facilities.</p> <p>(e) Removal of the Contract Facilities within the time as stipulated in the Contract, or at any time as may be informed by the Maintenance Surveyor.</p>
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Measurement of Contract Facilities generally	SC01.04	<p>The items for Contract Facilities shall generally be measured and paid for in accordance with the Special Conditions provided below and the Employer's Requirements where such facilities are specifically stated in the Contract.</p>
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LAND TRANSPORT

Measurement of land transport facilities	SC01.05	<p>The land transport facilities shall include the provision of petrol private car, hybrid vehicle or electric vehicle and the driver services as specified in the Contract.</p>
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The rates for land transport facilities shall be measured each and on a monthly basis for the period from the date when such land transport facilities are provided for use under the Contract until the expiry of the Contract Period as specified in the Contract, and any further period of provision of the land transport facilities that the Maintenance Surveyor expressly confirms in writing.

In case where the period of the provision of land transport facilities provided for use is not in a whole month, or where no land transport or alternative replacement facilities are provided on any day(s) within a particular month, the rate to be paid to the Contractor shall be adjusted as follows :-

$$\text{Amount to be deducted from the Schedule rate for the provision of land transport facilities in a particular month for each number vehicle} = \frac{D_1}{D} \times R$$

D_1 = The number of days on which the land transport or alternative replacement facility is not provided in the particular month.

D = Total number of days in the particular month where provision of the land transport facility is required.

R = Schedule rate for the provision of land transport facilities in a particular month for each number vehicle subject to Contract Percentage adjustment.

The periods (D_1) and (D) are measured in half calendar day unit occurring during the said month.

No measurement and payment shall be made for any period of time during which no land transport nor other alternative replacement facilities are provided for use under the Contract.

SPECIAL CONDITIONS**LAND TRANSPORT****Rates for
land transport
facilities****SC01.06**

The rates for land transport facilities shall further include for : -

- (a) Provision of environment-friendly petrol private cars, electric vehicles or hybrid vehicles of not more than two years old, and in good working order and roadworthy conditions. A valid environment-friendly vehicle certificate shall be provided for environment-friendly petrol private cars.
- (b) Provision of a competent and licensed driver for each vehicle who must have not less than 3 years' driving experience, no dangerous driving records and who shall be approved by the Maintenance Surveyor. The driver shall be equipped with a mobile telephone for contact purpose when on duty.
- (c) Provision of the vehicles at all times and for the uses as specified in the Contract.
- (d) Arranging the vehicles to be standby during the period when the vehicles are not in use including having the vehicles parked at a location designated by the Maintenance Surveyor.
- (e) All tunnels, bridges and cross harbour tunnel toll fees, and parking fees including the parking fees incurred when the vehicles are standby.
- (f) Maintaining a record of the use of the vehicles including details, times and purposes of journeys together with appropriate pedometer readings and distances travelled.
- (g) Maintaining effective comprehensive insurances covering passenger liabilities of the vehicles to be driven by any driver. In the case of a private car under the ownership of the Contractor, inclusion of an endorsement in the insurance policy expanding the definition to cover the Maintenance Surveyor and his Representatives and all personnel of the Employer.
- (h) Fuels, oils, lubricant and the like for the proper running and functioning of the vehicles.
- (i) Provision for similar alternative transport when the vehicles provided are unavailable.
- (j) Providing or painting the contract number, contract title, the Contractor's name or other suitable identification as approved by the Maintenance Surveyor to the vehicles.

SPECIAL CONDITIONS**CONTRACT EQUIPMENT****Measurement of contract equipment****SC01.07**

The rates for provision of contract equipment shall be measured each and on a monthly basis from the date when such equipment is provided for use until the expiry of the Contract Period as specified in the Contract, and any further period of provision of the contract equipment that the Maintenance Surveyor expressly confirms in writing.

In case where the period of the provision of contract equipment provided for use is not in a whole month, or where no contract equipment or alternative replacement is provided for each period exceeding seven calendar days within a particular month, the rate to be paid to the Contractor shall be adjusted as follows : -

Amount to be deducted from the Schedule rate for the provision of contract equipment in a particular month for each number contract equipment = $\frac{D_1}{D} \times R$

D_1 = The number of days on which the contract equipment or alternative replacement is not provided in the particular month.

D = Total number of days in the particular month where provision of the contract equipment is required.

R = Schedule rate for the provision of contract equipment in a particular month for each number contract equipment subject to Contract Percentage adjustment.

The periods (D_1) and (D) are measured in half calendar day unit occurring during the said month.

Deduction shall be made for each period of continuous non-provision more than seven calendar days and of which shall include the initial seven calendar days of that period of non-provision. For clarity, no deduction shall be made if the period of non-provision does not exceed seven calendar days within a particular month.

Save as the aforesaid provisions, no measurement and payment shall be made for any period of time during which no contract equipment nor other alternative replacement is provided for use under the Contract.

Rates for contract equipment**SC01.08**

The rates for contract equipment shall further include for : -

- (a) Provision of all equipment with functions, configurations and specifications as stated in the Contract and in good working order.
- (b) Provision of all necessary consumables like paper, toner, etc.
- (c) Licence fees, connection charges, rental charges, broadband internet connection, service charges, insurance and the like.
- (d) Maintaining monthly report on usage.
- (e) Regular maintenance, repair and temporary replacement of the devices of similar functions and configurations during period of repair.

SPECIAL CONDITIONS**PERSONAL PROTECTIVE EQUIPMENT****Measurement of personal protective equipment****SC01.09**

The rates for provision of personal protective equipment shall be measured each based on number of full sets of such equipment to be provided in each contract car for use including goggles, surgical masks, protective coverall suites, gloves, shoe covers and the like until the expiry of the Contract Period as specified in the Contract, and any further period of provision of such equipment that the Maintenance Surveyor expressly confirms in writing.

Rates for personal protective equipment**SC01.10**

The rates for personal protective equipment shall further include for : -

- (a) Disposable goggles with clear anti-fog lens and adjustable bands complying with EN116 or equivalent.
- (b) Disposable surgical masks.
- (c) Disposable protective coverall suites complying with EN14126 or equivalent.
- (d) Disposable surgical gloves complying with EN455 or equivalent.
- (e) Disposable shoe covers made of impermeable fabric.

CONTRACT STAFF SERVICES**Measurement of contract staff services****SC01.11**

The contract staff services shall include the provision of the following staff services when specified in the Contract : -

- (a) Clerical support staff
- (b) Maintenance support officer
- (c) Technical officer
- (d) Works supervisor (builder's work) and works supervisor (building services)
- (e) Quality control assistant (builder's work) and quality control assistant (building services)
- (f) Customer services officer
- (g) Senior customer services officer
- (h) BIM coordinator

SPECIAL CONDITIONS

CONTRACT STAFF SERVICES

Measurement of contract staff services (Cont'd)

SC01.11 (Cont'd)

The rates for provisions of contract staff services shall be measured each and on a monthly basis from the date when the contract staff reports duty at the Employer's office until the expiry of the Contract Period as specified in the Contract, and any further period of provision of the contract staff services that the Maintenance Surveyor expressly confirms in writing.

Payment shall only be made when the Contractor has demonstrated to the Maintenance Surveyor's satisfaction that salary payments have been received by the contract staff.

In case where the period of the provision of contract staff services is not in a whole month, or where replacement is not provided for the respective contract staff service on any day(s) within a particular month, the rate to be paid to the Contractor shall be adjusted as follows : -

Amount to be deducted from the Schedule rate for the provision of contract staff services in a particular month for each number contract staff = $\frac{D_1}{D} \times R$

D_1 = The number of days on which the contract staff or alternative replacement is not provided in the particular month.

D = Total number of days in the particular month where provision of the contract staff services is required.

R = Schedule rate for the provision of contract staff services in a particular month for each number contract staff subject to Contract Percentage adjustment.

The periods (D_1) and (D) are measured in half calendar day unit occurring during the said month.

No measurement and payment shall be made for the period of time during which no contract staff services nor other alternative replacement are provided for use under the Contract.

Rates for contract staff services

SC01.12

The rates for "contract staff services" shall further include for : -

- (a) Provision of full time contract staff with qualification and experience that meet the requirements as specified in the Contract.
- (b) Performance of all duties.
- (c) Maintenance of an attendance diary.
- (d) All expenses and reimbursement in connection with employment of the contract staff including but not limited to basic salary, contribution to the Mandatory Provident Fund, gratuity and all necessary levies, e.g. levy for Construction Industry Council, insurances, etc.
- (e) Transportation arrangement required for executing their respective duties.

SPECIAL CONDITIONS**CONTRACT STAFF SERVICES**

**Rates for
contract staff
services
(Cont'd)**

**SC01.12
(Cont'd)**

- (f) Provision of facilities for executing their respective duties like computer equipment and mobile phone (including internet connection and its services charges, hardware and software), digital cameras, stationery and consumables, etc.
- (g) Working outside normal working hours.
- (h) Working on General Holidays, emergency and urgent works and working at specific locations.
- (i) Replacement by temporary staff when the contract staff is on leave, absent or resigned.
- (j) Any other related costs and expenses that the Contractor may incur from the recruitment, management and deployment of the contract staff services.

PAYMENT FOR SPECIAL ATTENDANCES

**Measurement of
Payment
for Special
Attendances**

SC01.13

The item for "Payment for Special Attendances" shall only be measured and paid for when the Maintenance Surveyor is satisfied that the following conditions have been fulfilled : -

- (a) Where the work instructed under the Works Order is incidental minor maintenance and repair work in nature and the claimed value of the works under the Works Order alone does not exceed \$1,000;
- (b) Works is carried out to walls or ceiling soffits, where the work is at a clear height over 10 m high (measured from the level on which the staging or the means of access is erected, or where the level is sloping, measured from the level immediately at the provision of the staging or the means of access) with no other means of access available;
- (c) Submission of reports and photographic records to justify such payment; and
- (d) The provision of the staging or means of access is made by the Contractor himself.

Where works under more than one Works Orders of incidental minor maintenance and repair nature are carried out at the same location at or around the same period of time by the Contractor or his Specialist Sub-contractors, the Contractor shall arrange for the full utilization of the means of access to be provided for these Works Orders. Subject to fulfilment of the conditions stated in sub-clauses (a) to (d) herein, payment for Special Attendances shall only be made once irrespective of the number of Works Orders issued under such circumstance.

SPECIAL CONDITIONS**PAYMENT FOR SPECIAL ATTENDANCES**

Measurement of Payment for Special Attendances (Cont'd)

SC01.13 (Cont'd)

No measurement and payment shall be made for "Payment for Special Attendances" under either one of the following conditions : -

- (i) The claimed value of the works carried out under the above circumstances exceeds \$1,000 per Works Order.
- (ii) Where means of access is available or provided at the location by the owners, the Employer or other parties.
- (iii) The Contractor fails to submit the report and photographic records to justify the payment of the Special Attendances claimed, or the Maintenance Surveyor considers that the report submitted fails to provide adequate information to demonstrate satisfaction of the conditions as stated in sub-clauses (a) to (d) herein.
- (iv) Where works are carried out under separate Works Order with staging or means of access provided at the same location at or around the same period of time, and the estimated value of the works exceeds \$1,000 for that Works Order.

Rates for Payment for Special Attendances

SC01.14

The rates for "Payment for Special Attendances" shall further include for : -

- (a) Providing any means of access including but not be limited to scaffolding, screens, working platforms, staging, gondolas and the like; and erection, subsequent dismantling and removal of the same upon completion of the works;
- (b) Compliance with all safety requirements and certification from independent checking engineer, where required, and payment of all fees; and
- (c) Submission of all necessary records and reports in the format as approved by the Maintenance Surveyor.

BUILDING INFORMATION MODELLING (BIM) MODEL

Particular Specification for provision of BIM model

SC01.15

The provision of BIM model shall be read and used in conjunction with the Particular Specification adopted in the Contract.

Due allowance is deemed to have been made in the Contract Percentages for complying with all requirements as stipulated in the Specification and Employer's Requirements adopted in the Contract to provide the BIM model for the as-built structure in any location.

SPECIAL CONDITIONS**BUILDING INFORMATION MODELLING (BIM) MODEL****Measurement of provision of BIM model****SC01.16**

The provision of BIM model shall be measured net on the covered floor area of the as-built structure to be prepared, in which the covered floor area shall be measured based on the BIM model as accepted by the Maintenance Surveyor.

Covered floor area is measured from the outer face of the external walls of a fully covered structure and measured over all walls, partitions, columns, stair wells, lift wells, escalator openings, bay windows, covered balconies, pipe/drain/cable ducts and the like; and it excludes all projections beyond the outer face of external wall and uncovered trafficable areas such as external playground, landscaped areas and the like.

All sloping surfaces, staircases, ramps and the like shall be measured flat on plan.

All projections beyond the external wall shall be deemed to be a whole of as-built structure and shall not be measured separately.

The items for payment of "provision of BIM model" shall only be paid for when:

- (a) The service for provision of BIM model shall be instructed together with the related works under the same Works Order;
- (b) Specifically ordered by the Maintenance Surveyor in writing; and
- (c) Upon the BIM model and associated services have been accepted by the Maintenance Surveyor.

Rates for provision of BIM model**SC01.17**

The rates for provision of BIM model shall include for : -

- (a) Developing, preparing and completion of BIM model showing the as-built condition of the designated structure incorporating all details and fulfilling all requirements as specified in the Contract.
- (b) Allowing for necessary computer hardware, software licences, copyright and associated tools until satisfactory completion of the works/services.
- (c) All deliverables, services, quality assurance procedure and the like as required in the Contract.
- (d) All expenses and reimbursement in connection with employment of BIM team, such as BIM team leader, technician, etc., with required qualifications and work experiences.
- (e) Complying with the guidelines and standards issued by Architectural Services Department, Electrical and Mechanical Services Department, Construction Industry Council and relevant associations/organizations for BIM model.
- (f) Complying with the minimum requirements of LOD-Graphic (LOD-G) and LOD-Information (LOD-I) for BIM model including the architectural, structural and building services for plumbing and drainage components as specified in the Contract.

SPECIAL CONDITIONS**BUILDING INFORMATION MODELLING (BIM) MODEL**

**Rates for
provision of
BIM model
(Cont'd)**

**SC01.17
(Cont'd)**

- (g) Reviewing, updating and revising the BIM model by taking into account comments from the Maintenance Surveyor.
- (h) Coordinating with and collecting all necessary information from all stakeholders for model preparation and providing technical support and guidance to the Maintenance Surveyor and his representatives in using the BIM model and managing the BIM database.
- (i) Production of 2D drawings to the required file format by generating from the BIM model directly including architectural drawings, structural drawings, plumbing and drainage drawings and the like.
- (j) Carrying out clash analysis including process of conflict discovery, clash detection, element tolerances assumption for identifying and resolving problems.
- (k) Conducting site verification and conflict rectification against the as-built structure and available data/files/drawings, if any, for preparation of BIM model.
- (l) Carrying out a close range and aerial photogrammetry, 3D laser scan and other similar techniques as necessary to complete the BIM model.

Item		Item	
	CONTRACT FACILITIES		
	Note : - The following Items 01001 to 01026 inclusive shall only be paid for if the requirements as set out in the Contract and the conditions as set out in the Special Conditions are complied with.		
	LAND TRANSPORT		
	<i>Per number-month</i>	A \$	
01001	Petrol vehicle - engine capacity not less than 1800 c.c. and fully air conditioned with seating capacity of not less than five seats (including driver)	24,700.00	01001
01002	Ditto but seating capacity of not less than seven seats (including driver)	25,700.00	01002
01003	Ditto but seating capacity of not less than eight seats (including driver)	26,000.00	01003
01004	Hybrid vehicle - engine capacity not less than 1800 c.c. or equivalent total engine power output and fully air conditioned with seating capacity of not less than five seats (including driver)	25,200.00	01004
01005	Ditto but seating capacity of not less than seven seats (including driver)	26,200.00	01005
01006	Ditto but seating capacity of not less than eight seats (including driver)	26,300.00	01006
01007	Electric vehicle - fully air conditioned with seating capacity of not less than five seats (including driver)	25,500.00	01007
01008	Ditto but seating capacity of not less than seven seats (including driver)	26,500.00	01008
	CONTRACT EQUIPMENT		
	<i>Per number-month</i>	A \$	
01009	Provision of facsimile machine (for A4 size)	140.00	01009
01010	Provision of mobile phone	240.00	01010
01011	Provision of computer facilities	330.00	01011
01012	Provision of monochrome laser-jet printer (for A4 size)	210.00	01012
01013	Provision of colour inkjet printer (for A3 size)	260.00	01013
01014	Provision of colour laser printer (for A3 size)	450.00	01014
01015	Provision of digital camera	50.00	01015
	PERSONAL PROTECTIVE EQUIPMENT		
	<i>Per number-full set</i>	A \$	
01016	Provisional of personal protective equipment	120.00	01016
	CONTRACT STAFF SERVICES		
	<i>Per number-month</i>	A \$	
01017	Clerical support staff	13,200.00	01017
01018	Maintenance support officer	17,200.00	01018
01019	Technical officer	19,800.00	01019
01020	Works supervisor (builder's work)	26,400.00	01020
01021	Works supervisor (building services)	26,400.00	01021
01022	Quality control assistant (builder's work)	18,500.00	01022
01023	Quality control assistant (building services)	18,500.00	01023

Item			Item
	CONTRACT FACILITIES (CONT'D)		
	Note : - The following Items 01001 to 01026 inclusive shall only be paid for if the requirements as set out in the Contract and the conditions as set out in the Special Conditions are complied with. (Cont'd)		
	CONTRACT STAFF SERVICES (CONT'D)		
	<i>Per number-month</i>	A \$	
01024	Customer services officer	15,500.00	01024
01025	Senior customer services officer	17,100.00	01025
01026	BIM coordinator	24,200.00	01026
	PAYMENT FOR SPECIAL ATTENDANCES		
	Note : - Item 01027 shall only be paid for if the requirements as set out in the Contract and the conditions as set out in the Special Conditions are complied with.		
	<i>Per item</i>	A \$	
01027	Payment for Special Attendances	3,500.00	01027
	BUILDING INFORMATION MODELLING (BIM) MODEL		
	Note : - The following Items 01028 to 01029 inclusive shall only be paid for if the requirements as set out in the Contract and the conditions as set out in the Special Conditions are complied with.		
	Provision of BIM model for as-built structure in accordance with the requirements as specified in the Contract : -	A \$	
	<i>Per item</i>		
01028	Total covered floor area of as-built structure n.e. 1,000 m2	23,400.00	01028
	<i>Per square metre</i>		
01029	Add to Item 01028 for total covered floor area of as-built structure exceed 1,000 m2	22.60	01029

Section 27

**ELECTRICAL INSTALLATION -
LIGHTING SYSTEM AND FIXTURES**

SECTION 27

ELECTRICAL INSTALLATION

SPECIAL CONDITIONS

(Note: The following special conditions shall apply equally where appropriate to rates under Sections 27 to 30)

Measurement of conduits and flexible conduits	SC27.01	Conduits and flexible conduits shall be measured the net length as fixed in linear metres over all conduit fittings, boxes and short running lengths.
Measurement of trunkings, trays and ladders	SC27.02	Trunkings, trays and ladders shall be measured the net length as fixed in linear metres over all fittings, short running lengths and branches.
Measurement of cables	SC27.03	Cables shall be measured the net length as fixed in linear metres between equipment, control gear, fittings, accessories and the like.
Measurement of excavations, cable ducts, chases, holes and other subsidiary work	SC27.04	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All cable ducts shall be measured separately and paid for at the appropriate rates under Section 12 - Roadwork and Cable Duct of this Schedule. All chases in, and holes through existing walls, ceilings and similar for cables, conduits etc. shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork or other applicable Work Sections of this Schedule. Special concrete marker blocks specifically ordered in writing by the Maintenance Surveyor shall be measured separately and paid for at the appropriate rates under the applicable Works Sections of this Schedule.
Measurement of power supply for bedhead trunking system and staff/emergency/ nurse call system	SC27.05	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the bedhead trunking system and staff/emergency/ nurse call systems shall be measured separately and paid for at the appropriate rates under these Sections 27 to 30 or other applicable Work Sections of this Schedule.
Measurement of control panel for bedhead trunking system and staff/emergency/ nurse call system	SC27.06	The interconnecting cables and the cable containment for the control panel connecting to external equipment or existing panel shall be measured separately.

SPECIAL CONDITIONS**Measurement of simplified items****SC27.07**

- (1) Simplified items included in Section 27 shall apply to : -
 - (a) Lighting points commencing from the loadside of the over-current protection device (e.g. MCB) or existing lighting switch/ lighting fitting.
 - (b) Lighting switch points commencing from the loadside of the over-current protection device (e.g. MCB) or existing lighting fitting and lighting switch.
 - (c) Daylight sensor points/ occupancy sensor points/ motion detector points commencing from the loadside of the over-current protection device (e.g. MCB) or existing lighting switch/ fitting.
- (2) Simplified items included in Section 28 shall apply to : -
 - (a) Power points commencing from the loadside of over-current protection device (e.g. RCBO) or adjacent power outlet.
 - (b) Telephone points commencing from the telephone distribution room on the same floor.
 - (c) LAN nodes commencing from the server, hub, cabinet, switches, equipment rack or router on the same floor.
 - (d) Service outlet points (e.g. broadcast and satellite reception, audio-visual, public address) commencing from the cabinet, equipment rack or distribution splitter on the same floor.
 - (e) Door bell points commencing from the loadside of over-current protection device (e.g. RCBO) or existing door bell/ push button.
- (3) Any point containing a socket outlet (single or twin), a power connection unit, a power switch controlling socket outlet/ power connection unit and the like shall be measured as a power point. Any power point for power switch controlling socket outlet/ power connection unit shall be measured in accordance with the rating of its controlled socket outlet and rating of protection fuse of power connection unit no matter its rating is larger than the socket outlet/ power connection unit except the connection unit with cables of conductor size 2.5 mm² with ring final circuit arrangement shall be measured as a 13A power point.
- (4) Cabling and wiring facilities for fan regulators shall not be measured as a power point.
- (5) Any power points, telephone points, LAN points and service outlet points being fixed to floor outlet box/ trunking service box shall be measured as simplified items. Floor outlet box or trunking service box shall be measured separately.
- (6) Simplified items shall be adopted unless otherwise specifically ordered in writing by the Maintenance Surveyor.
- (7) Additional payment for Items 27990 to 27997 and Items 28549 to 28576 inclusive for provision of circuit protective conductors to grid switch shall be measured according to the number of final circuits.

SPECIAL CONDITIONS

Measurement of periodic inspection, testing and certification of electrical installation	SC27.08	<p>Testing and inspection of electrical installation for the whole premises to comply with the statutory requirements shall be paid for at the appropriate single rate in accordance with the installed rating of outgoing switch of the switchboard or cut-out switch comprising rising mains and feeder circuits in single-phase or three-phase, except for small premises without switchboard or cut-out switch in which case the appropriate single rate for the installed rating shall apply. The testing of the sub-main circuit, final circuit, external mounted IDMT relay and testing of the main L.V. switchboard shall be measured separately and paid for at the appropriate rates under Section 30.</p>
Measurement of temporary supply	SC27.09	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings, switchgear and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>
Rates generally	SC27.10	<p>The rates for all items shall generally include for : -</p> <ul style="list-style-type: none"> (a) Colour band and colour identification work. (b) Lettering and engraving for identification, signs, labels in both English and Chinese. (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese. (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly. (e) All protective coating or finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule. (f) Any kind of fixing method including drilling of the background and provision of fixings, hangers, brackets, supports, saddles, nails, screws, nuts, bolts, shims, washers, plugs, shotfired pins, spring compensated and seismic restraints and isolated components and the like.

SPECIAL CONDITIONS**Rates generally
(Cont'd)****SC27.10
(Cont'd)**

- (g) Provision of fire stopping as required.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (l) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (m) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (n) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (o) Provision of manufacturer's guarantee.
- (p) Submission of sample board for all compact sized materials and accessories, and supply of samples of materials for testing (including testing to destruction).

Where an equipment or item requires identification by lettering , engraving, sign, label, etc., 25 per cent of the value of the appropriate item will be deducted for non-provision of the required lettering, engraving, sign, label, etc.

**Rates for
"Take down
and clear
away" or
"Take down
and set aside
for re-use"****SC27.11**

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with electrical installation shall further include for : -

- (a) All in-line fittings including brackets, supports, hangers and the like.
- (b) Cutting into existing conduits, trunkings, trays, ladders, cables and the like in position.
- (c) Plugging off remaining ends with plugs or caps as required.
- (d) Preparing remaining ends of building services works to receive connections with new work if required.
- (e) In the case of equipment, lighting fittings, appliances and the like, taking down all associated connecting cables and the like.
- (f) In the case of bedhead trunking and staff/ emergency/ nurse call system, taking down all associated building services works.

SPECIAL CONDITIONS

Rates for "Take down and clear away" or "Take down and set aside for re-use" (Cont'd)	SC27.11 (Cont'd)	In the case of fluorescent lighting fittings, the rates for "Fix only" or "Take down and clear away" or "Take down and set aside for re-use" for fittings/ components of the fittings complete with T5 electronic ballasts shall also apply to the similar items complete with LED tube/ T8/ T12 electronic/ magnetic ballasts and starter units.
<u>PART I - ELECTRICAL INSTALLATION</u>		
Rates for electrical installation generally	SC27.12	<p>The rates for electrical installation shall further include for : -</p> <ul style="list-style-type: none"> (a) Making all necessary arrangements with public electricity supply companies and other public utility companies as may be required. (b) Connecting supply to and energizing all new or "re-used" fittings including provision of associated materials. (c) Disconnecting existing supply when existing fittings are taken down and properly sealing off the supply. (d) Submission of Completion Certificate (Form WR1). (e) Warning notice for installation having both new and old cable colours.
Rates for conduits and flexible conduits	SC27.13	<p>The rates for conduits and flexible conduits shall further include for : -</p> <ul style="list-style-type: none"> (a) Draw wires, draw cable and the like. (b) Bends, bushes, couplers, adaptors, expansion joints and the like. (c) All bending, setting, cutting, screwing, threading, jointing and providing all conduit fixings. (d) All conduit boxes, adaptable junction boxes, covers, and fittings (e) Provision of all sleeves for casting in or building in where conduits pass through slabs, walls or beams and caulking between conduit and sleeve where required. (f) Components and the forming of holes for making connections into trunking. (g) Bonding as specified between adjacent component parts. (h) Cleaning out and testing of the conduit system for continuity. (i) Provision of expansion joints in services runs wherever they coincide with structural expansion joints.

SPECIAL CONDITIONS**Rates for trunkings****SC27.14**

The rates for trunkings shall further include for : -

- (a) All joints in the running lengths and components for bonding.
- (b) All cutting and jointing to fittings.
- (c) All cutting, drilling, bushing and jointing to equipment or control gear including all necessary connection accessories.
- (d) Pin-racks for supporting cables.
- (e) Internal fire barriers as required.
- (f) Bonding as specified between adjacent component parts.
- (g) Covers, cross units, tee units and elbow units

Rates for trays and ladders**SC27.15**

The rates for trays and ladders shall further include for : -

- (a) Cutting openings as required.
- (b) All joints in the running lengths.
- (c) All cutting and jointing to fittings.
- (d) Pin-racks for supporting cables.
- (e) Bonding as specified between adjacent component parts.
- (f) Cable ties for securing cables.

SPECIAL CONDITIONS**Rates for cables****SC27.16**

The rates for cables shall further include for : -

- (a) Laying or fixing in different locations, such as laying in trenches or open ducts, laying on arms or hangers, fixing to cable trays, ladders or other surfaces, drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment, unless specifically provided in this Schedule.
- (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like.
- (c) Making cable-joints.
- (d) Determining circuits, lacing into circuit groups and provision of draw wires, draw cables and the like.
- (e) Components for supporting cables including combination system cable supports, two piece cleats, trefoil cleats, multiway cleats, hangers, channels and the like.
- (f) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.
- (g) Bonding as specified between adjacent component parts.
- (h) Provision of lettered or numbered ferrules for 1 core PVC cable at terminations where required for identification.

Rates for cable termination glands**SC27.17**

The rates for cable termination glands shall further include for : -

- (a) Assembling and mounting.
- (b) Insulating material, jointing material, locknuts, bushes, couplers and the like.

SPECIAL CONDITIONS

Rates for fittings and accessories	SC27.18	<p>The rates for fittings and accessories shall further include for : -</p> <ul style="list-style-type: none"> (a) All boxes, cover plates, connector blocks, cable terminations, bonding and connecting of cable tails. (b) All necessary bushes, nipples, locknuts, couplers and the like. (c) Assembling and fixing in position. (d) Bonding as specified between adjacent component parts.
Rates for equipment and control gear	SC27.19	<p>The rates for equipment (e.g. motors, fans, starter panels, circuit breakers, batteries, rectifiers and the like) and control gear (e.g. fuse-and-link disconnecting boxes, isolating switches, changeover switches, switch fuses, fused switches, distribution boards, connectors, starters, busbar chambers and the like) shall further include for : -</p> <ul style="list-style-type: none"> (a) Connecting cable ends or cable tails to which they are connected. (b) Coupling to and forming holes for conduit entry. (c) Links, fuses, gland plates, terminal boxes and the like which form part of the item. (d) Bonding as specified between adjacent component parts. (e) Emergency stop buttons.
Rates for lighting fittings	SC27.20	<p>The rates for lighting fittings shall further include for : -</p> <ul style="list-style-type: none"> (a) Reflectors, shades, lamps, control gear, ballasts, transformers, light troughs, diffusers and the like. (b) All connection/ terminal boxes, connector blocks, plugs and connecting of cable tails including all necessary grommets, bushes, nipples, locknuts and the like. (c) Assembling and fixing in position including all forms of suspensions, supports, safety chains with attachments and the like. (d) Adjustment, alignment and the like. (e) Bonding as specified between adjacent component parts. <p>The rates for "Fix only" or "Take down and clear away" or "Take down and set aside for re-use" for a normal lighting fitting shall also apply to the similar items equipped with the emergency power pack but the emergency power pack shall not be measured separately.</p>
Rates for dimmer switches	SC27.21	<p>The rates for dimmer switches shall further include for on/ off function.</p>

SPECIAL CONDITIONS

Rates for ventilation fans, air curtains and appliances

SC27.22

The rates for ventilation fans, air curtains and appliances shall further include for : -

- (a) All connection/ terminal boxes, connector blocks, plugs and connecting of cable tails including all necessary grommets, bushes, nipples, locknuts and the like.
- (b) Assembling and fixing in position including all supporting devices, hangers and the like.
- (c) Bonding as specified between adjacent component parts.
- (d) Taking down existing power connection units for cable connection and subsequent refixing as required.

Rates for earthing, lightning protection and bonding items

SC27.23

The rates for earthing, lightning protection and bonding items shall further include for : -

- (a) Bends, twists and through joints.
- (b) Cables and tape connections and junctions including tinning, sweating and provision of any jointing materials, heat, holes, rivets, bolts, nuts, washers and clamps.
- (c) Saddles, cleats, clips, holdfasts and the like which form part of the tape and rod conductor items.
- (d) Driving electrodes into the ground and connecting electrodes to connectors.

Unless otherwise stated as being included in the items, bonding shall be measured and paid for at the appropriate rates under Sections 27 to 30.

Rates for simplified items

SC27.24

- (1) The rates for lighting points/ daylight sensor point/ occupancy sensor points/ motion detector points/ door bell points and lighting switch points shall include the cabling and wiring facilities starting from the over-current protection device or adjacent points as the case may be, complete with cable termination, conduits/ trunking, draw wires, flexible conduits, adaptors, boxes and all necessary accessories. However, MCBs/ RCDs/ RCBOs in the MCB board, lighting fittings, motion sensors, lighting switches door bells and the like shall be measured separately and paid for at the appropriate rates under Sections 27 and 28.
- (2) The number of lighting points/ daylight sensor points/ occupancy sensor points/ motion detector points/ door bell points shall be measured as the number of new lighting fittings/ sensors/ door bells installed. Lighting circuits with ELV provision for lighting dimming control, motion sensor control, etc. shall be measured separately.
- (3) The number of lighting switch points shall be measured as the number of new lighting switch gang installed. Therefore, the number of lighting switch points for lighting switches and grid switch panel shall be measured as number of gangs installed on the lighting switches and grid switch panel.

SPECIAL CONDITIONS

**Rates for
simplified
items
(Cont'd)**

**SC27.24
(Cont'd)**

- (4) The rates for power points shall include the cabling and wiring facilities starting from the over-current protection device or adjacent points as the case may be, complete with cable termination, conduits/ trunking, draw wires, flexible conduits, adaptors, boxes and all necessary accessories. The rates for power points shall further include the cabling and wiring facilities from the MCB unit to the contactor/ time switch but exclude the by-pass switch. RCD, contactor and time switch shall not be measured separately as a power point/ lighting point. However, MCBs/ RCDs/ RCBOs in the MCB board, socket outlets, power connection units and the like shall be measured separately and paid for at the appropriate rates under Sections 27 and 28.
- (5) The rates for telephone points, LAN points and service outlet points shall include for cabling and wiring facilities starting from the telephone distribution room/ server room/ control point on the same floor complete with conduit/ trunking, draw wires, boxes, blanking plates and all necessary accessories. Each point shall have a starting point and an end point. In case if there is a ring of multiple end points, one point shall be taken as a common start point. In case different rings are interconnected with each other, the interconnection shall be taken as a new point.

**Rates for
periodic
inspection,
testing and
certification
of electrical
installation**

SC27.25

The rates provided for the relevant work under periodic inspection, testing and certification of electrical installation shall generally include for : -

- (a) Testing, inspection and measuring of electrical installation comprising rising mains, feeder circuits, sub-main circuits, final circuits, protective conductors, earthing facilities, power supplies to all communal services of the premises and all necessary testing and inspection to satisfy the requirements as stipulated in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department.
- (b) Provision of electrical schematic, test report, test readings and test certificate which should be certified by a Registered Electrical Worker of the appropriate grade of the EMSD.
- (c) Submission of duly completed and signed Form WR2.
- (d) The testing and inspection, if necessary, to be scheduled in phases and/ or arranged in non-office hours/ night time/ on Sundays and holidays, to suit the allowable working schedule for such work of the premises as advised by the premises management office or the occupants of the premises or per the instruction given by the project officer.

SPECIAL CONDITIONS**Rates for periodic inspection, testing and certification of electrical installation (Cont'd)****SC27.25 (Cont'd)**

For the purpose of assessment of the payment for periodic inspection, testing and certification of electrical installation under Section 30, the Contractor shall submit to the Maintenance Surveyor a detailed report which shall include, but not limited to, the value of works claimed in the Works Order, photographic records, electrical schematic diagrams, test report and test certificate which should be certified by the Registered Electrical Worker of the appropriate grade of the EMSD and the submission of Form WR2.

For government premises, Form WR2 shall be submitted to the Maintenance Surveyor for record. The Submission of Form WR2 to the EMSD including the endorsement fee shall only be paid for non-government premises with the L.V. switchboard not maintained by the EMSTF, for which WR2 shall be submitted to the EMSD for endorsement.

The Contractor shall submit the format of the report to the Maintenance Surveyor for approval upon commencement of the Contract; once endorsed, the details of the report shall be submitted by the Contractor together with any application for such payment.

In order to justify any payment, the Contractor shall demonstrate that the conditions as laid down in the Special Conditions under Section 27 of this Schedule have been satisfied.

No payment shall be made in respect of any work if the Contractor failed to submit the report, or if the Maintenance Surveyor considers that the work as stated in the report fails to satisfy the Special Conditions under Section 27 of this Schedule.

Rates for Buildings Energy Efficiency Ordinance Submission**SC27.26**

- (a) In order to fulfill the energy efficiency requirements by the Buildings Energy Efficiency Ordinance, the Contractor is required to appoint a Registered Energy Assessor (REA) at his own cost for the completion and submission of the Form of Compliance - Form EE4 to the EMSD for approval including but not limited to compilation and certification of the required forms and worksheets for the electrical installations, lighting installations and air-conditioning installations, where applicable, including any necessary endorsement fees.
- (b) The rates as separately scheduled for the Buildings Energy Efficiency Ordinance submission shall generally include for the preparation of the installation summaries, worksheets, relevant drawings, drawing lists and other supportive documents by the Contractor. The Contractor shall further coordinate with the REA and provide the required information at no extra cost for his submission of the Form of Compliance to the EMSD as required to fulfill the latest requirements of the Buildings Energy Efficiency Ordinance.

SPECIAL CONDITIONS

PART II - BEDHEAD TRUNKING SYSTEM AND STAFF/ EMERGENCY/ NURSE CALL SYSTEM

Rates for bedhead trunking system and staff/ emergency/ nurse call system generally

SC27.27

The rates for bedhead trunking system and staff/ emergency/ nurse call system shall further include for : -

- (a) All components and parts building up the system.
- (b) Interconnecting wirings and signal cables including conduits and/ or flexible conduits, trunkings, trays, junction boxes and the like necessary to complete the system.
- (c) All electricity supply and control circuits from the supply points including cables, wirings, conduits and/ or flexible conduits, trunkings, cable trays, fuses, control boxes and necessary accessories required to energize the system.
- (d) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.

Rates for call units

SC27.28

The rates for call units shall further include for push button package, flashlights, flexible cables, flexible conduits and all associated components.

Rates for power supply units

SC27.29

The rates for power supply units for call system shall further include for : -

- (a) Uninterruptible power supply system and associated accessories.
- (b) Well-ventilated and earthed metal enclosures.
- (c) Transformers, fused spur units, termination blocks and the like.
- (d) Rectifying, filtering and control circuits and associated accessories.
- (e) Circuit protection devices.
- (f) All cable and wiring facilities including necessary conduits, trunking and the like.

Rates for control panels

SC27.30

The rates for control panels shall further include for visual indications, audible alarm, indication lamps, switches and the internal wiring of the control panel. The cable and cable containment to external equipment or existing panel shall be measured separately and paid for at the appropriate rates under Sections 27 to 30.

SPECIAL CONDITIONSPARTICULAR SPECIFICATION

**Particular
Specification
for electrical
installation**

SC27.31

The Particular Specification for electrical installation can be found in the Contract.

**Particular
Specification
for bedhead
trunking
system and
staff/ emergency/
nurse call
system**

SC27.32

The Particular Specification for bedhead trunking system and staff/ emergency/ nurse call system can be found in the Contract.

Item					Item	
	LAMP HOLDERS					
	The rates include for the provision of fixing screws and rawplugs of approved sizes and types.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27001	Lampholder, bakelite, batten type, with shade carrier skirt or home office type, shield for all lamp with Edison Screw/ Bayonet cap	42.52	6.66	8.22	21.23	27001
27002	Lampholder, bakelite, cordgrip type, with shade carrier etc. for all lamps with Edison Screw/ Bayonet cap	30.09	4.71	5.86	15.33	27002
27003	Lampholder, porcelain, backplate type, for all lamps with Edison Screw/ Bayonet cap	38.08	6.66	8.22	21.23	27003
27004	Lampholder, porcelain, backplate type, skirted for all lamps with Edison Screw/ Bayonet cap	37.28	6.66	8.22	21.23	27004
27005	Lampholder, bakelite, angle batten type, with home office type, shield for all lamps with Edison Screw/ Bayonet cap	38.23	6.66	8.22	21.23	27005
27006	Lampholder, brass, threaded for all lamps with Edison Screw/ Bayonet cap	53.00	6.66	8.22	21.23	27006
27007	Lock ring for lampholder	10.65	2.05	2.44	6.25	27007
27008	Wedge lampholder for B.C. lamps	10.72	2.29	2.80	7.06	27008
27009	Lampholder for high pressure sodium type lamps (all types)	191.28	16.19	20.06	55.20	27009
27010	Ditto but for low pressure sodium type lamps (all types)	89.92	11.40	14.07	39.31	27010
27011	Ditto but for tungsten halogen type lamps (all types)	-	11.40	14.07	39.31	27011
27012	Ditto but for metal halide MBIL type lamps (all types)	201.40	16.19	20.06	55.20	27012
27013	Lampholder for tubular fluorescent lamp (all types)	41.83	4.71	5.86	15.33	27013
27014	Lampholder for compact fluorescent lamp (all types)	47.63	4.71	5.86	15.33	27014
27015	Lampholder for circular fluorescent lamp (all types)	40.53	4.71	5.86	15.33	27015
	LAMPS					
	T5 tubular fluorescent tube, 2700K to 6500K : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27016	549 mm long, 14W	52.24	3.36	4.05	10.19	27016
27017	549 mm long, 24W	61.79	3.36	4.05	10.19	27017
27018	849 mm long, 21W	54.99	3.36	4.05	10.19	27018
27019	849 mm long, 39W	62.74	3.36	4.05	10.19	27019
27020	1149 mm long, 28W	55.31	3.36	4.05	10.19	27020
27021	1449 mm long, 35W	58.30	4.01	4.67	11.14	27021
27022	1449 mm long, 49W	78.18	4.01	4.67	11.14	27022
27023	1149 mm long, 54W	64.06	4.01	4.67	11.14	27023
27024	1449 mm long, 80W	78.18	4.01	4.67	11.14	27024

Item					Item
	LAMPS (CONT'D)				
	LED lighting tube, suitable for T5/ T8 lighting panel with length : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Each</i>				
27025	Up to 600 mm long, min. lumen output 800 lm each tube	117.06	3.36	4.05	10.19
27026	600 - 900 mm long, min. lumen output 1200 lm each tube	119.35	3.36	4.05	10.19
27027	900 - 1200 mm long, min. lumen output 1600 lm each tube	121.64	3.36	4.05	10.19
27028	1200 - 1500 mm long, min. lumen output 2000 lm each tube	195.89	4.01	4.67	11.14
27029	High output T5 LED tube for electronic high frequency control gear, 26W, min. lumen output 4000lm each tube	369.14	4.01	4.67	11.14
	Circular fluorescent lamp : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Each</i>				
27030	22W	35.52	4.69	5.86	15.20
27031	32W	38.85	4.69	5.86	15.20
27032	40W	55.26	4.69	5.86	15.20
27033	60W	60.83	4.69	5.86	15.20

Item					Item	
	LAMPS (CONT'D)					
	Compact fluorescent lamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27034	2 pin single turn, 5/ 7W	24.45	2.29	2.80	7.02	27034
27035	Ditto but 9/ 11W	27.29	2.29	2.80	7.02	27035
27036	2 pin double turn, 10/ 13W	41.32	2.29	2.80	7.02	27036
27037	Ditto but 18/ 26W	51.47	2.29	2.80	7.02	27037
27038	4 pin biaxial long turn, 18/ 24/ 34W	74.04	2.29	2.80	7.02	27038
27039	Ditto but 36/ 40/ 55W	74.04	2.29	2.80	7.02	27039
27040	4 pin double turn, 10/ 13W	53.55	2.29	2.80	7.02	27040
27041	Ditto but 18/ 26W	60.92	2.29	2.80	7.02	27041
27042	2 or 4 pin triple turn, 13/ 18/ 26W	105.99	2.29	2.80	7.02	27042
27043	4 pin triple turn, 32/ 42W	121.78	2.29	2.80	7.02	27043
27044	2 pin 2D compact fluorescent lamp	58.14	2.29	2.80	7.02	27044
27045	Ditto but 4 pin 28/ 38/ 55 W	93.23	2.29	2.80	7.02	27045
	Incandescent lamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27046	15/ 25/ 40/ 60W, B15/ B22/ E14/ E27 cap, 35 mm diameter candle type or 45 mm diameter golf ball type lamps	-	1.36	2.70	5.13	27046
27047	25/ 40/ 60/ 100W, G.L.S. lamp B15/ B22/ E14/ E27 cap, with clear, pearl or colour finish	-	1.36	2.70	5.13	27047
27048	150W/ 200W, G.L.S. lamp G.E.S. cap, clear or pearl finishes	-	2.29	2.86	7.11	27048
	Halogen lamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27049	Dichroic lamp; in any power rating	-	2.29	2.86	7.11	27049
27050	Aluminium reflector lamp; in any power rating	-	2.29	2.86	7.11	27050
27051	Reflector lamp (spot/ flood/ wide flood); in any power rating	-	2.29	2.86	7.11	27051
27052	Single-end/ double-end; in any power rating	-	2.29	2.86	7.11	27052

Item					Item
	LAMPS (CONT'D)				
	Induction lamp : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
Each					
27053	Up to 60W	737.25	2.29	2.86	7.11
27054	60 - 80W	908.38	2.29	2.86	7.11
27055	80 - 120W	1,079.51	2.29	2.86	7.11
27056	120 - 200W	1,422.06	2.29	2.86	7.11
	Low pressure sodium lamp : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
Each					
27057	26/ 35W	268.68	9.02	10.94	27.13
27058	35/ 55W	282.10	9.02	10.94	27.13
27059	66/ 90W	385.27	9.02	10.94	27.13
27060	90/ 135W	399.74	9.02	10.94	27.13

Item					Item	
	LAMPS (CONT'D)					
	Metal halide lamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27061	35W reflector - ceramic	527.55	9.02	10.94	27.13	27061
27062	70/ 150W double-end compact	167.86	9.02	10.94	27.13	27062
27063	250W double-end compact	830.32	9.02	10.94	27.13	27063
27064	400W double-end compact	864.48	9.02	10.94	27.13	27064
27065	70/ 150W double-end compact - ceramic	399.65	9.02	10.94	27.13	27065
27066	70/ 150W single-end compact	214.71	9.02	10.94	27.13	27066
27067	200W single-end compact	420.25	9.02	10.94	27.13	27067
27068	35/ 70W single-end compact - ceramic	448.32	9.02	10.94	27.13	27068
27069	150W single-end compact - ceramic	462.69	9.02	10.94	27.13	27069
27070	70W MBIF, elliptical coated	348.86	9.02	10.94	27.13	27070
27071	100/ 250W MBIF, elliptical coated	358.91	9.02	10.94	27.13	27071
27072	400W MBIF, elliptical coated	396.81	9.02	10.94	27.13	27072
27073	250W tubular clear	333.43	9.02	10.94	27.13	27073
27074	400W tubular clear	351.90	9.02	10.94	27.13	27074
27075	1000W tubular clear	1,011.40	10.98	13.64	37.40	27075
27076	750W MBIL double-end	539.80	10.98	13.64	37.40	27076
27077	1500W MBIL double-end	1,150.44	10.98	13.64	37.40	27077
27078	2000W MBIL double-end	2,285.91	10.98	13.64	37.40	27078
27079	70/ 150W compact metal halide	465.99	9.02	10.94	27.13	27079
27080	1000W compact metal halide	1,907.09	10.98	13.64	37.40	27080
	High pressure sodium lamp (Standard) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27081	50/ 70W SON-E	167.52	9.02	10.94	27.13	27081
27082	70W SON-I/ SON-T	181.67	9.02	10.94	27.13	27082
27083	100W SON-E/ SON-T	210.34	9.02	10.94	27.13	27083
27084	110/ 150W SON-E/ SON-T	222.36	9.02	10.94	27.13	27084
27085	250W SON/ SON-T	232.58	9.02	10.94	27.13	27085
27086	400W SON/ SON-T	236.16	9.02	10.94	27.13	27086
27087	1000W SON-T	904.38	9.02	10.94	27.13	27087

Item					Item	
	LAMPS (CONT'D)					
	High pressure sodium lamp (Special) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27088	50/ 70W high lumen output	200.97	9.02	10.94	27.13	27088
27089	100/ 150W high lumen output	236.88	9.02	10.94	27.13	27089
27090	250/ 400W high lumen output	252.35	9.02	10.94	27.13	27090
27091	150W colour temperature not less than 2150K	290.16	8.99	10.93	27.12	27091
27092	250W colour temperature not less than 2150K	351.63	8.99	10.93	27.12	27092
27093	400W colour temperature not less than 2150K	437.59	8.99	10.93	27.12	27093
27094	35/ 50W WHITE SON	405.91	8.99	10.93	27.12	27094
27095	100W WHITE SON	434.63	8.99	10.93	27.12	27095
27096	150W WHITE SON	468.54	8.99	10.93	27.12	27096
27097	250W WHITE SON	513.69	8.99	10.93	27.12	27097
27098	70/ 150W double-end	417.89	8.99	10.93	27.12	27098
27099	250W double-end	521.78	8.99	10.93	27.12	27099
27100	400W double-end	579.09	8.99	10.93	27.12	27100
27101	70W reflector	357.27	8.99	10.93	27.12	27101
	High pressure mercury discharge lamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27102	50/ 80/ 125/ 250/ 400/ 450/ 700 W MBF	-	8.99	10.93	27.12	27102

Item					Item	
	LAMPS (CONT'D)					
	Other lamps : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27103	Energy saving lamp 9/ 11/ 13/ 15/ 18W, E14/ E27 lamp base	48.86	1.36	1.79	5.10	27103
27104	Energy saving lamp 20/ 25W, E14/ E27 lamp base	78.52	1.36	1.79	5.10	27104
27105	Energy saving lamp, globe type 9/ 11/ 13/ 15/ 18W	57.71	1.36	1.79	5.10	27105
27106	Energy saving lamp, globe type 20/ 25W	66.75	1.36	1.79	5.10	27106
27107	24V, 75/ 55W, sealed beam lamp bulb for underwater floodlight	86.42	8.99	11.51	27.12	27107
27108	Dimmable energy saving lamp 9/ 11/ 13/ 15/ 18W	226.96	1.36	1.79	5.10	27108
	<i>Each</i>					
27109	LED lamp, 12V 3 - 5W, GU 5.3	99.54	12.06	16.13	41.75	27109
27110	LED lamp, 12V 5 - 7W, GU 5.3	105.68	12.06	16.13	41.75	27110
27111	LED lamp, 10 - 20W	93.41	12.06	16.13	41.75	27111
27112	LED lamp, 20 - 30W	179.26	12.06	16.13	41.75	27112

Item	Item								
FLUORESCENT LIGHTING FITTINGS									
Surface mounted modular vandal resistant fluorescent lighting fitting c/w T5 electronic ballast, fluorescent tube, (one electronic ballast for each set of fluorescent tube), aluminium louvres/ reflectors, anti-vibration devices and polycarbonate diffusers :-									
	<table border="1"> <thead> <tr> <th style="text-align: center;">Supply and fix</th> <th style="text-align: center;">Take down and clear away</th> <th style="text-align: center;">Take down and set aside for re-use</th> <th style="text-align: center;">Fix only</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> </tr> </thead> </table>	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	A \$	B \$	C \$	D \$
Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only						
A \$	B \$	C \$	D \$						
<i>Each</i>									
27113	200 x 600 mm, 1 x 14W, single tube 1,131.45 35.14 41.62 111.64 27113								
27114	200 x 600 mm, 1 x 14W, single tube, impact resistance IK10, c/w 2-hour NiMH emergency power pack 2,522.73 35.14 41.62 111.64 27114								
27115	Ditto but with 3-hour NiMH emergency power pack 3,620.86 35.14 41.62 111.64 27115								
27116	200 x 600 mm, 1 x 14W, single tube, impact resistance IK10 c/w night light 2,459.66 35.14 41.62 111.64 27116								
27117	200 x 600 mm, 1 x 14W, single tube, IP54, impact resistance IK10 1,561.49 35.14 41.62 111.64 27117								
27118	200 x 600 mm, 2 x 14W, twin tube, impact resistance IK10 2,141.44 35.14 41.62 111.64 27118								
27119	200 x 600 mm, 2 x 14W, twin tube, impact resistance IK10, c/w 2-hour NiMH emergency power pack 2,472.95 35.14 41.62 111.64 27119								
27120	Ditto but with 3-hour NiMH emergency power pack 3,549.41 35.14 41.62 111.64 27120								
27121	300 x 600 mm, 1 x 14W, single tube, matt-satin polycarbonate cross blades, dimmable electronic ballast 1,154.34 39.38 46.61 119.00 27121								
27122	300 x 600 mm, 2 x 14W, twin tube 1,233.30 39.38 46.61 119.00 27122								
27123	300 x 600 mm, 2 x 14W, twin tube, IP54 c/w 2-hour NiMH emergency power pack 2,532.21 39.38 46.61 119.00 27123								
27124	Ditto but with 3-hour NiMH emergency power pack 3,569.91 39.38 46.61 119.00 27124								
27125	300 x 600 mm, 2 x 14W, twin tube, IP54 c/w 1 x 10W PLC night light 2,218.87 39.38 46.61 119.00 27125								
27126	300 x 600 mm, 2 x 14W, twin tube, IP54, impact resistance IK10 2,336.84 39.38 46.61 119.00 27126								
27127	300 x 600 mm, 2 x 14W, twin tube, IP54, impact resistance IK10, c/w night light 2,761.72 39.38 46.61 119.00 27127								
27128	300 x 600 mm, 2 x 14W, twin tube, IP54, impact resistance IK10, c/w night light and 2-hour NiMH emergency power pack 3,093.23 39.38 46.61 119.00 27128								
27129	Ditto but with 3-hour NiMH emergency power pack 4,439.69 39.38 46.61 119.00 27129								
27130	600 x 600 mm, 3 x 14W, triple tube, IP54, impact resistance IK10 2,730.85 39.38 46.61 119.00 27130								

Item	Item								
FLUORESCENT LIGHTING FITTINGS (CONT'D)									
Surface mounted modular vandal resistant fluorescent lighting fitting c/w T5 electronic ballast, fluorescent tube, (one electronic ballast for each set of fluorescent tube), aluminium louvres/ reflectors, anti-vibration devices and polycarbonate diffusers : - (Cont'd)									
	<table border="1"> <thead> <tr> <th style="text-align: center;">Supply and fix</th> <th style="text-align: center;">Take down and clear away</th> <th style="text-align: center;">Take down and set aside for re-use</th> <th style="text-align: center;">Fix only</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> </tr> </thead> </table>	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	A \$	B \$	C \$	D \$
Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only						
A \$	B \$	C \$	D \$						
<i>Each</i>									
27131	600 x 600 mm, 3 x 14W, triple tube, IP54, impact resistance IK10 c/w 2-hour NiMH emergency power pack 3,062.36 39.38 46.61 119.00 27131								
27132	Ditto but with 3-hour NiMH emergency power pack 4,162.13 39.38 46.61 119.00 27132								
27133	200 x 1200 mm, 1 x 28W, single tube 1,177.90 35.14 41.62 111.64 27133								
27134	200 x 1200 mm, 1 x 28W, single tube, IP54, impact resistance IK10 1,823.85 35.14 41.62 111.64 27134								
27135	300 x 1200 mm, 2 x 28W, twin tube 1,445.67 39.38 46.61 119.00 27135								
27136	300 x 1200 mm, 2 x 28W, twin tube, IP54, impact resistance IK10 c/w 2-hour NiMH emergency power pack 2,541.84 39.38 46.61 119.00 27136								
27137	Ditto but with 3-hour NiMH emergency power pack 3,752.29 39.38 46.61 119.00 27137								
27138	300 x 1200 mm, 2 x 28W, twin tube, impact resistance IK10 c/w parabolic side reflector 1,703.05 39.38 46.61 119.00 27138								
27139	300 x 1200 mm, 2 x 28W, twin tube, IP54, impact resistance IK10 c/w night light 2,859.59 39.38 46.61 119.00 27139								
27140	300 x 1200 mm, 2 x 28W, twin tube, c/w nano reflectors 3,462.54 39.38 46.61 119.00 27140								
27141	250 x 1200 mm, 2 x 28W, twin tube, impact resistance IK10 1,681.12 39.38 46.61 119.00 27141								
27142	200 x 1500 mm, 1 x 35W, single tube 1,644.08 37.32 45.18 118.46 27142								
27143	200 x 1500 mm, 1 x 35W, single tube, IP54, impact resistance IK10 2,310.71 37.32 45.18 118.46 27143								
27144	300 x 1500 mm, 2 x 35W, twin tube 1,754.85 43.79 51.29 126.63 27144								
27145	300 x 1500 mm, 2 x 35W, twin tube, IP54, impact resistance IK10 c/w 2-hour NiMH emergency power pack 3,534.86 43.79 51.29 126.63 27145								
27146	Ditto but with 3-hour NiMH emergency power pack 5,539.94 43.79 51.29 126.63 27146								
27147	300 x 1500 mm, 2 x 35W, twin tube, IP54, Impact resistance IK10, c/w night light 4,493.03 103.73 149.39 255.61 27147								
27148	300 x 1500 mm, 2 x 35W, twin tube c/w parabolic side reflector 2,368.35 43.79 51.29 126.63 27148								
27149	600 x 1200 mm, 3 x 28W, triple tube c/w parabolic side reflector 3,315.11 43.79 51.29 126.63 27149								
27150	600 x 1200 mm, 3 x 28W, triple tube, IP54 c/w 2-hour NiMH emergency power pack, impact resistance IK10 4,946.01 43.79 51.29 126.63 27150								
27151	Ditto but with 3-hour NiMH emergency power pack 6,336.12 103.73 149.39 255.61 27151								
27152	600 x 1200 mm, 3 x 28W, triple tube, IP54 c/w night light, impact resistance IK10 4,448.74 43.79 51.29 126.63 27152								

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
FLUORESCENT LIGHTING FITTINGS (CONT'D)						
Surface mounted fluorescent light fitting c/w T5 fluorescent tube, T5 electronic control gear/ electronic ballast (one electronic ballast for each set of fluorescent tube) :-						
	<i>Each</i>					
27153	600 mm, 1 x 14W, batten type similar to SFA 50	290.12	24.43	30.50	81.87	27153
27154	600 mm, 2 x 14W, batten type similar to SFA 69	421.91	26.74	33.90	94.47	27154
27155	600 mm, 1 x 14W, batten type with plastic diffuser similar to SFA 51	402.71	25.72	31.65	86.40	27155
27156	600 mm, 2 x 14W, batten type with plastic diffuser similar to SFA 74	595.87	28.68	35.27	99.16	27156
27157	1200 mm, 1 x 28W, batten type similar to SFA 50	325.39	27.13	33.05	91.64	27157
27158	1200 mm, 2 x 28W, batten type similar to SFA 69	499.83	29.18	35.72	106.11	27158
27159	1200 mm, 1 x 28W, batten type with metal trough reflector similar to SFA 58	424.67	28.42	35.20	97.18	27159
27160	1200 mm, 2 x 28W, batten type with metal trough reflector similar to SFA 72	645.55	31.14	38.47	112.06	27160
27161	1200 mm, 1 x 28W, batten type with metal angle reflector similar to SFA 56	432.12	28.68	35.27	97.18	27161
27162	1200 mm, 1 x 28W, batten type with plastic diffuser similar to SFA 51	478.82	28.68	35.27	97.18	27162
27163	1200 mm, 2 x 28W, batten type with plastic diffuser similar to SFA 74	738.41	31.14	38.47	112.06	27163
27164	1500 mm, 1 x 35W, batten type similar to SFA 50	381.51	28.24	34.86	96.73	27164
27165	1500 mm, 2 x 35W, batten type similar to SFA 69	594.23	32.87	40.16	113.92	27165
27166	1500 mm, 1 x 35W, batten type with metal trough reflector similar to SFA 58	460.62	31.99	38.89	102.75	27166
27167	1500 mm, 1 x 49W, batten type similar to SFA 50	388.11	28.24	34.86	96.73	27167
27168	1500 mm, 2 x 49W, batten type similar to SFA 69	606.07	32.87	40.16	113.92	27168
27169	1500 mm, 1 x 80W, batten type similar to SFA 50	552.18	28.24	34.86	96.73	27169
27170	1500 mm, 2 x 80W, batten type similar to SFA 69	865.59	32.87	40.16	113.92	27170
27171	1500 mm, 1 x 80W, batten type with metal trough reflector similar to SFA 58	664.11	31.99	38.89	102.75	27171
27172	1500 mm, 1 x 35W, batten type with metal angle reflector similar to SFA 56	440.16	31.87	38.65	102.15	27172
27173	1500 mm, 1 x 35W, batten type with plastic diffuser similar to SFA 51	438.53	31.87	38.65	102.15	27173
27174	1500 mm, 2 x 35W, batten type with metal trough reflector similar to SFA 72	704.20	34.02	42.61	120.45	27174
27175	1500 mm, 2 x 35W, batten type with plastic diffuser similar to SFA 74	711.54	33.90	42.35	119.71	27175
27176	1500 mm, 1 x 49W, batten type with metal angle reflector similar to SFA 56	444.53	31.87	38.65	102.15	27176
27177	1500 mm, 1 x 49W, batten type with metal trough reflector similar to SFA 58	478.07	31.99	38.89	102.75	27177
27178	1500 mm, 1 x 49W, batten type with plastic diffuser similar to SFA 51	451.69	31.87	38.65	102.15	27178
27179	1500 mm, 2 x 49W, batten type with metal trough reflector similar to SFA 72	718.48	34.02	42.61	120.45	27179
27180	1500 mm, 2 x 49W, batten type with plastic diffuser similar to SFA 74	735.64	33.90	42.35	119.71	27180

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Surface mounted modular fluorescent light fitting c/w T5 fluorescent tube, electronic control gear/ electronic ballast (one electronic ballast for each set of fluorescent tube), aluminium louvre/ reflector/ plastic diffuser (all types) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27181	150 x 1500 mm, 1 x 35W similar to SFA 110	602.67	29.07	35.57	105.68	27181
27182	300 x 600 mm, 1 x 14W similar to SFA 110	632.95	29.07	35.57	105.68	27182
27183	300 x 600 mm, 2 x 14W similar to SFA 110	873.21	35.10	41.55	111.43	27183
27184	300 x 1200 mm, 1 x 28W similar to SFA 110	828.59	35.10	41.55	111.43	27184
27185	300 x 1500 mm, 1 x 35W similar to SFA 110	899.70	37.27	44.99	117.96	27185
27186	300 x 1500 mm, 1 x 49W similar to SFA 110	909.53	37.27	44.99	117.96	27186
27187	300 x 1200 mm, 2 x 28W similar to SFA 110	910.24	39.31	46.42	118.54	27187
27188	300 x 1200 mm, 2 x 28W c/w nano reflectors	1,314.73	39.31	46.42	118.54	27188
27189	300 x 1500 mm, 2 x 35W similar to SFA 110	1,068.96	43.79	51.19	126.39	27189
27190	300 x 1500 mm, 2 x 35W c/w 2-hour NiMH emergency power pack	1,267.10	43.79	51.19	126.39	27190
27191	Ditto but with 3-hour NiMH emergency power pack	2,068.04	43.79	51.19	126.39	27191
27192	300 x 1500 mm, 2 x 49W similar to SFA 110	1,085.24	43.79	51.19	126.39	27192
27193	400 x 1500 mm, 3 x 35W	1,238.23	43.79	51.19	126.39	27193
27194	600 x 600 mm, 2 x 14W similar to SFA 111	954.71	37.32	45.08	118.20	27194
27195	600 x 1200 mm, 2 x 28W similar to SFA 110	1,050.14	47.45	55.91	138.59	27195
27196	600 x 600 mm, 3 x 14W similar to SFA 111	1,041.66	43.79	51.19	126.39	27196
27197	600 x 1200 mm, 3 x 28W similar to SFA 110	1,234.98	51.40	60.73	144.11	27197
	Surface mounted modular fluorescent lighting fitting c/w T5 fluorescent tube, T5 electronic control gear/ electronic ballast (one T5 electronic ballast for each set of T5 fluorescent tube) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27198	1200 mm, 1 x 28W track light module luminaire for continuous lighting with housing c/w louvre similar to SFA 201	1,378.33	35.79	41.76	95.81	27198
27199	1200 mm, 2 x 28W track light module luminaire for continuous lighting with housing c/w louvre similar to SFA 201	1,650.70	35.79	41.76	95.81	27199
27200	1500 mm, 1 x 35W track light module luminaire for continuous lighting with housing c/w louvre similar to SFA 201	1,648.97	37.05	42.40	98.11	27200
27201	1500 mm, 2 x 35W track light module luminaire for continuous lighting with housing c/w louvre similar to SFA 201	1,840.43	37.05	42.40	98.11	27201

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Surface mounted modular LED T5 lighting fitting c/w T5 LED tube/ LED driver					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27202	600 x 600 mm, 3 x 14W similar to SFA 111	1,252.17	43.79	51.19	126.39	27202
27203	600 x 1200 mm, 3 x 28W similar to SFA 110	1,450.40	51.40	60.73	144.11	27203
27204	1200 mm, 1 x 28W track light module luminaire for continuous lighting with housing c/w louver similar to SFA 201	1,450.14	35.79	41.76	95.81	27204
27205	1200 mm, 2 x 28W track light module luminaire for continuous lighting with housing c/w louver similar to SFA 201	1,794.31	35.79	41.76	95.81	27205
27206	1500 mm, 1 x 35W track light module luminaire for continuous lighting with housing c/w louver similar to SFA 201	1,797.93	37.05	42.40	98.11	27206
27207	1500 mm, 2 x 35W track light module luminaire for continuous lighting with housing c/w louver similar to SFA 201	2,138.34	37.05	42.40	98.11	27207
	Surface mounted modular fluorescent lighting fitting c/w ball-proof hinged wire guard, with/ without transparent polycarbonate/ plastic cover, T5 fluorescent tube, T5 electronic control gear/ electronic ballast (one T5 electronic ballast for each set of T5 fluorescent tube) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27208	300 x 1200 mm, 2 x 28W similar to SFA 112	624.12	35.79	41.76	95.81	27208
27209	300 x 1500 mm, 1 x 35W similar to SFA 112	1,072.02	31.24	37.48	80.63	27209
27210	300 x 1500 mm, 2 x 35W similar to SFA 112	1,239.19	37.05	42.40	98.11	27210
27211	300 x 1500 mm, 2 x 35W c/w 2-hour NiMH emergency power pack	1,946.74	37.05	42.40	98.11	27211
27212	Ditto but with 3-hour NiMH emergency power pack	2,888.86	37.05	42.40	98.11	27212
27213	450 x 1200 mm, 3 x 28W similar to SFA 112	1,006.26	51.40	60.73	144.11	27213
27214	450 x 1500 mm, 3 x 35W similar to SFA 112	1,997.92	53.63	62.14	152.47	27214
27215	450 x 1500 mm, 3 x 35W with ball-proof hinged wire guard and with/ without transparent polycarbonate/ plastic cover c/w 2-hour NiMH emergency power pack	2,705.48	53.63	62.14	152.47	27215
27216	Ditto but with 3-hour NiMH emergency power pack	3,784.13	53.63	62.14	152.47	27216
27217	600 x 1500 mm, 3 x 35W with ball-proof hinged wire guard and with/ without transparent polycarbonate/ plastic cover similar to SFA 112	1,624.21	53.63	62.14	152.47	27217
27218	600 x 1200 mm, 3 x 54W with ball-proof hinged wire guard and with/ without transparent polycarbonate/ plastic cover similar to SFA 112	1,482.94	51.40	60.73	144.11	27218
27219	600 x 1500 mm, 4 x 49W with ball-proof hinged wire guard and with/ without transparent polycarbonate/ plastic cover similar to SFA 112	2,135.59	57.82	67.02	158.78	27219

Item

Item

FLUORESCENT LIGHTING FITTINGS (CONT'D)

Surface/ pendant mounted modular fluorescent light fitting c/w T5 fluorescent tube, electronic control gear/ electronic ballast (one electronic ballast for each set of fluorescent tube), aluminium louvre/ reflector/ plastic diffuser (all types), die cast aluminium body : -

Each

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27220	1 x 28W similar to SFA 113	1,043.66	30.63	36.60	79.81	27220
27221	2 x 28W similar to SFA 113	1,353.14	35.79	41.76	95.81	27221
27222	3 x 28W similar to SFA 113	1,877.57	41.61	48.64	110.84	27222
27223	1 x 35W similar to SFA 113	1,127.25	31.24	37.48	80.63	27223
27224	2 x 35W similar to SFA 113	1,673.34	37.05	42.40	98.11	27224
27225	3 x 35W similar to SFA 113	1,972.44	45.08	53.19	115.57	27225

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Recess mounted modular fluorescent light fitting c/w T5 fluorescent tube, electronic control gear/ electronic ballast (one electronic ballast for each set of fluorescent tube), aluminium louvre/ reflector/ plastic diffuser (all types), with/ without air slot :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27226	200 x 600 mm, 1 x 14W, vandal resistant	1,836.23	28.91	35.41	105.25	27226
27227	300 x 600 mm, 1 x 14W similar to SFA 114	797.66	28.91	35.41	105.25	27227
27228	300 x 600 mm, 1 x 14W c/w nano reflectors	823.06	28.91	35.41	105.25	27228
27229	300 x 600 mm, 1 x 14W c/w air slots	994.92	28.91	35.41	105.25	27229
27230	300 x 600 mm, 1 x 14W c/w air slots with perforated white panel	1,483.91	28.91	35.41	105.25	27230
27231	300 x 600 mm, 1 x 14W c/w air slots with perforated white panel and 2-hour NiMH emergency power pack	1,906.31	28.91	35.41	105.25	27231
27232	Ditto but with 3-hour NiMH emergency power pack	2,836.98	28.91	35.41	105.25	27232
27233	300 x 600 mm, 2 x 14W similar to SFA 114	986.45	34.86	41.37	110.97	27233
27234	300 x 600 mm, 2 x 14W, vandal resistant	2,129.10	34.86	41.37	110.97	27234
27235	300 x 1200 mm, 1 x 28W similar to SFA 114	860.04	34.86	41.37	110.97	27235
27236	300 x 1200 mm, 1 x 28W c/w air slots with perforated white panel	1,505.68	34.86	41.37	110.97	27236
27237	300 x 1200 mm, 1 x 28W c/w air slots with perforated white panel and 2-hour NiMH emergency power pack	2,120.11	34.86	41.37	110.97	27237
27238	Ditto but with 3-hour NiMH emergency power pack	3,018.39	34.86	41.37	110.97	27238
27239	300 x 1200 mm, 2 x 28W similar to SFA 114	1,024.64	39.06	46.33	118.28	27239
27240	300 x 1200 mm, 2 x 28W c/w dimmable electronic ballast, 3-level dimmer switch and 2-hour NiMH emergency power pack	1,285.33	39.06	46.33	118.28	27240
27241	Ditto but with 3-hour NiMH emergency power pack	1,839.99	39.06	46.33	118.28	27241
27242	300 x 1500 mm, 1 x 35W similar to SFA 114	922.26	43.43	50.97	125.89	27242
27243	300 x 1500 mm, 1 x 35W c/w white powder coated sheet steel with perforated white panel	1,519.06	43.43	50.97	125.89	27243
27244	300 x 1500 mm, 1 x 35W c/w white powder coated sheet steel with perforated white panel and 2-hour NiMH emergency power pack	2,333.89	43.43	50.97	125.89	27244
27245	Ditto but with 3-hour NiMH emergency power pack	3,341.04	43.43	50.97	125.89	27245

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Recess mounted modular fluorescent light fitting c/w T5 fluorescent tube, electronic control gear/ electronic ballast (one electronic ballast for each set of fluorescent tube), aluminium louvre/ reflector/ plastic diffuser (all types), with/ without air slot : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27246	300 x 1500 mm, 1 x 49W similar to SFA 114	928.94	43.43	50.97	125.89	27246
27247	300 x 1500 mm, 2 x 35W similar to SFA 114	1,109.39	43.43	50.97	125.89	27247
27248	300 x 1500 mm, 2 x 49W similar to SFA 114	1,122.94	43.43	50.97	125.89	27248
27249	600 x 600 mm, 2 x 14W similar to SFA 115	996.00	43.43	50.97	125.89	27249
27250	600 x 600 mm, 2 x 14W c/w nano reflectors	1,048.99	43.43	50.97	125.89	27250
27251	600 x 600 mm, 2 x 14W c/w air slots with perforated white panel and 2-hour NiMH emergency power pack	2,246.69	43.43	50.97	125.89	27251
27252	Ditto but with 3-hour NiMH emergency power pack	3,205.35	43.43	50.97	125.89	27252
27253	600 x 600 mm, 3 x 14W similar to SFA 115	1,077.57	43.43	50.97	125.89	27253
27254	600 x 600 mm, 4 x 14W similar to SFA 115	1,351.52	43.43	50.97	125.89	27254
27255	600 x 1200 mm, 2 x 28W c/w air slots with perforated white panel and 2-hour NiMH emergency power pack	2,445.08	43.43	50.97	125.89	27255
27256	Ditto but with 3-hour NiMH emergency power pack	3,490.75	43.43	50.97	125.89	27256
27257	600 x 1500 mm, 2 x 35W c/w white powder coated sheet steel with perforated white panel	1,828.64	43.43	50.97	125.89	27257
27258	600 x 1500 mm, 2 x 35W c/w white powder coated sheet steel with perforated white panel and 2-hour NiMH emergency power pack	2,643.46	43.43	50.97	125.89	27258
27259	Ditto but with 3-hour NiMH emergency power pack	3,773.97	43.43	50.97	125.89	27259
27260	300 x 600 mm, 1 x 14W c/w dimmable electronic ballast	1,122.90	47.06	55.70	138.02	27260
27261	300 x 600 mm, 2 x 14W c/w dimmable electronic ballast	1,311.68	47.06	55.70	138.02	27261
27262	300 x 1200 mm, 1 x 28W c/w dimmable electronic ballast	1,197.49	47.06	55.70	138.02	27262
27263	300 x 1200 mm, 2 x 28W c/w dimmable electronic ballast	1,362.10	47.06	55.70	138.02	27263
27264	600 x 1200 mm, 2 x 28W c/w dimmable electronic ballast	1,435.23	47.06	55.70	138.02	27264
27265	600 x 1200 mm, 2 x 28W similar to SFA 114	1,097.78	47.06	55.70	138.02	27265
27266	600 x 1200 mm, 2 x 28W c/w nano reflectors	1,510.57	47.06	55.70	138.02	27266
27267	600 x 1200 mm, 2 x 28W c/w mirror aluminium back reflector, dimmable electronic ballast, 3-level dimmer switch and 2-hour NiMH emergency power pack	1,500.51	47.06	55.70	138.02	27267
27268	Ditto but with 3-hour NiMH emergency power pack	2,142.22	47.06	55.70	138.02	27268
27269	600 x 1200 mm, 3 x 28W similar to SFA 114	1,367.59	50.99	60.51	143.51	27269
27270	600 x 1200 mm, 4 x 28W similar to SFA 114	1,557.49	50.99	60.51	143.51	27270

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Compact fluorescent down light fitting, recess mounted to false ceiling, integral electronic control gear/ ballast, white stove enameled steel/ die cast aluminium body and anodized aluminium reflector with/ without metal trim:-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27271	Down light with 7/ 9/ 11W PL lamp similar to SFA 224	312.80	20.18	24.70	70.08	27271
27272	Down light with 7/ 9/ 11W PL lamp c/w glass diffuser similar to SFA 224	417.76	20.18	24.70	70.08	27272
27273	Down light with 13/ 18/ 26W PL lamp similar to SFA 224	337.84	20.18	24.70	70.08	27273
27274	Down light with 13/ 18/ 26W PL lamp c/w glass diffuser similar to SFA 224	438.66	20.18	24.70	70.08	27274
27275	Down light with 2 x 13W/ 2 x 18W/ 2 x 26W PL lamp similar to SFA 224	446.82	20.18	24.70	70.08	27275
27276	Down light with 2 x 13W/ 2 x 18W/ 2 x 26W PL lamp c/w glass diffuser similar to SFA 224	558.56	20.18	24.70	70.08	27276
27277	Down light with 13/ 18/ 26W PL lamp, IP 65 c/w safety glass diffuser similar to SFA 224	2,834.25	20.18	24.70	70.08	27277
27278	Down light with dimmable electronic ballast, 13/ 18/ 26W PL lamp similar to SFA 224	1,802.18	20.18	24.70	70.08	27278
27279	Down light with dimmable electronic ballast, 2 x 13W/ 2 x 18W/ 2 x 26W PL lamp similar to SFA 224	2,016.38	20.18	24.70	70.08	27279
	Recessed downlight : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27280	Ceiling recessed downlight similar to SFA 224, die cast aluminium body and front ring, anodised aluminium reflector, 150 mm diameter, IP65 c/w safety glass, control gear and 1 x 18W/ 26W compact fluorescent lamp c/w 2-hour NiMH emergency power pack	1,723.90	23.17	27.82	84.07	27280
27281	Ditto but with 3-hour NiMH emergency power pack	1,896.29	23.17	27.82	84.07	27281
	Surface mounted fluorescent light fitting c/w T5 circular fluorescent tube, electronic control gear/ electronic ballast and diffuser : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27282	1 x 22W	1,201.74	27.57	35.03	105.29	27282
27283	1 x 40W	1,533.40	27.57	35.03	105.29	27283

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Surface mounted compact fluorescent light fitting, integral electronic control gear/ ballast : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27284	Twin compact fluorescent 9W c/w prismatic controller	672.45	25.55	31.53	86.23	27284
27285	Twin compact fluorescent 11W c/w prismatic controller	724.98	25.55	31.53	86.23	27285
27286	Circular/ diamond shape compact fluorescent lighting fitting opal/ clear prismatic polycarbonate diffuser, die cast aluminium/ polycarbonate body c/w 16/ 21W 2D lamp	602.47	25.72	31.65	86.40	27286
27287	Circular/ diamond shape compact fluorescent lighting fitting opal/ clear prismatic polycarbonate diffuser, die cast aluminium/ polycarbonate body c/w 28/ 38W 2D lamp	727.94	25.72	31.65	86.40	27287
27288	Circular/ diamond shape compact fluorescent lighting fitting vandal resistant prismatic diffuser, die-cast aluminium base with IP65 protection body c/w 16/ 21W 2D electronic ballast and lamp tube	1,205.75	25.72	31.65	86.40	27288
27289	Circular/ diamond shape compact fluorescent lighting fitting vandal resistant prismatic diffuser, die-cast aluminium base with IP65 protection body c/w 28/ 38W 2D electronic ballast and lamp tube	1,316.69	25.72	31.65	86.40	27289
27290	Circular/ diamond shape compact fluorescent lighting fitting vandal resistant prismatic diffuser, die-cast aluminium base with IP65 protection body c/w 28/ 38W 2D electronic ballast, lamp tube and 2-hour NiMH emergency power pack	2,257.61	25.72	31.65	86.40	27290
27291	Ditto but with 3-hour NiMH emergency power pack	2,483.37	25.72	31.65	86.40	27291
	Self-contained and maintained type for 2-hour duration emergency fluorescent lighting fitting c/w 2-hour NiMH emergency power pack, battery charger, inverter and : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27292	600/ 900 mm, 1 x 14W/ 21W single fluorescent tube (electronic ballast)	571.97	25.30	31.14	86.85	27292
27293	Ditto but with 3-hour NiMH emergency power pack	1,064.36	25.30	31.14	86.85	27293
27294	600/ 900 mm, 2 x 14W/ 21W twin fluorescent tubes (electronic ballasts)	726.10	27.83	33.90	94.47	27294
27295	Ditto but with 3-hour NiMH emergency power pack	1,230.72	27.83	33.90	94.47	27295
27296	1200/ 1500 mm, 1 x 28W/ 35W single fluorescent tube (electronic ballast)	841.35	28.84	34.61	100.88	27296
27297	Ditto but with 3-hour NiMH emergency power pack	1,635.66	28.84	34.61	100.88	27297
27298	1200/ 1500 mm, 2 x 28W/ 35W twin fluorescent tubes (electronic ballasts)	978.41	30.34	35.93	109.02	27298
27299	Ditto but with 3-hour NiMH emergency power pack	1,831.57	30.34	35.93	109.02	27299
27300	Bulk head fitting, 1 x 13/ 18/ 26W compact fluorescent tube	748.51	27.13	33.05	91.64	27300
27301	Ditto but with 3-hour NiMH emergency power pack	1,392.88	27.13	33.05	91.64	27301
27302	Bulk head fitting, 2 x 13/ 18/ 26W compact fluorescent tubes	859.54	27.13	33.05	91.64	27302
27303	Ditto but with 3-hour NiMH emergency power pack	1,599.49	27.13	33.05	91.64	27303
27304	Bulk head fitting, 1 x 7/ 9/ 11W compact fluorescent tube	668.56	27.13	33.05	91.64	27304
27305	Ditto but with 3-hour NiMH emergency power pack	1,244.10	27.13	33.05	91.64	27305
27306	Bulk head fitting, 2 x 7/ 9/ 11W compact fluorescent tubes	750.64	27.13	33.05	91.64	27306
27307	Ditto but with 3-hour NiMH emergency power pack	1,396.84	27.13	33.05	91.64	27307

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
FLUORESCENT LIGHTING FITTINGS (CONT'D)						
Weather proof, IP65 self-contained and maintained type for 2-hour duration emergency fluorescent lighting fitting with polycarbonate/ slab cover, 2-hour NiMH emergency power packbattery charger, inverter and :-						
	<i>Each</i>					
27308	600/ 900 mm, 1 x 14W/ 21W single fluorescent tube (electronic ballast)	763.55	25.19	30.91	86.15	27308
27309	Ditto but with 3-hour NiMH emergency power pack	1,305.46	25.19	30.91	86.15	27309
27310	600/ 900 mm, 2 x 14W/ 21W twin fluorescent lamp tubes (electronic ballasts)	1,006.65	26.57	33.63	93.74	27310
27311	Ditto but with 3-hour NiMH emergency power pack	1,772.36	26.57	33.63	93.74	27311
27312	1200/ 1500 mm, 1 x 28W/ 35W single fluorescent tube (electronic ballast)	974.62	29.48	35.54	107.79	27312
27313	Ditto but with 3-hour NiMH emergency power pack	1,801.67	29.48	35.54	107.79	27313
27314	1200/ 1500 mm, 2 x 28W/ 35W twin fluorescent lamp tubes (electronic ballasts)	1,231.83	30.17	35.66	108.14	27314
27315	Ditto but with 3-hour NiMH emergency power pack	2,075.69	30.17	35.66	108.14	27315
27316	Bulk head fitting, 1 x 13/ 18/ 26W compact fluorescent tube	984.05	26.96	32.78	90.92	27316
27317	Ditto but with 3-hour NiMH emergency power pack	1,682.45	26.96	32.78	90.92	27317
27318	Bulk head fitting, 2 x 13/ 18/ 26W compact fluorescent tubes	1,157.60	26.96	32.78	90.92	27318
27319	Ditto but with 3-hour NiMH emergency power pack	2,038.13	26.96	32.78	90.92	27319
27320	Bulk head fitting, 1 x 7/ 9/ 11W compact fluorescent tube	930.56	26.96	32.78	90.92	27320
27321	Ditto but with 3-hour NiMH emergency power pack	1,720.22	26.96	32.78	90.92	27321
27322	Bulk head fitting, 2 x 7/ 9/ 11W compact fluorescent tubes	1,015.15	26.96	32.78	90.92	27322
27323	Ditto but with 3-hour NiMH emergency power pack	1,710.57	26.96	32.78	90.92	27323
Corrosion resistant fluorescent light fitting c/w polycarbonate diffuser, IP65, T5 fluorescent tube and electronic ballast (one electronic ballast for each set of fluorescent tube) :-						
	<i>Each</i>					
27324	600 mm, 1 x 14W similar to SFA 116	758.93	33.84	40.82	123.03	27324
27325	600 mm, 2 x 14W similar to SFA 117	955.12	35.57	42.76	140.13	27325
27326	1200 mm, 1 x 28W similar to SFA 116	873.92	39.44	46.13	132.99	27326
27327	1200 mm, 2 x 28W similar to SFA 117	1,127.14	41.34	48.65	155.67	27327
27328	1500 mm, 1 x 35W similar to SFA 116	1,333.94	42.24	50.45	139.07	27328
27329	1500 mm, 2 x 35W similar to SFA 117	1,565.43	45.30	53.97	162.63	27329
27330	1500 mm, 1 x 49W similar to SFA 116	1,409.96	43.54	51.49	139.07	27330
27331	1500 mm, 2 x 49W similar to SFA 117	1,623.16	46.59	55.01	162.63	27331

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Corrosion resistant IP65 fluorescent lighting fitting c/w T8 electronic ballast and self-contained battery (NiCd)/ (NiMH) for 2 hours discharge (emergency of the normal length) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27332	600 mm, 1 x 18/ 20W, single tube	-	25.20	31.11	84.76	27332
27333	600 mm, 2 x 18/ 20W, twin tube	-	28.36	35.12	98.95	27333
27334	1200 mm, 1 x 36/ 40W, single tube	-	27.06	33.00	91.47	27334
27335	1200 mm, 2 x 36/ 40W, twin tube	-	29.36	35.96	105.89	27335
27336	1500 mm, 1 x 58/ 60W, single tube	-	28.36	35.12	98.95	27336
27337	1500 mm, 2 x 58/ 60W, twin tube	-	32.82	40.08	113.70	27337
	Corrosion resistant IP65 fluorescent lighting fitting c/w T5 electronic ballast and self-contained battery (NiCd) for 2 hours discharge (emergency of the normal length) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27338	600 mm, 1 x 14W, single tube	-	25.20	31.11	84.76	27338
27339	600 mm, 2 x 14W, twin tube	-	28.36	35.12	98.95	27339
27340	1200 mm, 1 x 28W, single tube	-	27.06	33.00	91.47	27340
27341	1200 mm, 2 x 28W, twin tube	-	29.36	35.96	105.89	27341
27342	1500 mm, 1 x 35W, single tube	-	28.17	34.82	96.58	27342
27343	1500 mm, 2 x 35W, twin tube	-	32.80	40.08	113.70	27343
27344	1500 mm, 1 x 49W, single tube	-	28.36	35.12	98.95	27344
27345	1500 mm, 2 x 49W, twin tube	-	33.01	40.42	116.50	27345

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Corrosion resistant IP65 fluorescent lighting fitting c/w T5 electronic ballast and self-contained battery (NiMH) for 2 hours discharge (emergency of the normal length) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27346	600 mm, 1 x 14W, single tube	1,105.40	25.20	31.11	84.76	27346
27347	600 mm, 2 x 14W, twin tube	1,330.18	28.36	35.12	98.95	27347
27348	1200 mm, 1 x 28W, single tube	1,186.88	27.06	33.00	91.47	27348
27349	1200 mm, 2 x 28W, twin tube	1,436.87	29.36	35.96	105.89	27349
27350	1500 mm, 1 x 35W, single tube	1,937.88	28.17	34.82	96.58	27350
27351	1500 mm, 2 x 35W, twin tube	2,297.44	32.80	40.08	113.70	27351
27352	1500 mm, 1 x 49W, single tube	1,944.63	28.36	35.12	98.95	27352
27353	1500 mm, 2 x 49W, twin tube	2,315.21	33.01	40.42	116.50	27353
	Corrosion resistant IP65 fluorescent lighting fitting c/w T5 electronic dimmable ballast and self-contained battery (NiMH) for 2 hours discharge (emergency of the normal length) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27354	1200 mm, 1 x 28W, single tube	1,361.61	27.06	33.00	91.47	27354
27355	1200 mm, 2 x 28W, twin tube	1,784.28	29.36	35.96	105.89	27355
27356	1500 mm, 1 x 35W, single tube	2,114.35	28.17	34.82	96.58	27356
27357	1500 mm, 2 x 35W, twin tube	2,648.03	32.80	40.08	113.70	27357
27358	1200 mm, 1 x 28W, single tube c/w light sensor	1,386.77	27.06	33.00	91.47	27358
27359	1500 mm, 1 x 35W, single tube c/w light sensor	2,139.51	28.17	34.82	96.58	27359

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Corrosion resistant IP65 fluorescent lighting fitting c/w T8 electronic ballast :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27360	600 mm, 1 x 18/ 20W, single tube	-	25.20	31.11	84.76	27360
27361	600 mm, 2 x 18/ 20W, twin tube	-	28.36	35.12	98.95	27361
27362	1200 mm, 1 x 36/ 40W, single tube	-	27.06	33.00	91.47	27362
27363	1200 mm, 2 x 36/ 40W, twin tube	-	29.36	35.96	105.89	27363
27364	1500 mm, 1 x 58/ 60W, single tube	-	28.36	35.12	98.95	27364
27365	1500 mm, 2 x 58/ 60W, twin tube	-	32.80	40.08	110.08	27365
	Corrosion resistant IP65 fluorescent lighting fitting c/w T5 electronic dimmable ballast :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27366	1200 mm, 1 x 28W, single tube	1,024.17	27.03	32.94	91.30	27366
27367	1200 mm, 2 x 28W, twin tube	1,446.82	29.28	35.88	105.68	27367
27368	1500 mm, 1 x 35W, single tube	1,770.70	28.14	34.74	96.36	27368
27369	1500 mm, 2 x 35W, twin tube	2,304.40	32.74	40.01	113.47	27369
27370	1200 mm, 1 x 28W, single tube c/w light sensor	1,049.32	27.03	32.94	91.30	27370
27371	1500 mm, 1 x 35W, single tube c/w light sensor	1,795.86	28.14	34.74	96.36	27371

Item					
	FLUORESCENT LIGHTING FITTINGS (CONT'D)				
	Surface mounted modular fluorescent light fitting c/w T5 fluorescent tube, dimmable electronic control gear/ electronic ballast (one electronic ballast for each set of fluorescent tube), aluminium louvre/ reflector/ plastic diffuser (all types) :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
<i>Each</i>					
27372	300 x 600 mm, 1 x 14W similar to SFA 110	794.14	29.07	35.57	105.68
27373	300 x 600 mm, 2 x 14W similar to SFA 110	1,195.59	35.10	41.55	111.43
27374	300 x 1200 mm, 1 x 28W similar to SFA 110	909.46	35.10	41.55	111.43
27375	300 x 1200 mm, 2 x 28W similar to SFA 110	1,291.64	39.31	46.51	118.76
27376	300 x 1500 mm, 1 x 35W similar to SFA 110	1,062.25	37.27	45.08	118.20
27377	300 x 1500 mm, 2 x 35W similar to SFA 110	1,484.39	43.70	51.19	126.39
27378	300 x 1500 mm, 1 x 49W similar to SFA 110	1,083.31	37.27	45.08	118.20
27379	300 x 1500 mm, 2 x 49W similar to SFA 110	1,526.40	43.70	51.19	126.39
	Flameproof IP66 fluorescent fitting c/w T5 electronic ballast for use in Zone 1 hazardous area and for gas groups IIA & IIB conform to FSD requirements :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
<i>Each</i>					
27380	600 mm, 1 x 14W, single tube batten	7,041.12	65.39	81.98	245.10
27381	600 mm, 2 x 14W, twin tube batten	7,538.81	71.53	88.43	260.16
27382	1200 mm, 1 x 28W, single tube batten	7,473.47	65.39	81.98	245.10
27383	1200 mm, 2 x 28W, twin tube batten	7,916.99	71.53	88.43	260.16
27384	1500 mm, 1 x 35W, single tube batten	8,708.31	65.39	81.98	245.10
27385	1500 mm, 2 x 35W, twin tube batten	9,226.56	71.53	88.43	260.16
27386	1500 mm, 1 x 49W, single tube batten	9,953.80	65.39	81.98	245.10
27387	1500 mm, 2 x 49W, twin tube batten	10,483.21	71.53	88.43	260.16
	X-ray view boxes :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
<i>Each</i>					
27388	X-ray view box, twin type, 1 mm thick aluminium x-ray viewing boxes; fluorescent tubes with color temperature 6500K to suit viewing box; 3 mm thick transparent perspex; including all necessary electrical connection to adjacent power source	4,204.81	26.92	32.84	91.09
27389	Ditto but stainless steel x-ray viewing box	4,824.61	26.92	32.84	91.09

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Emergency power pack (with inverter, battery charger, indication lights, test button and 2-hour NiMH emergency power pack) for fluorescent light/ compact fluorescent light/ LED light fitting :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27390	<i>Each</i> Not exceeding 18W	464.84	9.07	10.98	28.16	27390
27391	18W - 28W power pack	614.43	9.07	10.98	28.16	27391
27392	28W - 35W power pack	707.55	9.07	10.98	28.16	27392
27393	35W - 58W power pack	1,013.52	9.07	10.98	28.16	27393
	Emergency power pack (with inverter, battery charger, indication lights, test button and 3-hour NiMH emergency power pack) for fluorescent light/ compact fluorescent light/ LED light fitting :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27394	<i>Each</i> Not exceeding 18W	971.80	9.07	10.98	28.16	27394
27395	18W - 28W power pack	1,385.93	9.07	10.98	28.16	27395
27396	28W - 35W power pack	1,585.65	9.07	10.98	28.16	27396
27397	35W - 58W power pack	1,910.97	9.07	10.98	28.16	27397
	Reflector for surface mounted fluorescent light fittings/ LED light fitting (batten type) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27398	<i>Each</i> Metal angle reflector, 1200 mm for SFA 56	109.19	10.41	11.76	30.26	27398
27399	Metal angle reflector, 1500 mm for SFA 56	120.36	10.41	11.76	30.26	27399
27400	Metal trough reflector, 600 mm for single tube batten similar to SFA 58	116.01	10.48	11.84	30.45	27400
27401	Metal trough reflector, 1200 mm for single tube batten similar to SFA 58	123.69	10.48	11.84	30.45	27401
27402	Metal trough reflector, 1200 mm for twin tube batten similar to SFA 72	150.86	10.48	11.84	30.45	27402
27403	Metal trough reflector, 1500 mm for single tube batten similar to SFA 58	135.84	10.48	11.84	30.45	27403
27404	Metal trough reflector, 1500 mm for twin tube batten similar to SFA 72	168.88	10.48	11.84	30.45	27404

Item									Item
	FLUORESCENT LIGHTING FITTINGS (CONT'D)								
	Plastic diffuser for surface mounted fluorescent light fittings/ LED light fittings (batten type) :-								
	<i>Each</i>								
27405	600 mm for single tube batten similar to SFA 51	83.39	6.78	7.33	18.22				27405
27406	1200 mm for single tube batten similar to SFA 51	94.41	6.78	7.33	18.22				27406
27407	1200 mm for twin tube batten similar to SFA 74	153.19	6.78	7.33	18.22				27407
27408	1500 mm for single tube batten similar to SFA 51	106.12	6.78	7.33	18.22				27408
27409	1500 mm for twin tube batten similar to SFA 74	172.83	6.78	7.33	18.22				27409
	Plastic panel diffuser :-								
	<i>Per square metre</i>								
27410	for surface/ recess mounted modular fluorescent light fitting/ LED light fitting size	275.06	23.71	25.63	63.75				27410
	Starter for fluorescent lighting fittings :-								
	<i>Each</i>								
27411	18/ 30/ 36/ 58/ 85 W	-	2.44	2.70	7.22				27411
	Condenser for fluorescent lighting fittings :-								
	<i>Each</i>								
27412	18/ 30/ 36/ 58/ 85W	-	11.09	13.49	34.39				27412

Item					Item	
	FLUORESCENT LIGHTING FITTINGS (CONT'D)					
	Dimmable electronic ballast for T5 fluorescent light/ compact fluorescent light fitting : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
27417	Not exceeding 14W	314.35	9.07	10.98	26.56	27417
27418	14W - 21W	320.32	9.07	10.98	26.56	27418
27419	21W - 28W	326.14	9.07	10.98	26.56	27419
27420	35W	332.14	9.07	10.98	26.56	27420
27421	49W	349.93	9.07	10.98	26.56	27421
27422	54W	355.94	9.07	10.98	26.56	27422
27423	80W	361.92	9.07	10.98	26.56	27423
	Sundry fittings : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
27424	Brackets, tubular, comprise flange plate and nipple and 20 mm diameter tube bent to required shape, all galvanized, n.e. 450 mm projection	54.83	8.11	10.14	25.88	27424
27425	Ditto but 450 mm - 600 mm projection	57.96	8.11	10.14	25.88	27425
27426	Brackets, corner fitting, comprise 20 mm diameter tube bent to required shape n.e. 450 mm projection	57.85	9.11	11.19	28.09	27426
27427	Pendant, tubular, comprise male pendant plates, conduit, socket, adaptors and male bush as required and 20 mm diameter tube n.e. 300 mm length, all galvanized	52.25	8.11	10.14	25.88	27427
27428	Extra over modular fluorescent fitting/ LED light fitting for provision of ball-proof wire mesh, 300 x 600 mm	167.04	8.57	10.76	23.71	27428
27429	Ditto but 600 x 600 mm	193.29	8.57	10.76	23.71	27429
27430	Ditto but 300 x 1200 mm	194.91	8.80	11.22	24.43	27430
27431	Ditto but 600 x 1200 mm	249.77	8.80	11.22	24.43	27431
27432	Ditto but 300 x 1500 mm	218.03	9.10	11.41	25.99	27432
27433	Ditto but 600 x 1500 mm	280.00	9.10	11.41	25.99	27433
27434	T8 to T5 Bi-pin lampholder adaptor	37.59	2.05	2.44	6.25	27434
	Per linear metre					
27435	Extra over items 27424 - 27427 for each additional length of 20 mm diameter tube all galvanized for tubular pendant mounting	38.13	4.08	4.76	12.37	27435
27436	Brass chain for lighting fitting, chromium plated, 20 mm oval link with brazed ends	27.88	2.45	2.88	7.16	27436
27437	Chain, hot dip galvanized steel, bright, for lighting fitting c/w screw eyes, screw hocks and 20 mm oval link with welded ends	29.69	2.45	2.88	7.16	27437

Item					Item	
	LIGHTING FITTINGS					
	LED down light fitting, recess mounted to false ceiling, integral electronic control gear/ driver, white stove enameled steel/ die cast aluminium body and anodized aluminium reflector (all types) with/ without metal trim : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27438	Down light with up to 3W LED lamp, IP54	885.72	20.37	24.97	70.86	27438
27439	Down light with 3 - 7W LED lamp similar to SFA 224	1,301.70	22.31	26.75	75.88	27439
27440	Down light with 7 - 12W LED lamp similar to SFA 224	1,616.41	22.31	26.75	75.88	27440
27441	Down light with 12 - 16W LED lamp similar to SFA 224	1,976.30	22.31	26.75	75.88	27441
27442	Down light with 3 - 7W LED lamp c/w glass diffuser similar to SFA 224	1,842.18	22.31	26.75	75.88	27442
27443	Down light with 7 - 12W LED lamp c/w glass diffuser similar to SFA 224	2,159.57	22.31	26.75	75.88	27443
27444	Down light with 12 - 16W LED lamp c/w glass diffuser similar to SFA 224	2,560.87	22.31	26.75	75.88	27444
27445	Down light with 3 - 7W LED lamp c/w safety glass diffuser to IP54 similar to SFA 224	3,425.57	22.31	26.75	75.88	27445
27446	Down light with 7 - 12W LED lamp c/w safety glass diffuser to IP54 similar to SFA 224	3,728.28	22.31	26.75	75.88	27446
27447	Down light with 12 - 16W LED lamp c/w safety glass diffuser to IP54 similar to SFA 224	4,098.94	22.31	26.75	75.88	27447
27448	Down light with infra-red lamp, 175 mm diameter	541.80	20.37	24.97	70.86	27448
27449	Down light with 8 - 10W LED lamp c/w dimmable driver	1,850.21	20.37	24.97	70.86	27449
27450	Down light with 10 - 13W LED lamp c/w dimmable driver	1,976.10	20.37	24.97	70.86	27450
27451	Down light with 13 - 22W LED lamp c/w dimmable driver	2,594.09	20.37	24.97	70.86	27451
27452	Down light with 22 - 24W LED lamp c/w dimmable driver	2,731.43	20.37	24.97	70.86	27452

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	LED down light fitting, recess mounted to false ceiling, integral electronic control gear/ driver, white stove enameled steel/ die cast aluminium body and anodized aluminium reflector (all types) with/ without metal trim : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27453	Down light with 8 - 10W LED lamp c/w dimmable driver and 2-hour NiMH emergency power pack	2,266.42	20.37	24.97	70.86	27453
27454	Ditto but with 3-hour NiMH emergency power pack	3,204.87	20.37	24.97	70.86	27454
27455	Down light with 10 - 13W LED lamp c/w dimmable driver and 2-hour NiMH emergency power pack	2,420.63	20.37	24.97	70.86	27455
27456	Ditto but with 3-hour NiMH emergency power pack	3,385.54	20.37	24.97	70.86	27456
27457	Down light with 13 - 22W LED lamp c/w dimmable driver and 2-hour NiMH emergency power pack	3,177.63	20.37	24.97	70.86	27457
27458	Ditto but with 3-hour NiMH emergency power pack	4,290.42	20.37	24.97	70.86	27458
27459	Down light with 22 - 24W LED lamp c/w dimmable driver and 2-hour NiMH emergency power pack	3,345.86	20.37	24.97	70.86	27459
27460	Ditto but with 3-hour NiMH emergency power pack	4,497.77	20.37	24.97	70.86	27460
27461	Down light with 10 - 12W LED lamp c/w clear tempered glass lens, IP65 and 2-hour NiMH emergency power pack	3,073.71	20.37	24.97	70.86	27461
27462	Ditto but with 3-hour NiMH emergency power pack	4,168.97	20.37	24.97	70.86	27462
27463	Down light with 10 - 12W LED lamp c/w matt diffuser	2,159.57	20.37	24.97	70.86	27463
27464	Down light with 18 - 20W LED lamp c/w satin glass diffuser	2,667.36	20.37	24.97	70.86	27464
27465	Down light with 12 - 16W LED lamp, IP54 c/w safety glass diffuser and 2-hour NiMH emergency power pack, similar to SFA 224	3,983.25	20.37	24.97	70.86	27465
27466	Ditto but with 3-hour NiMH emergency power pack	5,267.13	20.37	24.97	70.86	27466
27467	Down light with 16 - 18W LED lamp, IP54 c/w safety glass diffuser and 2-hour NiMH emergency power pack, similar to SFA 224	4,779.90	20.37	24.97	70.86	27467
27468	Ditto but with 3-hour NiMH emergency power pack	6,207.55	20.37	24.97	70.86	27468
27469	Down light with 40W LED lamp, 6500K, similar to SFA 224, IP54	6,207.55	20.37	24.97	70.86	27469
27470	Down light with 42W LED lamp, 3000K, lumen 3800 lm, beam angle 120 similar to SFA 224	5,034.10	20.37	24.97	70.86	27470
27471	Down light with 30W LED lamp, 4000K, c/w non-glare tempered glass diffuser, IP65 similar to SFA 224	5,313.77	20.37	24.97	70.86	27471
	Self-contained and maintained type for down light fittings c/w 2-hour NiMH emergency power pack, inverter, transformer and : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27472	3 - 7W LED lamp similar to SFA 224	1,707.37	27.32	33.36	92.51	27472
27473	Ditto but with 3-hour emergency power pack	2,548.15	27.32	33.36	92.51	27473
27474	7 - 12W LED lamp similar to SFA 224	2,011.53	27.32	33.36	92.51	27474
27475	Ditto but with 3-hour emergency power pack	2,877.42	27.32	33.36	92.51	27475
27476	12 - 16W LED lamp similar to SFA 224	2,359.34	27.32	33.36	92.51	27476
27477	Ditto but with 3-hour emergency power pack	3,302.33	27.32	33.36	92.51	27477

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Surface mounted LED lighting fitting c/w LED driver, LED T5/ T8 tube, (one driver for each set of LED T5/ T8 tube) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27478	600 mm long, 1 no. LED T5/ T8 tube, batten type similar to SFA 50	361.60	32.13	39.55	121.79	27478
27479	600 mm long, 2 no. LED T5/ T8 tube, batten type similar to SFA 69	474.60	35.70	44.10	137.27	27479
27480	1200 mm long, 1 no. LED T5/ T8 tube, batten type similar to SFA 50	452.00	33.81	41.60	126.68	27480
27481	1200 mm long, 2 no. LED T5/ T8 tube, batten type similar to SFA 69	565.00	37.57	46.39	142.78	27481
27482	1500 mm long, 1 no. LED T5/ T8 tube, batten type similar to SFA 50	542.40	39.54	48.80	148.51	27482
27483	1500 mm long, 2 no. LED T5/ T8 tube, batten type similar to SFA 69	678.00	43.94	54.42	167.38	27483
	Surface mounted modular LED lighting fitting c/w LED driver, LED T5/ T8 tube, (one driver for each set of LED T5/ T8 tube), aluminium louvres/ reflectors and with/ without polycarbonate diffusers : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27484	200/ 300 mm x 600 mm long, single tube, IP65, min. lumen output 800 lm each tube	1,073.56	32.13	39.55	121.79	27484
27485	200/ 300 mm x 600 mm long, twin tube, IP65, min. lumen output 800 lm each tube	1,488.98	35.70	44.10	137.27	27485
27486	600 mm x 600 mm long, twin tube, IP65, min. lumen output 800 lm each tube	1,667.65	35.70	44.10	137.27	27486
27487	200/ 300 mm x 600 mm long, single tube, min. lumen output 800 lm each tube	850.01	30.51	37.55	115.07	27487
27488	200/ 300 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,175.99	33.90	41.88	129.78	27488
27489	600 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,317.10	33.90	41.88	129.78	27489
27490	200/ 300 mm x 900 mm long, single tube, IP65, min. lumen output 1200 lm each tube	1,178.21	34.59	42.56	130.32	27490
27491	200/ 300 mm x 900 mm long, twin tube, IP65, min. lumen output 1200 lm each tube	1,606.11	38.25	46.56	147.21	27491
27492	600 mm x 900 mm long, twin tube, IP65, min. lumen output 1200 lm each tube	1,798.87	38.25	46.56	147.21	27492
27493	200/ 300 mm x 900 mm long, single tube, min. lumen output 1200 lm each tube	943.48	32.87	40.47	123.28	27493
27494	200/ 300 mm x 900 mm long, twin tube, min. lumen output 1200 lm each tube	1,278.81	36.35	44.30	139.31	27494
27495	600 mm x 900 mm long, twin tube, min. lumen output 1200 lm each tube	1,432.25	36.35	44.30	139.31	27495

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Surface mounted modular LED lighting fitting c/w LED driver, LED T5/ T8 tube, (one driver for each set of LED T5/ T8 tube), aluminium louvres/ reflectors and with/ without polycarbonate diffusers : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27496	200/ 300 mm x 1200 mm long, single tube, IP65, min. lumen output 1600 lm each tube	1,227.38	35.64	43.81	134.06	27496
27497	200/ 300 mm x 1200 mm long, twin tube, IP65, min. lumen output 1600 lm each tube	1,686.62	39.18	47.04	151.68	27497
27498	600 mm x 1200 mm long, twin tube, IP65, min. lumen output 1600 lm each tube	1,889.00	39.18	47.04	151.68	27498
27499	200/ 300 mm x 1200 mm long, single tube, min. lumen output 1600 lm each tube	1,019.48	33.81	41.60	126.68	27499
27500	200/ 300 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,377.21	37.22	44.75	143.36	27500
27501	600 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,542.46	37.22	44.75	143.36	27501
27502	1200 mm long, single tube, corrosion resistant, IP65, min lumen output 2200 lm each tube c/w 2-hour NiMH emergency power pack	3,717.70	33.81	41.60	126.68	27502
27503	Ditto but with 3-hour NiMH emergency power pack	4,944.24	33.81	41.60	126.68	27503
27504	1200 mm long, single tube, corrosion resistant, IP65, min lumen output 2200 lm each tube	2,788.28	33.81	41.60	126.68	27504
27505	120 mm x 1350 mm long, single tube, IP67, min. lumen output 2200 lm each tube	3,717.70	33.81	41.60	126.68	27505
27506	120 mm x 1350 mm long, single tube, IP67, min. lumen output 2200 lm each tube, c/w 2-hour NiMH emergency power pack	4,647.13	33.81	41.60	126.68	27506
27507	Ditto but with 3-hour NiMH emergency power pack	6,060.24	33.81	41.60	126.68	27507
27508	200/ 300 mm x 1500 mm long, single tube, IP65, min. lumen output 2000 lm each tube	1,622.22	38.45	47.21	163.03	27508
27509	200/ 300 mm x 1500 mm long, twin tube, IP65, min. lumen output 2000 lm each tube	2,210.21	49.78	60.77	177.04	27509
27510	600 mm x 1500 mm long, twin tube, IP65, min. lumen output 2000 lm each tube	2,475.44	49.78	60.77	177.04	27510
27511	200/ 300 mm x 1500 mm long, single tube, min. lumen output 2000 lm each tube	1,374.95	36.41	44.71	157.80	27511
27512	200/ 300 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	1,795.26	48.34	59.00	171.13	27512
27513	600 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	2,010.70	48.34	59.00	171.13	27513

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Surface mounted modular LED lighting fitting c/w dimmable LED driver, LED T5/ T8 tube, (one driver for each set of LED T5/ T8 tube), aluminium louvres/ reflectors and with/ without polycarbonate diffusers :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27514	200/ 300 mm x 600 mm long, single tube, IP65, min. lumen output 800 lm each tube	1,154.39	32.13	39.55	121.79	27514
27515	200/ 300 mm x 600 mm long, twin tube, IP65, min. lumen output 800 lm each tube	1,601.06	35.70	44.10	137.27	27515
27516	600 mm x 600 mm long, twin tube, IP65, min. lumen output 800 lm each tube	1,793.18	35.70	44.10	137.27	27516
27517	200/ 300 mm x 600 mm long, single tube, min. lumen output 800 lm each tube	914.00	30.51	37.55	115.07	27517
27518	200/ 300 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,264.50	33.90	41.88	129.78	27518
27519	600 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,416.23	33.90	41.88	129.78	27519
27520	200/ 300 mm x 900 mm long, single tube, IP65, min. lumen output 1200 lm each tube	1,266.89	34.59	42.56	130.32	27520
27521	200/ 300 mm x 900 mm long, twin tube, IP65, min. lumen output 1200 lm each tube	1,727.02	38.25	46.56	147.21	27521
27522	600 mm x 900 mm long, twin tube, IP65, min. lumen output 1200 lm each tube	1,934.26	38.25	46.56	147.21	27522
27523	200/ 300 mm x 900 mm long, single tube, min. lumen output 1200 lm each tube	1,014.47	32.87	40.47	123.28	27523
27524	200/ 300 mm x 900 mm long, twin tube, min. lumen output 1200 lm each tube	1,375.07	36.35	44.30	139.31	27524
27525	600 mm x 900 mm long, twin tube, min. lumen output 1200 lm each tube	1,540.07	36.35	44.30	139.31	27525
27526	200/ 300 mm x 1200 mm long, single tube, IP65, min. lumen output 1600 lm each tube	1,319.78	35.64	43.81	134.06	27526
27527	200/ 300 mm x 1200 mm long, twin tube, IP65, min. lumen output 1600 lm each tube	1,813.57	39.18	47.04	151.68	27527
27528	600 mm x 1200 mm long, twin tube, IP65, min. lumen output 1600 lm each tube	2,031.18	39.18	47.04	151.68	27528
27529	200/ 300 mm x 1200 mm long, single tube, min. lumen output 1600 lm each tube	1,096.20	33.81	41.60	126.68	27529
27530	200/ 300 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,480.85	37.22	44.75	143.36	27530
27531	600 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,658.57	37.22	44.75	143.36	27531
27532	200/ 300 mm x 1500 mm long, single tube, IP65, min. lumen output 2000 lm each tube	1,744.32	38.45	47.21	163.03	27532
27533	200/ 300 mm x 1500 mm long, twin tube, IP65, min. lumen output 2000 lm each tube	2,376.59	49.78	60.77	177.04	27533
27534	600 mm x 1500 mm long, twin tube, IP65, min. lumen output 2000 lm each tube	2,661.76	49.78	60.77	177.04	27534
27535	200/ 300 mm x 1500 mm long, single tube, min. lumen output 2000 lm each tube	1,478.46	36.41	44.71	157.80	27535
27536	200/ 300 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	1,930.38	48.34	59.00	171.13	27536
27537	600 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	2,162.05	48.34	59.00	171.13	27537

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	LED down light fitting, surface mounted, integral electronic control gear/ driver, stove enameled steel/ die cast aluminium body and anodized aluminium reflector (all types) with/ without metal trim: -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27538	Down light with up to 3W LED lamp, IP54	1,858.85	27.13	33.88	100.86	27538
27539	Down light with 3 - 7W LED lamp similar to SFA 223	2,582.79	27.13	33.88	100.86	27539
27540	Down light with 7 - 12W LED lamp similar to SFA 223	2,788.28	27.13	33.88	100.86	27540
27541	Down light with 12 - 16W LED lamp similar to SFA 223	2,952.66	27.13	33.88	100.86	27541
27542	Down light with 12 - 16W LED lamp c/w 2-hour NiMH emergency power pack, similar to SFA 223	3,850.48	27.13	33.88	100.86	27542
27543	Ditto but with 3-hour NiMH emergency power pack	5,091.55	27.13	33.88	100.86	27543
27544	Down light with 18 - 20W LED lamp similar to SFA 223	4,116.03	27.13	33.88	100.86	27544
27545	Down light with 3 - 7W LED lamp c/w glass diffuser similar to SFA 223	2,593.23	27.13	33.88	100.86	27545
27546	Down light with 7 - 12W LED lamp c/w glass diffuser similar to SFA 223	2,854.66	27.13	33.88	100.86	27546
27547	Down light with 12 - 16W LED lamp c/w glass diffuser similar to SFA 223	3,120.21	27.13	33.88	100.86	27547
27548	Down light with 3 - 7W LED lamp c/w safety glass diffuser to IP54 similar to SFA 223	5,186.47	27.13	33.88	100.86	27548
27549	Down light with 7 - 12W LED lamp c/w safety glass diffuser to IP54 similar to SFA 223	5,709.33	27.13	33.88	100.86	27549
27550	Down light with 12 - 16W LED lamp c/w safety glass diffuser to IP54 similar to SFA 223	6,240.43	27.13	33.88	100.86	27550
27551	Down light with 12 - 16W LED lamp c/w safety glass diffuser to IP54 and 2-hour NiMH emergency power pack, similar to SFA 223	7,302.63	27.13	33.88	100.86	27551
27552	Ditto but with 3-hour NiMH emergency power pack	9,232.65	27.13	33.88	100.86	27552
27553	Down light with 16 - 18W LED lamp c/w safety glass diffuser to IP54 and 2-hour NiMH emergency power pack, similar to SFA 223	7,568.18	27.13	33.88	100.86	27553
27554	Ditto but with 3-hour NiMH emergency power pack	9,568.38	27.13	33.88	100.86	27554
27555	Down light with infra-red lamp, 175 mm diameter	3,452.15	27.13	33.88	100.86	27555
27556	Down light with 8 - 10W LED lamp c/w dimmable driver	2,826.72	27.13	33.88	100.86	27556
27557	Down light with 10 - 13W LED lamp c/w dimmable driver	3,019.05	27.13	33.88	100.86	27557
27558	Down light with 13 - 22W LED lamp c/w dimmable driver	3,963.20	27.13	33.88	100.86	27558
27559	Down light with 22 - 24W LED lamp c/w dimmable driver	4,173.01	27.13	33.88	100.86	27559
27560	Down light with 22 - 24W LED lamp c/w dimmable driver and 2-hour NiMH emergency power pack	5,111.73	27.13	33.88	100.86	27560
27561	Ditto but with 3-hour NiMH emergency power pack	6,618.14	27.13	33.88	100.86	27561
27562	Down light with 10 - 12W LED lamp c/w clear tempered glass lens, IP65 and 2-hour NiMH emergency power pack	4,695.93	27.13	33.88	100.86	27562
27563	Ditto but with 3-hour NiMH emergency power pack	6,104.00	27.13	33.88	100.86	27563
27564	Down light with 10 - 12W LED lamp c/w matt diffuser	3,299.34	27.13	33.88	100.86	27564
27565	Down light with 18 - 20W LED lamp c/w satin glass diffuser	4,075.12	27.13	33.88	100.86	27565
27566	Down light with 36W LED lamp, c/w angle adjustable, die cast aluminium housing, IP65	5,801.52	27.13	33.88	100.86	27566

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Recess mounted modular LED lighting fitting c/w LED driver, LED T5/ T8 tube, (one driver for each set of LED T5/ T8 tube), aluminium louvres/ reflectors and with/ without polycarbonate diffusers : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27567	200/ 300 mm x 600 mm long, single tube, min. lumen output 800 lm each tube	1,082.22	32.72	40.12	119.20	27567
27568	200/ 300 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,191.84	39.48	46.86	125.69	27568
27569	600 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,334.87	39.48	46.86	125.69	27569
27570	200/ 300 mm x 1200 mm long, single tube, min. lumen output 1600 lm each tube	1,298.14	39.48	46.86	125.69	27570
27571	200/ 300 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,406.33	44.25	52.49	133.97	27571
27572	600 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,575.09	44.25	52.49	133.97	27572
27573	200/ 300 mm x 1500 mm long, single tube, min. lumen output 2000 lm each tube	1,370.84	41.95	50.84	133.37	27573
27574	200/ 300 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	1,456.81	49.18	57.72	142.58	27574
27575	600 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	1,631.63	49.18	57.72	142.58	27575
	Recess mounted modular LED lighting fitting c/w dimmable LED driver, LED T5/ T8 tube, (one driver for each set of LED T5/ T8 tube), aluminium louvres/ reflectors and with/ without polycarbonate diffusers : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27576	200/ 300 mm x 600 mm long, single tube, min. lumen output 800 lm each tube	1,161.99	32.72	40.12	119.20	27576
27577	200/ 300 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,343.28	39.48	46.86	125.69	27577
27578	600 mm x 600 mm long, twin tube, min. lumen output 800 lm each tube	1,504.47	39.48	46.86	125.69	27578
27579	200/ 300 mm x 1200 mm long, single tube, min. lumen output 1600 lm each tube	1,378.49	39.48	46.86	125.69	27579
27580	200/ 300 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,493.72	44.24	52.49	133.97	27580
27581	600 mm x 1200 mm long, twin tube, min. lumen output 1600 lm each tube	1,673.00	44.24	52.49	133.97	27581
27582	200/ 300 mm x 1500 mm long, single tube, min. lumen output 2000 lm each tube	1,471.66	41.95	50.84	133.37	27582
27583	200/ 300 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	1,543.35	49.18	57.72	142.58	27583
27584	600 mm x 1500 mm long, twin tube, min. lumen output 2000 lm each tube	1,728.55	49.18	57.72	142.58	27584

Item								Item							
LIGHTING FITTINGS (CONT'D)															
LED circular lighting fitting, pendant mounted to ceiling, integral electronic control gear/ driver, die cast aluminium body, high transmittance diffuser : -															
				Supply and fix		Take down and clear away	Take down and set aside for re-use	Fix only							
up to 18W		18W to 25W	25W to 35W	35W to 45W											
A \$		B \$	C \$	D \$	E \$	F \$	G \$								
<i>Each</i>															
27585	LED circular lighting fitting, diameter up to 600 mm							4,132.63	4,520.99	4,982.39	5,111.84	31.24	37.48	80.63	27585
27586	LED circular lighting fitting, diameter up to 600 mm, c/w dimmable driver							5,307.63	5,695.99	6,157.39	6,286.84	31.24	37.48	80.63	27586
Track lighting system : -															
				Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only								
				A \$	B \$	C \$	D \$								
<i>Each</i>															
27587	Single-circuit extruded monorail aluminium lighting track, surface/ suspended mounted, 1000 mm in length, 16A max. rating, mains voltage							343.79	24.61	30.77	82.64	27587			
27588	Single-circuit extruded monorail aluminium lighting track, surface/ suspended mounted, 2000 mm in length, 16A max. rating, mains-voltage							503.39	23.27	35.21	97.64	27588			
27589	End cap for monorail lighting track							32.15	2.60	2.88	7.54	27589			
27590	Three phase four circuit six conductor slimline lighting track made from extruded aluminum with powder coated finish c/w components including push-up live end, plug-in coupler, push-up coupler, plug-in coupler, rigid L/ T/ X coupler, flexible coupler, mounting clip, end cap, suspension, mains supply kit, cable entry moulding, etc., two 16 A fused feeds, 1000 mm in length							1,435.98	31.40	38.84	113.12	27590			
27591	Spot light with 7 - 9W LED lamp, 90° tiltable bracket, 360° spot/ flood rotatable transadapter, for light track mounting similar to SFA 244							979.77	22.31	26.75	75.88	27591			
27592	Ditto but with 3 x 3W LED lamp							1,312.52	22.31	26.75	75.88	27592			
27593	Ditto but with 7 - 9W LED lamp and dimmable ballast							1,582.00	22.31	26.75	75.88	27593			

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Bulkhead light fitting c/w electronic control gear/ electronic ballast, lamps, side/ back entry cutting and rubber grommet or stop : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27594	2 x 8W vandal resistant fluorescent bulkhead with injection moulded polycarbonate diffuser, IP65	820.14	27.05	33.80	100.64	27594
27595	Ditto but 3 x 8W fluorescent light, IP65	1,112.98	27.05	33.80	100.64	27595
27596	Ditto but for 1 x 11W PL fluorescent light, IP65	732.45	27.05	33.80	100.64	27596
27597	Ditto but for 2 x 11W PL fluorescent light, IP65	833.89	27.05	33.80	100.64	27597
27598	Bulkhead lighting fitting IP65 with die-cast aluminium body, moulded glass lens c/w built-in control gear and 1 x 70W CDMT lamp	1,844.41	27.05	33.80	100.64	27598
27599	Bulkhead fitting of IP65 protection c/w 70W CDMT lamp, polycarbonate cover	2,211.75	27.05	33.80	100.64	27599
27600	Bulkhead luminaire c/w 2 x 8W fluorescent lamps, 2-hour NiMH emergency power pack & control gear	698.37	27.05	33.80	100.64	27600
27601	Ditto but with 3-hour NiMH emergency power pack	1,097.83	27.05	33.80	100.64	27601
27602	Traditional bulkhead fitting similar to SFA 203, die cast aluminium casing with polyester powder coated finish, hinged anti vandal polycarbonate diffuser, to IEC 60598, IP 64 c/w 1 x 13W PLC lamp	419.13	27.05	33.80	100.64	27602
27603	Bulkhead fitting, prismatic type, glass diffuser, 35W CDMT lamp similar to SFA 35	1,981.98	27.05	33.80	100.64	27603
27604	Ditto but for 70W SON	2,668.65	27.05	33.80	100.64	27604
27605	Ditto but for 70W CDMT	2,483.52	27.05	33.80	100.64	27605
27606	Bulkhead fitting, IP65 c/w up to 10W LED lamps	3,319.38	27.05	33.80	100.64	27606
27607	Bulkhead fitting, IP65 c/w 10W - 20W LED lamps	3,717.70	27.05	33.80	100.64	27607
27608	Bulkhead fitting, IP65 c/w 20W - 30W LED lamps	4,381.58	27.05	33.80	100.64	27608
27609	Bulkhead fitting, IP65 c/w 30W - 40W LED lamps	5,045.45	27.05	33.80	100.64	27609
27610	Gasket for retaining flange for bulkhead fitting	37.62	4.93	6.67	18.11	27610
27611	Glassware only for bulkhead fitting similar to SFA 35	493.30	13.53	16.18	49.88	27611
27612	Key for bulkhead (supply only) lighting fitting	23.99	-	-	-	27612
27613	Bulkhead lighting fitting, IP65 c/w polycarbonate diffuser and 1 x 26W PLC lamp	759.56	27.05	33.80	100.64	27613

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Floodlighting fittings including control gear, side/ back entry, cutting, and rubber grommet or stop : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27614	MBIL floodlighting fitting IP54 c/w 750/ 1000/ 1500W control gear	13,905.42	66.22	82.46	253.58	27614
27615	Ditto but 2000W	22,891.43	66.22	82.46	253.58	27615
27616	H.P. sodium (SON) floodlighting fitting IP65, die cast aluminium housing c/w 70W lamp, control gear and anodized aluminium reflector (all types) similar to SFA 205	1,769.54	62.16	78.48	235.57	27616
27617	Ditto but for 150W lamp	2,435.35	62.16	78.48	235.57	27617
27618	Ditto but for 250W lamp	3,267.60	62.16	78.48	235.57	27618
27619	Ditto but for 400W lamp	4,516.01	62.16	78.48	235.57	27619
27620	Ditto but for 70W MBIF lamp	2,533.02	62.16	78.48	235.57	27620
27621	Ditto but for 150W MBIF lamp	3,083.01	62.16	78.48	235.57	27621
27622	Ditto but for 250W MBIF lamp	3,770.53	62.16	78.48	235.57	27622
27623	Ditto but for 400W MBIF lamp	4,801.80	62.16	78.48	235.57	27623
27624	Tungsten halogen floodlight fitting, IP54 c/w lamp, 500W	-	27.23	34.02	101.27	27624
27625	Ditto but with 1000W lamp	-	27.23	34.02	101.27	27625
27626	Ditto but with 1500W lamp	-	27.23	34.02	101.27	27626
27627	High bay floodlight fittings designed and manufactured to comply with IEC 60598-2, IP54 body; extruded aluminium body with high temperature polypropylene side casing and high temperature nylon body; vertical lamp, prismatic glass reflector c/w 250W MBIF lamp, control gear and safety chain	5,548.89	62.16	78.48	235.57	27627
27628	Ditto but with 400W MBIF lamp	6,283.89	62.16	78.48	235.57	27628
27629	Ditto but with 250W SON lamp	4,478.11	62.16	78.48	235.57	27629
27630	Ditto but with 400W SON lamp	4,870.57	62.16	78.48	235.57	27630
27631	High bay floodlight fittings designed and manufactured to comply with IEC 60598-2, IP54 body; extruded aluminium body with high temperature polypropylene side casing and high temperature nylon body; vertical lamp, self-cleaning high purity spun aluminium reflector c/w 250W MBIF lamp, control gear and safety chain	4,742.95	62.16	78.48	235.57	27631
27632	Ditto but with 400W MBIF lamp	5,263.95	62.16	78.48	235.57	27632
27633	Ditto but with 250W SON lamp	3,834.41	62.16	78.48	235.57	27633
27634	Ditto but with 400W SON lamp	4,125.67	62.16	78.48	235.57	27634

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	LIGHTING FITTINGS (CONT'D)					
	Floodlighting fittings including control gear, side/ back entry, cutting, and rubber grommet or stop : - (Cont'd)					
	<i>Each</i>					
27635	High bay floodlight fittings designed and manufactured to comply with IEC 60598-2 IP65 body; technopolymer reinforced with fiber glass body; turned aluminium sheet upper housing with grey powder paint; toughened glass cover with gasket clips; elliptical lamp, polished and anodized aluminium reflector c/w 250W MBIF lamp control gear and safety chain	3,518.03	62.31	78.64	236.05	27635
27636	Ditto but with 400W MBIF lamp	3,822.79	62.31	78.64	236.05	27636
27637	Ditto but with 250W SON lamp	2,523.49	62.31	78.64	236.05	27637
27638	Ditto but with 400W SON lamp	2,696.21	62.31	78.64	236.05	27638
27639	High bay floodlight fittings designed and manufactured to comply with IEC 60598-2 IP54 body; prismatic borosilicate glass retained by a spun aluminium cover sealed reflector; tempered glass cover with stainless steel clips c/w 250W MBIF lamp, control gear and safety chain	5,398.46	62.31	78.64	236.05	27639
27640	Ditto but with 400W MBIF lamp	5,793.69	62.31	78.64	236.05	27640
27641	Ditto but with 250W SON lamp	4,200.65	62.31	78.64	236.05	27641
27642	Ditto but with 400W SON lamp	4,666.94	62.31	78.64	236.05	27642
27643	High bay floodlight fittings designed and manufactured to comply with IEC 60598-2 IP54 body; prismatic borosilicate glass retained by a spun aluminium cover sealed reflector c/w 250W MBIF lamp, control gear and safety chain	4,533.30	62.31	78.64	236.05	27643
27644	Ditto but with 400W MBIF lamp	4,903.05	62.31	78.64	236.05	27644
27645	Ditto but with 250W SON lamp	3,588.70	62.31	78.64	236.05	27645
27646	Ditto but with 400W SON lamp	3,782.41	62.31	78.64	236.05	27646
27647	High bay floodlight c/w up to 60W LED lamp	4,910.77	62.31	78.64	236.05	27647
27648	High bay floodlight c/w 60 - 80W LED lamp	5,481.80	62.31	78.64	236.05	27648
27649	High bay floodlight c/w 80 - 100W LED lamp	5,710.21	62.31	78.64	236.05	27649
27650	High bay floodlight c/w 100 - 150W LED lamp	6,281.22	62.31	78.64	236.05	27650
27651	High bay floodlight, IP65, c/w 200W LED lamp	9,958.13	62.31	78.64	236.05	27651
27652	High bay floodlight, IP65, c/w 250W LED lamp	10,356.45	62.31	78.64	236.05	27652

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Floodlight fitting accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27666	Heat shield for floodlight	1,515.57	13.64	16.33	50.40	27666
27667	Wire guard for floodlight	646.53	13.64	16.33	50.40	27667
27668	Front glass assembly c/w silicone rubber gasket for floodlight	899.76	13.64	16.33	50.40	27668
27669	Floodlight louvre for 750W fitting	1,857.59	19.89	24.49	72.59	27669
27670	Ditto but for 1000W fitting	1,889.24	19.89	24.49	72.59	27670
27671	Ditto but for 1500W fitting	1,934.95	19.89	24.49	72.59	27671
27672	Multi-use or cross arm mounting bracket c/w 2"U" clamps (hot dip galvanized steel)	410.87	19.89	24.54	75.91	27672
27673	Wall bracket (hot dip galvanized steel)	343.78	17.59	22.43	65.22	27673
27674	Stainless steel (304) mounting bracket for floodlight	904.44	17.59	22.43	65.22	27674
27675	Ditto but of stainless steel (316)	1,025.88	17.59	22.43	65.22	27675
27676	Hot dip galvanized steel universal pole clamp for floodlight fitting	131.67	7.27	9.73	27.01	27676
27677	Stainless steel (304) universal pole clamp for floodlight fitting	326.67	7.27	9.73	27.01	27677
27678	Ditto but of stainless steel (316)	364.71	7.27	9.73	27.01	27678
27679	Stirrup assembly (hot dip galvanized steel)	521.71	19.89	24.54	75.91	27679
27680	Stirrup assembly c/w blanking plate and gland (hot dip galvanized)	578.73	19.89	24.54	75.91	27680
27681	Stirrup assembly c/w blanking plate and gland (304 stainless steel)	1,655.66	19.89	24.54	75.91	27681
27682	Stirrup assembly c/w blanking plate and gland (316 stainless steel)	1,731.87	19.89	24.54	75.91	27682
27683	Special wall bracket, hot dip galvanized	541.72	19.89	24.54	75.91	27683
27684	Step up transformer c/w weatherproof metal box rated IP65	2,118.80	25.39	32.04	95.36	27684
27685	Step down transformer c/w enclosure, 220/ 12V, 50 VA	1,097.26	10.67	13.36	38.50	27685

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
LIGHTING FITTINGS (CONT'D)						
Floodlight fitting accessories : - (Cont'd)						
<i>Each</i>						
27686	Ballast for 70/ 150/ 250W H.P. Sodium lamp	306.37	13.64	16.31	50.29	27686
27687	Ballast for 400W H.P. Sodium lamp	359.53	13.64	16.31	50.29	27687
27688	Ballast for 150/ 250/ 400W white SON lamp	564.85	13.64	16.31	50.29	27688
27689	Ballast for 250/ 400W MBIF lamp	369.20	13.64	16.31	50.29	27689
27690	Ballast for 750W MBIL lamp	1,539.88	13.64	16.31	50.29	27690
27691	Ballast for 1000W MBIL lamp	1,539.88	13.64	16.31	50.29	27691
27692	Ballast for 1500W MBIL lamp	1,553.61	13.64	16.31	50.29	27692
27693	Ballast for 2000W MBIL lamp	1,566.38	13.64	16.31	50.29	27693
27694	Transformer for 1500W MBIL lamp	2,458.36	13.64	16.31	50.29	27694
27695	Ballast for 50/ 80/ 125W MBF lamp	-	13.64	16.31	50.29	27695
27696	Ballast for 250/ 400W MBF lamp	-	13.64	16.31	50.29	27696
27697	Electronic Ballast for 150W Metal Halide Lamp	1,141.54	13.64	16.31	50.29	27697
27698	Capacitor for 250W/ 400W MBIF lamp	170.66	11.56	14.93	43.04	27698
27699	Capacitor for 750W MBIL lamp	405.45	11.56	14.93	43.04	27699
27700	Capacitor for 1000W MBIL lamp	410.30	11.56	14.93	43.04	27700
27701	Capacitor for 1500W MBIL lamp	420.90	11.56	14.93	43.04	27701
27702	Capacitor for 2000W MBIL lamp	492.82	11.56	14.93	43.04	27702
27703	Ignitor for 70W H.P. Sodium lamp	204.65	11.56	14.93	43.04	27703
27704	Ignitor for 150/ 250/ 400W H.P. Sodium lamp	227.55	11.56	14.93	43.04	27704
27705	Ignitor for 150/ 250/ 400W white SON lamp	232.13	11.56	14.93	43.04	27705
27706	Capacitor for 70W H.P. Sodium white SON lamp 30 mF + 10%	89.62	11.56	14.93	43.04	27706
27707	Capacitor for 150W H.P. Sodium white SON lamp 30 mF + 10%	120.71	11.56	14.93	43.04	27707
27708	Capacitor for 250W H.P. Sodium white SON lamp 30 mF + 10%	159.57	11.56	14.93	43.04	27708
27709	Capacitor for 400W H.P. Sodium white SON lamp 40 mF + 10%	217.86	11.56	14.93	43.04	27709
27710	Ignitor for 250W/ 400W MBIF lamp	431.60	11.56	14.93	43.04	27710
27711	Ignitor for 750W MBIL lamp	452.88	11.56	14.93	43.04	27711
27712	Ignitor for 1000W MBIL lamp	554.64	11.56	14.93	43.04	27712
27713	Ignitor for 1500W MBIL lamp	758.17	11.56	14.93	43.04	27713
27714	Ignitor for 2000W MBIL lamp	836.59	11.56	14.93	43.04	27714
<i>Per linear meter</i>						
27715	Safety chain, hot dipped galvanized steel (or wrought iron) chain 25 mm oval link c/w shackles	69.04	2.45	2.88	7.16	27715

Item					Item	
LIGHTING FITTINGS (CONT'D)						
Pole top light fitting, minimum IP65 :-						
<i>Each</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27716	Pole top lantern c/w 35W/ 50W/ 70W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 20W - 30W LED lamp and control gear similar to SFA 46 with large canopy	1,859.56	37.44	45.91	139.93	27716
27717	Pole top lantern c/w 35W/ 50W/ 70W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp and control gear similar to SFA 46 with small canopy	1,786.80	37.44	45.91	139.93	27717
27718	Lighting fitting, c/w 70W SON lamp	1,908.44	37.44	45.91	139.93	27718
27719	Ditto but for 70W metal halide lamp	1,683.28	37.44	45.91	139.93	27719
27720	Ditto but for 20W - 30W LED lamp	2,428.22	37.44	45.91	139.93	27720
27721	Pole top adaptor for above	590.36	15.31	20.14	60.04	27721
27722	Pole top fitting similar to SFA 208, 500 mm diameter opal/ clear globe made of impact resistant plastic on a black console, IP44 c/w 1 x 70W/ 100W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp	2,972.61	79.09	99.19	293.81	27722
27723	Ditto but 1 x 26W PLC lamp	2,217.14	79.09	99.19	293.81	27723
27724	Ditto but 1 x 20W - 30W LED lamp	3,326.12	79.09	99.19	293.81	27724
27725	500 mm unbreakable globe only for pole top fitting similar to SFA 208	1,202.39	27.13	33.88	100.86	27725
27726	Pole top luminaire similar to SFA 209, cast aluminium alloy housing with hinged top, clear acrylic lens, IP54 c/w cast aluminium mounting arm, control gear and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	19,246.36	53.48	65.78	198.59	27726
27727	Symmetrical pole top luminaire similar to SFA 210, aluminium alloy body, white/ clear plastic diffuser with optical texture, anodised aluminium reflector, IP44 c/w control gear and 1 x 70W/ 100W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	5,998.88	37.44	45.91	139.93	27727
27728	Pole top luminaire with additional upper light output similar to SFA 211, aluminium alloy body, crystal glass diffuser with optical texture, white louvred reflector, mounting height 3.5m to 5m, IP44 c/w control gear and 1 x 70W/ 100W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	7,130.49	37.44	45.91	139.93	27728
27729	Cylindrical pole top luminaire similar to SFA 212, seamless aluminium housing, die cast aluminium door frame, tempered glass or polycarbonate lens, anodised aluminium reflector, schedule 40 steel yoke c/w control gear and 1 x 70W/ 100W/ 150W high pressure sodium/ metal halide lamp 1 x 35W/ 70W CDMT lamp or 1 x 20 - 30W LED lamp	10,618.19	37.54	46.01	140.21	27729
27730	Single pole top fitting similar to SFA 213, hinged cylindrical aluminium top housing of over 500 mm diameter, injection moulded clear acrylic diffuser, hydroformed specular reflector, c/w control gear and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	14,818.36	37.54	46.01	140.21	27730
27731	Ditto but 1 x 150W high pressure sodium or metal halide lamp	15,363.37	37.54	46.01	140.21	27731
27732	Pole top fitting similar to SFA 214, cylindrical aluminium top housing of 565 mm diameter with polyester powder finish, thermoformed clear acrylic lens, hydroformed anodised aluminium reflector c/w control gear and 1 x 150W high pressure sodium or metal halide lamp	7,471.68	37.54	46.01	140.21	27732
27733	Pole top fitting similar to SFA 214, cylindrical aluminium top housing of 565 mm diameter with polyester powder finish, thermoformed clear acrylic lens, hydroformed anodised aluminium reflector c/w control gear and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	7,218.26	37.54	46.01	140.21	27733
27734	Pole top mounted area light similar to SFA 215, one piece spun aluminium housing with cast aluminium door, clear contoured tempered glass or polycarbonate lens, perimeter forward throw reflector c/w extruded mounting arm, control gear and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	4,131.03	43.62	54.82	163.56	27734

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Pole top light fitting, minimum IP65 :- (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27735	Pole top mounted area light similar to SFA 215, one piece spun aluminium housing with cast aluminium door, clear contoured tempered glass or polycarbonate lens, perimeter forward throw reflector c/w extruded mounting arm, 3.5m/ 4.5m lamp pole, control gear and 1 x 70W/ 150W high pressure sodium/ metal halide lamp or 1 x 35W/ 70W CDMT lamp or 1 x 20 - 30W LED lamp	8,113.48	289.13	360.64	1,092.68	27735
27736	Ditto but twin lantern	12,356.11	290.84	364.28	1,093.96	27736
27737	Pole top fitting similar to SFA 216, injection moulded frosted clear polycarbonate globe with decorative finial on top of globe and spun aluminium hood c/w 3.4m lamp pole from the fitting manufacturer, control gear and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	47,186.40	289.13	360.64	1,092.68	27737
27738	Lighting fixture similar to SFA 217, moulded aluminium housing and hood, cage of 4 moulded aluminium rods, welded aluminium louvre, symmetrical light distribution, overall height over 1m c/w control gear and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	22,184.28	60.95	70.61	197.91	27738
27739	Pole top luminaire similar to SFA 218, die cast aluminium alloy body, vandal resistant polycarbonate globe of 500 mm diameter, anodised aluminium reflector, IP54 c/w control gear and 1 x 70W/ 150W high pressure sodium/ metal halide lamp or 1 x 35W/ 70W CDMT lamp or 1 x 20 - 30W LED lamp	6,081.86	37.37	45.82	139.66	27739
27740	Pole top globe fitting similar to SFA 219, top half of 400 mm diameter globe being spun aluminium with outside mat and inside anodised, acrylic or polycarbonate diffuser, IP44, c/w control gear and 1 x 50W/ 70W HPS lamp or 1 x 35W/ 70W CDMT lamp or 1 x 20 - 30W LED lamp	7,837.59	37.44	45.91	139.93	27740
27741	Pole top luminaire similar to SFA 220, die cast aluminium alloy body, vandal resistant polycarbonate diffuser, anodised aluminium reflector, IP54 c/w control gear and 1 x 50W/ 70W HPS lamp or 1 x 35W/ 70W CDMT lamp or 1 x 20 - 30W LED lamp	5,584.60	37.44	45.91	139.93	27741
27742	Ditto but double heads and c/w mounting bracket	12,276.94	39.40	50.47	150.10	27742
27743	Side road lantern similar to SFA 221, single piece compression moulded canopy in glass reinforced polyester resin, hinged anti-vandal polycarbonate bowl, anodised aluminium reflector c/w control gear in separate compartment of body and 1 x 70W high pressure sodium/ metal halide lamp or 1 x 35W CDMT lamp or 1 x 20 - 30W LED lamp	3,070.45	37.44	45.91	139.93	27743
27744	Rectangular road lighting similar to SFA 222, body of extruded aluminium sides and sheet aluminium top, toughened soda lime glass lens, anodised aluminium reflector, IP54 c/w control gear in hinged extruded aluminium gear tray and 1 x 100W/ 150W CDMT lamp or 1 x 20 - 30W LED lamp	5,679.72	37.44	45.91	139.93	27744
27745	Stand-alone all-in-one type solar power LED pole top luminaire c/w die cast aluminium body, IP65, battery, self contained with mono-crystalline solar panel, electronic control gear/ driver, automatic switch to grid supply, timer, birds anti-perching device, 10W-24W LED lamp and 25-70Wp solar panel	11,551.43	37.54	46.01	140.21	27745
27746	Ditto but 25 - 34W LED lamp and 60 - 120Wp solar panel	13,277.50	37.54	46.01	140.21	27746
27747	Ditto but 35 - 50W LED lamp and 100 - 200Wp solar panel	19,916.25	37.54	46.01	140.21	27747

Item	Item								
LIGHTING FITTINGS (CONT'D)									
Wall/ Ceiling mounting luminaire : -									
	<table border="1"> <thead> <tr> <th style="text-align: center;">Supply and fix</th> <th style="text-align: center;">Take down and clear away</th> <th style="text-align: center;">Take down and set aside for re-use</th> <th style="text-align: center;">Fix only</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> </tr> </thead> </table>	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	A \$	B \$	C \$	D \$
Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only						
A \$	B \$	C \$	D \$						
Each									
27748	100 mm diameter white opal glass cylindrical glassware and gallery similar to SFA 6 183.74 19.72 24.36 75.31 27748								
27749	115 mm diameter white opal glass cylindrical glassware and gallery similar to SFA 7 279.18 19.72 24.36 75.31 27749								
27750	Surface mounted ceiling downlight similar to SFA 223, die cast aluminium body of 150 mm diameter, anodised aluminium reflector, IP65 c/w safety glass, control gear and 1 x 35W metal halide discharge lamp 3,255.87 27.13 33.88 100.86 27750								
27751	Surface mounted ceiling downlight similar to SFA 223, die cast aluminium body of 150 mm diameter, anodised aluminium reflector, IP65 c/w safety glass, control gear and 1 x 18W compact fluorescent lamp or 1 x 20 - 30W LED lamp 1,965.82 27.13 33.88 100.86 27751								
27752	Circular surface mounted fluorescent light fitting c/w opal diffuser, 1 x 13W/ 18W compact fluorescent lamp and electronic ballast 657.99 27.74 35.28 106.06 27752								
27753	Ditto but 1 x 20W - 30W LED lamp 1,009.46 27.74 35.28 106.06 27753								
27754	Surface mounted downlight, white colour cylindrical metal in specular finish, aluminium reflector, 240 mm diameter c/w integral electronic ballast and 2 x 18W PLC lamps (4000K) 410.18 27.23 34.02 101.27 27754								
27755	Ditto but 2 x 20W - 30W LED lamp 694.44 27.23 34.02 101.27 27755								
27756	Surface mounted light fitting c/w 1 x 18W compact fluorescent lamp and electronic ballast 1,315.25 23.53 29.65 85.11 27756								
27757	Ditto but with 2-hour NiMH emergency power pack 2,145.00 23.53 29.65 85.11 27757								
27758	Ditto but with 3-hour NiMH emergency power pack 3,128.51 23.53 29.65 85.11 27758								
27759	Surface mounted light fitting c/w 1 x 20W - 30W LED lamp 1,921.00 27.23 34.02 101.27 27759								
27760	Surface mounted light fitting, die cast aluminium body, polycarbonate diffuser, IP65, c/w driver and 1 x 9 - 12W 2D LED lamp 1,991.63 27.23 34.02 101.27 27760								
27761	Surface mounted light fitting, die cast aluminium body, polycarbonate diffuser, IP65, c/w driver and 1 x 12 - 20W 2D LED lamp 3,222.07 27.23 34.02 101.27 27761								
27762	Vandal resistant wall mounted luminaire similar to SFA 225, injection moulded polycarbonate body, hinged injection moulded clear prismatic polycarbonate diffuser, IP65 c/w control gear in galvanised steel tray and 1 x 13/ 18/ 26W compact fluorescent lamp 1,326.28 19.80 24.44 75.61 27762								
27763	Ditto but with 1 x 70W high pressure sodium lamp 1,887.41 19.80 24.44 75.61 27763								
27764	Ditto but with 1 x 70W metal halide lamp 1,638.07 19.80 24.44 75.61 27764								
27765	Ditto but 1 x 20W - 30W LED lamp 2,090.93 19.80 24.44 75.61 27765								
27766	Wall mounted downlight similar to SFA 226, die cast aluminium body, anodised aluminium reflector, 190 mm diameter, IP65 c/w mounting bracket with adjustable joint up to 12°, safety glass, control gear and 1 x 35W/ 70W CDMT lamp 3,653.91 19.80 24.44 75.61 27766								
27767	Surface mounted circular luminaire similar to SFA 227, die cast aluminium alloy body, polycarbonate lens, IP55 c/w control gear and 1 x 18W/ 26W compact fluorescent lamp or 1 x 20W - 30W LED lamp 1,073.32 27.23 34.02 101.27 27767								

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Wall/ Ceiling mounting luminaire : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27768	Wall mounted downlight similar to SFA 226, die cast aluminium body, anodised aluminium reflector, 190 mm diameter, IP65 c/w mounting bracket with adjustable joint up to 12°, safety glass, control gear and 1 x 18W/ 26W compact fluorescent lamp or 1 x 20W - 30W LED lamp	3,526.15	19.80	24.44	75.61	27768
27769	Enclosed polycarbonate wall mounting luminaires c/w 35W/ 70W CDMT lamp or 1 x 20W - 30W LED lamp with IP65 protection and vandal-resistant fixings	1,594.35	19.80	24.44	75.61	27769
27770	Surface ceiling and wall luminaire similar to SFA 228, die cast aluminium body, crystal glass with optical texture or impact resistant polycarbonate diffuser, IP65 c/w control gear and 1 x 18W/ 26W compact fluorescent lamp or 1 x 35W metal halide lamp or 1 x 20W - 30W LED lamp	1,891.76	27.23	34.02	101.27	27770
27771	Recessed wall luminaire similar to SFA 229, marine grade aluminium alloy body and frame, tempered prismatic glass lens, shielded light source, IP55 c/w control gear and 1 x 70W high pressure sodium or 1 x 70W metal halide lamp or 1 x 20W - 30W LED lamp	5,632.25	27.23	34.02	101.27	27771
27772	Wall mounted luminaire with directed light, IP55, c/w 1 x 12W LED lamp similar to SFA 231	3,345.93	27.23	34.02	101.27	27772
27773	Wall luminaire similar to SFA 230, die cast aluminium body, fully shielded light source, IP43, c/w control gear and 1x 18W/ 26W compact fluorescent lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	2,245.34	27.23	34.02	101.27	27773
27774	Wall luminaire with directed light similar to SFA 231, die cast aluminium body, anodised aluminium reflector, safety glass lens, shielded light source, IP55 c/w control gear and 1 x 18W/ 26W compact fluorescent lamp or 1 x 35W metal halide lamp or 1 x 20W - 30W LED lamp	3,436.60	27.23	34.02	101.27	27774
27775	Wall luminaire with double-sided light output similar to SFA 232, die cast aluminium body, glass optical lens, anodised aluminium reflector, IP44 c/w safety glass, control gear and 1 x 14/ 18W/ 26W compact fluorescent lamp or 1 x 35W metal halide lamp or 1 x 20W - 30W LED lamp	1,991.50	27.23	34.02	101.27	27775
27776	Recessed circular luminaire with shielded light similar to SFA 233, die cast aluminium body, 250 mm outside diameter, c/w matt safety glass, control gear and 1 x 18W/ 26W compact fluorescent lamp or 1 x 20W - 30W LED lamp	1,578.64	27.23	34.02	101.27	27776
27777	Surface mounted downlight, die cast aluminium housing, IP65 and up to 12W LED lamp	2,069.09	27.23	34.02	101.27	27777
27778	Single mode LED, surface mounted luminaire, IP65 c/w 18 - 20W LED lamp	1,758.05	27.23	34.02	101.27	27778
27779	Ditto c/w 2-hour NiMH emergency power pack	2,055.18	27.23	34.02	101.27	27779
27780	Ditto c/w 3-hour NiMH emergency power pack	2,874.13	27.23	34.02	101.27	27780
27781	Surface mounted dual light, die cast aluminium body, polycarbonate diffuser, IP65, c/w microwave sensor, electronic ballast, 1 x up to 3W LED lamp & 1 x 28W 2D lamp	1,076.62	27.23	34.02	101.27	27781
27782	Surface mounted dual light, die cast aluminium body, polycarbonate diffuser, IP65, c/w microwave sensor, electronic ballast, 1 x up to 3W LED lamp & 1 x 28W 2D lamp and 2-hour NiMH emergency power pack	1,259.41	27.23	34.02	101.27	27782
27783	Ditto but with 3-hour NiMH emergency power pack	2,122.23	27.23	34.02	101.27	27783
27784	Surface mounted dual light, die cast aluminium body, polycarbonate diffuser, IP65, c/w 120 x 360 PIR detector, electronic ballast, 1 x 7W energy saving lamp & 1 x 28W 2D lamp and 2-hour NiMH emergency power pack	1,820.15	27.23	34.02	101.27	27784
27785	Ditto but with 3-hour NiMH emergency power pack	2,371.71	27.23	34.02	101.27	27785

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Wall/ Ceiling mounting luminaire : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27786	Surface mounted dual light, die cast aluminium body, polycarbonate diffuser, IP65, c/w microwave sensor, electronic ballast, 1 x 28W 2D lamp and 2-hour NiMH emergency power pack	1,174.34	27.23	34.02	101.27	27786
27787	Ditto but with 3-hour NiMH emergency power pack	2,041.85	27.23	34.02	101.27	27787
27788	Surface mounted 2D LED, c/w 20W LED lamp	1,356.00	27.23	34.02	101.27	27788
27789	Ditto but with 60W LED lamp	2,034.00	27.23	34.02	101.27	27789
27790	Ditto but with 120W LED lamp	2,938.00	27.23	34.02	101.27	27790
27791	Surface mounted dual light, IP65 c/w, microwave sensor, 18 - 20W LED lamp and 2-hour NiMH emergency power pack	2,243.06	27.23	34.02	101.27	27791
27792	Ditto but with 3-hour NiMH emergency power pack	3,051.67	27.23	34.02	101.27	27792
27793	Weatherproof ceiling/ wall mounted down light, IP65 c/w 5 - 7W LED lamp	1,885.90	27.23	34.02	101.27	27793
27794	13W 600 mm horizontal fluorescent lighting unit c/w dual voltage safety shaver and lamp tube	1,350.80	27.01	33.73	100.43	27794
27795	Wall mounted fluorescent luminaire c/w 13W fluorescent lamp and control gear with shaver supply unit to IEC 60309-2	1,607.69	39.92	45.44	108.86	27795
27796	Wall mounted vandal resistant light fitting similar to SFA 234, oval polycarbonate housing and guard, opal polycarbonate diffuser, polished aluminium reflector, IP65 c/w control gear and 2 x 9W PL lamp or 2 x 20W - 30W LED lamp	667.98	27.01	33.73	100.43	27796
27797	Wall mounted vandal resistant light fitting similar to SFA 235, circular polycarbonate housing and guard, opal polycarbonate diffuser, polished aluminium reflector, IP65 c/w control gear and 2 x 9W PL lamp or 2 x 20W - 30W LED lamp	701.52	27.01	33.73	100.43	27797
27798	Rectangular recessed fitting similar to SFA 236, aluminium housing, opal toughened glass diffuser, IP54 c/w control gear and 1 x 18W PLC lamp or 1 x 20W - 30W LED lamp	950.30	33.80	42.14	126.05	27798
27799	Ditto but similar to SFA 237 with 45° grille for directed light	949.67	33.80	42.14	126.05	27799
27800	Wall mounted luminaire similar to SFA 238, corrosion resistant aluminium alloy body, vandal resistant polycarbonate diffuser, IP55 c/w wall mounting base and arm, control gear and 1 x 18W PLC lamp or 1 x 20W - 30W LED lamp	2,086.67	27.01	33.73	100.43	27800
27801	Wall mounted circular luminaire similar to SFA 239, die cast aluminium alloy body, over 250 mm diameter, half shielded and polycarbonate lens the other half, IP55 c/w control gear and 1 x 18W PLC lamp or 1 x 20W - 30W LED lamp	1,217.59	27.01	33.73	100.43	27801
27802	Hemispherical surface bulkhead similar to SFA 240, die cast aluminium body, over 250 mm diameter, opal polycarbonate bowl with 4-ring quarter sphere grille, IP65 c/w control gear and 1 x 50W HPS lamp or 1 x 35W/ 70W CDMT lamp or 1 x 20W - 30W LED lamp	2,937.45	27.01	33.73	100.43	27802
27803	Lantern similar to SFA 241, hinged transparent acrylic or polycarbonate refractor bowl, IP54 c/w control gear in separate compartment and 1 x 70W HPS or CDMT lamp or 1 x 20W - 30W LED lamp	1,963.71	37.29	45.73	139.32	27803
27804	Vertical fixing adaptor for lantern similar to SFA 241	505.04	15.20	19.45	58.48	27804

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Wall/ Ceiling mounting luminaire : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27805	Side entry lantern similar to SFA 242, glass reinforced polyester body, hinged injection moulded bowl, 2 aluminium alloy reflectors c/w control gear and 1 x 70W/ 100W CDMT lamp or 1 x 20W - 30W LED lamp	3,168.29	37.44	45.91	139.93	27805
27806	Side entry lantern similar to SFA 242, glass reinforced polyester body, hinged injection moulded bowl, 2 aluminium alloy reflectors c/w control gear and 1 x 150W CDMT lamp	3,193.07	37.44	45.91	139.93	27806
27807	Side entry lantern similar to SFA 242, glass reinforced polyester body, hinged injection moulded bowl, 2 aluminium alloy reflectors c/w control gear and 1 x 250W CDMT lamp	3,800.02	37.44	45.91	139.93	27807
27808	Side entry lantern similar to SFA 243, die cast aluminium body, injection moulded acrylic or polycarbonate refractor bowl c/w control gear and 1 x 70W/ 100W CDMT lamp or 1 x 20W - 30W LED lamp	3,169.64	37.44	45.91	139.93	27808
27809	Special made wall mount bracket arm for side entry lantern comprising 1 no. 300 x 300 x 9 mm thick mild steel base plate and 1 no. 25 mm diameter x 900 mm long galvanized steel pipe bent to shape and welded to base plate fixed to wall with 4 nos. anchor bolt (9 mm diameter x 75 mm long)	433.70	25.20	31.78	94.58	27809
	Spot lights : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27810	Weatherproof spot light of die cast aluminium body c/w wire guard, stand base and 1 x 500W lamp with built-in reflector	276.71	15.31	20.14	60.04	27810
27811	Spot light, in black/ white/ bronze finish with extruded aluminium profile, 90° tiltable bracket, 360° spot/ flood rotatable transadapter, reflector for 1 x 3 - 5W LED lamp suitable for light track mounting similar to SFA 244	849.43	15.31	20.14	60.04	27811
27812	Recessed LED spot light, 1 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tube and accessories	409.89	15.31	20.14	60.04	27812
27813	Recessed LED spot light, 2 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	603.57	15.31	20.14	60.04	27813
27814	Recessed LED spot light, 3 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	752.58	15.31	20.14	60.04	27814
27815	Recessed LED spot light, 4 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	856.88	15.31	20.14	60.04	27815
27816	Surface LED spot light, star wire suspended, 3 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	886.68	15.31	20.14	60.04	27816
27817	Surface LED spot light, row/ matrix wire suspended, 4 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	1,020.78	15.31	20.14	60.04	27817
27818	Surface LED spot light, circle wire suspended, 6 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	1,542.27	15.31	20.14	60.04	27818
27819	Surface LED spot light, matrix wire suspended, 6 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	1,542.27	15.31	20.14	60.04	27819
27820	Surface LED spot light, matrix wire suspended, 8 x 3 - 5W LED lamp c/w hanger, anodized aluminium reflector, lamp tubes and accessories	2,093.54	15.31	20.14	60.04	27820
27821	Beacon light fitting, 400 mm in height and diameter 150 mm	1,518.76	27.13	33.88	100.86	27821
27822	PAR 38, 120W or 100W GLS eyeball spotlight for light track mounting	-	19.72	24.36	75.31	27822
27823	Surface mounted spot light accent, aluminium housing and reflector, IP65, integral control gear c/w 1 x 35W HITT lamp (metal halide)	1,462.39	19.72	24.36	75.31	27823

Item						Item
	LIGHTING FITTINGS (CONT'D)					
	Recessed steplight : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27824	Recessed rectangular steplight similar to SFA 246, die cast aluminium body, anodised aluminium reflector, glare suppression and 60° light output, IP65 c/w control gear and 1 x 18W PLC lamp or 1 x 20W - 30W LED lamp	1,666.35	27.23	34.02	101.27	27824
27825	Recessed circular steplight similar to SFA 247, die cast aluminium body, IP65 c/w safety glass, control gear and 1 x 26W PLC lamp or 1 x 20W - 30W LED lamp	1,677.64	27.23	34.02	101.27	27825
27826	Recessed rectangular steplight similar to SFA 248, die cast aluminium housing with 45° grille, opal toughened glass diffuser anodised aluminium reflector, IP65 c/w control gear and 1 x 18W PLC lamp or 1 x 20W - 30W LED lamp	1,635.61	27.23	34.02	101.27	27826
27827	Recessed rectangular steplight similar to SFA 249, die cast aluminium body, anodised aluminium reflector, IP64 c/w safety glass, control gear and 1 x 7W/ 9W PL lamp	1,094.91	27.23	34.02	101.27	27827
27828	Recessed rectangular steplight similar to SFA 250, die cast aluminium body, anodised aluminium reflector, glare suppression and 45° light output, IP64 c/w matt safety glass, control gear and 1 x 11W fluorescent lamp	1,244.74	27.23	34.02	101.27	27828
	Buried uplight : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27829	Buried uplight similar to SFA 251, die cast aluminium housing and protective front grille, toughened transparent glass diffuser, glass surface temperature 100°C, IP67 c/w matt safety glass, control gear and 1 x 19W/ 23W CFL or 1 x 20W - 30W LED lamp	2,703.91	37.61	46.10	140.49	27829
27830	Buried uplight similar to SFA 251, die cast aluminium housing and protective front grille, toughened transparent glass diffuser, glass surface temperature 100°C, IP67 c/w matt safety glass, control gear and 1 x 40W LED lamp, CRI not less than 90, luminous efficiency not less than 78 lm/watt	3,720.69	37.61	46.10	140.49	27830
27831	Buried uplight similar to SFA 252, die cast aluminium housing and protective front grille, aluminium rotosymmetric reflector, toughened transparent glass diffuser, glass surface temperature 72°C, IP67 c/w control gear and 1 x 70W MBI lamp or 1 x 20W - 30W LED lamp	4,938.11	37.61	46.10	140.49	27831
27832	Buried drive-over luminaire similar to SFA 253, die cast aluminium housing, 15 mm thick toughened glass with maximum surface temperature 75°C, aluminium reflector, internal anti-glare grid in die cast aluminium, IP67 c/w control gear and 1 x 70W metal halide lamp or 1 x 20W - 30W LED lamp	7,250.77	37.61	46.10	140.49	27832
27833	Buried drive-over floodlight similar to SFA 254, glass fiber reinforced polymer housing, tempered heat resistant glass lens, adjustable hydroformed reflector c/w control gear and 1 x 70W metal halide lamp or 1 x 20W - 30W LED lamp	2,721.82	37.61	46.10	140.49	27833
27834	Semi-buried fixture similar to SFA 255 for low level illumination, glass fiber reinforced polymer housing, tempered heat resistant glass multiple zone prismatic refractor at side c/w control gear and 1 x 50W/ 70W metal halide lamp or 1 x 20W - 30W LED lamp	6,758.28	37.61	46.10	140.49	27834
27835	Buried uplight similar to SFA 256, injection moulded ABS housing with cast aluminium/ bronze doors, spun aluminium reflector, tempered glass lens, IP67 c/w control gear and 1 x 70W metal halide lamp or 1 x 20W - 30W LED lamp	7,780.81	27.23	34.02	101.27	27835

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Buried uplight : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27836	Well light similar to SFA 257 for installation in 230 mm diameter 375 mm deep direct burial pipe, spun copper housing with bronze clamping ring, convex tempered clear glass lens, cast aluminium louvre at grade, IP67 c/w control gear in separate ballast box and 6 - 13W LED lamp	9,796.12	27.23	34.02	101.27	27836
27837	Buried drive-over uplight similar to SFA 258, corrosion resistant aluminium housing of 150 mm diameter, 12 mm thick toughened glass lens, internal die cast aluminium anti-glare grid, drive over load 3500 kg at 30 km/ h, IP67 c/w control gear and LED lamp up to 6W	3,683.08	37.61	46.10	140.49	27837
27838	Buried uplight similar to SFA 259, grade 304 stainless steel body of 250 mm diameter, thermal shock resistant borosilicate glass lens, internal louvred glare shield, IP67 c/w control gear and 1 x 26W compact fluorescent lamp or 1 x 20W - 30W LED lamp	3,311.02	37.61	46.10	140.49	27838
	Indicating lamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27839	Indicating lamp with polycarbonate diffuser c/w LED lamp up to 3W	398.68	20.32	24.93	70.72	27839

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Bollard fittings, minimum IP44 : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27840	1m - 1.1m high bollard similar to SFA 260, extruded aluminium housing of 180 mm diameter, vandal resistant clear polycarbonate diffuser, anodised aluminium louvre c/w control gear and 1 x 35W/ 50W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	2,632.26	37.54	46.01	140.21	27840
27841	1m - 1.1m high bollard similar to SFA 260, extruded aluminium housing of 180 mm diameter, vandal resistant clear polycarbonate diffuser, anodised aluminium louvre c/w control gear and 3 - 6W LED lamp	3,718.91	37.54	46.01	140.21	27841
27842	Concrete bollard similar to SFA 261, one piece precast concrete body of minimum 75 mm thickness reinforced with internal steel cage, 13 mm thick hot dip galvanised base plate for anchoring, clear/ opal acrylic inner lens, horizontal cast aluminium grille of minimum thickness 6 mm, vandal resistant clear polycarbonate diffuser c/w control gear and 1 x 70W/ 100W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	18,209.76	37.54	46.01	140.21	27842
27843	1m - 1.1m high bollard similar to SFA 262, extruded aluminium pole, aluminium alloy top and flange, clear polycarbonate prismatic lens c/w control gear and 1 x 18W/ 26W fluorescent lamp or 1 x 20W - 30W LED lamp	7,816.53	23.57	29.71	85.26	27843
27844	Border lighting for low level illumination similar to SFA 263, cast aluminium housing, frosted tempered borosilicate fresnel lens at side c/w control gear and 1 x 50W/ 70W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	3,792.23	37.54	46.01	140.21	27844
27845	1m - 1.1m high bollard similar to SFA 264, cylindrical aluminium body of 150 mm diameter, clear glass bowl with decorative ring, IP44 c/w control gear and 1 x 50W/ 70W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	4,677.33	37.54	46.01	140.21	27845
27846	1m - 1.1m high bollard similar to SFA 265, extruded aluminium pole of diameter 160 mm, die cast aluminium body and louvre, vandal resistant clear polycarbonate lens, IP54 c/w control gear and 1 x 50W/ 70W metal halide/ high pressure sodium lamp or 1 x 35W CDMT lamp or 1 x 20W - 30W LED lamp	4,013.45	37.54	46.01	140.21	27846
27847	Stand-alone solar power LED bollard c/w vandal resistant cast aluminium body, IP65, impact resistance IK10, polycarbonate diffuser, self contained with solar panel, batteries and 1 x up to 3W LED lamp	5,144.84	37.54	46.01	140.21	27847
27848	Stand-alone solar power LED bollard c/w vandal resistant cast aluminium body, IP65, impact resistance IK10, polycarbonate diffuser, self contained with solar panel, batteries and 1 x 3 - 6W LED lamp	5,692.64	37.54	46.01	140.21	27848
27849	Stand-alone solar power LED bollard c/w vandal resistant cast aluminium body, IP65, impact resistance IK10, polycarbonate diffuser, self contained with solar panel, batteries and 1 x 6 - 9W LED lamp	6,240.43	37.54	46.01	140.21	27849
27850	Concrete bollard similar to SFA 261, one piece precast concrete body of minimum 75 mm thickness reinforced with internal steel cage, 13 mm thick hot dip galvanised base plate for anchoring, clear/ opal acrylic inner lens, horizontal cast aluminium grille of minimum thickness 6 mm, vandal resistant clear polycarbonate diffuser c/w control gear and 1 x 20W LED lamp, IP65	9,040.00	37.54	46.01	140.21	27850

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Fiber optic lighting system :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27851	Light generator with closed halogen dichroic lamp (12V/ 50W 24 deg., Ra=100 and colour temperature 3000K). The generator shall concentrate the luminous flux of lamps into a fiber optic harness. Housing to be cast aluminium c/w built in transformer (230V/ 12V 50 VA) and protective dichroic filter	2,005.98	10.71	13.54	42.96	27851
27852	Harness, 2 meters each, made of 16 nos. of fiber optic cables (bundle of 19 optical fibers in a cable diameter of 5 mm) meeting in parallel at the connecting end. Optical fiber to be made of glass (70 µm diameter) or P.M.M.A. of 1 mm diameter (polymethylmethacrylate) suitable to connect to the light generator and the optical termination.	9,759.53	17.73	22.78	70.22	27852
27853	Termination and accessories to put at the end of fiber optic cable equipped with an adjustable glass lens-holder to focus from 19° to 30°	520.13	17.73	22.26	68.16	27853
27854	Ditto with 12V/ 75W 24° lamp	3,008.13	17.73	22.26	68.16	27854
27855	Ditto with 150W metal halide lamp	11,510.44	17.73	22.26	68.16	27855
27856	Ditto with 200W metal halide lamp	12,550.61	17.73	22.26	68.16	27856
	<i>Per linear metre</i>					
27857	Diffusing optical cable suitable to connect to the light generator of 17 mm P.M.M.A. cable with a reflective centre core, an ultra-violet stabilized clear PVC outer protective sheath and a clear mylar wrapping around fiber optics	115.49	15.19	19.20	56.25	27857
	Bedhead light fitting :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27858	Bedhead lighting fitting with lamp	1,001.28	16.57	18.42	62.76	27858
27859	Angle poise bedhead lighting fitting c/w lamp	1,448.05	19.84	24.49	75.77	27859

Item					Item
	LIGHTING FITTINGS (CONT'D)				
	External lighting for construction site : - (Items 27860 to 27864 will only be paid for, if ordered by the Maintenance Surveyor in writing.)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Isolating step down transformer 220/ 110V, single phase, having centre tap with secondary winding earthed so that the normal voltage of circuit to earth does not exceed 55V : -				
	<i>Per set</i>				
27860	500 VA	922.23	10.83	13.33	40.61
27861	1000 VA	1,615.01	10.83	13.33	40.61
27862	Weatherproof surface mounted fluorescent light fitting, IP65 c/w T5 fluorescent tube, T5 electronic control gear/ electronic ballast, 1 x 28W	1,495.48	29.48	35.54	93.94
27863	Weatherproof bulkhead fittings rated IP65 c/w glassware, 100W, 110V lamp, side/ back cable entry, cutting, and rubber grommet or stop where applicable	657.78	27.05	33.80	100.64
	Isolating step down transformer 220/ 110V, single phase, having centre tap with secondary winding earthed so that the normal voltage of circuit to earth does not exceed 55V : - (Cont'd)				
	<i>Per set</i>				
27864	Weatherproof bulkhead fittings rated IP65 c/w polycarbonate diffuser, 100W lamp, 110V, side/ back cable entry, cutting, and rubber grommet or stop where applicable	719.08	27.05	33.80	100.64
	Miscellaneous lighting fittings : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Each</i>				
27865	Surface luminaire similar to SFA 256, circular die cast aluminium casing of minimum overall diameter 380 mm, IP65 c/w control gear and 1 x 70W SON lamp	2,910.52	26.83	33.43	101.81
27866	Garage pit luminaire c/w lamp and control gear suitable for use in Zone 2 hazardous area to IEC 60079-10	5,580.93	27.14	33.06	99.02

Item					Item	
	LIGHTING FITTINGS (CONT'D)					
	Shades : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
27867	Shades n.e. 150 mm	35.04	3.22	3.63	9.55	27867
27868	Shades (locally made) n.e. 150 mm diameter	20.13	3.22	3.63	9.55	27868
27869	Coolicon shades 230 mm diameter	41.52	3.22	3.63	9.55	27869
27870	Coolicon shades (locally made) 230 mm diameter	26.65	3.22	3.63	9.55	27870
27871	Coolicon shades 280 mm diameter	41.63	3.22	3.63	9.55	27871
27872	Coolicon shades (locally made) 280 mm diameter	29.52	3.22	3.63	9.55	27872
	Dome cover, wall mounting : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
27873	65 mm diameter	33.04	4.46	5.40	15.57	27873
27874	87 mm diameter	37.05	4.46	5.40	15.57	27874
27875	125 mm diameter	44.05	4.46	5.40	15.57	27875
27876	Dome back plate, side entry	43.45	4.46	5.40	15.57	27876
	Dome cover : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
27877	Dome cover 65 mm diameter	31.95	4.46	5.40	15.57	27877
27878	Dome cover 87 mm diameter	34.04	4.46	5.40	15.57	27878
27879	Dome cover 125 mm diameter	41.15	4.46	5.40	15.57	27879
27880	Dome back plate, side entry	41.57	4.46	5.40	15.57	27880

Item						Item
	LIGHTING FITTINGS (CONT'D)					
	Sundries :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
27881	Weatherproof metal box for 250/ 400W SON control gear	847.82	30.84	37.82	112.31	27881
27882	Weatherproof metal box for 250/ 400W MBIL control gear	888.52	39.55	47.91	146.20	27882
27883	Weatherproof metal box for 750W/ 1000W MBIL control gear	1,052.10	39.55	47.91	146.20	27883
27884	Weatherproof metal box for 1500/ 1600W MBIL control gear	1,078.50	39.55	47.91	146.20	27884
27885	External control gear box c/w gear for 250W SON	1,724.79	32.28	39.92	116.63	27885
27886	External control gear box c/w gear for 400W SON	2,003.83	32.28	39.92	116.63	27886
27887	Pendant, plain, comprising ceiling rose, flex and B.C. lampholder (labour rates including fixing of shade)	71.57	9.15	11.07	33.32	27887
	LAMP POLES AND ACCESSORIES					
	Lamp poles, mild steel c/w pole cap, compression gland, mounting ring, pole bracket, connector box, service box, control box and base plate etc. :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
27888	n.e. 3.5 m	3,338.37	233.07	305.01	893.47	27888
27889	3.5 m - 4.5 m	3,889.92	285.69	358.50	1,091.02	27889
27890	4.5 m - 7.0 m	10,607.56	435.00	546.05	1,663.21	27890
27891	7.0 m - 7.5 m	12,127.28	526.02	656.30	2,005.44	27891
27892	7.5 m - 8.0 m	14,405.30	653.15	814.83	2,495.19	27892
27893	8.0 m - 10.0 m	19,411.63	896.21	1,123.34	3,418.23	27893
27894	10.0 m - 12.0 m	22,890.47	1,086.74	1,359.03	4,147.16	27894
	Twin heads lamp pole for SFA 215, 127 mm square straight steel pole flange mounting, gauge 11 galvanised steel with bronze enamel finish :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
27895	4.2 m nominal height	7,191.99	290.84	364.28	1,093.96	27895

Item					Item	
	LAMP POLES AND ACCESSORIES (CONT'D)					
	Lamp poles, tubular steel, hot dipped galvanized c/w pole cap, compression gland, mounting ring, pole bracket, connector box, service box, control box and base plate etc. :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
27896	n.e. 4.0 m	4,613.93	275.55	348.04	1,041.39	27896
27897	4.0 m - 4.5 m	4,963.31	309.39	388.21	1,181.44	27897
27898	4.5 m - 7.0 m	11,768.44	435.10	546.19	1,663.64	27898
27899	7.0 m - 7.5 m	13,383.38	511.96	638.71	1,951.60	27899
27900	7.5 m - 8.0 m	16,047.08	663.89	828.20	2,536.13	27900
27901	8.0 m - 12.0 m	25,520.88	1,077.92	1,348.02	4,113.45	27901
	Lamp poles, tubular steel, hot dipped galvanized, wall mounted c/w pole cap, compression gland, mounting ring, pole bracket, connector box, service box, control box and base plate etc. :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
27902	n.e. 3.5 m	4,239.67	241.22	315.71	924.75	27902
27903	3.5 m - 4.0 m	4,814.66	274.75	347.05	1,038.37	27903
27904	4.0 m - 4.5 m	5,250.41	300.02	376.43	1,145.62	27904
27905	4.5 m - 7.0 m	10,725.29	442.67	555.62	1,692.47	27905
27906	7.0 m - 7.5 m	13,608.15	530.43	661.83	2,022.32	27906
27907	Hot-dip galvanized flange mounted type tapered polygonal high mast of 30 m nominal mounting height c/w raising and lowering system and head frame for mounting maximum 24 nos. of luminaires with the supply of foundation bolts/ nuts/ washers	53,009.77	7,628.09	12,713.70	32,718.22	27907
	(The actual rate should be : \$530,097.70 for Item 27907A)					
27908	4.8 m - 5.0 m aluminium lamp pole	32,797.09	296.49	370.58	1,135.64	27908

Item					Item	
	LAMP POLES AND ACCESSORIES (CONT'D)					
	Accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27909	Compression gland	243.77	13.59	17.61	51.88	27909
27910	Working platform (hot dip galvanized steel)	1,974.81	233.28	281.02	707.99	27910
27911	Metal hot dip galvanized cover for weatherproof service box on lamp pole c/w gaskets, screws and washers	589.32	10.29	12.29	31.01	27911
27912	Double head lamp pole bracket at 4.5 m lamp pole, including modification of the 4.5 m lamp pole and removal of the original bracket	468.19	23.59	28.84	84.96	27912
27913	Pole cap	315.57	19.38	24.48	73.99	27913
27914	Connector box	359.07	16.57	20.95	64.68	27914
27915	Service box	359.68	21.49	27.13	82.05	27915
27916	Control box	372.01	21.49	27.13	82.05	27916
27917	Grade 316 stainless steel angle adjustable mounting frame for 400W floodlight	406.86	8.40	11.64	32.33	27917
	EMERGENCY LIGHTING					
	Exit sign box to BS EN 60598-1, BS EN 60598-2-22, BS EN 50172 and BS EN 1838 c/w lamp, 2-hour NiMH emergency power pack, charger, automatic changeover device, inverter/ ballast indications and switch, cables, conduits (surface or concealed in partitions and ceiling), all necessary accessories and connection to power supply switch/ terminal : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27918	Exit sign box, 400 - 650 mm long	1,258.61	74.30	86.67	316.92	27918
27919	Exit sign box, 400 - 650 mm long, c/w 3-hour NiMH emergency power pack	2,149.73	106.83	124.59	525.24	27919
27920	Exit sign box without battery, charger and changeover, 400 - 650 mm long	892.32	74.30	86.67	316.92	27920
27921	Exit sign box using LED as light source, 400 - 650 mm long	1,287.12	74.30	86.67	316.92	27921
27922	Exit sign box using LED as light source without battery, charger and changeover, 400 - 650 mm long	979.05	74.30	86.67	316.92	27922
27923	Exit sign box using LED as light source, 400 - 650 mm long, c/w 3-hour NiMH emergency power pack	2,522.73	74.30	86.67	316.92	27923
27924	Exit sign box, 650 - 1200 mm long	1,267.64	74.30	86.67	316.92	27924
27925	Exit sign box using LED as light source, 650 - 1200 mm long, self testing type, automatic discharge and recharge monthly	1,408.66	74.30	86.67	316.92	27925
27926	Exit sign box using LED as light source, 650 - 1200 mm long, c/w 3-hour NiMH emergency power pack	2,540.81	74.30	86.67	316.92	27926
27927	Exit sign box using LED as light source, 650 - 1200 mm long, self testing type, automatic discharge and recharge monthly, c/w 3-hour NiMH emergency power pack	2,788.28	74.30	86.67	316.92	27927

Item					
	EMERGENCY LIGHTING (CONT'D)				
	Exit sign plate or directional sign plate to BS EN 60598-1, BS EN 60598-2-22, BS 5266-1, BS EN 50172 and BS EN 1838 c/w lamp, NiMH 2-hour NiMH emergency power pack, charger, automatic changeover device, clear perspex front plate, coloured perspex back plates plugging and screwing to wall and all necessary accessories and connection to power supply switch/ terminal, suitable for ceiling suspension/ wall mounting : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
<i>Each</i>					
27928	Exit sign plate or directional sign plate, using fluorescent tube as light source, 400 - 650 mm long	1,216.76	74.30	86.67	316.92
27929	Exit sign plate or directional sign plate using LED as light source, 400 - 650 mm long	1,189.81	74.30	86.67	316.92
27930	Exit sign plate or directional sign plate using LED as light source, 1200 mm long	1,390.57	74.30	86.67	316.92
27931	Exit sign plate or directional sign plate using LED as light source, 400 - 650 mm long, self testing type, automatic discharge and recharge monthly	1,251.50	74.30	86.67	316.92
27932	Exit sign plate or directional sign plate using LED as light source, 400 mm long c/w 3-hour NiMH emergency power pack	1,491.99	74.30	86.67	316.92
27933	Exit sign plate or directional sign plate using LED as light source, 400 mm long, recess mounted	1,294.79	74.30	86.67	316.92
	Central battery power supply system for emergency lighting				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Central power supply, monitoring and control panel c/w rectifier/ charger, inverter, storage and all necessary accessories of the battery, switchgear, zone indication and control software and instrumentation, controlling following capacity : -				
	<i>Each</i>				
27934	below 100 Ah	29,165.53	40.84	44.57	179.51
27935	100 - 200 Ah	54,863.39	42.08	45.82	200.55
27936	200 - 300 Ah	79,328.13	43.32	47.06	217.89
27937	300 - 400 Ah	10,213.94	44.57	48.28	237.71
	(The actual rate should be : \$102,139.40 for Item 27937A)				
27938	400 - 500 Ah	11,010.52	53.25	56.96	298.38
	(The actual rate should be : \$110,105.20 for Item 27938A)				

Item					Item	
	EMERGENCY LIGHTING (CONT'D)					
	UPS or static inverter system c/w static transfer switch with synchronizing and phase maintenance bypass switch, storage battery, charger, rectifier, inverter and lock equipment, controlling following capacity : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27939	<i>Each</i> below 100 Ah	33,357.66	28.46	48.28	206.74	27939
27940	100 - 200 Ah	61,734.29	49.53	53.25	230.28	27940
27941	200 - 300 Ah	90,778.42	50.76	54.47	253.81	27941
27942	300 - 400 Ah (The actual rate should be : \$117,167.50 for Item 27942A)	11,716.75	53.25	55.71	277.32	27942
27943	400 - 500 Ah (The actual rate should be : \$125,675.90 for Item 27943A)	12,567.59	63.14	65.60	344.19	27943
	Self-contained emergency lighting unit, weather and vandal resistant c/w NiMH battery, charger, automatic changeover device and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27944	<i>Each</i> Luminaire 28W, 2D, with 2-hour NiMH emergency power pack	1,079.57	59.45	69.33	252.57	27944
27945	T8 fluorescent lamp with 2-hour NiMH emergency power pack, electronic ballast, 18/ 36/ 54 W	-	59.45	69.33	252.57	27945
27946	T5 fluorescent lamp with 2-hour NiMH emergency power pack, electronic ballast, 14W	1,079.24	59.45	69.33	252.57	27946
27947	Ditto, 28W	1,210.46	59.45	69.33	252.57	27947
27948	Ditto, 35W	1,345.42	59.45	69.33	252.57	27948
27949	Ditto, 49W	1,528.69	59.45	69.33	252.57	27949
27950	Ditto, 54W	1,819.45	59.45	69.33	252.57	27950

Item					Item	
	EMERGENCY LIGHTING (CONT'D)					
	Self-contained emergency lighting unit c/w NiMH battery, charger, automatic changeover device and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27951	Non-maintained type 6V, 10W tungsten halogen recessed emergency luminaries with a red LED to indicate lamp filament failure c/w nickel-metal hydride emergency power pack and silver aluminum reflector of 112 mm diameter	-	27.63	33.97	93.62	27951
27952	Non-maintained type 12V, 2 x 2W LED Light source, recessed ceiling mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal, c/w 2-hour NiMH emergency power pack	2,248.69	35.66	47.75	186.29	27952
27953	Non-maintained type 12V, 2 x 2W LED Light source, wall mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal, c/w 2-hour NiMH emergency power pack	2,108.10	33.24	43.39	170.97	27953
27954	Non-maintained type 12V, 3W LED Light source, recessed ceiling mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal c/w 2-hour NiMH emergency power pack	1,284.50	35.66	47.75	186.29	27954
27955	Non-maintained type 12V, 3W LED Light source, recessed ceiling mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal c/w 3-hour NiMH emergency power pack	1,441.07	35.66	47.75	186.29	27955
27956	Non-maintained type 12V, 3W LED Light source, wall mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal, c/w 2-hour NiMH emergency power pack	1,204.19	33.24	43.39	170.97	27956
27957	Non-maintained type 12V, 3W LED Light source, wall mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal, c/w 3-hour NiMH emergency power pack	1,211.84	33.24	43.39	170.97	27957
27958	Non-maintained type 12V, 2 x 3W LED Light source, recessed ceiling mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal c/w 2-hour NiMH emergency power pack	3,016.78	35.66	47.75	186.29	27958
27959	Non-maintained type 12V, 2 x 3W LED Light source, recessed ceiling mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal c/w 3-hour NiMH emergency power pack	3,384.48	35.66	47.75	186.29	27959
27960	Non-maintained type 12V, 2 x 3W LED Light source, wall mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal, c/w 2-hour NiMH emergency power pack	2,828.18	33.24	43.39	170.97	27960
27961	Non-maintained type 12V, 2 x 3W LED Light source, wall mounted type emergency luminaries with Green/ Red/ Yellow LED to indicate main on/ charging/ fault signal, c/w 3-hour NiMH emergency power pack	3,193.02	33.24	43.39	170.97	27961
27962	Modification of the luminaire for connection to the central control panel and centrally supplied emergency lighting point including power supply and control cable installed inside flexible conduit	405.81	-	-	-	27962
	NiMH battery and charger kit for self-contained emergency luminaire : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27963	Charger kit installed inside surface mounted luminaire including necessary modification for the addition of the kit	375.25	13.13	13.81	80.48	27963
27964	Charger kit installed inside recessed mounted luminaire including necessary modification for the addition of the kit	373.45	13.13	13.81	80.48	27964
27965	Charger kit installed inside a metal box mounted next to and connected to the recessed mounted luminaire including necessary modification for the addition of the kit	644.12	13.13	13.81	80.48	27965

Item					Item	
	LED LIGHT STRIPS					
	Surface mounted flexible LED light strips; LED mounted on printed circuit board, complete with power input cables, power lead connectors, strip to strip connectors, corner connectors, self adhesive backing, etc. :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27966	Single colour flexible LED light strips; 12V DC; 4 to 8W/ m	173.79	8.43	10.11	13.47	27966
27967	Single colour flexible LED light strips; 12V DC; 8 to 12W/ m	199.29	8.43	10.11	13.47	27967
27968	Single colour flexible LED light strips; 12V DC; 12 to 16W/ m	226.56	8.43	10.11	13.47	27968
27969	Single colour flexible LED light strips; 12V DC; 4 to 8W/ m; IP68	228.95	8.43	10.11	13.47	27969
27970	Single colour flexible LED light strips; 12V DC; 8 to 12W/ m; IP68	254.43	8.43	10.11	13.47	27970
27971	Single colour flexible LED light strips; 12V DC; 12 to 16W/ m; IP68	281.73	8.43	10.11	13.47	27971
	Surface mounted modular LED lighting fittings c/w LED driver, IP67, aluminium housing and tempered glass diffuser :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27972	120 mm x 650 mm long, replaceable LED strip board, min. lumen output 2200 lm	3,319.38	32.13	39.55	121.79	27972
27973	120 mm x 1350 mm long, replaceable LED strip board, min. lumen output 4400 lm	7,302.63	32.13	39.55	121.79	27973
	Surface mounted modular LED lighting fittings c/w LED driver, IP67, self-contained battery (NiMH) for 2 hours discharge (emergency of the normal length), aluminium housing and tempered glass diffuser :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
27974	120 mm x 650 mm long, replaceable LED strip board, min. lumen output 2200 lm	4,647.13	32.13	39.55	121.79	27974
27975	120 mm x 1350 mm long, replaceable LED strip board, min. lumen output 4400 lm	9,294.25	32.13	39.55	121.79	27975

Item					Item	
	LED LIGHT STRIPS (CONT'D)					
	LED driver power supply c/w metal/ PVC casing : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
27976	12W; 12V	255.92	16.85	20.20	26.96	27976
27977	18W; 12V	266.90	16.85	20.20	26.96	27977
27978	36W; 12V	317.61	16.85	20.20	26.96	27978
27979	60W; 12V	337.77	16.85	20.20	26.96	27979
27980	100W; 12V	585.98	16.85	20.20	26.96	27980
27981	150W; 12V	615.34	16.85	20.20	26.96	27981
27982	240W; 12V	951.95	16.85	20.20	26.96	27982
27983	320W; 12V	999.37	16.85	20.20	26.96	27983
27984	18W; 12V; IP67	269.64	16.85	20.20	26.96	27984
27985	36W; 12V; IP67	324.43	16.85	20.20	26.96	27985
27986	60W; 12V; IP67	340.44	16.85	20.20	26.96	27986
27987	100W; 12V; IP67	612.67	16.85	20.20	26.96	27987
27988	150W; 12V; IP67	664.29	16.85	20.20	26.96	27988
27989	240W; 12V; IP67	993.31	16.85	20.20	26.96	27989
	SIMPLIFIED ITEMS					
	Section 1 : Installation by galvanized steel surface conduit system/ concealed conduit system					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Lighting point/ daylight sensor point/ occupancy sensor point/ motion detector point : -					
	<i>Each</i>					
27990	Lighting point/ daylight sensor point/ occupancy sensor point/ motion detector point c/w trunking, conduits, boxes, PVC cables and all necessary accessories, same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables	522.29	117.96	-	-	27990
27991	Lighting point/ daylight sensor point/ occupancy sensor point/ motion detector point c/w trunking, conduits, boxes, OHLS cables and all necessary accessories, same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables	538.69	117.96	-	-	27991
	Add 8% to either of Items 27990 to 27991 inclusive for provision of circuit protective conductor to MCB board in full length of conduit, another 8% for provision of additional cable to feed maintained light point, another 8% for provision of additional cable to feed reasonable & separate control of a twin/ triplet light fitting, and another 8% for provision of additional cable and cable containment to dimmable daylight sensor.					

Item								Item
	SIMPLIFIED ITEMS (CONT'D)							
	Section 1 : Installation by galvanized steel surface conduit system/ concealed conduit system (Cont'd)							
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
	Lighting switch point : -							
	Each							
27992	Lighting switch point c/w trunking, conduits, boxes, PVC cables and all necessary accessories, same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables	267.34	58.12	-	-			27992
27993	Lighting switch point c/w trunking, conduits, boxes, OHLS cables and all necessary accessories, same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables	306.89	64.07	-	-			27993
	Add 8% to either of Items 27992 to 27993 inclusive for provision of additional cable to dimmer switches.							
	Section 2 : Installation by PVC surface conduit system							
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
	Lighting point/ daylight sensor point/ occupancy sensor point/ motion detector point : -							
	Each							
27994	Lighting point/ daylight sensor point/ occupancy sensor point/ motion detector point c/w trunking, conduits, boxes, PVC cables, circuit protective conductor and all necessary accessories	392.27	85.00	-	-			27994
	Add 8% to Item 27994 for provision of additional cable to feed reasonable & separate control of a twin/ triplet light fitting and another 8% for provision of additional cable and cable containment to dimmable daylight sensor.							
	Lighting switch point : -							
	Each							
27995	Lighting switch point c/w trunking, conduits, boxes, PVC cables and all necessary accessories	180.86	37.74	-	-			27995
	Add 8% to Item 27995 for provision of additional cable to dimmer switches							

Item					Item
SIMPLIFIED ITEMS (CONT'D)					
Section 3 : Installation by surface wiring system					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Lighting point : -				
	<i>Each</i>				
27996	Lighting point c/w PVC/ PVC cables, circuit protective conductor, boxes and all necessary accessories.	273.76	37.61	-	-
	Add 8% to item 27996 for provision of additional cable to feed reasonable & separate control of a twin/ triplet light fitting				
	Lighting switch point : -				
	<i>Each</i>				
27997	Lighting switch point c/w PVC/ PVC cables, circuit protective conductor, boxes and all necessary accessories.	103.95	13.55	-	-

Section 28

ELECTRICAL INSTALLATION -

SMALL POWER DISTRIBUTION

Item						Item
	KWH METERS AND BOXES					
	KWH Meter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28001	63A single-phase meter	885.20	17.63	22.98	68.44	28001
28002	80A ditto	896.31	17.63	22.98	68.44	28002
28003	100A ditto	1,088.58	17.63	22.98	68.44	28003
28004	63A/ 100A three-phase (4-wire) whole current meter	1,803.37	22.14	27.48	85.94	28004
28005	200A to 2000A current transformers operated meter (current transformers to be measured separately)	1,803.37	22.14	27.48	85.94	28005
	Metal boxes for above KWH meters, approved type : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28006	Up to 100A single-phase	219.72	13.89	17.63	55.30	28006
28007	Up to 2000A three-phase	219.72	13.89	17.63	55.30	28007
28008	Metal box for 4 nos. current transformers	234.09	17.63	22.98	68.92	28008
	Measuring Current Transformer : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28009	100/ 5A ratio	235.52	16.89	21.50	66.43	28009
28010	200/ 5A ratio	246.62	16.89	21.50	66.43	28010
28011	400/ 5A ratio	361.63	16.89	21.50	66.43	28011
28012	500/ 5A ratio	368.06	16.89	21.50	66.43	28012
28013	600/ 5A ratio	372.19	16.89	21.50	66.43	28013
28014	1000/ 5A ratio	385.67	16.89	21.50	66.43	28014
28015	2000/ 5A ratio	546.92	16.89	21.50	66.43	28015

Item					Item	
	KWH METERS AND BOXES (CONT'D)					
	Measuring Current Transformer (Split Type) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28016	100 or 200/ 5A	1,076.57	16.93	21.55	66.57	28016
28017	400 or 500/ 5A	1,118.47	16.93	21.55	66.57	28017
28018	600/ 5A	1,123.69	16.93	21.55	66.57	28018
28019	1000/ 5A	1,250.85	16.93	21.55	66.57	28019
28020	2000/ 5A	2,390.81	16.93	21.55	66.57	28020
	<i>Each</i>					
28021	60A neutral link for meter board loop wire	117.68	10.48	13.09	40.14	28021
	MOUNTING BLOCKS					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28022	Mounting blocks, solid hardwood, 20 mm thick, 75 mm diameter or 75 x 75 mm or 120 x 70 mm	30.41	7.91	9.54	24.34	28022
28023	Ditto but 100 mm diameter or 75 x 150 mm	32.70	7.91	9.54	24.34	28023
28024	Ditto but 150 mm diameter or 150 x 150 mm	41.74	7.91	9.54	24.34	28024
28025	Ditto but 250 mm diameter	61.90	9.16	11.49	29.35	28025
28026	Ditto but 150 x 250 mm	54.10	9.16	11.49	29.35	28026
28027	Ditto but 180 x 250 mm	57.44	9.16	11.49	29.35	28027
28028	Ditto but 200 x 300 mm	62.38	9.16	11.49	29.35	28028
28029	Ditto but 250 x 300 mm	63.44	9.16	11.49	29.35	28029
28030	Ditto but 150 x 380 mm	63.82	9.16	11.49	29.35	28030
28031	Ditto but 200 x 380 mm	65.90	9.16	11.49	29.35	28031
28032	Ditto but 250 x 380 mm	85.19	10.90	13.03	33.17	28032
28033	Ditto but 300 x 300 mm	85.54	10.90	13.03	33.17	28033
28034	Ditto but 300 x 450 mm	103.26	10.90	13.03	33.17	28034
28035	Ditto but 350 x 400 mm	103.47	10.90	13.03	33.17	28035
28036	Mounting blocks, solid hardwood, 32 mm thick, 150 mm diameter, centre pack sunk for BESA box and conduit entry.	120.59	10.90	13.03	33.17	28036
28037	Mounting blocks, solid hardwood, 250 mm x 400 mm x 20 mm thick (approved type) for bell and indicators, etc. c/w hinged cover over transformer and bell units	236.20	15.06	19.05	57.96	28037
28038	Wooden board (approved type) for desk fan fixed to wall	219.12	23.93	29.82	91.01	28038

Item					Item	
	PLUGS AND SOCKET OUTLETS					
	The rates include for mounting boxes frames and cutting into wall where applicable.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Plugs only, fused or unfused, bakelite :-					
	<i>Each</i>					
28039	15A/ 13A, 3 pin	28.98	5.12	5.91	18.43	28039
28040	5A, 3 pin	25.31	5.12	5.91	18.43	28040
28041	2A, 3 pin	-	5.12	-	-	28041
28042	Cartridge fuse link to B.S. 1362 (2A to 15A)	10.21	1.42	1.75	4.89	28042
	Plugs only, moulded rubber :-					
	<i>Each</i>					
28043	15A, 3 pin	63.64	5.12	5.91	18.43	28043
28044	13A/ 5A, 3 pin, fused	58.74	5.12	5.91	18.43	28044
	Socket outlets, shuttered type, bakelite :-					
	<i>Each</i>					
28045	15A, 3 pin	68.29	11.39	14.06	42.95	28045
28046	13A, 3 pin	66.63	11.39	14.06	42.95	28046
28047	13A, 3 pin, twin	86.00	11.39	14.06	42.95	28047
28048	5A, 3 pin	66.46	11.39	14.06	42.95	28048
28049	2A, 3 pin (unshuttered)	-	11.39	-	-	28049
28050	13A, 3 pin, socket integrated with 30 mA RCD	634.11	12.26	14.75	47.54	28050
28051	13A, 3 pin, twin socket integrated with 30 mA RCD	792.91	12.26	14.75	47.54	28051
28052	13A, 3 pin c/w minimum 2.0A Universal Serial Bus (USB) port	464.71	11.30	14.06	33.90	28052

Item					Item	
	PLUGS AND SOCKET OUTLETS (CONT'D)					
	The rates include for mounting boxes frames and cutting into wall where applicable. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Socket outlet, shuttered type, metalclad :-					
	<i>Each</i>					
28053	15A, 3 pin	188.78	11.31	14.00	42.77	28053
28054	13A, 3 pin	169.86	11.31	14.00	42.77	28054
28055	13A, 3 pin, twin	217.32	11.31	14.00	42.77	28055
28056	5A, 3 pin	166.57	11.31	14.00	42.77	28056
28057	13A, 3 pin socket with cover plate	205.18	11.31	14.00	42.77	28057
28058	13A, 3 pin twin socket with cover plate	268.14	11.31	14.00	42.77	28058
28059	13A, 3 pin, socket integrated with 30 mA RCD	796.58	12.23	14.70	47.32	28059
28060	13A, 3 pin, twin socket integrated with 30 mA RCD	908.12	12.23	14.70	47.32	28060
	Socket outlet, round type, 50 mm fixing centre with over lapping or non-over lapping plate :-					
	<i>Each</i>					
28061	2A, 3 pin	-	11.31	-	-	28061
28062	5A, 3 pin	196.23	11.31	14.00	42.77	28062
	Switched-socket outlets with pilot light, shuttered type, bakelite :-					
	<i>Each</i>					
28063	15A, 3 pin	80.76	11.41	14.11	43.13	28063
28064	13A, 3 pin	80.44	11.41	14.11	43.13	28064
28065	13A, 3 pin, twin	105.67	11.41	14.11	43.13	28065
28066	5A, 3 pin	72.59	11.41	14.11	43.13	28066
28067	13A, 3 pin socket with cover plate	113.00	11.41	14.11	43.13	28067
28068	13A, 3 pin twin socket with cover plate	168.18	11.41	14.11	43.13	28068
28069	13A, 3 pin, socket integrated with 30 mA RCD	648.58	12.32	14.80	47.75	28069
28070	13A, 3 pin, twin socket integrated with 30 mA RCD	820.84	12.32	14.80	47.75	28070

Item					Item	
	PLUGS AND SOCKET OUTLETS (CONT'D)					
	The rates include for mounting boxes frames and cutting into wall where applicable. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Switched-socket outlets with pilot light, shuttered type, metalclad :-					
	<i>Each</i>					
28071	5A, 3 pin	208.48	11.19	13.81	41.79	28071
28072	15A, 3 pin	268.39	11.19	13.81	41.79	28072
28073	13A, 3 pin	239.99	11.19	13.81	41.79	28073
28074	13A, 3 pin, twin	356.37	11.19	13.81	41.79	28074
28075	13A, with 30 mA RCD	862.85	12.16	14.57	46.49	28075
	Switched-socket outlets, shuttered type, bakelite :-					
	<i>Each</i>					
28076	15A, 3 pin	77.63	11.19	13.81	41.79	28076
28077	13A, 3 pin	73.33	11.19	13.81	41.79	28077
28078	13A, 3 pin, with 30 mA RCD	623.80	12.16	14.57	46.49	28078
28079	13A, 3 pin, twin	100.06	11.19	13.81	41.79	28079
28080	Ditto but with 30 mA RCD	665.19	12.16	14.57	46.49	28080
28081	13A, 3 pin, triple	235.04	11.19	13.81	41.79	28081
28082	5A, 3 pin	70.01	11.19	13.81	41.79	28082
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Switched-socket outlets, shuttered type, metalclad :-					
	<i>Each</i>					
28083	15A, 3 pin	229.38	11.22	13.87	41.88	28083
28084	13A, 3 pin	193.19	11.22	13.87	41.88	28084
28085	Ditto but with 30 mA RCD	773.29	12.19	14.61	46.59	28085
28086	13A, 3 pin, twin	313.03	11.22	13.87	41.88	28086
28087	Ditto but with 30 mA RCD	900.68	12.19	14.61	46.59	28087
28088	5A, 3 pin	180.16	11.22	13.87	41.88	28088
28089	13A, 3 pin with cover plate	306.19	11.22	13.87	41.88	28089

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
PLUGS AND SOCKET OUTLETS (CONT'D)						
The rates include for mounting boxes frames and cutting into wall where applicable. (Cont'd)						
Splashproof, flush mounted socket outlet, IP56 : -						
<i>Each</i>						
28090	13A	373.22	23.40	29.23	88.72	28090
28091	13A, twin	652.71	23.40	29.23	88.72	28091
28092	13A, DP, switch and with 30 mA RCD	1,879.79	24.65	30.77	94.50	28092
Enclosure for flush mounted splashproof socket : -						
<i>Each</i>						
28093	1 gang	265.76	11.18	13.81	41.75	28093
28094	2 gang	384.50	11.18	13.81	41.75	28094
Splashproof, surface mounted socket outlet, IP44 : -						
<i>Each</i>						
28095	13A, socket with cover plate	171.76	23.40	29.23	88.72	28095
Splashproof, socket outlets with plugs, IP44 : -						
<i>Each</i>						
28096	16A, 3 pin	222.44	22.25	27.82	84.40	28096
28097	16A, 5 pin	243.91	27.97	34.09	105.76	28097
28098	32A, 3 pin	329.45	22.25	27.82	84.40	28098
28099	32A, 5 pin	337.13	34.50	43.43	130.16	28099
28100	63A, 3 pin	874.51	34.50	43.43	130.16	28100
28101	63A, 5 pin	997.45	38.73	48.99	148.38	28101

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
PLUGS AND SOCKET OUTLETS (CONT'D)						
The rates include for mounting boxes frames and cutting into wall where applicable. (Cont'd)						
Socket outlet with plug, weatherproof type rated IP65 :-						
<i>Each</i>						
28102	13A, 3 pin	333.66	23.31	29.11	88.35	28102
28103	15A, 3 pin	393.89	23.31	29.11	88.35	28103
28104	30A, 3 pin	614.18	23.31	29.11	88.35	28104
28105	60A, 3 pin	1,016.10	34.35	43.23	129.61	28105
28106	15A, 5 pin	670.97	28.59	34.82	107.99	28106
28107	30A, 5 pin	727.66	34.35	43.23	129.61	28107
28108	60A, 5 pin	1,223.35	39.92	50.49	152.91	28108
Switched socket outlet with plug, weatherproof type rated IP65 :-						
<i>Each</i>						
28109	13A, 3 pin	484.80	23.31	29.11	88.35	28109
28110	15A, 3 pin	697.05	23.31	29.11	88.35	28110
28111	30A, 3 pin	1,012.80	23.31	29.11	88.35	28111
28112	60A, 3 pin	1,610.43	34.35	43.23	129.61	28112
28113	15A, 5 pin	918.34	28.59	34.82	107.99	28113
28114	30A, 5 pin	1,117.22	34.35	43.23	129.61	28114
28115	60A, 5 pin	1,623.78	39.92	50.49	152.91	28115
Switched socket outlet assemblies, sparkless, c/w plug, chromium plated brass cover, flush or surface pattern :-						
<i>Each</i>						
28116	13A, 3 pin	1,084.15	23.31	29.11	88.35	28116
28117	13A, 3 pin, twin	2,003.93	23.31	29.11	88.35	28117
28118	15A, 3 pin	1,216.12	23.31	29.11	88.35	28118
28119	30A, 3 pin	1,875.54	23.31	29.11	88.35	28119

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
PLUGS AND SOCKET OUTLETS (CONT'D)						
The rates include for mounting boxes frames and cutting into wall where applicable. (Cont'd)						
Switched socket outlet assemblies, flameproof, c/w plug :-						
<i>Each</i>						
28120	5A, 3 pin	3,142.56	23.33	29.18	88.52	28120
28121	13A, 3 pin	3,644.44	23.33	29.18	88.52	28121
28122	15A, 3 pin	3,892.62	23.33	29.18	88.52	28122
28123	30A, 3 pin c/w 30 mA RCD	5,601.14	24.88	31.04	94.31	28123
Shaver supply unit to IEC 61558-1 with isolating transformer to IEC 61558-2-5: -						
<i>Each</i>						
28124	Dual socket of voltage 110V and 220V	473.18	12.11	14.53	46.31	28124
Connection unit, Bakelite :-						
<i>Each</i>						
28125	20A, connection unit, DP	75.18	11.18	13.81	41.75	28125
28126	32A, connection unit, DP	90.83	11.18	13.81	41.75	28126
28127	45A, connection unit, DP	91.32	11.18	13.81	41.75	28127
28128	Fused spur (2 - 13A), DP	81.44	11.13	13.79	41.62	28128
28129	Fused spur (2 - 13A), DP, with pilot light	109.29	11.13	13.79	41.62	28129
28130	Fused spur (2 - 13A), DP, with cable outlet	82.29	11.13	13.79	41.62	28130
28131	Fused spur (2 - 13A), DP, with cable outlet and pilot light	113.27	10.38	13.01	30.57	28131
28132	Fused spur (2 - 13A), DP, switch	96.30	11.13	13.79	41.62	28132
28133	Fused spur (2 - 13A), DP, switch, with pilot light	129.23	11.13	13.79	41.62	28133
28134	Fused spur (2 - 13A), DP, switch, with cable outlet	97.30	11.13	13.79	41.62	28134
28135	Fused spur (2 - 13A), DP, switch, with cable outlet and pilot light	133.93	11.13	13.79	41.62	28135
28136	Fused spur (2 - 13A), DP, switch, with cable outlet and pilot light, IP55	255.86	11.93	14.62	56.67	28136
28137	Fused spur (2 - 13A), DP, switch, with cable outlet, IP65	281.04	11.93	14.62	56.67	28137
28138	32A, TPN connection unit	285.27	34.43	43.32	129.89	28138
28139	30A, 3 terminal junction box	241.06	11.13	13.79	41.62	28139

Item					Item	
PLUGS AND SOCKET OUTLETS (CONT'D)						
The rates include for mounting boxes frames and cutting into wall where applicable. (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Connection unit, metalclad : -						
<i>Each</i>						
28140	Fused spur (2 - 13A fuse), DP	248.10	11.13	13.79	41.62	28140
28141	Fused spur (2 - 13A fuse), DP, with pilot light	297.11	11.13	13.79	41.62	28141
28142	Fused spur (2 - 13A fuse), DP, with cable outlet	283.22	11.13	13.79	41.62	28142
28143	Fused spur (2 - 13A fuse), DP, with cable outlet and pilot light	326.00	11.13	13.79	41.62	28143
28144	Fused spur (2 - 13A fuse), DP, switch	291.18	11.13	13.79	41.62	28144
28145	Fused spur (2 - 13A fuse), DP, switch, with pilot light	365.06	11.13	13.79	41.62	28145
28146	Fused spur (2 - 13A fuse), DP, switch, with cable outlet	347.99	11.13	13.79	41.62	28146
28147	Fused spur (2 - 13A fuse), DP, switch, with cable outlet and pilot light	413.09	11.13	13.79	41.62	28147
Metal casing and socket c/w 30 mA RCD : -						
<i>Each</i>						
28148	Galvanized iron casing, single socket	904.54	23.40	29.23	88.72	28148
28149	Ditto but twin	934.63	23.40	29.23	88.72	28149
28150	Ditto but with four sockets	1,073.84	23.40	29.23	88.72	28150
28151	Stainless steel casing, single socket	939.87	23.40	29.23	88.72	28151
28152	Ditto but twin	985.83	23.40	29.23	88.72	28152
28153	Ditto but with four sockets	1,153.65	23.40	29.23	88.72	28153
28154	Metal casing, single socket	720.80	23.40	29.23	88.72	28154
Telephone outlets : -						
<i>Each</i>						
28155	1-gang 6-pin telephone socket outlet	70.48	11.13	13.79	41.62	28155

Item					Item	
	SUB-SWITCHES					
	The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable.					
	Plates only, bakelite to suit switches to IEC 60669-1 and socket to BS546 : -					
	<i>Each</i>					
28156	1 switch, 10A, flush	24.71	4.63	5.44	17.62	28156
28157	2 switches, 10A, flush	26.28	4.63	5.44	17.62	28157
28158	3 switches, 10A, flush	28.07	4.63	5.44	17.62	28158
28159	4 switches, 10A, flush	39.03	4.63	5.44	17.62	28159
28160	1 socket, 5/ 13/ 15A, 3 pin, flush	49.91	4.63	5.44	17.62	28160
	Moulded switch plates, c/w fixing screws suitable for 1 gang or 2 gang boxes : -					
	<i>Each</i>					
28161	1 gang plate for 1 gang box	35.11	4.63	5.44	17.62	28161
28162	2 gang plate for 1 gang box	38.54	4.63	5.44	17.62	28162
28163	2 gang plate for 2 gang box	65.14	4.63	5.44	17.62	28163
28164	3 gang plate for 2 gang box	70.27	4.63	5.44	17.62	28164
28165	4 gang plate for 2 gang box	77.01	4.63	5.44	17.62	28165
	Stainless steel or brass switch plates, c/w fixing screws suitable for 1 gang or 2 gang boxes : -					
	<i>Each</i>					
28166	1 gang plate for 1 gang box	140.54	4.63	5.45	17.65	28166
28167	2 gang plate for 1 gang box	162.41	4.63	5.45	17.65	28167
28168	2 gang plate for 2 gang box	178.64	4.63	5.45	17.65	28168
28169	3 gang plate for 2 gang box	195.65	4.63	5.45	17.65	28169
28170	4 gang plate for 2 gang box	213.83	4.63	5.45	17.65	28170

Item					Item	
	SUB-SWITCHES (CONT'D)					
	The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	White bakelite light switch to IEC 60669-1 : -					
	<i>Each</i>					
28171	10A, 1 gang SP 1 way	55.67	11.13	13.72	41.47	28171
28172	10A, 1 gang SP 2 way	63.49	11.13	13.72	41.47	28172
28173	10A, 2 gang SP 1 way or 2 way	71.02	11.13	13.72	41.47	28173
28174	10A, 3 gang SP 1 way or 2 way	81.60	11.13	13.72	41.47	28174
28175	10A, 2 way with or without "centre off" SP	68.43	11.13	13.72	41.47	28175
28176	10A, intermediate, SP	108.46	11.13	13.72	41.47	28176
28177	10A, 1 way DP	92.33	11.13	13.72	41.47	28177
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Chromium plated grid switch assemblies : -					
	<i>Each</i>					
28178	10A, 1 gang SP 1 way	292.86	11.11	13.72	41.98	28178
28179	10A, 1 gang SP 2 way	305.78	11.11	13.72	41.98	28179
28180	10A, 2 gang SP 1 way or 2 way	337.38	11.11	13.72	41.98	28180
28181	10A, 3 gang SP 1 way or 2 way	500.62	11.11	13.72	41.98	28181
28182	10A, 4 gang SP 1 way or 2 way	543.77	11.11	13.72	41.98	28182
28183	10A, DP 1 way	366.01	11.11	13.72	41.98	28183
28184	20A, DP 1 way	389.95	11.11	13.72	41.98	28184
28185	20A, 1 gang DP with pilot light	413.11	11.11	13.72	41.98	28185
28186	Ditto but 45A	458.58	11.11	13.72	41.98	28186
	Dimmer switch, white, bakelite : -					
	<i>Each</i>					
28187	250W, 1 gang, 1 way or 2 way	204.14	11.11	13.72	41.98	28187
28188	500W, 1 gang, 1 way or 2 way	204.74	11.11	13.72	41.98	28188
28189	250W, 2 gang, 1 way or 2 way	364.81	11.11	13.72	41.98	28189
28190	3 level dimmer switch (50%, 70%, 100%)	155.03	8.63	12.32	38.25	28190
28191	250V/ 6A dimmer switch for any combination of 10 lamps, 0 - 10 V interface	623.31	8.63	12.32	39.98	28191
28192	Multi-sensor dimmer with housing for control of light intensity and occupancy switching operation	1,631.49	8.63	12.32	39.98	28192

Item					Item
	SUB-SWITCHES (CONT'D)				
	The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable. (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Dimmer switch, chromium plated : -				
	<i>Each</i>				
28193	400W, 1 gang, 1 way or 2 way	450.00	11.11	13.72	41.98
28194	500W, 2 gang, 1 way or 2 way	539.27	11.11	13.72	41.98
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	White bakelite DP switch : -				
	<i>Each</i>				
28195	20A	85.36	11.22	13.89	42.41
28196	32A	127.64	11.22	13.89	42.41
28197	45A	159.69	11.22	13.89	42.41
	White bakelite DP switch with pilot light : -				
	<i>Each</i>				
28198	20A	97.34	11.22	13.89	42.41
28199	32A	140.10	11.22	13.89	42.41
28200	45A	168.31	11.22	13.89	42.41
	Metalclad, surface mounted switch : -				
	<i>Each</i>				
28201	10A, 1 gang 1 way or 2 way	146.17	11.22	13.89	42.41
28202	10A, 2 gang 1 way or 2 way	166.34	11.22	13.89	42.41
28203	10A, 3 gang 1 way or 2 way	226.76	11.22	13.89	42.41
28204	20A, DP with pilot light	237.70	11.22	13.89	42.41
28205	45A, DP with pilot light	665.18	11.22	13.89	42.41
28206	32A, TPN with pilot light	800.66	34.30	43.37	130.63
28207	10A, lighting switch, 1 gang chromium plated brass cover	299.85	11.22	13.89	42.41
28208	Ditto but 2 gang	330.92	11.22	13.89	42.41

Item					Item	
	SUB-SWITCHES (CONT'D)					
	The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Splashproof, flush mounted switch, protection class IP 56 : -					
	<i>Each</i>					
28209	10A, 1 gang 1 way SP	238.06	23.19	29.07	88.80	28209
28210	10A, 1 gang 2 way SP	241.62	23.19	29.07	88.80	28210
28211	10A, 1 gang 1 way DP	374.14	23.19	29.07	88.80	28211
28212	Ditto but 20A	513.86	23.19	29.07	88.80	28212
28213	10A, 2 gang 1 way SP	350.55	23.19	29.07	88.80	28213
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Splashproof, surface mounted switch, protection class IP44 : -					
	<i>Each</i>					
28214	10A, 1 gang 1 way SP	206.51	23.11	28.98	88.46	28214
28215	10A, 1 gang 2 way SP	209.24	23.11	28.98	88.46	28215
28216	10A, 2 gang 1 way SP	310.89	23.11	28.98	88.46	28216
28217	10A, 1 gang 1 way DP	218.22	23.11	28.98	88.46	28217
28218	Ditto but 20A, c/w pilot light	318.38	23.11	28.98	88.46	28218
28219	Switch, flameproof 10A	2,066.41	23.11	28.98	88.46	28219
28220	Ditto but 16A	2,682.94	23.11	28.98	88.46	28220

Item					Item	
	SUB-SWITCHES (CONT'D)					
	The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Stainless steel (304) plated grid switch c/w metal casing :-					
	<i>Each</i>					
28221	Grid switch plate for 2 gang (switch measured separately)	367.25	16.95	20.34	62.15	28221
28222	Grid switch plate for 3 gang (switch measured separately)	457.65	16.95	20.34	62.15	28222
28223	Grid switch plate for 4 gang (switch measured separately)	514.15	16.95	20.34	62.15	28223
28224	Grid switch plate for 5 gang (switch measured separately)	666.70	16.95	20.34	62.15	28224
28225	Grid switch plate for 6 gang (switch measured separately)	858.80	16.95	20.34	62.15	28225
28226	Grid switch plate for 8 gang (switch measured separately)	983.10	22.60	28.25	90.40	28226
28227	Grid switch plate for 9 gang (switch measured separately)	1,107.40	22.60	28.25	90.40	28227
28228	Grid switch plate for 10 gang (switch measured separately)	1,124.35	22.60	28.25	90.40	28228
28229	Grid switch plate for 12 gang (switch measured separately)	1,299.50	22.60	28.25	90.40	28229
28230	Grid switch plate for 14 gang (switch measured separately)	1,785.40	22.60	28.25	90.40	28230
28231	Grid switch plate for 16 gang (switch measured separately)	2,260.00	22.60	28.25	90.40	28231
28232	Grid switch plate for 18 gang (switch measured separately)	2,994.50	33.90	39.55	113.00	28232
28233	Grid switch plate for 24 gang (switch measured separately)	4,859.00	33.90	39.55	113.00	28233
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Grid switch, with/ without printed message :-					
	<i>Each</i>					
28234	10A, 1 way SP	203.40	16.95	20.34	67.80	28234
28235	10A, 2 way SP	203.40	16.95	20.34	67.80	28235
28236	10A, 2 way SP, retractive	226.00	16.95	20.34	67.80	28236
28237	10A, 2 way SP, centre off retractive	226.00	16.95	20.34	67.80	28237
28238	10A, 1 way DP	316.40	16.95	20.34	67.80	28238
28239	20A, 1 way DP	316.40	16.95	20.34	67.80	28239
28240	20A, 1 way DP, with pilot light	361.60	16.95	20.34	67.80	28240
28241	20A, 1 way DP, push to make	361.60	16.95	20.34	67.80	28241
28242	20A, 1 way DP, push to break, retractive	361.60	16.95	20.34	67.80	28242
28243	20A, intermediate	452.00	16.95	20.34	67.80	28243
28244	Dimmer switch	621.50	16.95	20.34	67.80	28244
28245	Indicator unit	621.50	16.95	20.34	67.80	28245
28246	Blank plate	45.20	11.30	16.95	11.30	28246

Item									Item
	SUB-SWITCHES (CONT'D)								
	The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable. (Cont'd)								
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only				
		A \$	B \$	C \$	D \$				
	Keyswitch : -								
	<i>Each</i>								
28247	Keytag	69.74	-	-	-				28247
28248	10A, wall unit keyswitch	433.81	23.11	28.98	88.46				28248
28249	20A, DP wall unit keyswitch	481.59	23.11	28.98	88.46				28249
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only				
		A \$	B \$	C \$	D \$				
	Float switch : -								
	<i>Each</i>								
28250	Mercury float switch	527.43	30.19	37.88	114.55				28250
28251	Galvanized steel bracket for mercury float switch	170.27	14.62	18.25	55.40				28251
28252	Ditto but of stainless steel 316	411.61	14.62	18.25	55.40				28252
	Ceiling switch, cord or chain operated : -								
	<i>Each</i>								
28253	6A, 1 way or 2 way SP	85.19	11.13	13.76	42.06				28253
28254	10A, 1 way SP	88.47	11.13	13.76	42.06				28254
28255	10A, 2 way SP	94.74	11.13	13.76	42.06				28255
28256	15A, 1 way SP	99.04	11.13	13.76	42.06				28256
28257	16A, 1 way DP	103.56	11.13	13.76	42.06				28257

Item

Item

SUB-SWITCHES (CONT'D)

The rates for sub-switches include the mounting boxes frames and cutting into wall where applicable. (Cont'd)

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only		
		A	B	C	D		
		\$	\$	\$	\$		
Miscellaneous switch : -							
<i>Each</i>							
28258	Emergency stop switch, metalclad, heavy duty type	485.00	14.62	18.25	55.40	28258	
28259	Push button switch, 5A, bakelite miniature panel mounting	295.81	4.63	5.45	17.65	28259	
28260	On-off pull switch, 2A, for fluorescent fitting, fitted with ball chain and metal tassel	78.40	4.63	5.45	17.65	28260	
28261	Toggle switch, 10/ 15A, 2 way	63.19	7.80	9.32	27.57	28261	
28262	Photo electric daylight switch 220V 50Hz	600.99	29.07	37.57	113.12	28262	
28263	Dusk/ Dawn Photo electric switch, light threshold from 20 - 500 lux, adjustable	1,657.95	21.87	27.41	83.63	28263	
28264	Photo-electric control 1000W/ 1500VA 220 - 240V with standard 3-prong EEI-NEMA twist lock mounting	705.09	30.96	38.84	117.47	28264	
28265	Socket (or mount) with standard EEI-NEMA twist lock receptacle for photo-electric control	130.11	14.93	18.69	56.90	28265	

Item					Item	
BELLS AND BELL ACCESSORIES						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28266	Door bell with bakelite case, battery operated type, of any rating	174.73	15.33	18.08	47.12	28266
28267	Door bell, 2 notes, 8V, without transformer	198.27	15.33	18.08	47.12	28267
28268	Door bell, 2 notes, 8V, with 220V/ 8V transformer	244.65	15.33	18.08	47.12	28268
28269	Bell, underdome type, circular 75 mm diameter, 4.5, 6.0 or 12.0V	310.52	15.33	18.08	47.12	28269
28270	Ditto but circular and insulated pattern, 100 mm diameter, 12 or 24V	344.16	15.33	18.08	47.12	28270
28271	Alarm bell, waterproof, 150 mm diameter gong, cast iron pattern continuous ringing, 220V A.C. or 24V D.C.	439.77	15.33	18.08	47.12	28271
28272	Alarm bell, waterproof, 225 mm diameter gong, cast iron pattern continuous ringing, 220V A.C. or 24V D.C.	868.27	15.33	18.08	47.12	28272
28273	Mini buzzer, 51 mm diameter, 8/ 12V A.C.	97.47	15.33	18.08	47.12	28273
28274	Mini buzzer, 71 mm diameter, 8/ 12V A.C.	117.34	15.33	18.08	47.12	28274
28275	Buzzer 24V A.C. with case	160.14	15.33	18.08	47.12	28275
28276	Buzzer 8V A.C. with case	175.39	15.33	18.08	47.12	28276
28277	Bell indicator, unit pendulum type, 6 - 9 ways	73.99	15.33	18.08	47.12	28277
28278	Bell push, flush type with bakelite plate on BS 4662 Box/ IEC 60670 Box	75.79	12.44	15.41	38.39	28278
28279	Weatherproof bell push, rated IP65	346.60	21.58	26.71	81.11	28279
28280	Bell push, foot operated floor type	254.27	12.44	15.41	38.39	28280
28281	Bell push, surface mounted	61.82	12.44	15.41	38.39	28281
28282	Bell transformer, 220/ 4V	238.68	15.33	18.08	47.12	28282
28283	Bell transformer, 220/ 8V	240.19	15.33	18.08	47.12	28283
28284	Bell transformer, 220/ 12V	335.18	15.33	18.08	47.12	28284
28285	Bell transformer, 220/ 24V	350.60	15.33	18.08	47.12	28285
28286	Control relay, with bakelite case plug-in type coil voltage 12/ 24/ 48V	199.06	15.33	18.08	47.12	28286
28287	Ditto but coil voltage 110/ 220V	231.43	15.33	18.08	47.12	28287
CONDUITS AND CONDUIT FITTING						
Heavy gauge galvanized welded screwed steel conduit to IEC 61386-21, c/w all necessary accessories and fixed in saddles, chases, screed, within dry partition or on shuttering : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Concealed conduit : -					
	<i>Per linear metre</i>					
28288	20 mm diameter	52.12	-	-	20.72	28288
28289	25 mm diameter	59.34	-	-	20.72	28289
28290	32 mm diameter	69.26	-	-	26.56	28290

Item					Item												
CONDUITS AND CONDUIT FITTING (CONT'D)																	
Heavy gauge galvanized welded screwed steel conduit to IEC 61386-21, c/w all necessary accessories and fixed in saddles, chases, screened, within dry partition or on shuttering : - (Cont'd)																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">A \$</td> <td style="text-align: center;">B \$</td> <td style="text-align: center;">C \$</td> <td style="text-align: center;">D \$</td> <td></td> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
Surface mounted conduit including all types of spacing saddles : -																	
<i>Per linear metre</i>																	
28291	20 mm diameter	85.46	10.94	13.35	44.07	28291											
28292	25 mm diameter	106.05	10.94	13.35	44.07	28292											
28293	32 mm diameter	127.24	12.44	15.40	49.17	28293											
28294	40 mm diameter	132.55	12.60	16.16	51.11	28294											
28295	50 mm diameter	165.18	13.18	16.89	58.12	28295											
Heavy gauge PVC conduit c/w all necessary accessories and fixed in saddles, chases, screened, within dry partition, or on shuttering : -																	
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	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Per linear metre</i>																	
28296	20 mm diameter	36.09	5.48	6.73	16.80	28296											
28297	25 mm diameter	45.27	6.45	8.00	20.60	28297											
28298	32 mm diameter	56.82	6.76	8.42	22.22	28298											
Draw wire in conduit : -																	
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	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Per linear metre</i>																	
28299	Draw wire	2.28	-	-	1.90	28299											

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Watertight flexible metallic conduit c/w all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28300	20 mm diameter	41.20	9.89	11.85	15.41	28300
28301	25 mm diameter	50.76	9.89	11.85	15.41	28301
28302	32 mm diameter	59.72	9.89	11.85	15.41	28302
28303	40 mm diameter	89.86	10.79	12.95	16.76	28303
28304	50 mm diameter	128.12	10.79	12.95	16.76	28304
	Watertight flexible metallic conduit with PVC sheathed c/w all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28305	20 mm diameter	41.20	9.89	11.85	15.41	28305
28306	25 mm diameter	50.76	9.89	11.85	15.41	28306
28307	32 mm diameter	59.72	9.89	11.85	15.41	28307
28308	40 mm diameter	74.59	10.79	12.95	16.76	28308
28309	50 mm diameter	137.20	10.79	12.95	16.76	28309
	Adaptors male/ female for flexible metallic conduit, brass, sweated or screwed onto conduit of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28310	20 mm diameter	11.98	2.86	3.32	8.49	28310
28311	25 mm diameter	14.40	2.86	3.32	8.49	28311
28312	32 mm diameter	19.09	2.86	3.32	8.49	28312
28313	40 mm diameter	26.49	2.86	3.32	8.49	28313
28314	50 mm diameter	35.12	3.46	4.24	10.70	28314

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Brass female bushes for conduit of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28315	20 mm diameter	3.75	0.80	0.95	2.29	28315
28316	25 mm diameter	4.57	0.80	0.95	2.29	28316
28317	32 mm diameter	5.43	0.80	0.95	2.29	28317
28318	40 mm diameter	7.01	0.95	1.14	2.62	28318
28319	50 mm diameter	14.22	1.38	1.56	4.14	28319
	Brass male bushes for conduit of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28320	20 mm diameter	3.97	0.80	0.95	2.29	28320
28321	25 mm diameter	4.94	0.80	0.95	2.29	28321
28322	32 mm diameter	5.70	0.80	0.95	2.29	28322
28323	40 mm diameter	8.25	0.95	1.14	2.62	28323
28324	50 mm diameter	13.89	1.38	1.56	4.14	28324
	Rubber grommets of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28325	20 mm diameter	2.73	0.80	0.95	2.29	28325
28326	25 mm diameter	3.10	0.80	0.95	2.29	28326
28327	32 mm diameter	3.50	0.80	0.95	2.29	28327
28328	40 mm diameter	4.47	0.95	1.14	2.62	28328
28329	50 mm diameter	6.76	1.38	1.56	4.14	28329

Item						Item
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Conduit boxes, malleable iron (galvanized) for heavy gauge steel conduits, round without lids for conduit of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
28330	20 mm diameter standard BESA boxes with 51 mm fixing centres	37.35	7.86	9.50	24.27	28330
28331	20 mm diameter deep pattern standard BESA boxes with 51 mm fixing centres	41.69	7.86	9.50	24.27	28331
28332	Lids and screws for standard BESA boxes	11.13	1.94	2.40	5.92	28332
28333	Break joint ring, galvanized iron	9.86	1.94	2.40	5.92	28333
28334	Metal break ring, or overlapping plate, galvanized iron, suitable for steel conduit box with 51 mm fixing centre	8.77	1.94	2.40	5.92	28334
	Heavy spacing saddles for steel conduit of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
28335	20 mm diameter	19.40	4.63	5.39	14.05	28335
28336	25 mm diameter	19.92	4.63	5.39	14.05	28336
28337	32 mm diameter	21.04	4.63	5.39	14.05	28337
28338	40 mm diameter	28.87	5.39	6.45	16.31	28338
28339	50 mm diameter	30.56	5.39	6.45	16.31	28339
	Spacing saddles for PVC conduit of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
28340	20 mm diameter	17.38	4.19	5.11	12.84	28340
28341	25 mm diameter	18.52	4.19	5.11	12.84	28341
28342	32 mm diameter	19.48	4.19	5.11	12.84	28342

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Solid couplers, screwed, malleable iron, galvanized, for steel conduit of the following sizes :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28343	20 mm diameter	7.35	1.56	1.88	4.64	28343
28344	25 mm diameter	8.40	1.56	1.88	4.64	28344
28345	32 mm diameter	9.65	1.56	1.88	4.64	28345
28346	40 mm diameter	12.69	1.56	1.88	4.64	28346
28347	50 mm diameter	17.64	1.56	1.88	4.64	28347
	Adaptable junction boxes, cast iron/ sheet steel, galvanized, c/w cover (including cutting and drilling holes into wall and ceiling as required)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cast iron, square :-					
	Each					
28348	75 x 75 x 50 mm	61.14	10.40	13.03	40.63	28348
28349	100 x 100 x 50 mm	69.05	11.49	13.79	43.04	28349
28350	100 x 100 x 75 mm	73.13	11.49	13.79	43.04	28350
28351	150 x 150 x 75 mm	88.40	11.49	13.79	45.43	28351
28352	225 x 225 x 75 mm	166.82	13.79	17.59	56.23	28352
28353	300 x 300 x 75 mm	276.61	17.59	22.96	70.44	28353
	Cast iron, oblong :-					
	Each					
28354	150 x 75 x 50 mm	72.78	11.49	13.79	43.04	28354
28355	225 x 150 x 75 mm	120.80	11.49	13.79	45.43	28355
28356	300 x 200 x 90 mm	190.92	13.79	17.59	56.23	28356
28357	450 x 300 x 100 mm	346.11	17.59	22.96	70.44	28357

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Adaptable junction boxes, cast iron/ sheet steel, galvanized, c/w cover (including cutting and drilling holes into wall and ceiling as required) (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Sheet steel, square : -					
	<i>Each</i>					
28358	75 x 75 x 50 mm	58.73	10.42	13.05	40.73	28358
28359	100 x 100 x 50 mm	62.50	10.92	13.55	43.12	28359
28360	150 x 150 x 75 mm	70.48	11.68	14.61	45.52	28360
28361	225 x 225 x 75 mm	98.24	15.36	19.20	59.75	28361
28362	300 x 300 x 75 mm	124.93	17.50	23.00	70.60	28362
	PVC adaptable junction box c/w cover (including cutting and drilling holes into wall and ceiling as required) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28363	75 x 75 x 44 mm	35.91	7.91	9.55	23.79	28363
28364	100 x 100 x 50 mm	41.49	9.04	10.99	27.58	28364
28365	150 x 150 x 50 mm	66.92	10.60	12.87	32.48	28365
28366	150 x 150 x 75 mm	77.50	10.60	12.87	32.48	28366
28367	225 x 225 x 75 mm	115.83	14.23	18.25	55.04	28367

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Sheet metal cover plate c/w screws for adaptable junction box of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28368	75 x 75 mm	12.20	2.86	3.32	8.27	28368
28369	100 x 100 mm	13.33	2.86	3.32	8.27	28369
28370	150 x 150 mm	16.20	2.86	3.32	8.27	28370
28371	225 x 225 mm	28.05	2.86	3.32	8.27	28371
28372	300 x 300 mm	41.54	3.94	4.72	11.68	28372
28373	150 x 75 mm	13.51	2.86	3.32	8.27	28373
28374	225 x 150 mm	21.19	2.86	3.32	8.27	28374
28375	300 x 200 mm	30.59	2.86	3.32	8.27	28375
28376	450 x 300 mm	52.88	3.94	4.72	11.68	28376
	Galvanized cast iron box for surface mounting, to IEC 60670 or BS 4662 boxes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28377	35 mm deep, 1 gang	12.09	2.86	3.36	5.57	28377
28378	47 mm deep, 1 gang	13.18	2.86	3.36	5.57	28378
28379	35 mm deep, 2 gang	15.81	2.86	3.36	5.57	28379
28380	47 mm deep, 2 gang	19.15	2.86	3.36	5.57	28380

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Galvanized steel box for flush mounting, to IEC 60670 or BS 4662 boxes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28381	25 mm deep, 1 gang	27.05	7.71	9.47	15.67	28381
28382	25 mm deep, 2 gang	30.68	8.90	10.60	17.85	28382
28383	25 mm deep, 3 gang	34.67	9.88	11.90	19.94	28383
28384	35 mm deep, 1 gang	28.05	7.71	9.47	15.67	28384
28385	35 mm deep, 2 gang	31.18	8.90	10.60	17.85	28385
28386	47 mm deep, 1 gang	30.05	7.71	9.47	15.67	28386
28387	47 mm deep, 2 gang	33.50	8.90	10.60	17.85	28387
28388	44 mm deep for shaver unit	43.48	7.67	9.41	15.58	28388
	Galvanized steel box for surface mounting, to IEC 60670 or BS 4662 boxes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28389	41 mm deep, 1 gang with knockout	25.00	6.79	8.31	13.79	28389
28390	41 mm deep, 2 gang with knockout	29.89	7.42	9.29	15.14	28390
28391	17 mm deep, 1 gang	23.56	6.58	7.86	13.32	28391
28392	25 mm deep, 1 gang	24.05	6.58	7.86	13.32	28392
28393	30 mm or 32 mm deep, 1 gang	24.27	6.58	7.86	13.32	28393
28394	30 mm or 32 mm deep, 2 gang	25.84	7.02	8.53	13.55	28394
28395	30 mm or 32 mm deep, 3 gang	27.54	7.02	8.53	13.55	28395
28396	38 mm or 40 mm deep, 1 gang	26.26	6.79	8.31	13.79	28396
28397	38 mm or 40 mm deep, 2 gang	30.14	7.42	9.29	15.14	28397
28398	38 mm or 40 mm deep for 2 x 1 gang with partition	31.21	7.42	9.29	15.14	28398
28399	44 mm deep, 1 gang	27.40	6.79	8.31	13.79	28399
28400	44 mm deep for shaver unit	38.70	6.79	8.31	13.79	28400

Item								Item
CONDUITS AND CONDUIT FITTING (CONT'D)								
PVC switch box : -								
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
28401	35 mm deep, 1 gang	11.89	2.83	3.32	8.31	28401		
28402	47 mm deep, 1 gang	12.37	2.83	3.32	8.31	28402		
28403	47 mm deep, 2 gang	19.88	2.83	3.32	8.31	28403		
28404	surface switch box 35 mm deep, 1 gang	12.38	2.83	3.32	8.31	28404		
28405	surface switch box 47 mm deep, 1 gang	12.46	2.83	3.32	8.31	28405		
28406	surface switch box 47 mm deep, 2 gang	19.85	2.83	3.32	8.31	28406		
Steel base box for grid switch : -								
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
28407	73 x 73 x 40 mm	80.52	9.89	11.93	29.98	28407		
28408	73 x 133 x 40 mm	97.00	10.92	13.13	33.06	28408		
28409	133 x 133 x 40 mm	245.42	11.80	14.14	45.12	28409		
28410	194 x 133 x 40 mm	268.54	12.85	17.11	49.21	28410		
Moulded base box for grid switch : -								
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
28411	1 gang or 2 gang	36.70	7.72	9.25	23.57	28411		
28412	3 gang or 4 gang	52.13	7.72	9.25	23.57	28412		

Item					Item	
	CONDUITS AND CONDUIT FITTING (CONT'D)					
	Blank plate : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28413	White bakelite, 1 gang	14.96	1.66	2.00	4.79	28413
28414	White bakelite, 2 gang	23.71	1.66	2.00	4.79	28414
28415	Stainless steel, 1 gang	50.10	4.84	5.64	17.90	28415
28416	Stainless steel, 2 gang	54.66	4.84	5.64	17.90	28416
	Accessories for weatherproof switch/ socket, IP 65 : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28417	Entry blank	26.68	3.50	4.11	10.62	28417
28418	PVC cable entry	27.38	3.50	4.11	10.62	28418
28419	20 mm conduit entry	28.89	3.50	4.11	10.62	28419
28420	Box coupler	15.09	0.76	0.94	2.34	28420
28421	Gel seal for socket	31.93	2.68	3.28	8.12	28421
28422	Surface mounting 1 gang box	93.42	7.72	9.48	23.57	28422
28423	Surface mounting 2 gang box	123.81	7.72	9.48	23.57	28423
28424	1 gang flush mounting frame	206.98	10.98	13.42	40.56	28424
28425	2 gang flush mounting frame	306.78	11.45	13.87	41.66	28425
	UNDERFLOOR BUSBAR TRUNKING UNIT					
	Underfloor busbar trunking unit (with colour) for final circuit distribution c/w trunking coupler, all necessary interconnection wirings and accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28426	32A SPN, 1200 mm long	1,144.01	70.96	88.43	123.01	28426
28427	32A SPN, 2400 mm long	2,271.61	136.38	154.49	174.96	28427

Item					Item	
	UNDERFLOOR BUSBAR TRUNKING UNIT (CONT'D)					
	Underfloor busbar trunking accessories : -					
	<i>Each</i>					
28428	Flexible connector assembly c/w 2 m long flexible conduit and all necessary wirings	160.22	34.60	51.90	52.68	28428
28429	Cross over bridge assembly for four compartments trunking	1,181.88	67.68	84.07	132.30	28429
	FLOOR OUTLET BOX					
	Floor outlet box or trunking service box c/w base box, cover including carpet frame & lid assembly, blank plate for spare outlet hole, mounting plate with outlet hole suitable for installing power socket, LAN socket and Telephone socket (socket outlet, cabling & wiring facilities to be measured separately) : -					
	<i>Each</i>					
28430	Two compartment type with 3/ 4 outlet holes	1,230.57	70.96	88.43	190.76	28430
28431	Three compartment type with 6/ 9 outlet holes	1,236.63	70.96	88.43	200.12	28431
28432	Four compartment type with 8 outlet holes	1,241.81	70.96	88.43	208.99	28432

Item					Item	
	CABLE TRUNKING AND CABLE TRAY					
	Cable trunking galvanized sheet steel suspended from ceiling soffit or fixed to wall with cover, an addition of fifty (50) percent will be made to the rate involving hanger or bracket for trunking installed all the way exceeding 450 mm from ceiling soffit or wall : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Trunking : -					
	<i>Per linear metre</i>					
28433	50 x 50 mm 1 compartment	128.97	16.31	20.76	72.59	28433
28434	50 x 75 mm ditto	137.65	16.89	21.50	76.07	28434
28435	75 x 75 mm ditto	142.81	17.63	22.98	79.38	28435
28436	50 x 100 mm ditto	142.81	17.63	22.98	79.38	28436
28437	75 x 100 mm ditto	147.92	19.85	24.44	88.93	28437
28438	100 x 100 mm ditto	162.17	19.85	24.44	88.93	28438
28439	100 x 150 mm ditto	174.39	21.32	27.30	96.72	28439
28440	150 x 150 mm ditto	202.13	24.41	29.48	106.69	28440
28441	150 x 200 mm ditto	216.32	25.92	32.62	115.69	28441
28442	150 x 250 mm ditto	230.47	28.71	36.35	124.03	28442
28443	150 x 500 mm ditto	306.94	37.74	43.93	148.79	28443
28444	200 x 200 mm ditto	180.91	37.74	43.93	148.79	28444
28445	300 x 300 mm ditto	291.45	37.74	43.93	148.79	28445
28446	50 x 100 mm 2 compartments	155.07	17.63	22.98	79.38	28446
28447	50 x 150 mm ditto	209.45	20.59	25.19	91.09	28447
28448	75 x 100 mm ditto	199.68	20.59	25.19	91.78	28448
28449	75 x 150 mm ditto	218.94	20.59	25.19	91.78	28449
28450	100 x 150 mm ditto	248.95	21.32	27.30	96.72	28450
28451	75 x 100 mm 3 compartments	220.61	20.59	25.19	91.78	28451
28452	75 x 150 mm ditto	239.83	20.59	25.19	91.78	28452
28453	100 x 150 mm ditto	259.38	21.32	27.30	96.72	28453
28454	150 x 150 mm ditto	317.29	24.41	29.48	106.69	28454
28455	150 x 200 mm ditto	345.31	25.92	32.62	115.69	28455

Item					Item	
	CABLE TRUNKING AND CABLE TRAY (CONT'D)					
	Cable trunking galvanized sheet steel suspended from ceiling soffit or fixed to wall with cover, an addition of fifty (50) percent will be made to the rate involving hanger or bracket for trunking installed all the way exceeding 450 mm from ceiling soffit or wall : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Trunking cover : -					
	<i>Per linear metre</i>					
28456	50 mm wide	113.80	2.41	2.89	6.93	28456
28457	75 mm wide	117.68	2.41	2.89	6.93	28457
28458	100 mm wide	120.23	2.41	2.89	6.93	28458
28459	150 mm wide	129.58	3.56	4.34	10.48	28459
28460	200 mm wide	139.30	4.34	5.30	12.75	28460
28461	300 mm wide	152.82	5.30	6.40	15.49	28461
28462	500 mm wide	182.13	6.73	8.00	19.28	28462
	Extra over trunking of the following sizes for cross unit 4-way, with 4 connectors : -					
	<i>Each</i>					
28463	50 x 50 mm	125.40	13.90	17.68	53.75	28463
28464	75 x 75 mm	133.81	15.29	19.11	56.53	28464
28465	100 x 100 mm	144.14	16.18	20.03	60.33	28465
28466	100 x 150 mm	153.18	16.93	20.80	62.82	28466
28467	150 x 150 mm	171.24	17.68	23.04	68.49	28467
	Extra over trunking for reducer unit with 2 connectors : -					
	<i>Each</i>					
28468	75 x 75 mm to 100 x 100 mm	124.44	13.13	16.93	50.45	28468
28469	100 x 100 mm to 100 x 150 mm	128.97	13.90	17.68	54.06	28469
28470	100 x 100 mm to 150 x 150 mm	137.98	15.29	19.11	57.52	28470

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
CABLE TRUNKING AND CABLE TRAY (CONT'D)						
Cable trunking galvanized sheet steel suspended from ceiling soffit or fixed to wall with cover, an addition of fifty (50) percent will be made to the rate involving hanger or bracket for trunking installed all the way exceeding 450 mm from ceiling soffit or wall : - (Cont'd)						
Extra over trunking of the following size for flat tee, edge tee unit with connectors : -						
<i>Each</i>						
28471	50 x 50 mm	117.35	13.13	16.19	48.16	28471
28472	50 x 100/ 75 x 75 mm	122.82	13.13	16.93	50.45	28472
28473	75 x 100 mm	124.77	13.90	17.68	54.06	28473
28474	100 x 100 mm	129.26	13.90	17.68	54.06	28474
28475	100 x 150 mm	134.78	15.29	19.11	57.52	28475
28476	150 x 150 mm	146.04	16.93	20.80	62.82	28476
28477	200 x 200 mm	157.00	17.68	23.04	68.49	28477
Extra over trunking of the following size for flat elbow, internal or external elbow unit with connectors : -						
<i>Each</i>						
28478	50 x 50 mm	115.08	12.62	16.25	48.35	28478
28479	50 x 100/ 75 x 75 mm	119.31	13.21	17.01	50.65	28479
28480	50 x 150/ 100 x 100 mm	124.44	13.99	17.76	54.26	28480
28481	75 x 100 mm	120.86	13.99	17.76	54.26	28481
28482	75 x 150 mm	127.33	15.36	19.20	57.74	28482
28483	100 x 150 mm	128.97	15.36	19.20	57.74	28483
28484	150 x 150 mm	137.98	17.01	20.88	63.08	28484
28485	150 x 500 mm	226.64	19.35	25.63	77.63	28485
28486	200 x 200 mm	146.67	17.76	23.11	68.75	28486
28487	300 x 300 mm	191.82	19.35	25.63	77.63	28487
28488	50 x 100 mm 2 compartments	122.53	13.21	17.01	50.65	28488
28489	50 x 150 mm 2 compartments	128.32	13.99	17.76	54.26	28489
28490	100 x 150 mm 2 compartments	132.82	15.36	19.20	57.74	28490
28491	75 x 100 mm 3 compartments	127.33	13.99	17.76	54.26	28491
28492	75 x 150 mm 3 compartments	135.02	14.68	18.50	56.06	28492
28493	100 x 150 mm 3 compartments	136.70	15.36	19.20	57.74	28493
28494	150 x 150 mm 3 compartments	147.67	16.25	20.14	59.92	28494

Item					Item	
	CABLE TRUNKING AND CABLE TRAY (CONT'D)					
	Blank end for cable trunking of the following sizes : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28495	50 x 50 mm	55.90	5.44	7.02	16.29	28495
28496	50 x 100/ 75 x 75 mm	57.46	5.44	7.02	16.29	28496
28497	50 x 150/ 100 x 100 mm	59.04	5.44	7.02	16.29	28497
28498	75 x 100 mm	58.31	5.44	7.02	16.29	28498
28499	100 x 150 mm	62.67	5.44	7.02	16.29	28499
28500	150 x 150 mm	64.24	5.45	7.03	16.31	28500
28501	150 x 500 mm	90.14	8.03	10.38	24.66	28501
28502	300 x 300 mm	87.83	8.03	10.38	24.66	28502
28503	Wiring clip for cable trunking	52.74	0.50	0.64	1.36	28503
	PVC mini-trunking to IEC 61084-1, c/w all cross over, elbow, tee, blank end and all necessary fixing accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28504	16 x 16 mm	34.86	3.76	4.79	14.57	28504
28505	16 x 25/ 16 x 40/ 25 x 25 mm	45.22	5.74	7.02	17.68	28505
28506	25 x 40/ 25 x 50 mm	54.22	5.74	7.02	17.68	28506
28507	32 x 50/ 50 x 50 mm	83.56	5.74	7.02	17.68	28507
	Surface galvanized sheet steel weatherproof trunking, including all cross over, tee, bend, blank end and fixing accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
28508	100 x 100 mm	420.94	47.11	58.81	185.70	28508
28509	150 x 150 mm	590.15	56.71	70.15	218.86	28509

Item					Item	
	CABLE TRUNKING AND CABLE TRAY (CONT'D)					
	Exposed floor trunking, including all trunking fittings, crossover, tee, riser bend, outlet box and other accessories, manufactured from 1.6 mm galvanized steel, lids of 3 mm galvanized steel, flush or recessed covers, pyramid sides : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28510	153 mm x 38 mm (2 compartments) trunking	223.58	19.37	23.90	70.93	28510
28511	228 mm x 38 mm (3 compartments) trunking	267.18	23.26	28.63	87.41	28511
	<i>Each</i>					
28512	153 mm x 38 mm (2 compartments) junction box	439.49	12.63	15.96	49.19	28512
28513	228 mm x 38 mm (3 compartments) junction box	499.09	15.96	19.76	61.52	28513
	Flush floor trunking, including all trunking fittings, tee, cross over, riser bend, outlet box and other accessories, manufactured from 1.6 mm galvanized steel, lids of 3 mm galvanized steel, flush or recessed covers : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28514	153 mm x 38 mm (2 compartments) trunking	260.40	19.27	23.75	70.50	28514
28515	228 mm x 38 mm (3 compartments) trunking	321.44	23.11	28.46	86.90	28515
	<i>Each</i>					
28516	153 mm x 38 mm (2 compartments) junction box	471.75	12.84	16.19	47.81	28516
28517	228 mm x 38 mm (3 compartments) junction box	527.78	16.19	20.06	59.82	28517
	Underfloor trunking, including all trunking fittings, tee, cross over, riser bend, outlet box and other accessories, manufactured from 1.6 mm galvanized steel, lids of 3 mm galvanized steel, flush or recessed covers : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28518	153 mm x 38 mm (2 compartments) trunking	103.28	19.27	23.75	70.50	28518
28519	228 mm x 38 mm (3 compartments) trunking	119.96	23.11	28.46	86.90	28519

Item					Item	
	CABLE TRUNKING AND CABLE TRAY (CONT'D)					
	Underfloor trunking, including all trunking fittings, tee, cross over, riser bend, outlet box and other accessories, manufactured from 1.6 mm galvanized steel, lids of 3 mm galvanized steel, flush or recessed covers : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
28520	153 mm x 38 mm (2 compartments) junction box	187.09	12.84	16.19	47.81	28520
28521	228 mm x 38 mm (3 compartments) junction box	196.98	16.19	20.06	116.15	28521
	Skirting trunking, including all trunking fittings, riser bend, outlet lid and other accessories, manufactured from 1.6 mm sheet steel, stove epoxy polyester powder finish : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28522	153 mm x 38 mm (2 compartments)	205.78	19.27	23.75	70.50	28522
28523	225 mm x 50 mm (2 compartments)	272.36	23.11	28.46	88.09	28523
28524	228 mm x 38 mm (3 compartments)	271.01	23.11	28.46	86.90	28524
28525	228 mm x 50 mm (3 compartments)	273.64	23.68	28.92	89.01	28525
28526	300 mm x 50 mm (3 compartments)	368.54	28.46	35.11	106.64	28526
	Sill trunking, including all trunking fittings, riser bend, outlet lid and other accessories, manufactured from 1.2 mm sheet steel, stove epoxy polyester powder finish : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28527	102 mm x 38 mm (2 compartments)	182.28	19.27	23.75	70.50	28527
28528	153 mm x 38 mm (2 compartments)	205.78	19.27	23.75	70.50	28528

Item					Item	
	CABLE TRUNKING AND CABLE TRAY (CONT'D)					
	Galvanized metal sheet tray suspended from ceiling soffit, including all fittings, cross, tee, bend and other accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28529	75 mm wide	116.39	15.26	19.09	60.95	28529
28530	100 mm wide	139.89	16.18	20.03	67.34	28530
28531	150 mm wide	165.74	17.47	21.24	72.13	28531
28532	225 mm wide	199.87	19.20	23.71	79.85	28532
28533	300 mm wide	242.48	19.85	24.44	83.28	28533
28534	450 mm wide	297.88	23.07	28.40	93.50	28534
28535	600 mm wide	362.62	24.41	31.13	100.37	28535
	<i>Each</i>					
28536	650 mm high power post, anodised aluminium body with uPVC cover, twin compartments in cross-section of 100 x 100 mm, composed of one full length post body, two full length cover section, 5 nos. outlet box assembly, one end load plate, one top cover, one end load plate, one earth link strap, and all necessary accessories	1,486.62	27.21	33.15	103.44	28536
28537	3.6 m high power post, anodised aluminium body with uPVC cover, twin compartments in cross-section of 100 x 100 mm, composed of one full length post body, two full length cover section, two 3 m long dividing strip, 6 nos. outlet box assembly, one end load plate, one top end collar with jacking assembly, two end load plate, 3 nos. earth link strap, and all necessary accessories	4,357.69	253.56	310.41	931.09	28537
	3 compartments PVC trunking to IEC 1084-1 or BS4678 part 4, size 145 mm x 40 mm :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
28538	Straight section of trunking, including blank end, cover and fixing accessories	921.45	22.45	27.72	85.04	28538
	<i>Each</i>					
28539	Angle unit - flat, external or internal, including cover	193.26	16.14	19.94	62.26	28539
28540	Flat tee unit, including cover	211.81	16.14	19.94	62.26	28540

Item									Item
CABLE TRUNKING AND CABLE TRAY (CONT'D)									
Plastic cable tray									
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only				
		A \$	B \$	C \$	D \$				
<i>Per linear metre</i>									
28541	Plastic cable tray, 150 mm wide	433.13	14.81	18.61	59.82	28541			
Stainless steel weatherproof cable trunking, size 100 x 100 mm :-									
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only				
		A \$	B \$	C \$	D \$				
<i>Per linear metre</i>									
28542	Straight section of trunking, including blank end, cover and fixing accessories	307.83	19.85	24.44	89.18	28542			
<i>Each</i>									
28543	Extra over trunking for flat tee unit, including cover and connector	243.92	13.89	17.63	54.53	28543			
28544	Extra over trunking for elbow - flat, internal or external, including cover and connector	223.21	13.89	17.63	54.53	28544			
Glass Reinforced Polyester (GRP) cable tray c/w hangers at 1.5m support span :-									
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only				
		A \$	B \$	C \$	D \$				
<i>Per linear metre</i>									
28545	200 mm width	634.17	15.75	19.72	64.46	28545			
28546	300 mm width	730.68	15.75	19.72	64.46	28546			
Stainless steel 304 sheet tray suspended from ceiling soffit, including all fittings, cross, tee, bend and other accessories :-									
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only				
		A \$	B \$	C \$	D \$				
<i>Per linear metre</i>									
28547	200 mm wide	137.19	18.61	22.88	77.29	28547			
28548	300 mm wide	198.41	19.85	24.44	83.28	28548			

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	SIMPLIFIED ITEMS					
	Section 1 : Installation by galvanized steel surface conduit system/ concealed conduit system					
	Power point : -					
	Power point c/w conduits, trunking, boxes, PVC cables and all necessary accessories (socket outlet, switch, fuse spur, connection unit, RCD and the like to be measured separately), same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables					
	<i>Each</i>					
28549	Single phase, 13A or below	529.66	117.96	-	-	28549
28550	Single phase, 13 - 20A	698.26	141.07	-	-	28550
28551	Single phase, 20 - 45A	771.26	141.07	-	-	28551
28552	Three phases, 45A or below	987.02	141.07	-	-	28552
28553	Three phases, 45 - 65A	1,237.60	141.07	-	-	28553
28554	Extra over power point for twin type outlet	4.53	-	-	-	28554
	Add 13% to either of Items 28549 to 28554 inclusive for provision of circuit protective conductor to MCB board in full length of conduit					
	Power point c/w conduits, trunking, boxes, OHLS cables and all necessary accessories (socket outlet, switch, fuse spur, connection unit, RCD and the like to be measured separately), same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables					
	<i>Each</i>					
28555	Single phase, 13A or below	622.17	117.96	-	-	28555
28556	Single phase, 13 - 20A	765.34	141.85	-	-	28556
28557	Single phase, 20 - 45A	808.50	141.85	-	-	28557
28558	Three phases, 45A or below	1,080.10	141.85	-	-	28558
28559	Three phases, 45 - 65A	1,338.04	141.85	-	-	28559
28560	Extra over power point for twin type outlet	4.63	-	-	-	28560
	Add 16% to either of Items 28555 to 28560 inclusive for provision of circuit protective conductor to MCB board in full length of conduit					
	Door bell point : -					
	<i>Each</i>					
28561	Door bell point c/w conduits, boxes, PVC cables and all necessary accessories, same rate as (supply & fix) rate will be made even if there is no provision of new concealed conduit facilities, but the rate shall further include the taking down and clearing away of existing cables	470.74	117.96	-	-	28561

Item								Item
SIMPLIFIED ITEMS (CONT'D)								
Section 1 : Installation by galvanized steel surface conduit system/ concealed conduit system (Cont'd)								
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
Telephone, LAN and services outlet point : -								
<i>Each</i>								
28562	Telephone point/ LAN point/ services point c/w trunking, conduit, boxes, draw wire, blank plate and all necessary accessories.	467.55	82.28	-	-			28562
Section 2 : Installation by PVC surface conduit system								
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
Power point : -								
Power point c/w conduits, trunking, boxes, PVC cables, circuit protective conductor and all necessary accessories (socket outlet, switch, fuse spur, connection unit, RCD and the like to be measured separately)								
<i>Each</i>								
28563	Single phase, 13A or below	472.55	85.04	-	-			28563
28564	Single phase, 13 - 20A	562.68	103.94	-	-			28564
28565	Single phase, 20 - 45A	625.30	103.94	-	-			28565
28566	Three phases, 45A or below	926.39	103.94	-	-			28566
28567	Three phases, 45 - 65A	1,145.09	103.94	-	-			28567
28568	Extra over power point for twin type outlet	2.71	-	-	-			28568
Door bell point : -								
<i>Each</i>								
28569	Door bell point c/w conduits, boxes, PVC cables and all necessary accessories	354.22	85.00	-	-			28569
Telephone, LAN and services outlet point : -								
<i>Each</i>								
28570	Telephone point/ LAN point/ service point c/w trunking, conduit, boxes, draw wire, blank plate and all necessary accessories	231.92	52.90	-	-			28570

Item					Item
	SIMPLIFIED ITEMS (CONT'D)				
	Section 3 : Installation by surface wiring system				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Power point c/w PVC/ PVC cables, circuit protective conductor, boxes and all necessary accessories (socket outlet, switch, fuse spur, connection unit, RCD and the like to be measured separately)				
	<i>Each</i>				
28571	Single phase, 13A or below	383.17	37.61	-	-
28572	Single phase, 13 - 20A	474.86	40.22	-	-
28573	Single phase, 20 - 45A	547.63	40.22	-	-
28574	Three phases, 45A or below	705.87	40.22	-	-
28575	Three phases, 45 - 65A	878.02	40.22	-	-
	Door bell point : -				
	<i>Each</i>				
28576	Door bell point c/w PVC/ PVC cables, circuit protective conductor, boxes and all necessary accessories.	264.08	37.61	-	-

Section 29

ELECTRICAL INSTALLATION -

MAIN DISTRIBUTION SYSTEMS

Item					Item	
	CABLES (COPPER)					
	300/ 500V TRS or PVC sheathed flexible cords, twisted core to IEC 60245 or BS 6500 or acceptable recognized international standard, such as BS 7919 :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29001	0.5 mm ² 2-core	24.19	1.95	2.41	6.16	29001
29002	0.75 mm ² 2-core	24.60	1.95	2.41	6.16	29002
29003	1.5 mm ² 2-core	27.41	1.95	2.41	6.16	29003
29004	0.75 mm ² 3-core	25.70	1.95	2.41	6.16	29004
29005	1.5 mm ² 3-core	31.80	1.95	2.41	6.16	29005
29006	2.5 mm ² 3-core	34.61	1.95	2.41	6.16	29006
29007	0.5 mm ² 2-core, PVC flexible cords, unsheathed	23.92	1.95	2.41	6.16	29007
29008	0.75 mm ² 2-core, PVC flexible cords, unsheathed	24.46	1.95	2.41	6.16	29008
29009	0.75 mm ² 3-core, PVC flexible cords, unsheathed	25.49	1.95	2.41	6.16	29009
	450/ 750V PVC insulated cable, all colours, to IEC 60227-3, drawn into conduits/ trunkings (conduits and trunkings measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29010	1.5 mm ² 1 core	5.72	0.75	0.94	2.34	29010
29011	2.5 mm ² ditto	7.09	0.75	0.94	2.34	29011
29012	4 mm ² ditto	9.82	0.75	0.94	2.34	29012
29013	6 mm ² ditto	14.40	1.12	1.27	3.13	29013
29014	10 mm ² ditto	24.96	1.12	1.27	3.13	29014
29015	16 mm ² ditto	31.28	1.12	1.27	3.13	29015
29016	25 mm ² ditto	45.17	1.29	1.51	4.06	29016
29017	35 mm ² ditto	63.55	1.29	1.51	4.06	29017
29018	50 mm ² ditto	84.31	1.51	1.95	4.75	29018
29019	70 mm ² ditto	112.91	2.61	2.88	7.51	29019
29020	95 mm ² ditto	153.85	2.83	3.47	8.97	29020
29021	120 mm ² ditto	210.41	3.54	4.37	12.01	29021
29022	150 mm ² ditto	342.73	4.23	5.13	14.71	29022
29023	185 mm ² ditto	409.16	5.28	6.62	18.15	29023
29024	240 mm ² ditto	598.31	6.12	7.71	21.18	29024

Item						Item
	CABLES (COPPER) (CONT'D)					
	450/ 750V PVC insulated cable, all colours, to IEC 60227-3, drawn into conduits/ trunkings (conduits and trunkings measured separately) : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29025	300 mm ² 1 core	723.67	6.12	7.71	21.18	29025
29026	400 mm ² ditto	884.50	6.12	7.71	21.18	29026
29027	500 mm ² ditto	1,169.89	6.62	8.24	25.13	29027
29028	630 mm ² ditto	1,442.63	6.95	8.72	26.71	29028
	PVC insulated and PVC sheathed all colours, to IEC 60502-1 (for cables of 600/ 1000V with CSA 50 mm ² & above), c/w brass buckle clips or brass fasteners, or fixed to cable trays, or fixed in conduits/ trunkings (cable trays, conduits and trunkings measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29029	1.5 mm ² 1 core	16.27	2.88	3.54	7.51	29029
29030	2.5 mm ² ditto	20.54	2.88	3.54	7.51	29030
29031	4 mm ² ditto	30.67	3.47	4.14	8.98	29031
29032	6 mm ² ditto	40.91	3.47	4.14	8.98	29032
29033	10 mm ² ditto	50.93	3.47	4.14	8.98	29033
29034	16 mm ² ditto	57.77	3.47	4.14	8.98	29034
29035	25 mm ² ditto	97.86	4.90	5.68	13.39	29035
29036	35 mm ² ditto	110.53	4.90	5.68	13.39	29036
29037	50 mm ² ditto	169.09	4.90	5.68	13.39	29037
29038	70 mm ² ditto	202.12	6.42	7.56	17.76	29038
29039	95 mm ² ditto	223.39	8.09	9.66	22.49	29039
29040	120 mm ² ditto	248.79	9.55	11.14	26.46	29040
29041	150 mm ² ditto	365.86	11.49	13.55	31.65	29041
29042	185 mm ² ditto	372.48	12.61	14.96	34.98	29042
29043	240 mm ² ditto	472.52	15.67	18.68	43.72	29043
29044	300 mm ² ditto	578.15	19.72	23.36	54.76	29044
29045	400 mm ² ditto	698.05	22.79	26.87	63.27	29045
29046	500 mm ² ditto	911.99	26.52	31.24	73.64	29046

Item					Item	
	CABLES (COPPER) (CONT'D)					
	PVC insulated and PVC sheathed all colours, to IEC 60502-1 (for cables of 600/ 1000V with CSA 50 mm ² & above), c/w brass buckle clips or brass fasteners, or fixed to cable trays, or fixed in conduits/ trunkings (cable trays, conduits and trunkings measured separately) : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29047	630 mm ² 1 core	1,098.11	29.39	34.70	81.26	29047
29048	800 mm ² ditto	1,690.86	38.01	44.99	105.93	29048
29049	1000 mm ² ditto	1,989.46	49.39	58.43	137.20	29049
29050	1.5 mm ² 2-core	19.59	3.47	4.15	9.10	29050
29051	2.5 mm ² ditto	26.16	4.62	5.42	12.19	29051
29052	4 mm ² ditto	36.76	4.92	5.73	13.46	29052
29053	6 mm ² ditto	48.15	4.92	5.73	13.46	29053
29054	10 mm ² ditto	86.41	4.98	5.92	14.74	29054
29055	16 mm ² ditto	115.51	6.47	7.59	17.82	29055
29056	25 mm ² ditto	186.80	7.09	8.40	19.64	29056
	450/ 750V low emission and corrosive gases, thermosetting insulated, non-sheathed, single core cable to BS 7211 drawn into conduits/ trunkings (conduits and trunkings measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29057	1.5 mm ² 1 core	7.45	0.75	0.94	2.34	29057
29058	2.5 mm ² ditto	8.53	0.75	0.94	2.34	29058
29059	4 mm ² ditto	11.84	0.75	0.94	2.34	29059
29060	6 mm ² ditto	17.45	1.12	1.38	3.36	29060
29061	10 mm ² ditto	30.19	1.12	1.38	3.36	29061
29062	16 mm ² ditto	39.36	1.12	1.38	3.36	29062
29063	25 mm ² ditto	55.92	1.38	1.56	4.15	29063
29064	35 mm ² ditto	78.46	1.38	1.56	4.15	29064
29065	50 mm ² ditto	96.52	1.56	2.03	4.75	29065
29066	70 mm ² ditto	131.19	2.49	2.79	7.27	29066
29067	95 mm ² ditto	187.11	2.86	3.50	8.99	29067
29068	120 mm ² ditto	247.09	3.58	4.38	12.23	29068

Item					Item	
	CABLES (COPPER) (CONT'D)					
	450/ 750V low emission and corrosive gases, thermosetting insulated, non-sheathed, single core cable to BS 7211 drawn into conduits/ trunkings (conduits and trunkings measured separately) : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29069	150 mm ² 1 core	341.18	4.42	5.42	14.89	29069
29070	185 mm ² ditto	477.05	5.30	6.62	18.09	29070
29071	240 mm ² ditto	599.95	6.42	7.86	20.46	29071
29072	300 mm ² ditto	770.06	6.42	7.86	20.46	29072
29073	400 mm ² ditto	930.41	6.42	7.86	20.46	29073
29074	500 mm ² ditto	1,413.21	7.04	8.61	24.57	29074
29075	630 mm ² ditto	1,788.39	7.33	9.11	26.57	29075
	450/ 750V low emission of smoke and corrosive gases, thermosetting insulated and sheathed cable to BS 7211, c/w brass buckle clips or brass fasteners, or fixed to cable trays, or fixed in conduits/ trunkings (cable trays, conduits and trunkings measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29076	1.5 mm ² 2-core	71.94	3.31	3.99	9.10	29076
29077	2.5 mm ² ditto	78.70	4.37	5.24	12.29	29077
29078	4 mm ² ditto	91.78	4.92	5.73	13.47	29078
29079	6 mm ² ditto	101.10	4.92	5.73	13.47	29079
29080	10 mm ² ditto	133.41	5.28	6.28	14.96	29080
29081	16 mm ² ditto	169.43	6.23	7.42	18.17	29081
29082	25 mm ² ditto	232.35	7.11	8.42	19.70	29082
29083	35 mm ² ditto	321.43	7.62	8.93	20.54	29083
29084	1.5 mm ² 4-core	93.98	4.92	5.73	13.47	29084
29085	2.5 mm ² ditto	102.39	5.28	6.23	14.96	29085
29086	4 mm ² ditto	145.87	6.23	7.42	18.17	29086
29087	6 mm ² ditto	167.81	7.11	8.42	19.70	29087
29088	10 mm ² ditto	208.70	7.62	8.93	20.54	29088
29089	16 mm ² ditto	258.62	8.11	9.33	22.49	29089
29090	25 mm ² ditto	386.15	8.87	10.22	24.66	29090
29091	35 mm ² ditto	449.72	9.38	10.74	26.67	29091

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
CABLES (COPPER) (CONT'D)						
600/ 1000V low emission of smoke and corrosive gases, cross-linked polyethylene insulated and sheathed, steel wire armoured cable to IEC 60502-01, c/w cleats or saddles or fixed to cable trays (cable trays measured separately) :-						
<i>Per linear metre</i>						
29092	1.5 mm ² 2-core	93.72	7.45	9.10	26.34	29092
29093	2.5 mm ² ditto	98.38	7.45	9.10	26.34	29093
29094	4 mm ² ditto	119.34	13.16	17.40	50.65	29094
29095	6 mm ² ditto	129.40	13.16	17.40	50.65	29095
29096	10 mm ² ditto	169.13	16.57	20.40	62.57	29096
29097	16 mm ² ditto	196.39	16.57	20.40	62.57	29097
29098	25 mm ² ditto	262.82	19.07	23.90	72.99	29098
29099	35 mm ² ditto	333.21	20.84	25.92	78.31	29099
29100	50 mm ² ditto	453.40	20.97	26.11	79.37	29100
29101	70 mm ² ditto	679.86	24.18	30.48	88.22	29101
29102	95 mm ² ditto	829.35	25.55	31.32	97.25	29102
29103	120 mm ² ditto	1,002.20	26.79	33.82	104.76	29103
29104	150 mm ² ditto	1,353.82	30.00	37.96	116.23	29104
29105	1.5 mm ² 4-core	141.53	15.36	19.14	58.32	29105
29106	2.5 mm ² ditto	161.41	16.57	20.40	62.57	29106
29107	4 mm ² ditto	200.09	17.28	21.75	64.44	29107
29108	6 mm ² ditto	212.25	18.17	23.19	71.46	29108
29109	10 mm ² ditto	234.06	19.11	24.63	74.20	29109
29110	16 mm ² ditto	281.55	20.59	25.36	75.28	29110
29111	25 mm ² ditto	380.50	20.69	25.46	78.24	29111
29112	35 mm ² ditto	436.86	21.40	26.34	80.31	29112
29113	50 mm ² ditto	515.09	21.50	26.57	81.44	29113
29114	70 mm ² ditto	620.70	23.02	29.33	87.17	29114
29115	95 mm ² ditto	857.05	26.49	31.47	97.64	29115
<i>Per linear metre</i>						
29116	120 mm ² 4-core	1,006.86	26.70	33.69	104.33	29116
29117	150 mm ² ditto	1,287.22	29.90	37.80	115.77	29117
29118	185 mm ² ditto	1,384.57	33.08	40.99	124.10	29118
29119	240 mm ² ditto	1,775.92	34.77	43.46	135.53	29119
29120	300 mm ² ditto	2,112.12	37.71	47.15	143.14	29120
29121	400 mm ² ditto	2,684.09	39.05	49.10	150.14	29121

Item					Item	
	CABLES (COPPER) (CONT'D)					
	300/ 500V PVC insulated and PVC sheathed, all colours cores, to IEC 60227-4, c/w brass buckle clips or brass fasteners, or fixed to cable trays, or fixed in conduits/ trunkings (cable trays, conduits and trunkings measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29122	1.5 mm ² 2-core with E.C.C.	19.57	3.28	3.91	8.97	29122
29123	2.5 mm ² ditto	24.60	3.28	3.91	8.97	29123
29124	4 mm ² ditto	38.74	4.87	5.66	13.35	29124
29125	6 mm ² ditto	49.45	4.87	5.66	13.35	29125
29126	10 mm ² ditto	91.10	6.18	7.35	17.99	29126
29127	16 mm ² ditto	116.24	6.18	7.35	17.99	29127
	450/ 750V PVC insulated or ethylene-vinylacetate rubber insulated or other equivalent synthetic insulated, heat resistant, single core, copper cable to IEC 60245-7, all colours, drawn into conduits/ trunking (conduits and trunkings measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29128	1.5 mm ² 1 core	6.05	0.75	0.94	2.34	29128
29129	2.5 mm ² ditto	7.63	0.75	0.94	2.34	29129
29130	4 mm ² ditto	10.43	0.75	0.94	2.34	29130
29131	6 mm ² ditto	16.28	1.12	1.38	3.36	29131
29132	10 mm ² ditto	28.58	1.12	1.38	3.36	29132
	<i>Per linear metre</i>					
29133	16 mm ² 1 core	40.10	1.12	1.38	3.36	29133
29134	25 mm ² ditto	56.40	1.38	1.56	4.15	29134
29135	35 mm ² ditto	84.49	1.38	1.56	4.15	29135
29136	50 mm ² ditto	118.04	1.56	2.03	4.75	29136
29137	70 mm ² ditto	161.78	2.49	2.79	7.27	29137
29138	95 mm ² ditto	220.94	2.86	3.50	8.99	29138
29139	120 mm ² ditto	299.36	3.40	4.19	11.58	29139
29140	150 mm ² ditto	470.81	4.42	5.42	14.89	29140
29141	185 mm ² ditto	588.72	5.07	6.23	17.99	29141
29142	240 mm ² ditto	751.33	5.91	7.27	20.31	29142

Item					Item	
	CABLES (COPPER) (CONT'D)					
	600/ 1000V PVC insulated and sheathed single steel wire armoured and PVC sheathed overall to IEC 60502-1 c/w cleats or saddles or fixed to cable trays (cable trays measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29143	1.5 mm ² 2-core	59.82	7.49	9.11	26.45	29143
29144	2.5 mm ² ditto	65.25	7.49	9.11	26.45	29144
29145	4 mm ² ditto	101.28	13.21	17.47	50.83	29145
29146	6 mm ² ditto	113.86	13.21	17.47	50.83	29146
29147	10 mm ² ditto	162.79	16.66	20.48	62.77	29147
29148	16 mm ² ditto	168.16	16.66	20.48	62.77	29148
29149	25 mm ² ditto	287.84	17.41	21.40	66.32	29149
29150	35 mm ² ditto	359.48	18.34	22.51	67.79	29150
29151	50 mm ² ditto	478.34	18.50	22.66	68.70	29151
29152	70 mm ² ditto	690.59	31.65	38.63	115.40	29152
29153	95 mm ² ditto	906.24	33.43	40.67	119.28	29153
29154	120 mm ² ditto	1,112.64	35.21	42.70	123.18	29154
29155	1.5 mm ² 4-core	109.11	15.62	19.28	59.42	29155
29156	2.5 mm ² ditto	119.77	16.66	20.48	62.77	29156
29157	4 mm ² ditto	143.10	17.35	21.84	64.68	29157

Item					Item	
	CABLES (COPPER) (CONT'D)					
	600/ 1000V PVC insulated and sheathed single steel wire armoured and PVC sheathed overall to IEC 60502-1 c/w cleats or saddles or fixed to cable trays (cable trays measured separately) : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29158	6 mm ² 4-core	149.62	18.27	23.28	71.76	29158
29159	10 mm ² ditto	196.72	19.21	24.75	74.50	29159
29160	16 mm ² ditto	221.07	19.53	25.10	75.60	29160
29161	25 mm ² ditto	271.32	20.76	25.63	78.57	29161
29162	35 mm ² ditto	342.73	21.49	26.46	80.67	29162
29163	50 mm ² ditto	452.55	21.58	26.67	81.79	29163
29164	70 mm ² ditto	581.50	23.11	29.48	87.53	29164
29165	95 mm ² ditto	710.71	26.58	31.57	98.02	29165
29166	120 mm ² ditto	866.24	26.89	33.97	105.16	29166
29167	150 mm ² ditto	1,290.51	30.13	38.13	116.74	29167
29168	185 mm ² ditto	1,350.06	33.35	41.29	125.11	29168
29169	240 mm ² ditto	1,688.08	34.77	43.46	135.53	29169
29170	300 mm ² ditto	1,977.60	37.71	47.15	143.14	29170
29171	400 mm ² ditto	2,526.25	39.05	49.10	150.14	29171
29172	1.5 mm ² 7-core	209.75	19.05	24.49	73.89	29172
29173	1.5 mm ² 12-core	259.89	19.05	24.49	73.89	29173
29174	1.5 mm ² 19-core	338.18	21.82	27.41	82.50	29174
29175	1.5 mm ² 27-core	425.95	21.89	27.76	83.98	29175
29176	1.5 mm ² 37-core	486.58	23.79	29.98	89.29	29176
29177	1.5 mm ² 48-core	844.10	25.19	31.20	94.74	29177
29178	2.5 mm ² 7-core	263.66	22.91	29.21	86.81	29178
29179	2.5 mm ² 12-core	326.92	22.91	29.21	86.81	29179
29180	2.5 mm ² 19-core	450.79	25.00	30.62	92.58	29180
29181	2.5 mm ² 27-core	568.10	25.81	32.74	96.64	29181
29182	2.5 mm ² 37-core	953.23	26.51	33.54	98.71	29182
29183	2.5 mm ² 48-core	1,502.26	27.39	34.69	101.81	29183

Item					Item	
	CABLES (COPPER) (CONT'D)					
	Fire resistant, low emission of smoke and corrosive gases, thermosetting insulated and sheathed, steel wire armoured multi-core cable to BS 7846 (for voltage rating 600/ 1000V) c/w cleats or saddles, or fixed to cable trays, or fixed in conduits/ trunkings (cable trays, conduits and trunkings measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29184	1.5 mm ² 2-core	125.76	7.45	9.10	26.30	29184
29185	2.5 mm ² ditto	153.78	7.45	9.10	26.33	29185
29186	4 mm ² ditto	195.68	13.16	17.35	50.54	29186
29187	6 mm ² ditto	201.07	13.16	17.35	50.54	29187
29188	10 mm ² ditto	227.54	16.51	20.37	62.40	29188
29189	16 mm ² ditto	250.11	16.51	20.37	62.40	29189
29190	25 mm ² ditto	388.89	19.02	23.85	72.86	29190
29191	35 mm ² ditto	433.15	20.78	25.88	78.12	29191
29192	50 mm ² ditto	565.96	20.97	26.04	79.18	29192
29193	70 mm ² ditto	792.63	22.20	29.19	86.67	29193
29194	95 mm ² ditto	986.20	25.54	31.28	97.07	29194
29195	120 mm ² ditto	1,285.80	26.78	33.75	104.57	29195
29196	150 mm ² ditto	1,521.51	29.96	37.88	116.03	29196
29197	185 mm ² ditto	1,672.02	33.14	41.02	124.35	29197
29198	240 mm ² ditto	2,053.09	34.85	43.56	135.83	29198
29199	300 mm ² ditto	2,488.00	37.74	47.25	143.41	29199
29200	400 mm ² ditto	2,946.17	39.17	49.21	150.43	29200

Item					Item	
	CABLES (COPPER) (CONT'D)					
	Fire resistant, low emission of smoke and corrosive gases, thermosetting insulated and sheathed, steel wire armoured multi-core cable to BS 7846 (for voltage rating 600/ 1000V) or BS 7629-1 (for voltage rating 300/ 500V), c/w cleats or saddles, or fixed to cable trays, or fixed in conduits/ trunkings (cable trays, conduits and trunkings measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29201	1.5 mm ² 4-core	170.61	15.62	19.28	59.42	29201
29202	2.5 mm ² ditto	202.50	16.66	20.51	62.77	29202
29203	4 mm ² ditto	222.17	17.35	21.84	64.68	29203
29204	6 mm ² ditto	264.07	18.27	23.28	71.76	29204
29205	10 mm ² ditto	311.89	19.21	24.75	74.55	29205
29206	16 mm ² ditto	350.40	20.69	25.46	75.60	29206
29207	25 mm ² ditto	484.44	20.76	25.55	78.57	29207
29208	35 mm ² ditto	544.04	21.49	26.46	80.67	29208
29209	50 mm ² ditto	686.72	21.58	26.67	81.79	29209
29210	70 mm ² ditto	871.67	23.11	29.48	87.53	29210
29211	95 mm ² ditto	1,017.57	26.58	31.57	98.02	29211
29212	120 mm ² ditto	1,196.91	26.89	33.97	105.16	29212
29213	150 mm ² ditto	1,443.90	30.13	38.14	116.74	29213
29214	185 mm ² ditto	1,564.80	33.35	41.29	125.11	29214
29215	240 mm ² ditto	1,961.62	35.08	43.82	136.66	29215
29216	300 mm ² ditto	2,305.56	37.98	47.55	144.27	29216
29217	400 mm ² ditto	2,849.09	39.40	49.53	151.35	29217

Item					Item	
	CABLES (COPPER) (CONT'D)					
	600/ 1000V fire resistant, low emission of smoke and corrosive gases insulated, non-sheathed, single core cables to IEC 60332-1, IEC 61034-2, IEC 60754-1 and BS 6387 Cat. CWZ in conduits or trunkings (conduits and trunkings measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29218	1.5 mm ²	32.65	2.26	3.07	7.41	29218
29219	2.5 mm ²	35.41	2.26	3.07	7.41	29219
29220	4 mm ²	42.40	2.55	3.36	8.60	29220
29221	6 mm ²	49.73	2.55	3.36	8.60	29221
29222	10 mm ²	94.75	2.55	3.36	8.60	29222
29223	16 mm ²	123.15	2.55	3.36	8.60	29223
29224	25 mm ²	163.41	3.50	4.32	13.36	29224
29225	35 mm ²	361.91	3.50	4.32	13.36	29225
29226	50 mm ²	409.65	3.50	4.32	13.36	29226
29227	70 mm ²	507.84	4.92	5.82	18.27	29227
29228	95 mm ²	605.59	5.83	8.03	21.40	29228
29229	120 mm ²	712.48	7.51	9.15	26.51	29229
29230	150 mm ²	896.49	8.26	10.03	31.46	29230
29231	185 mm ²	992.69	9.83	12.38	36.21	29231
29232	240 mm ²	1,182.75	12.23	14.61	44.74	29232
29233	300 mm ²	1,318.44	14.14	18.00	55.04	29233
29234	400 mm ²	1,534.13	16.66	20.54	62.90	29234
29235	500 mm ²	1,832.02	19.15	24.05	73.44	29235
29236	630 mm ²	2,335.45	23.15	29.53	87.71	29236

Item	Item								
CABLES (COPPER) (CONT'D)									
600/ 1000V PVC insulated and sheathed single steel wire armoured and PVC sheathed overall to IEC 60502-1, laid in trench or cable ducts including suitable cable bed (excavation backfilling and cable ducts measured separately) : -									
	<table border="1"> <thead> <tr> <th style="text-align: center;">Supply and fix</th> <th style="text-align: center;">Take down and clear away</th> <th style="text-align: center;">Take down and set aside for re-use</th> <th style="text-align: center;">Fix only</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> </tr> </thead> </table>	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	A \$	B \$	C \$	D \$
Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only						
A \$	B \$	C \$	D \$						
<i>Per linear metre</i>									
29237	1.5 mm ² 2-core 29237								
29238	2.5 mm ² ditto 29238								
29239	4 mm ² ditto 29239								
29240	6 mm ² ditto 29240								
29241	10 mm ² ditto 29241								
29242	16 mm ² ditto 29242								
29243	25 mm ² ditto 29243								
29244	35 mm ² ditto 29244								
29245	50 mm ² ditto 29245								
29246	1.5 mm ² 4-core 29246								
29247	2.5 mm ² ditto 29247								
29248	4 mm ² ditto 29248								
29249	6 mm ² ditto 29249								
29250	10 mm ² ditto 29250								
29251	16 mm ² ditto 29251								
29252	25 mm ² ditto 29252								
29253	35 mm ² ditto 29253								
29254	50 mm ² ditto 29254								
29255	70 mm ² ditto 29255								
29256	95 mm ² ditto 29256								
29257	120 mm ² ditto 29257								
29258	150 mm ² ditto 29258								

Item					Item	
	CABLES (COPPER) (CONT'D)					
	600/ 1000V PVC insulated and sheathed single steel wire armoured and PVC sheathed overall to IEC 60502-1, laid in trench or cable ducts including suitable cable bed (excavation backfilling and cable ducts measured separately) : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29259	185 mm ² 4-core	1,246.37	17.99	22.88	69.09	29259
29260	240 mm ² ditto	1,549.56	20.77	25.44	77.41	29260
29261	300 mm ² ditto	1,863.34	23.45	28.91	86.92	29261
29262	400 mm ² ditto	2,392.59	24.18	29.87	91.61	29262
29263	1.5 mm ² 7-core	170.89	12.75	15.29	48.09	29263
29264	1.5 mm ² 12-core	225.22	12.75	15.29	48.09	29264
29265	1.5 mm ² 19-core	303.04	16.86	20.71	59.90	29265
29266	1.5 mm ² 27-core	385.22	16.86	20.71	59.90	29266
29267	1.5 mm ² 37-core	454.98	16.86	20.71	62.66	29267
29268	1.5 mm ² 48-core	780.29	16.86	20.71	62.66	29268
29269	2.5 mm ² 7-core	245.01	16.10	20.09	59.64	29269
29270	2.5 mm ² 12-core	311.27	16.10	20.09	59.64	29270
29271	2.5 mm ² 19-core	415.11	16.84	21.50	64.52	29271
29272	2.5 mm ² 27-core	538.47	17.52	22.26	65.69	29272
29273	2.5 mm ² 37-core	920.61	18.22	23.75	70.04	29273
29274	2.5 mm ² 48-core	1,403.66	18.26	23.83	71.37	29274

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
CABLES (COPPER) (CONT'D)						
Mineral insulated copper sheathed, 750V (heavy duty grade) cable to IEC 60702-1 and IEC 60702-2, c/w spacing bar type saddles :-						
<i>Per linear metre</i>						
29275	6 mm ² 1-core	109.61	9.10	11.59	33.99	29275
29276	10 mm ² ditto	163.60	9.10	11.66	35.01	29276
29277	16 mm ² ditto	203.07	10.49	13.92	39.74	29277
29278	25 mm ² ditto	259.74	12.01	14.79	41.87	29278
29279	35 mm ² ditto	470.60	13.00	15.59	45.39	29279
29280	50 mm ² ditto	536.02	13.81	17.10	47.55	29280
29281	70 mm ² ditto	631.09	14.79	18.68	51.49	29281
29282	95 mm ² ditto	789.94	18.67	23.32	65.77	29282
29283	120 mm ² ditto	928.75	18.67	23.32	65.77	29283
29284	150 mm ² ditto	1,128.64	18.67	23.32	65.77	29284
29285	185 mm ² ditto	1,308.38	19.41	24.81	70.29	29285
29286	240 mm ² ditto	1,600.02	21.15	25.96	73.76	29286
29287	1.5 mm ² 2-core	100.11	8.12	9.81	31.20	29287
29288	2.5 mm ² ditto	113.18	9.10	11.59	33.99	29288
29289	4 mm ² ditto	132.49	9.10	11.66	35.01	29289
29290	6 mm ² ditto	162.40	10.19	12.53	37.36	29290
29291	10 mm ² ditto	214.15	10.49	13.92	39.74	29291
29292	16 mm ² ditto	262.53	12.01	14.74	41.88	29292
29293	25 mm ² ditto	412.90	12.51	14.97	45.63	29293
29294	1.5 mm ² 3-core	115.53	8.61	10.70	32.60	29294
29295	2.5 mm ² ditto	128.63	9.10	11.63	34.50	29295
29296	4 mm ² ditto	159.73	9.49	12.27	36.23	29296
29297	6 mm ² ditto	197.34	10.35	13.23	38.54	29297
29298	10 mm ² ditto	261.78	11.24	14.34	40.82	29298
29299	16 mm ² ditto	340.50	12.26	14.86	43.75	29299
29300	25 mm ² ditto	495.12	13.00	15.77	47.18	29300
<i>Per linear metre</i>						
29301	1.5 mm ² 4-core	122.75	9.10	11.59	33.99	29301
29302	2.5 mm ² ditto	134.97	9.10	11.66	35.01	29302
29303	4 mm ² ditto	175.61	9.89	12.88	37.44	29303
29304	6 mm ² ditto	218.34	10.49	13.92	39.74	29304
29305	10 mm ² ditto	290.84	12.01	14.74	41.88	29305
29306	16 mm ² ditto	394.37	12.51	14.97	45.63	29306
29307	25 mm ² ditto	542.23	13.46	16.57	48.73	29307

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
CABLES (COPPER) (CONT'D)						
Mineral insulated copper sheathed, 750V (heavy duty grade) cable to IEC 60702-1 and IEC 60702-2, with an overall protection of PVC sheath, c/w spacing bar type saddles :-						
<i>Per linear metre</i>						
29308	1 mm ² 1-core	36.77	3.31	4.15	12.31	29308
29309	1.5 mm ² ditto	42.36	3.31	4.15	12.31	29309
29310	2.5 mm ² ditto	47.28	3.31	4.15	12.31	29310
29311	4 mm ² ditto	81.53	9.10	11.56	33.88	29311
29312	6 mm ² ditto	105.44	9.10	11.56	33.88	29312
29313	10 mm ² ditto	160.57	9.10	11.61	34.85	29313
29314	16 mm ² ditto	201.92	10.42	13.87	39.57	29314
29315	25 mm ² ditto	253.47	11.96	14.70	41.70	29315
29316	35 mm ² ditto	463.85	12.96	15.48	45.21	29316
29317	50 mm ² ditto	521.13	13.76	17.02	47.36	29317
29318	70 mm ² ditto	626.28	14.70	18.60	51.29	29318
29319	95 mm ² ditto	794.34	15.55	19.45	57.14	29319
29320	120 mm ² ditto	915.74	17.05	20.91	60.47	29320
29321	150 mm ² ditto	1,133.24	18.58	23.20	65.46	29321
29322	185 mm ² ditto	1,296.68	19.31	24.70	70.01	29322
29323	240 mm ² ditto	1,567.94	21.10	25.84	73.45	29323
<i>Per linear metre</i>						
29324	1 mm ² 2-core	86.54	8.11	9.79	31.05	29324
29325	1.5 mm ² ditto	97.55	8.11	9.79	31.05	29325
29326	2.5 mm ² ditto	111.33	9.10	11.56	33.88	29326
29327	4 mm ² ditto	130.05	9.10	11.61	34.85	29327
29328	6 mm ² ditto	163.40	10.16	12.50	37.14	29328
29329	10 mm ² ditto	215.14	10.42	13.85	39.57	29329
29330	16 mm ² ditto	260.89	11.96	14.70	41.75	29330
29331	25 mm ² ditto	422.31	12.44	14.90	45.43	29331
29332	1.5 mm ² 4-core	120.96	9.10	11.58	33.91	29332
29333	2.5 mm ² ditto	135.69	9.10	11.66	34.94	29333
29334	4 mm ² ditto	168.68	10.17	12.51	37.27	29334
29335	6 mm ² ditto	214.76	10.42	13.89	39.66	29335
29336	10 mm ² ditto	280.70	11.99	14.72	41.81	29336
29337	16 mm ² ditto	396.53	12.45	14.96	45.52	29337
29338	25 mm ² ditto	552.43	13.47	16.50	48.64	29338

Item					Item	
	CABLES (COPPER) (CONT'D)					
	Mineral insulated copper sheathed, 750V (heavy duty grade) cable to IEC 60702-1 and IEC 60702-2, laid in trenches (including suitable cable bed) or ducting (ducting, excavation and backing-filling measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29339	1 mm ² 2-core	65.57	3.94	4.87	14.88	29339
29340	1.5 mm ² ditto	78.31	4.45	5.51	17.33	29340
29341	2.5 mm ² ditto	89.74	4.45	5.51	17.33	29341
29342	4 mm ² ditto	124.35	8.12	9.45	31.20	29342
29343	6 mm ² ditto	148.39	8.12	9.45	31.20	29343
29344	10 mm ² ditto	212.64	10.17	12.53	37.27	29344
29345	16 mm ² ditto	260.53	10.17	12.53	37.27	29345
29346	25 mm ² ditto	410.20	12.67	15.26	47.89	29346
29347	1.5 mm ² 4-core	126.27	10.42	13.89	39.66	29347
	<i>Per linear metre</i>					
29348	2.5 mm ² 4-core	145.67	11.99	14.72	41.81	29348
29349	4 mm ² ditto	181.70	12.32	15.20	43.99	29349
29350	6 mm ² ditto	229.92	12.84	15.83	45.32	29350
29351	10 mm ² ditto	292.47	13.03	16.50	46.33	29351
29352	16 mm ² ditto	412.80	13.37	17.07	47.89	29352

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
CABLES (COPPER) (CONT'D)						
600/ 1000V XLPE/ SWA/ PVC cable to IEC 60502-1, c/w cleats or saddles or fixed to cable trays (cable trays measured separately) :-						
<i>Per linear metre</i>						
29353	500 mm ² 1-core	1,495.72	20.92	26.01	73.90	29353
29354	630 mm ² ditto	1,657.79	23.04	29.43	87.34	29354
29355	800 mm ² ditto	1,932.47	26.83	33.89	104.95	29355
29356	1000 mm ² ditto	2,342.86	36.05	45.08	140.04	29356
29357	4 mm ² 2-core	100.31	14.93	18.31	51.48	29357
29358	6 mm ² ditto	115.55	15.45	19.15	53.08	29358
29359	10 mm ² ditto	160.19	15.53	19.21	57.05	29359
29360	16 mm ² ditto	182.44	16.33	19.80	60.12	29360
29361	25 mm ² ditto	274.54	17.02	20.45	61.45	29361
29362	35 mm ² ditto	346.35	17.52	21.74	65.25	29362
29363	50 mm ² ditto	459.36	21.65	27.26	77.33	29363
29364	70 mm ² ditto	593.17	23.36	28.46	80.67	29364
29365	95 mm ² ditto	718.76	24.94	30.19	85.97	29365
29366	4 mm ² 4-core	115.46	15.09	18.34	56.40	29366
29367	6 mm ² ditto	135.45	15.62	19.64	59.27	29367
29368	10 mm ² ditto	165.71	16.71	20.69	60.85	29368
29369	16 mm ² ditto	219.97	17.63	21.53	64.21	29369
29370	25 mm ² ditto	263.00	18.58	22.49	66.57	29370
29371	35 mm ² ditto	335.25	18.84	23.52	70.04	29371
29372	50 mm ² ditto	447.24	23.85	29.71	85.09	29372
<i>Per linear metre</i>						
29373	70 mm ² 4-core	578.10	25.72	30.80	88.76	29373
29374	95 mm ² ditto	702.75	27.21	32.24	94.60	29374
29375	120 mm ² ditto	848.40	28.16	34.40	100.10	29375
29376	150 mm ² ditto	1,142.41	29.14	35.21	103.85	29376
29377	185 mm ² ditto	1,200.81	30.54	35.92	107.24	29377
29378	240 mm ² ditto	1,514.72	31.69	38.33	116.58	29378
29379	300 mm ² ditto	1,791.94	34.60	40.73	125.40	29379
29380	400 mm ² ditto	2,241.02	35.64	43.11	131.41	29380

Item					Item	
	CABLES (COPPER) (CONT'D)					
	600/ 1000V XLPE/ SWA/ PVC cable to IEC 60502-1, laid in trenches (including suitable cable bed) or ducting (ducting, excavation and back-filling measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29381	4 mm ² 2-core	74.21	7.05	8.54	26.30	29381
29382	6 mm ² ditto	83.52	7.35	8.87	27.66	29382
29383	10 mm ² ditto	128.15	7.76	9.29	28.63	29383
29384	16 mm ² ditto	141.17	8.43	10.59	29.71	29384
29385	25 mm ² ditto	233.24	8.59	10.76	30.69	29385
29386	35 mm ² ditto	309.30	9.38	11.49	33.44	29386
29387	50 mm ² ditto	412.86	10.74	12.90	35.21	29387
29388	70 mm ² ditto	528.74	11.42	13.62	37.88	29388
29389	95 mm ² ditto	660.82	12.12	14.93	40.60	29389
29390	4 mm ² 4-core	100.02	7.51	9.38	30.27	29390
29391	6 mm ² ditto	122.03	7.80	9.66	31.27	29391
29392	10 mm ² ditto	150.45	8.12	10.07	32.22	29392
29393	16 mm ² ditto	196.15	8.93	11.58	33.44	29393
29394	25 mm ² ditto	248.75	8.93	11.76	34.51	29394
29395	35 mm ² ditto	332.17	9.70	12.53	38.22	29395
29396	50 mm ² ditto	445.95	11.05	13.92	40.82	29396
29397	70 mm ² ditto	563.15	11.80	14.66	44.36	29397
29398	95 mm ² ditto	700.29	12.49	16.05	48.09	29398
29399	120 mm ² ditto	883.13	13.21	17.35	53.68	29399
	<i>Per linear metre</i>					
29400	150 mm ² 4-core	1,212.47	15.20	19.31	58.62	29400
29401	185 mm ² ditto	1,241.78	16.18	20.20	63.82	29401
29402	240 mm ² ditto	1,650.65	17.15	21.65	68.05	29402
29403	300 mm ² ditto	1,910.99	18.16	23.11	73.12	29403
29404	400 mm ² ditto	2,361.26	19.80	24.02	76.92	29404

Item					Item	
	CABLES (COPPER) (CONT'D)					
	Multi-core twisted signal cable, AWG 24, unarmoured, c/w aluminum shield as :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29405	1-pair	38.27	7.36	8.99	27.46	29405
29406	6-pair	111.72	18.87	24.18	73.64	29406
29407	10-pair	146.08	22.05	26.27	84.75	29407
	Multi-core twisted signal cable, fire resistant, to IEC60331 as :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29408	1.5 mm ² 2-core	34.86	7.36	8.99	27.46	29408
	450/ 750V PVC insulated cable to IEC 60227, c/w brass buckle clips or brass fasteners, or fixed to cable trays (cable trays, measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29409	1.5 mm ² 1-core	9.37	1.45	1.92	5.91	29409
29410	2.5 mm ² ditto	10.68	1.45	1.92	5.91	29410
29411	4 mm ² ditto	13.31	1.45	1.92	5.91	29411
29412	6 mm ² ditto	16.25	1.45	1.92	5.91	29412
29413	10 mm ² ditto	28.57	1.45	1.92	5.91	29413
29414	16 mm ² ditto	36.36	1.92	2.41	7.33	29414
29415	25 mm ² ditto	51.73	1.92	2.41	7.33	29415
29416	35 mm ² ditto	75.16	2.34	2.86	8.43	29416
29417	50 mm ² ditto	97.16	2.34	2.86	8.43	29417
29418	70 mm ² ditto	133.09	4.06	4.84	13.22	29418
29419	95 mm ² ditto	185.57	4.99	5.73	18.00	29419
29420	120 mm ² ditto	253.35	6.05	8.32	21.66	29420

Item					Item	
	CABLES (COPPER) (CONT'D)					
	Cast iron cable end boxes, double loop in type. Suitable for cables with maximum cross sectional area of conductor up to : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29421	2 x 16 mm ² (conduit outlet)	977.66	118.63	148.01	447.14	29421
29422	2 x 16 mm ² (PVC tails outlet)	1,065.80	136.93	171.16	518.96	29422
29423	16 mm ² x 2-core (conduit outlet)	1,041.86	124.13	154.93	468.89	29423
29424	16 mm ² x 2-core (PVC tails outlet)	1,111.76	140.98	176.54	534.24	29424
29425	1 x 16 mm ² x 3-core (conduit outlet)	1,109.61	126.72	158.46	480.46	29425
29426	1 x 16 mm ² x 3-core (PVC tails outlet)	1,181.26	145.84	182.07	550.23	29426
	Cast iron cable end boxes, flat type, wall mounting : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29427	16 mm ² x 4-core	1,061.05	122.02	152.97	460.99	29427
29428	25 mm ² x 4-core	1,128.01	129.37	162.19	489.74	29428
29429	35 - 50 mm ² x 3-core	1,292.54	138.29	173.03	522.38	29429
29430	35 - 50 mm ² x 4-core	1,491.39	151.34	189.15	573.11	29430
29431	70 mm ² x 4-core	1,705.92	172.51	215.76	652.58	29431
29432	95 mm ² x 4-core	1,850.95	182.54	228.20	691.49	29432
29433	120 - 150 mm ² x 4-core	2,105.07	186.56	233.55	707.53	29433
29434	185 mm ² x 4-core	2,520.92	195.17	244.19	738.71	29434
29435	240 mm ² x 4-core	2,966.51	217.28	271.84	822.17	29435
29436	300 mm ² x 4-core	3,319.18	239.18	299.29	904.40	29436

Item					Item	
	SERVICE CABLE BOXES					
	Service cable boxes, cast iron, for PVC insulated, sheathed and armoured cables, as comprising armoured bonds, claw connectors and filling with cold compound, fixed complete. Suitable for cables with maximum cross sectional area of conductor up to : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29437	16 - 25 mm ² 2-core	1,091.87	147.96	-	560.65	29437
29438	35 - 50 mm ² 2-core and 16 mm ² 4-core	1,180.49	158.52	-	601.47	29438
29439	70 - 95 mm ² 2-core and 25 - 50 mm ² 4-core	1,538.57	175.22	-	649.31	29439
29440	120 - 185 mm ² 2-core and 70 - 120 mm ² 4-core	1,908.58	195.05	-	727.18	29440
29441	240 - 300 mm ² 2-core and 150 - 185 mm ² 4-core	2,728.81	220.93	-	835.42	29441
29442	400 mm ² 2-core and 240 - 300 mm ² 4-core	3,165.08	253.05	-	936.70	29442
	Straight through boxes, cast iron for PVC insulated, sheathed and armoured cables as comprising armoured bonds, jointing sleeves and filling with cold compounds, fixed complete. Suitable for cables with maximum cross sectional area of conductors up to : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29443	16 - 25 mm ² 2-core	1,013.69	147.95	-	565.16	29443
29444	35 - 50 mm ² 2-core and 16 mm ² 4-core	1,218.39	161.45	-	616.29	29444
29445	70 - 95 mm ² 2-core and 25 - 50 mm ² 4-core	1,413.29	178.10	-	680.08	29445
29446	120 - 185 mm ² 2-core and 70 - 120 mm ² 4-core	1,888.85	195.39	-	746.35	29446
29447	240 - 300 mm ² 2-core and 150 - 185 mm ² 4-core	2,704.46	217.53	-	831.45	29447
29448	400 mm ² 2-core and 240 - 300 mm ² 4-core	3,517.79	250.68	-	957.66	29448

Item					Item	
	SERVICE CABLE BOXES (CONT'D)					
	Plastic straight through cable joint comprising armoured bonds, jointing sleeves and filling with cold compounds, fixed complete. Suitable for cables with maximum cross sectional area of conductor up to :-					
	<i>Each</i>					
29449	1.5 - 4 mm ² 2-core	620.99	107.17	-	395.94	29449
29450	6 - 10 mm ² 2-core	671.15	120.09	-	449.25	29450
29451	16 - 25 mm ² 2-core	742.16	132.39	-	498.38	29451
29452	35 - 50 mm ² 2-core and 16 mm ² 4-core	945.25	145.36	-	547.03	29452
29453	70 - 95 mm ² 2-core and 25 - 50 mm ² 4-core	1,157.37	162.17	-	610.55	29453
29454	120 - 185 mm ² 2-core and 70 - 120 mm ² 4-core	2,314.81	176.11	-	662.41	29454
29455	Link box for 240mm ² 1 core MICS cable	1,983.56	23.71	29.58	89.85	29455
	Plastic tee cable joint comprising armoured bonds, jointing sleeves and filling with cold compounds, fixed complete. Suitable for cables with maximum cross sectional area of conductor up to :-					
	<i>Each</i>					
29456	1.5 - 6 mm ² 2-core	1,004.30	105.01	-	387.95	29456

Item					Item	
	CABLE FIXING					
	Terminating glands for PVC insulated steel wire armoured and PVC sheathed overall c/w PVC shroud suitable for cable of overall diameter with maximum outer sheath of :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29457	500 mm ² 1-core	195.93	34.44	42.87	132.30	29457
29458	630 mm ² ditto	195.93	34.44	42.87	132.30	29458
29459	800 mm ² ditto	264.71	42.17	52.68	155.13	29459
29460	1000 mm ² ditto	295.21	48.91	62.36	182.07	29460
29461	1.5 - 4 mm ² 2-core	95.34	20.93	26.14	76.55	29461
29462	1.5 - 2.5 mm ² 4-core, 6 - 10 mm ² 2-core	111.62	25.02	30.91	89.54	29462
29463	4 - 6 mm ² 4-core, 16 - 35 mm ² 2-core	127.33	26.92	34.47	98.88	29463
29464	10 - 35 mm ² 4-core, 50 - 95 mm ² 2-core	151.45	31.24	39.01	115.44	29464
29465	50 - 95 mm ² 4-core	179.17	32.82	42.51	124.29	29465
29466	120 - 150 mm ² ditto	192.72	34.16	43.99	128.84	29466
29467	185 mm ² ditto	266.54	41.18	51.11	153.51	29467
29468	240 mm ² ditto	295.72	49.41	61.21	180.00	29468
29469	300 mm ² ditto	386.31	58.88	73.80	223.41	29469
29470	400 mm ² ditto	493.31	68.39	84.24	251.20	29470
	PVC shroud only for PVC / SWA / PVCS cable of size :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29471	1.5 - 4 mm ² 2-core	9.58	-	-	-	29471
29472	1.5 - 2.5 mm ² 4-core, 6 - 10 mm ² 2-core	14.42	-	-	-	29472
29473	4 - 6 mm ² 4-core, 16 - 35 mm ² 2-core	14.68	-	-	-	29473
29474	10 - 35 mm ² 4-core, 50 - 95 mm ² 2-core	26.20	-	-	-	29474
29475	50 - 95 mm ² 4-core	27.44	-	-	-	29475
29476	120 - 150 mm ² ditto	34.44	-	-	-	29476
29477	185 mm ² ditto	39.87	-	-	-	29477
29478	240 mm ² ditto	46.68	-	-	-	29478
29479	300 mm ² ditto	58.21	-	-	-	29479
29480	400 mm ² ditto	63.90	-	-	-	29480

Item

Item

CABLE FIXING (CONT'D)

Saddle clips or bridge, heavy gauge tinned brass, fixed to wood battens with round head brass screws (battens measured separately) : -

Each

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only		
		A \$	B \$	C \$	D \$		
29481	20 x 40 mm	7.59	1.29	1.51	4.23	29481	
29482	20 x 50 mm	8.02	1.29	1.51	4.23	29482	
29483	20 x 60 mm	8.62	1.29	1.51	4.23	29483	
29484	20 x 70 mm	10.86	1.45	1.88	5.74	29484	
29485	20 x 80 mm	11.66	1.45	1.88	5.74	29485	
29486	20 x 100 mm	12.58	1.45	1.88	5.74	29486	
29487	20 x 120 mm	12.96	1.45	1.88	5.74	29487	

Item					Item	
	CABLE FIXING (CONT'D)					
	Complete termination for MICS cables : -					
	Including : -					
	(a) a complete seal, (brass pot, disc, compound and required number of 150 mm PVC insulating sleeves for the conductor) and					
	(b) a complete gland (gland body, gland nut and compression ring).					
	<i>Each</i>					
29488	6 mm ² 1-core	61.21	13.35	17.02	51.84	29488
29489	10 mm ² ditto	71.51	14.09	17.90	54.27	29489
29490	16 mm ² ditto	86.04	15.65	19.35	58.08	29490
29491	25 mm ² ditto	91.58	16.48	20.28	63.43	29491
29492	35 - 50 mm ² ditto	104.29	17.91	22.79	69.62	29492
29493	70 mm ² ditto	113.70	20.81	25.36	77.97	29493
29494	95 mm ² ditto	119.86	21.65	27.58	82.75	29494
29495	120 mm ² ditto	125.69	23.04	28.46	88.43	29495
29496	150 mm ² ditto	140.85	24.49	29.67	93.96	29496
29497	185 mm ² ditto	158.92	25.27	31.63	99.98	29497
29498	240 mm ² ditto	186.87	26.02	31.95	103.18	29498
29499	1 mm ² 2-core	97.09	16.89	20.59	62.72	29499
29500	1.5 mm ² ditto	101.12	17.63	22.43	66.96	29500
29501	2.5 mm ² ditto	109.28	19.11	23.33	73.31	29501
29502	4 mm ² ditto	114.86	20.76	25.68	78.24	29502
29503	6 mm ² ditto	119.95	21.66	27.62	82.75	29503
29504	10 mm ² ditto	121.22	21.66	27.62	84.28	29504
29505	16 mm ² ditto	130.53	22.40	28.49	89.81	29505
29506	25 mm ² ditto	136.78	24.77	30.33	94.97	29506
29507	1.5 mm ² 4-core	117.11	20.59	25.19	75.79	29507
29508	2.5 mm ² ditto	124.05	21.66	27.14	82.20	29508
29509	4 mm ² ditto	128.31	21.96	27.57	84.73	29509
29510	6 mm ² ditto	132.00	23.28	28.83	87.56	29510
29511	10 mm ² ditto	136.54	23.28	28.83	90.54	29511
29512	16 mm ² ditto	142.89	24.77	30.00	95.72	29512
29513	25 mm ² ditto	174.40	25.53	32.05	102.15	29513

Item					Item	
	CABLE FIXING (CONT'D)					
	Cables cleats, 2-bolt cleat for cable with overall diameter of the following : -					
	<i>Each</i>					
29514	50 mm - 75 mm	31.76	5.66	7.27	20.28	29514
29515	75 mm - 100 mm	48.08	7.14	8.80	27.05	29515
	Cable tiles approved type (sample to be produced) : -					
	<i>Each</i>					
29516	450 x 100 x 25 mm	17.97	1.46	1.97	5.84	29516
29517	600 x 175 x 50 mm	27.92	1.97	2.89	8.78	29517

Item					Item
	CABLE FIXING (CONT'D)				
	Cable sockets, forged copper, tinned, for the following size single core cables : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
29518	2.5 mm ²	9.16	-	-	8.09
29519	4 mm ²	13.15	-	-	11.56
29520	6 mm ²	13.37	-	-	11.68
29521	10 mm ²	14.84	-	-	13.16
29522	16 mm ²	16.46	-	-	14.32
29523	25 mm ²	17.13	-	-	14.38
29524	35 mm ²	22.19	-	-	18.79
29525	50 mm ²	26.05	-	-	21.12
29526	70 mm ²	33.30	-	-	25.46
29527	95 mm ²	41.96	-	-	31.83
29528	120 mm ²	51.38	-	-	37.32
29529	150 mm ²	59.98	-	-	41.81
29530	185 mm ²	71.61	-	-	48.05
29531	240 mm ²	86.55	-	-	53.64
29532	300 mm ²	105.50	-	-	60.41
29533	400 mm ²	134.71	-	-	70.13
29534	500 mm ²	164.46	-	-	77.56
29535	630 mm ²	221.43	-	-	86.04
29536	800 mm ²	342.98	-	-	97.69
29537	1000 mm ²	439.86	-	-	113.54
	Cable marker : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
29538	Concrete cable marker 230 x 180 x 100 mm	61.33	3.19	3.88	10.96
29539	Cable tape off unit with insulating shroud	92.74	9.29	11.67	35.57

Item					Item
	CABLE FIXING (CONT'D)				
	Jointing compound : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
29540	Jointing compound, cold pouring (Supply only)	144.98	-	-	-
	BUSBAR TRUNKING AND BUS DUCT				
	Busbar trunking, IP54, all-insulated, TPN, c/w ends, elbows and tee units, etc., copper busbar, trunking, supports, hangers, fixing accessories, labels and warning notice of the rated current : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Per linear metre</i>				
29541	600A	5,909.13	112.99	168.83	590.28
29542	800A	6,234.27	197.02	252.20	885.29
29543	1000A	7,174.13	228.52	292.64	1,031.33
29544	1200A	8,930.32	260.94	334.74	1,180.47
29545	1350A	9,811.04	282.26	361.24	1,261.36
29546	1600A	11,333.28	313.03	399.85	1,394.56
29547	2000A	13,308.43	343.77	439.32	1,536.62
29548	2500A	18,203.79	377.77	484.08	1,677.45
	Busbar trunking, IP65, all-insulated, TPN, c/w ends, elbows and tee units, etc., copper busbar, trunking, supports, hangers, fixing accessories, labels and warning notice of the rated current : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Per linear metre</i>				
29549	600A	6,098.72	112.55	168.19	588.01
29550	800A	6,425.73	196.25	251.21	881.91
29551	1000A	7,389.50	227.67	291.53	1,027.38
29552	1200A	9,143.91	259.93	333.49	1,175.95
29553	1350A	10,100.61	281.17	359.88	1,256.56
29554	1600A	11,723.68	311.81	398.34	1,389.23
29555	2000A	13,644.86	342.45	437.68	1,530.75
29556	2500A	18,663.65	376.35	482.23	1,671.13

Item					Item	
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)					
	Busbar trunking, IP66, all-insulated, TPN, c/w ends, elbows and tee units, etc., copper busbar, trunking, supports, hangers, fixing accessories, labels and warning notice of the rated current : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29557	600A	6,392.39	112.55	168.19	588.01	29557
29558	800A	6,734.01	196.25	251.21	881.91	29558
29559	1000A	7,657.74	227.67	291.53	1,027.38	29559
29560	1200A	9,408.27	259.93	333.49	1,175.95	29560
29561	1350A	10,329.68	281.22	359.88	1,256.56	29561
29562	1600A	11,844.39	311.81	398.34	1,389.23	29562
29563	2000A	13,707.71	342.45	437.68	1,530.75	29563
29564	2500A	19,478.45	376.35	482.23	1,671.13	29564
	Cable tap box, TPN metal clad with copper busbars for all-insulated totally enclosed plug-in type or feeder type busduct of the rated current : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29565	600A	13,457.01	126.56	189.73	667.76	29565
29566	800A	14,836.61	151.73	227.89	800.48	29566
29567	1000A	16,105.64	176.27	264.56	936.85	29567
29568	1200A	16,675.53	201.31	300.73	1,072.61	29568
29569	1350A	19,519.65	223.66	335.40	1,194.23	29569
29570	1600A	20,847.36	246.02	368.81	1,313.26	29570
29571	2000A	22,977.80	270.92	406.96	1,456.37	29571
29572	2500A	33,571.83	306.23	457.76	1,652.33	29572

Item					Item	
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)					
	90° elbow, edgewise or flatwise, IP54, with copper busbar, trunking, weatherproof type for all-insulated totally enclosed TPN copper busduct of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29573	600A	4,976.93	125.80	188.59	663.76	29573
29574	800A	5,142.21	150.82	226.52	795.70	29574
29575	1000A	5,536.01	175.22	263.01	931.19	29575
29576	1200A	6,101.24	200.12	298.99	1,066.14	29576
29577	1350A	6,481.69	223.66	335.40	1,194.23	29577
29578	1600A	7,011.14	246.02	368.81	1,313.26	29578
29579	2000A	7,662.76	270.92	406.96	1,456.37	29579
29580	2500A	10,580.38	306.23	457.76	1,652.33	29580
	90° elbow, edgewise or flatwise, IP65, with copper busbar, trunking, weatherproof type for all-insulated totally enclosed TPN copper busduct of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29581	600A	5,106.12	125.80	188.59	663.76	29581
29582	800A	5,272.07	150.82	226.52	795.67	29582
29583	1000A	5,671.06	175.22	263.01	931.19	29583
29584	1200A	6,250.01	200.12	298.99	1,066.14	29584
29585	1350A	6,638.74	223.66	335.40	1,194.23	29585
29586	1600A	7,181.09	246.02	368.81	1,313.26	29586
29587	2000A	7,847.45	270.92	406.96	1,456.37	29587
29588	2500A	10,770.90	306.23	457.76	1,652.33	29588

Item								Item
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)							
	90° elbow, edgewise or flatwise, IP66, with copper busbar, trunking, weatherproof type for all-insulated totally enclosed TPN copper busduct of the rated current (linear length excluded and measured separately) :-							
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
	<i>Each</i>							
29589	600A	5,357.87	126.05	188.97	665.10			29589
29590	800A	5,524.78	151.10	226.95	797.26			29590
29591	1000A	5,880.68	175.55	263.53	933.09			29591
29592	1200A	6,461.33	200.51	299.56	1,068.31			29592
29593	1350A	6,844.35	224.08	336.07	1,196.69			29593
29594	1600A	7,358.55	246.53	369.58	1,315.96			29594
29595	2000A	7,985.50	271.44	407.76	1,459.38			29595
29596	2500A	11,441.11	306.87	458.69	1,655.77			29596
	Combination elbow, IP54, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) :-							
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
		A \$	B \$	C \$	D \$			
	<i>Each</i>							
29597	600A	9,649.27	200.51	299.56	1,068.31			29597
29598	800A	9,923.52	239.99	359.59	1,281.80			29598
29599	1000A	10,651.87	278.84	419.05	1,495.61			29599
29600	1200A	11,721.49	318.83	477.05	1,707.95			29600
29601	1350A	12,429.80	352.40	526.67	1,888.28			29601
29602	1600A	13,438.60	387.53	581.71	2,077.62			29602
29603	2000A	14,685.41	427.82	641.55	2,288.63			29603
29604	2500A	20,425.09	483.10	724.90	2,587.35			29604

Item					Item	
BUSBAR TRUNKING AND BUS DUCT (CONT'D)						
Combination elbow, IP65, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29605	600A	9,906.96	200.51	299.56	1,068.31	29605
29606	800A	10,182.62	239.99	359.59	1,281.80	29606
29607	1000A	10,921.46	278.84	419.05	1,495.61	29607
29608	1200A	12,018.18	318.83	477.05	1,707.95	29608
29609	1350A	12,743.03	352.40	526.67	1,888.28	29609
	<i>Each</i>					
29610	1600A	13,777.77	387.53	581.71	2,077.62	29610
29611	2000A	15,054.10	427.82	641.55	2,288.63	29611
29612	2500A	20,952.79	483.10	724.90	2,587.35	29612
Combination elbow, IP66, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29613	600A	10,455.87	201.31	300.75	1,072.61	29613
29614	800A	10,734.98	240.93	360.98	1,286.97	29614
29615	1000A	11,390.67	279.91	420.71	1,501.63	29615
29616	1200A	12,496.22	320.05	478.93	1,714.83	29616
29617	1350A	13,212.93	353.78	528.73	1,895.86	29617
29618	1600A	14,195.73	388.98	583.95	2,085.92	29618
29619	2000A	15,398.43	429.51	644.03	2,297.80	29619
29620	2500A	22,241.63	484.97	727.70	2,597.67	29620

Item					Item	
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)					
	End closer, IP54, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29621	600A	1,196.52	70.32	106.06	365.13	29621
29622	800A	1,261.51	77.89	116.74	401.90	29622
29623	1000A	1,304.62	84.74	126.75	438.49	29623
29624	1200A	1,360.24	92.07	136.74	475.94	29624
29625	1350A	1,413.37	98.08	147.11	512.13	29625
29626	1600A	1,508.84	109.03	162.88	569.52	29626
29627	2000A	1,604.84	120.23	180.63	628.07	29627
29628	2500A	1,829.83	136.19	204.70	714.28	29628
	End closer, IP65, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29629	600A	1,196.52	70.32	106.06	365.13	29629
29630	800A	1,261.51	77.89	116.74	401.90	29630
29631	1000A	1,304.62	84.74	126.75	438.49	29631
29632	1200A	1,360.24	92.07	136.74	475.94	29632
29633	1350A	1,413.37	98.08	147.11	512.13	29633
29634	1600A	1,508.84	109.03	162.88	569.54	29634
29635	2000A	1,604.84	120.23	180.63	628.07	29635
29636	2500A	1,829.83	136.19	204.70	714.28	29636

Item					Item	
BUSBAR TRUNKING AND BUS DUCT (CONT'D)						
End closer, IP66, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29637	600A	1,196.52	69.92	105.43	362.99	29637
29638	800A	1,261.51	77.44	116.03	399.51	29638
29639	1000A	1,304.62	84.23	125.98	435.91	29639
29640	1200A	1,360.24	91.52	135.96	473.10	29640
29641	1350A	1,413.37	97.49	146.24	509.08	29641
29642	1600A	1,508.84	108.39	161.93	566.15	29642
29643	2000A	1,604.84	119.52	179.58	624.33	29643
29644	2500A	1,829.83	135.41	203.50	710.07	29644
Expansion joint, IP54, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29645	600A	13,948.99	125.80	188.59	663.76	29645
29646	800A	14,311.89	150.82	226.52	795.67	29646
29647	1000A	14,366.01	175.22	263.01	931.19	29647
29648	1200A	15,800.07	200.12	298.99	1,066.14	29648
29649	1350A	17,836.68	223.66	335.40	1,194.23	29649
29650	1600A	18,591.17	246.02	368.81	1,313.26	29650
29651	2000A	19,217.50	270.92	406.96	1,456.37	29651
29652	2500A	26,522.26	306.23	457.76	1,652.33	29652

Item					Item												
BUSBAR TRUNKING AND BUS DUCT (CONT'D)																	
Expansion joint, IP65, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> <th></th> </tr> <tr> <th></th> <th>A \$</th> <th>B \$</th> <th>C \$</th> <th>D \$</th> <th></th> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Each</i>																	
29653	600A	13,948.99	125.80	188.59	663.76	29653											
29654	800A	14,311.89	150.82	226.52	795.67	29654											
29655	1000A	14,366.01	175.22	263.01	931.19	29655											
29656	1200A	15,800.07	200.12	298.99	1,066.14	29656											
29657	1350A	17,836.68	223.66	335.40	1,194.23	29657											
29658	1600A	18,591.17	246.02	368.81	1,313.26	29658											
29659	2000A	19,217.50	270.92	406.96	1,456.37	29659											
29660	2500A	26,522.26	306.23	457.76	1,652.33	29660											
Expansion joint, IP66, for all-insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> <th></th> </tr> <tr> <th></th> <th>A \$</th> <th>B \$</th> <th>C \$</th> <th>D \$</th> <th></th> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Each</i>																	
29661	600A	13,918.72	126.05	188.97	665.10	29661											
29662	800A	14,280.74	151.10	227.02	797.26	29662											
29663	1000A	14,334.97	175.55	263.53	933.09	29663											
29664	1200A	15,765.93	200.51	299.56	1,068.31	29664											
29665	1350A	17,798.21	224.08	336.07	1,196.69	29665											
29666	1600A	18,550.71	246.53	369.52	1,315.96	29666											
29667	2000A	19,175.77	271.44	407.76	1,459.38	29667											
29668	2500A	26,464.41	306.87	458.69	1,655.77	29668											

Item					Item	
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)					
	Flanged end, weatherproof type for all-insulated totally enclosed TPN copper busduct of the rated current (linear length excluded and measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29669	600A	3,380.26	70.04	105.63	363.70	29669
29670	800A	3,725.62	77.56	116.24	400.29	29670
29671	1000A	3,801.70	84.43	126.24	436.77	29671
29672	1200A	4,198.21	91.68	136.28	474.08	29672
29673	1350A	4,426.56	97.67	146.54	510.12	29673
29674	1600A	4,893.96	108.63	162.28	567.29	29674
29675	2000A	5,469.56	119.79	179.92	625.60	29675
29676	2500A	7,891.40	135.65	203.91	711.46	29676
	Fuseswitch TPN, metal clad, plug-in type c/w HRC fuses for all-insulated totally enclosed TPN copper busduct of the rated current :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29677	200A	8,247.72	174.63	229.33	804.79	29677
29678	400A	14,431.58	228.06	299.56	1,068.31	29678
29679	600A	19,377.15	291.53	382.51	1,365.48	29679
	Busduct, TPN copper busbars, all-insulated, totally enclosed, indoor feeder type c/w ends, elbows, tee unit, supports, hangers, fixing accessories, etc. of the rated current :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
29680	600A	5,954.02	114.12	169.90	585.79	29680
29681	800A	6,181.05	134.70	200.74	694.92	29681
29682	1000A	7,147.46	154.88	232.37	801.08	29682
29683	1200A	9,021.31	175.66	262.57	911.84	29683
29684	1350A	9,963.94	194.24	291.53	1,003.23	29684
29685	1600A	11,559.12	215.49	321.74	1,112.33	29685
29686	2000A	13,489.73	237.70	356.54	1,232.95	29686
29687	2500A	18,491.29	262.87	393.31	1,356.75	29687

Item					Item												
BUSBAR TRUNKING AND BUS DUCT (CONT'D)																	
Busduct, TPN copper busbars, all-insulated totally enclosed, indoor plug-in type c/w ends, elbows, tee unit, supports, hangers, fixing accessories, etc. of the rated current : -																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">A \$</td> <td style="text-align: center;">B \$</td> <td style="text-align: center;">C \$</td> <td style="text-align: center;">D \$</td> <td></td> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Per linear metre</i>																	
29688	600A	6,982.96	114.12	169.90	607.38	29688											
29689	800A	7,225.06	134.70	200.74	694.92	29689											
29690	1000A	8,240.40	154.88	232.37	801.08	29690											
29691	1200A	10,081.20	175.66	262.57	911.84	29691											
29692	1350A	11,042.76	194.24	291.53	1,003.23	29692											
29693	1600A	12,777.22	215.49	321.74	1,112.33	29693											
29694	2000A	14,821.87	237.70	356.54	1,232.95	29694											
29695	2500A	20,926.46	262.87	393.31	1,356.75	29695											
MCCB, TPN, metal clad, plug-in type, minimum 40 kA at 380V, for all-insulated totally enclosed TPN copper busduct of the rated current : -																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">A \$</td> <td style="text-align: center;">B \$</td> <td style="text-align: center;">C \$</td> <td style="text-align: center;">D \$</td> <td></td> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Each</i>																	
29696	200A	9,418.48	181.25	232.37	801.08	29696											
29697	400A	14,861.76	236.66	304.09	1,049.84	29697											
29698	600A	19,129.78	301.88	387.48	1,339.24	29698											
Busduct, TPN copper busbars, all-insulated totally enclosed, outdoor feeder c/w ends, elbows, tee unit, supports, hangers, fixing accessories, etc. of the rated current : -																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">A \$</td> <td style="text-align: center;">B \$</td> <td style="text-align: center;">C \$</td> <td style="text-align: center;">D \$</td> <td></td> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
<i>Per linear metre</i>																	
29699	600A	6,996.16	113.21	168.58	581.28	29699											
29700	800A	7,182.99	133.68	199.19	689.53	29700											
29701	1000A	7,552.71	153.68	230.57	794.96	29701											
29702	1200A	9,031.66	174.30	260.57	904.87	29702											
29703	1350A	9,942.98	192.78	289.28	995.53	29703											
29704	1600A	11,390.00	213.85	319.29	1,103.83	29704											
29705	2000A	13,231.72	235.86	353.83	1,223.50	29705											
29706	2500A	18,138.14	260.84	390.28	1,346.46	29706											

Item						Item
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)					
	90° offset, edgewise or flatwise, IP54 for all insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
29707	600A	10,560.82	199.73	299.56	1,068.31	29707
29708	800A	10,860.77	239.61	358.22	1,281.82	29708
29709	1000A	11,705.22	278.35	418.28	1,493.20	29709
29710	1200A	12,828.31	319.09	476.55	1,707.07	29710
29711	1350A	13,575.97	353.49	530.13	1,895.86	29711
29712	1600A	14,795.18	388.61	583.70	2,086.04	29712
29713	2000A	16,073.14	428.77	643.00	2,300.45	29713
29714	2500A	22,354.68	484.65	727.39	2,609.24	29714
	90° offset, edgewise or flatwise, IP65 for all insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
29715	600A	10,842.87	200.12	300.18	1,070.45	29715
29716	800A	11,144.32	240.06	358.91	1,284.43	29716
29717	1000A	12,001.39	278.91	419.07	1,496.20	29717
29718	1200A	13,153.00	319.70	477.49	1,710.51	29718
29719	1350A	13,918.04	354.19	531.16	1,899.69	29719
29720	1600A	15,168.54	389.38	584.87	2,090.23	29720
29721	2000A	16,476.68	429.63	644.27	2,305.14	29721
29722	2500A	22,932.19	485.58	728.78	2,614.48	29722

Item					Item	
	BUSBAR TRUNKING AND BUS DUCT (CONT'D)					
	90° offset, edgewise or flatwise, IP66 for all insulated totally enclosed TPN copper busbar trunking of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29723	600A	11,418.53	200.12	300.18	1,070.45	29723
29724	800A	11,723.05	240.06	358.91	1,284.43	29724
29725	1000A	12,001.39	278.91	419.07	1,496.20	29725
29726	1200A	13,602.09	319.70	477.49	1,710.51	29726
29727	1350A	13,918.04	354.19	531.16	1,899.69	29727
29728	1600A	15,594.31	389.38	584.87	2,090.23	29728
29729	2000A	16,816.65	429.63	644.27	2,305.14	29729
29730	2500A	24,289.37	485.58	728.78	2,614.48	29730
	Tee unit, weatherproof type for all-insulated totally enclosed TPN copper busduct of the rated current (linear length excluded and measured separately) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
29731	200A	4,592.14	100.84	171.42	682.32	29731
29732	400A	4,974.72	100.84	183.65	699.36	29732
29733	600A	5,216.13	138.04	206.76	714.16	29733
29734	800A	5,595.45	164.19	246.01	857.91	29734
29735	1000A	6,025.27	191.55	287.23	998.67	29735
29736	1200A	6,708.84	219.93	329.11	1,138.06	29736
29737	1350A	7,148.75	244.78	367.04	1,247.00	29737
29738	1600A	7,743.82	269.63	404.77	1,379.38	29738
29739	2000A	8,498.89	296.64	444.34	1,522.73	29739
29740	2500A	11,726.13	335.56	503.92	1,725.06	29740

Section 30

ELECTRICAL INSTALLATION -

MISCELLANEOUS

Item					Item	
	DISTRIBUTION BOARDS					
	Fuseboard to BS EN 60439-3 with 500V fuse base and holder, fixed, connected retained with labels, circuit list etc., including solid copper bars for neutral and for earth, suitable for fuses to IEC 60269-1 (HRC fuses measured separately) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30001	20/ 32A SPN 4 way	1,847.67	40.53	47.81	124.57	30001
30002	20/ 32A SPN 6 way	2,362.54	43.51	51.95	139.26	30002
30003	20/ 32A SPN 8 way	2,773.83	43.51	51.95	139.26	30003
30004	20/ 32A SPN 10 way	3,217.34	45.96	57.54	176.70	30004
30005	20/ 32A SPN 12 way	3,657.40	45.96	57.54	176.70	30005
30006	20/ 32A TPN 2 way	2,464.43	40.53	47.81	124.57	30006
30007	20/ 32A TPN 4 way	3,441.75	45.96	57.54	176.70	30007
30008	20/ 32A TPN 6 way	4,535.64	45.96	57.54	176.70	30008
30009	20/ 32A TPN 8 way	5,740.32	57.54	71.37	220.96	30009
30010	63A TPN 2 way	5,493.28	40.53	47.81	124.57	30010
30011	63A TPN 4 way	7,846.97	45.96	57.54	176.70	30011
30012	63A TPN 6 way	10,240.40	45.96	57.54	176.70	30012
30013	63A TPN 8 way	12,543.95	57.54	71.37	220.96	30013
	Metal boxes only for distribution boards 250/ 500 V (as per approved pattern) including solid copper earth bar, neutral bar, circuit list etc., (fuses base and holder not included), for fuse-way of the following sizes :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30014	32A SPN 4 - 6 way	597.33	22.95	28.88	91.38	30014
30015	32A SPN 7 - 9 way	1,030.19	30.85	38.42	123.25	30015
30016	32A SPN 10 - 12 way	1,109.69	43.06	54.22	172.31	30016
30017	32A TPN 2 - 4 way	1,402.82	43.06	54.22	172.31	30017
30018	63A TPN 4 way	2,283.07	43.06	54.22	172.31	30018
30019	63A TPN 6 way	2,442.87	55.03	68.68	219.64	30019
30020	63A TPN 8 way	2,601.58	66.08	83.12	264.40	30020

Item					Item	
	DISTRIBUTION BOARDS (CONT'D)					
	MCB distribution boards to IEC 60439-3, metal clad, flush mounting with 100 A DP isolating switch for MCB to IEC 60898 (excluding MCBs and cutting into wall measured separately where applicable) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30021	SPN 4 - 6 way	452.16	15.14	19.55	61.99	30021
30022	SPN 7 - 9 way	527.11	22.89	28.06	88.99	30022
30023	SPN 10 - 12 way	607.43	29.59	37.11	120.07	30023
30024	SPN 13 - 15 way	709.80	37.23	46.34	158.51	30024
30025	SPN 16 - 18 way	793.98	44.35	56.27	202.35	30025
	MCB distribution boards to IEC 60439-3, metal clad, surface mounting with 100 A DP isolating switch for MCB to IEC 60898 (excluding MCBs) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30026	SPN 4 - 6 way	538.29	22.95	28.88	92.86	30026
30027	SPN 7 - 9 way	659.16	30.85	38.42	124.16	30027
30028	SPN 10 - 12 way	732.21	43.06	54.22	173.75	30028
30029	SPN 13 - 15 way	805.08	67.65	83.55	274.84	30029
30030	SPN 16 - 18 way	891.11	82.08	102.82	335.32	30030
	MCB distribution boards, metal case (locally made) surface mounting, with space for isolating switch if required, fixed, connected with labels, circuit list etc., including solid copper bars for neutral and for earth (MCBs & isolating switch not included) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30031	SPN 1 - 3 way	311.97	22.48	27.61	86.77	30031
30032	TPN 2 way	435.31	23.39	29.66	94.12	30032

Item					Item	
	DISTRIBUTION BOARDS (CONT'D)					
	MCB distribution boards, metal clad, to IEC 60439-3, surface mounting with 80A DP RCCB (30 mA) for MCBs to IEC 60898 (excluding MCBs) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30033	SPN 6 way	816.23	23.39	28.88	90.78	30033
30034	SPN 8 way	864.53	31.13	38.04	121.32	30034
	MCB distribution boards, metal clad, to IEC 60439-3, surface mounting split bar board with 80/ 100A DP switch and 60/ 80A, 30 mA RCD for MCBs to IEC 60898 (excluding MCBs) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30035	Single-phase 4 - 6 way	907.74	23.47	28.95	90.97	30035
30036	Single-phase 7 - 9 way	967.17	31.21	38.11	121.54	30036
30037	Single-phase 10 - 12 way	1,037.15	42.91	54.16	171.15	30037
	MCB distribution boards, metal clad, to IEC 60439-3, surface mounting with busbar rated at not less than 200A for MCBs to IEC 60898 (excluding MCBs) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30038	TPN 4 way (Direct termination)	1,267.30	42.91	54.16	171.15	30038
30039	TPN 4 way with 100A TP isolator	1,380.33	42.91	54.16	171.15	30039
30040	TPN 6 way (Direct termination)	1,339.07	55.06	68.62	216.63	30040
30041	TPN 6 way with 100A TP isolator	1,563.28	55.06	68.62	216.63	30041
30042	TPN 8 way (Direct termination)	1,594.40	66.16	83.57	264.97	30042
30043	TPN 8 way with 100A TP isolator	1,729.43	66.16	83.57	264.97	30043
30044	TPN 10 way (Direct termination)	1,626.13	79.53	101.78	324.12	30044
30045	TPN 10 way with 100A TP isolator	1,772.81	79.53	101.78	324.12	30045
30046	TPN 12 way (Direct termination)	1,927.89	83.00	104.31	333.32	30046
30047	TPN 12 way with 100A TP isolator	2,264.09	83.00	104.31	333.32	30047
30048	TPN 14/ 16 way (Direct termination)	2,518.14	93.01	116.84	373.87	30048
30049	TPN 14/ 16 way with 100A isolator	2,937.03	93.01	116.84	373.87	30049
30050	TPN 18 way (Direct termination)	3,126.57	109.49	136.85	427.85	30050
30051	TPN 18 way with 160A TP isolator	3,671.79	109.49	136.85	427.85	30051

Item					Item
	DISTRIBUTION BOARDS (CONT'D)				
	MCB distribution board accessories : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
30052	<i>Each</i> Cable clamp	15.65	2.19	2.73	6.78
30053	Blanking plate	9.73	2.19	2.73	6.78
30054	Back plate for mounting 1 - 3 MCB	30.50	2.19	2.73	6.78
	Miniature circuit breakers to IEC 60898 with rated instantaneous tripping current of Type B/ Type C classification and rated short circuit breaking capacity of at least 6000 short circuit rating. The rates shall include opening and closing of MCB board covers or front plates, taking down and re-fixing of blanking plate where required : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
30055	<i>Each</i> 5/ 10/ 16/ 20/ 32/ 40/ 50/ 63A SP	57.37	6.46	7.66	20.40
30056	5/ 10/ 16/ 20/ 32/ 40/ 50/ 63A DP	144.75	6.46	7.66	20.40
30057	5/ 10/ 16/ 20/ 32/ 40/ 50/ 63A TP	257.28	9.86	11.80	31.23
30058	Complete set 40A lateral main MCB tap off unit	498.41	13.19	16.51	52.75
	Arc fault detection devices (AFDDs) : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
30059	<i>Each</i> Miniature circuit breakers with AFDDs, 5/ 10/ 13/ 16/ 20/ 25/ 32/ 40A SPN	2,006.94	6.46	7.66	20.40
30060	Residual current circuit breaker with overcurrent protection (RCBO) with AFDDs, 6/ 10/ 13/ 16/ 20/ 25/ 32/ 40A	2,654.64	13.07	15.04	42.08

Item					Item	
	DISTRIBUTION BOARDS (CONT'D)					
	Isolating switches, all insulated for MCB board, include opening and closing of MCB board cover/ front plates : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30061	30/ 32A DP	153.69	12.93	15.61	40.48	30061
30062	60/ 63A DP	159.90	12.93	15.61	40.48	30062
30063	100A DP	205.74	14.71	17.45	46.30	30063
30064	200A DP	829.54	15.63	20.09	63.19	30064
30065	63A TP	225.91	14.71	17.45	46.30	30065
30066	100/ 125A TP	277.99	14.71	17.45	46.30	30066
30067	160/ 200A TP	1,239.62	15.63	20.09	63.19	30067

Item					Item	
	DISTRIBUTION BOARDS (CONT'D)					
	MCCB distribution boards to IEC 60439-1 and 60439-3 surface mounting with moulded-case isolating switch, suitable for MCCB to IEC 60947-2 :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30068	100A TPN 4 way	3,870.54	54.65	68.09	214.97	30068
30069	200A TPN 4 way	4,117.58	54.65	68.09	214.97	30069
30070	250A TPN 4 way	4,406.24	54.65	68.09	214.97	30070
30071	300A TPN 4 way	4,725.97	54.65	68.09	214.97	30071
30072	400A TPN 4 way	5,235.91	54.65	68.09	214.97	30072
30073	600A TPN 4 way	6,484.90	54.65	68.09	214.97	30073
30074	800A TPN 4 way	7,268.10	54.65	68.09	214.97	30074
30075	200A TPN 6 way	5,182.06	65.70	82.93	262.94	30075
30076	250A TPN 6 way	5,351.87	65.70	82.93	262.94	30076
30077	300A TPN 6 way	5,740.21	65.70	82.93	262.94	30077
30078	400A TPN 6 way	6,497.36	65.70	82.93	262.94	30078
30079	600A TPN 6 way	6,968.54	65.70	82.93	262.94	30079
30080	800A TPN 6 way	7,712.33	65.70	82.93	262.94	30080
30081	100A TPN 8 way	6,227.69	84.24	106.08	334.85	30081
30082	200A TPN 8 way	6,339.01	84.24	106.08	334.85	30082
30083	250A TPN 8 way	6,760.95	84.24	106.08	334.85	30083
30084	300A TPN 8 way	7,070.21	84.24	106.08	334.85	30084
30085	400A TPN 8 way	7,796.30	84.24	106.08	334.85	30085
30086	600A TPN 8 way	8,841.00	84.24	106.08	334.85	30086
30087	800A TPN 8 way	9,818.59	84.24	106.08	334.85	30087
30088	300A TPN 10 way	8,204.56	102.13	128.41	405.50	30088
30089	400A TPN 10 way	8,771.78	102.13	128.41	405.50	30089
30090	600A TPN 10 way	9,817.25	102.13	128.41	405.50	30090
30091	300A TPN 12 way	9,307.00	119.59	149.51	474.87	30091
30092	400A TPN 12 way	9,859.76	119.59	149.51	474.87	30092
30093	600A TPN 12 way	11,298.54	119.59	149.51	474.87	30093
30094	600A TPN 14 way	12,572.37	137.98	172.90	549.19	30094

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
MOULDED CASE CIRCUIT BREAKERS						
TP moulded case circuit breaker (MCCB), 23 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -						
		A	B	C	D	
		\$	\$	\$	\$	
<i>Each</i>						
30095	15/ 20/ 30/ 32A	767.81	29.18	36.86	116.08	30095
30096	40/ 50/ 60/ 63A	801.32	37.55	47.08	151.69	30096
30097	75/ 100A	821.10	42.76	53.96	171.04	30097
30098	225/ 300A	2,531.30	42.76	53.96	171.04	30098
30099	400A	2,846.62	42.76	53.96	171.04	30099
TP moulded case circuit breaker (MCCB) c/w shunt trip coil for external tripping or connection, 40 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -						
		A	B	C	D	
		\$	\$	\$	\$	
<i>Each</i>						
30100	30/ 32/ 40/ 50A	1,184.90	32.66	41.09	129.18	30100
30101	60/ 63/ 75/ 100A	1,218.80	42.76	53.96	171.04	30101
30102	125/ 150/ 175/ 200/ 225A	1,736.06	42.76	53.96	171.04	30102
30103	250/ 300/ 315/ 350/ 400A	3,834.64	42.76	53.96	171.04	30103
30104	500/ 600/ 630A	5,257.80	50.45	63.51	200.17	30104
TP moulded case circuit breaker (MCCB) c/w shunt trip coil for external tripping or connection, 50 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -						
		A	B	C	D	
		\$	\$	\$	\$	
<i>Each</i>						
30105	250 - 400A	5,030.42	42.76	53.96	171.04	30105
30106	500 - 600A	6,476.58	50.45	63.51	200.17	30106
30107	630 - 800A	7,746.14	56.64	72.23	229.33	30107

Item					Item	
	MOULDED CASE CIRCUIT BREAKERS (CONT'D)					
	TPN moulded case circuit breaker (MCCB) c/w shunt trip coil for external tripping or connection, 23 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30108	15/ 20/ 30/ 32A	837.71	29.18	36.86	116.08	30108
30109	40/ 50/ 60/ 63A	872.03	37.55	47.08	151.69	30109
30110	75/ 100A	890.28	42.76	53.96	171.04	30110
30111	225/ 300A	3,825.07	42.76	53.96	171.04	30111
30112	400A	4,388.36	42.76	53.96	171.04	30112
	SP moulded case circuit breaker (MCCB), 23 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30113	15/ 20/ 30/ 32A	589.37	29.11	36.80	115.83	30113
30114	40/ 50/ 60/ 63A	672.28	37.48	46.95	151.39	30114
	TPN moulded case circuit breaker (MCCB) c/w shunt trip coil for external tripping or connection, 40 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30115	Up to 50A	1,530.65	32.59	41.00	128.91	30115
30116	50A to 100A	1,580.37	42.68	53.86	170.70	30116
30117	100A to 250A	2,228.16	42.68	53.86	170.70	30117
30118	250A to 400A	4,082.41	42.68	53.86	170.70	30118
30119	400A to 630A	5,870.12	50.35	63.37	199.78	30119

Item					Item	
	MOULDED CASE CIRCUIT BREAKERS (CONT'D)					
	TPN moulded case circuit breaker (MCCB) c/w shunt trip coil for external tripping or connection, 50 kA breaking capacity and type-tested to IEC 60947-2 of the rated current : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30120	<i>Each</i> 250 to 400A	6,491.95	42.68	53.86	170.70	30120
30121	500 to 600A	8,629.79	50.35	63.37	199.78	30121
30122	600 to 800A	10,248.64	56.53	72.12	228.89	30122
	Metal box for TPN MCCB : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30123	<i>Each</i> Metal box for TPN MCCB up to 100A	370.36	17.55	21.84	65.31	30123
30124	Metal box for TPN MCCB of 100A to 225A	551.11	17.55	21.84	65.31	30124
30125	Metal box for TPN MCCB of 225A to 400A	731.11	25.59	32.21	100.89	30125
30126	Metal box for TPN MCCB of 400A to 800A	1,386.79	25.59	32.21	100.89	30126
	IDMT earth fault relay : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30127	<i>Each</i> IDMT earth fault relay c/w necessary current transformers, accessories and interconnections etc. including site test to be witnessed and to the satisfaction of the supply company	6,250.43	50.35	63.37	199.78	30127

Item					Item	
	MOULDED CASE CIRCUIT BREAKERS (CONT'D)					
	Metal box for IDMT relay : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30128	Metal box for TPN MCCB up to 100A & IDMT relay	666.61	25.97	32.54	102.50	30128
30129	Metal box for TPN MCCB of 100A to 225A & IDMT relay	832.49	25.97	32.54	102.50	30129
30130	Metal box for TPN MCCB of 225A to 400A & IDMT relay	1,065.75	25.97	32.54	102.50	30130
30131	Metal box for TPN MCCB of 400A to 800A & IDMT relay	1,081.27	25.97	32.54	102.50	30131
	CONTACTORS					
	Contactors to IEC 60947-4-1 : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30132	40A or below TPN with 220/ 380V coil	301.04	15.90	20.40	64.84	30132
30133	60A TPN with 220/ 380V coil	458.58	26.01	32.60	103.40	30133
30134	80/ 100A TPN with 220/ 380V coil	744.99	32.66	41.09	129.18	30134
30135	Metal box for 40A or below TPN contactor	199.93	19.50	24.59	75.00	30135
30136	Metal box for 60A TPN contactor	295.85	22.88	28.25	86.86	30136
30137	Metal box for 80/ 100A TPN contactor	449.85	26.01	32.60	102.68	30137
	BUSBAR CHAMBER UNITS AND ACCESSORIES					
	Busbar chamber units, 4 full size solid drawn copper busbars, c/w cover and main terminals : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30138	200A, 600 mm long	2,608.15	115.97	146.13	435.92	30138
30139	200A 900 mm long	3,078.81	163.19	203.60	615.92	30139
30140	200A, 1200 mm long	3,617.56	197.04	247.58	742.48	30140
30141	200A, 1500 mm long	4,536.48	212.50	267.56	794.05	30141
30142	300A, 600 mm long	2,685.60	115.97	146.13	435.92	30142
30143	300A, 900 mm long	3,179.51	163.19	203.60	615.92	30143
30144	300A, 1200 mm long	3,830.55	197.04	247.58	742.48	30144
30145	300A, 1500 mm long	4,823.47	212.50	267.56	794.05	30145

Item					Item	
BUSBAR CHAMBER UNITS AND ACCESSORIES (CONT'D)						
Busbar chamber units, 4 full size solid drawn copper busbars, c/w cover and main terminals : - (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30146	400A, 600 mm long	2,912.26	115.97	146.13	435.92	30146
30147	400A, 900 mm long	3,485.45	163.19	203.60	615.92	30147
30148	400A, 1200 mm long	4,929.00	197.04	247.58	742.48	30148
30149	400A, 1500 mm long	5,833.93	212.50	267.56	794.05	30149
30150	500A, 600 mm long	3,341.15	115.97	146.13	435.92	30150
30151	500A, 900 mm long	4,026.16	163.19	203.60	615.92	30151
30152	500A, 1200 mm long	5,778.68	197.04	247.58	742.48	30152
30153	500A, 1500 mm long	6,411.89	212.50	267.56	794.05	30153
30154	630A, 600 mm long	3,856.72	196.64	247.10	741.04	30154
30155	630A, 900 mm long	4,683.77	243.84	307.01	920.98	30155
30156	630A, 1200 mm long	6,323.08	284.65	358.80	1,075.21	30156
30157	630A, 1500 mm long	7,337.77	329.61	413.35	1,244.60	30157
30158	800A, 600 mm long	4,296.46	196.64	247.10	741.04	30158
30159	800A, 900 mm long	5,531.45	243.84	307.01	920.98	30159
30160	800A, 1200 mm long	6,953.96	284.65	358.80	1,075.21	30160
30161	800A, 1500 mm long	8,420.43	329.61	413.35	1,244.60	30161
Cover for busbar chamber unit of the following length and rating between 200A and 800A : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30162	600 mm	389.04	10.06	11.85	30.91	30162
30163	900 mm	453.77	10.06	11.85	30.91	30163
30164	1200 mm	539.41	10.06	11.85	30.91	30164
30165	1500 mm	613.31	10.06	11.85	30.91	30165

Item					Item	
	BUSBAR CHAMBER UNITS AND ACCESSORIES (CONT'D)					
	Busbar clamp : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30166	160A	120.28	3.47	4.34	13.57	30166
30167	160A to 400A	220.98	3.68	4.73	15.06	30167
30168	400A to 800A	306.28	4.18	5.30	16.36	30168
	Cable clamps and brass cable sockets for use with busbar chambers : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30169	32A/ 63A	93.68	3.47	4.15	10.64	30169
30170	100A	122.36	3.47	4.15	10.64	30170
30171	160A	127.33	5.55	6.71	17.07	30171
30172	200A	134.73	6.51	7.74	20.08	30172
30173	315A	151.80	7.74	9.53	24.20	30173
30174	400A	234.20	8.98	11.03	30.67	30174
30175	500A	258.58	9.88	11.91	33.70	30175
30176	630A	261.56	11.12	13.30	37.23	30176
30177	800A	330.10	14.05	17.24	47.39	30177

Item					Item	
	BUSBAR CHAMBER UNITS AND ACCESSORIES (CONT'D)					
	Connection flanges (including cutting and drilling busbar chamber, assembly of switch to flange, and flange to busbar chamber with provision and installation of interconnections as necessary) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30178	SPN 32A/ 63A	120.18	13.09	15.79	52.92	30178
30179	SPN 100A	151.22	17.41	21.57	68.94	30179
30180	TPN 32A	146.06	15.63	19.93	63.90	30180
30181	TPN 63A	183.25	16.64	20.77	65.36	30181
30182	TPN 100A	232.10	19.96	25.88	79.25	30182
30183	TPN 160/ 200A	281.34	24.04	30.98	95.71	30183
30184	TPN 300/ 315A	353.01	32.77	41.37	130.92	30184
30185	TPN 400/ 500A	397.81	40.94	51.26	162.25	30185
30186	TPN 600/ 630/ 800A	448.50	49.82	62.58	197.73	30186
	Porcelain support for busbar or for use in link box : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30187	Not exceeding 300A	33.03	6.26	8.70	24.13	30187
30188	300A - 500A	41.84	8.05	10.17	30.78	30188
30189	500A - 1000A	57.35	9.65	12.28	37.49	30189
	Cable entry/ conduit box of approved type for switchfuses, all necessary work including cutting and drilling of trunking, assembly and connection of switchfuses, etc. : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30190	TPN 160/ 200A	329.76	32.77	41.37	130.92	30190
30191	TPN 315A	394.83	40.94	51.26	162.25	30191
30192	TPN 400/ 500A	504.12	49.82	62.58	197.73	30192
30193	TPN 630/ 800A	624.46	58.47	72.95	230.75	30193

Item					Item	
	BUSBAR CHAMBER UNITS AND ACCESSORIES (CONT'D)					
	Insulating sheet as paxolin or ebonite, etc., used in conjunction with distribution boxes and switch gear (to be drilled and cut to shape as required) : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
30194	1.5 mm thick	303.69	38.57	48.21	150.99	30194
30195	3 mm thick	456.55	51.79	64.85	201.56	30195
30196	7 mm thick	773.20	64.85	80.61	250.88	30196
30197	10 mm thick	1,038.21	78.17	97.15	301.94	30197
30198	12 mm thick	1,449.45	103.61	129.51	403.69	30198
30199	20 mm thick	1,771.89	129.51	160.79	505.62	30199
30200	25 mm thick	2,106.47	135.77	169.16	529.37	30200
	RESIDUAL CURRENT CIRCUIT BREAKERS					
	Residual current operated circuit breaker (RCCB) to IEC 61008-1 with minimum rated short circuit breaking capacity of 3 kA : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30201	25/ 32/ 40A DP, 30 mA trip	305.46	13.16	15.14	42.32	30201
30202	25/ 32/ 40A DP, 100 mA trip	445.93	14.48	16.64	45.32	30202
30203	25/ 32/ 40A DP, 300 mA trip	651.05	14.48	16.64	45.32	30203
30204	63A DP, 30 mA trip	411.85	13.16	15.14	42.32	30204
30205	80A DP, 30 mA trip	675.75	13.16	15.14	42.32	30205
30206	100A DP, 30 mA trip	947.52	13.16	15.14	42.32	30206
30207	10/ 13/ 16/ 20/ 25/ 32/ 40A TPN, 30 mA trip	470.97	19.50	24.71	77.71	30207
30208	25/ 40A TPN, 100 mA trip	483.15	19.50	24.71	77.71	30208
30209	63A TPN, 30 mA trip	490.28	19.50	24.71	77.71	30209
30210	63A TPN, 100 mA trip	514.93	19.50	24.71	77.71	30210
30211	63A TPN, 300/ 500 mA trip	657.50	19.50	24.71	77.71	30211
30212	100A TPN, 30 mA trip	1,438.73	19.50	24.71	77.71	30212
30213	100A TPN, 100 mA trip	1,498.40	19.50	24.71	77.71	30213

Item					Item	
	RESIDUAL CURRENT CIRCUIT BREAKERS (CONT'D)					
	Residual current operated circuit breaker (RCCB) to IEC 61008-1 with minimum rated short circuit breaking capacity of 22 - 40 kA :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30214	100A TPN, 500 mA trip	3,018.03	25.71	32.09	102.71	30214
30215	200A TPN, 500 mA trip	3,769.69	29.19	36.80	118.66	30215
30216	400A TPN, 500 mA trip	4,561.30	32.79	41.40	132.61	30216
	Metal box for RCCB, 10 to 100A SP/ DP :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30217	2 ways	129.77	17.32	21.54	65.12	30217
30218	4 ways	186.80	17.32	21.54	65.12	30218
30219	6 ways	332.15	25.52	31.73	99.32	30219
30220	8 ways	462.99	25.52	31.73	99.32	30220
30221	12 ways	597.40	25.52	31.73	99.32	30221
	Metal box for RCCB, 10 to 100A TP :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30222	2 ways	184.55	17.32	21.54	65.12	30222
30223	4 ways	427.08	17.32	21.54	65.12	30223
30224	6 ways	615.04	25.52	31.73	99.32	30224
30225	8 ways	735.77	25.52	31.73	99.32	30225

Item					Item	
	RESIDUAL CURRENT CIRCUIT BREAKERS (CONT'D)					
	Residual current operated circuit breaker with integral over current protection (RCBO) to IEC 61009 with rated instantaneous tripping current of Type B/ Type C classification and minimum rated short circuit breaking capacity of 6kA : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
30226	10/ 13/ 16/ 20/ 25/ 32/ 40A DP, 30 mA trip	300.33	13.07	15.04	42.08	30226
	SWITCH AND FUSE GEAR					
	Switch fuses, metal clad, surface mounting, c/w HRC fuses : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
30227	Switch fuse 20A, SPN	584.19	20.27	25.37	75.96	30227
30228	Ditto 32A, SPN	617.22	22.57	27.71	84.76	30228
30229	Ditto 63A, SPN	704.83	28.59	35.95	108.97	30229
30230	Ditto 100A, SPN	889.89	44.21	55.12	168.51	30230
30231	Ditto 20A, TPN	751.53	25.71	32.28	99.24	30231
30232	Ditto 32A, TPN	797.19	25.71	32.28	99.24	30232
30233	Ditto 63A, TPN	961.90	44.66	56.15	168.51	30233
30234	Ditto 100A, TPN	1,276.90	61.09	76.48	234.64	30234
	Neutral terminal : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
30235	Neutral terminal for switchfuse 15A/ 30A	72.04	6.67	8.19	20.58	30235
30236	Neutral terminal for switchfuse 60A	78.35	8.70	10.38	26.11	30236
30237	Neutral terminal for switchfuse 100A	97.15	12.08	14.96	43.73	30237

Item					Item	
	SWITCH AND FUSE GEAR (CONT'D)					
	Fuse switches, metal clad, c/w conduit boxes, busbar chamber connection flanges and HRC fuses :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30238	160A, TPN	1,961.31	73.30	91.61	276.67	30238
30239	200A, TPN	2,283.76	73.30	91.61	276.67	30239
30240	300A, TPN	4,247.29	117.24	146.21	444.07	30240
30241	400A, TPN	5,053.39	146.65	183.23	547.50	30241
30242	600A, TPN	7,185.82	172.78	214.21	644.29	30242
30243	800A, TPN	9,413.79	196.44	247.39	743.64	30243
	Switch fuses all insulated SPN surface mounting, back or side entry c/w IEC 60269-1 fuses :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30244	20A - 80A	633.24	22.48	27.59	84.42	30244
	Isolating switches, metal clad, surface mounting :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30245	20A, DP	575.63	22.48	27.59	84.42	30245
30246	32A, DP	598.70	22.48	27.59	84.42	30246
30247	63A, DP	706.18	29.56	36.86	110.20	30247
30248	100A, DP	983.67	29.56	36.86	110.20	30248
30249	20A, TPN	665.78	29.56	36.86	110.20	30249
30250	32A, TPN	712.34	29.56	36.86	110.20	30250
30251	63A, TPN	805.14	31.09	39.09	116.97	30251
30252	100A/ 125A, TPN	1,166.77	32.68	40.89	122.65	30252
30253	160A/ 200A, TPN	2,050.51	72.61	91.48	274.45	30253
30254	250A/ 300A/ 315A, TPN	3,360.26	79.27	98.98	308.31	30254
30255	400A, TPN	3,983.63	85.13	105.90	333.89	30255

Item					Item	
	SWITCH AND FUSE GEAR (CONT'D)					
	Isolating switches, indoor type : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30256	20A, DP	408.45	17.76	23.00	67.65	30256
30257	32A, DP	433.46	17.76	23.00	67.65	30257
30258	63A, DP	513.53	22.75	28.26	83.04	30258
30259	80A, DP	587.92	22.75	28.26	83.04	30259
30260	100A, DP	712.79	22.75	28.26	83.04	30260
30261	32A, TPN	628.68	22.79	29.01	84.20	30261
30262	63A, TPN	739.99	24.91	30.78	90.43	30262
30263	100A, TPN	1,094.96	27.43	32.51	96.71	30263
30264	160A, TPN	1,756.97	66.43	81.43	247.28	30264
30265	200A, TPN	1,875.57	66.43	81.43	247.28	30265
	Isolating switch, weatherproof rated to IP65 : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30266	20A, DP	695.53	36.60	46.79	143.92	30266
30267	32A, DP	803.87	39.96	49.66	147.62	30267
30268	63A, DP	1,100.01	50.97	65.11	201.12	30268
30269	80A, DP	1,552.50	59.87	73.69	249.17	30269
30270	100A, DP	1,664.56	64.05	78.78	265.95	30270
30271	20A, TPN	831.66	43.76	53.15	147.93	30271
30272	32A, TPN	918.94	45.53	56.82	170.38	30272
30273	63A, TPN	1,114.50	58.73	74.56	221.82	30273
30274	100A, TPN	1,667.44	73.16	90.55	270.09	30274
30275	160A, TPN	2,307.88	86.37	107.16	318.49	30275
30276	200A, TPN	3,013.08	99.35	122.73	368.96	30276

Item					Item	
	SWITCH AND FUSE GEAR (CONT'D)					
	Changeover switches, metal clad : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30277	30A/ 32A, DP	2,269.86	22.57	27.71	86.77	30277
30278	60A/ 63A, DP	2,789.62	29.66	37.01	112.93	30278
30279	100A, DP	4,083.49	36.98	46.39	139.63	30279
30280	30A/ 32A, TP	2,295.47	29.66	37.01	112.93	30280
30281	60A/ 63A, TP	2,794.96	36.98	46.39	139.63	30281
30282	100A, TP	4,132.40	50.66	62.88	193.32	30282
30283	30A/ 32A, TPN	2,327.07	36.98	46.39	139.63	30283
30284	60A/ 63A, TPN	3,210.35	45.46	54.65	161.49	30284
30285	100A, TPN	4,168.63	57.84	73.14	216.95	30285
	Automatic changeover switch c/w changeover contactor sets, copper bar terminals, earthing connection, pilot lights, miniature circuit breakers, voltage measurement relays, plug-in relay and sockets, on-delay relay, control wirings, marking, terminal blocks, power links, mechanical interlock and metal casing : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30286	40A, DP	1,687.85	51.37	64.04	197.73	30286
30287	60A/ 63A, DP	3,057.05	51.37	64.04	197.73	30287
30288	100A, DP	5,691.44	61.14	75.79	230.69	30288
30289	40A, TPN	1,706.90	51.37	64.04	197.73	30289
30290	60A/ 63A, TPN	3,062.90	51.37	64.04	197.73	30290
30291	100A, TPN	5,759.61	61.14	75.79	230.69	30291
30292	200A, TPN	9,253.31	67.25	83.90	253.64	30292
30293	300A/ 320A, TPN	14,850.49	67.25	83.90	253.64	30293
30294	400A, TPN	22,566.73	67.25	83.90	253.64	30294
30295	60A/ 63A, 4P	3,958.64	53.22	66.34	207.76	30295
30296	100A, 4P	8,998.34	64.24	79.15	242.17	30296
30297	200A, 4P	11,134.90	70.78	84.58	268.48	30297
30298	300A/ 320A, 4P	19,358.34	70.78	84.58	268.48	30298
30299	400A, 4P	28,102.42	70.78	84.58	268.48	30299

Item					Item	
	FUSE					
	The rates shall include opening and closing of switch board/ box covering, where required.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Metal clad cutouts, cast metal or sheet steel : -					
	<i>Each</i>					
30300	30A/ 32A, SPN	149.69	15.15	18.79	53.80	30300
30301	60A/ 63A, SPN	166.74	15.15	18.79	53.80	30301
30302	100A, SPN	223.63	22.58	27.94	81.60	30302
30303	30A/ 32A, TPN	241.36	22.58	27.94	81.60	30303
30304	60A/ 63A, TPN	429.34	25.71	32.28	94.73	30304
30305	100A, TPN	518.82	29.62	36.09	108.55	30305
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Fuse holder only ceramic porcelain or thermoplastic, rewirable or cartridge type : -					
	<i>Each</i>					
30306	500V 30A/ 32A	22.49	3.92	4.75	11.44	30306
30307	500V 60A/ 63A	37.53	3.92	4.75	11.44	30307
30308	500V 100A	58.08	3.92	4.75	11.44	30308
30309	500V 200A	70.25	5.65	6.78	17.32	30309
	Fuse base only ceramic porcelain or thermoplastic : -					
	<i>Each</i>					
30310	500V 30A/ 32A	38.13	5.65	6.78	17.32	30310
30311	500V 60A/ 63A	69.70	6.79	8.29	20.93	30311
30312	500V 100A	93.78	7.58	9.11	24.18	30312
30313	500V 200A	105.30	9.11	11.05	28.88	30313
	Cartridge fuse links to IEC 60269-1: -					
	<i>Each</i>					
30314	Suitable for 13A plug-tops, 2A (yellow), 3A (blue), 5A (red), 10A (black) and 13A (brown)	10.37	1.62	1.94	4.80	30314

Item					Item
	FUSE (CONT'D)				
	The rates shall include opening and closing of switch board/ box covering, where required. (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	HRC cartridge fuses to IEC 60269-1, with off-set tags or central tags of rating : -				
	<i>Each</i>				
30315	6A or 10A	20.43	2.63	3.22	8.05
30316	16A/ 20A	21.07	2.63	3.22	8.05
30317	25A/ 32A	22.34	2.63	3.22	8.05
30318	40A/ 50A/ 63A	28.87	2.63	3.22	8.05
30319	80A	48.00	3.39	4.15	11.45
30320	100A	49.91	3.39	4.15	11.45
30321	125A/ 160A	70.64	3.79	4.55	13.74
30322	200A	72.00	3.79	4.55	13.74
30323	250A	117.24	4.55	5.31	16.97
30324	315A	129.33	4.55	5.31	16.97
30325	350A	172.27	4.55	5.31	16.97
30326	400A	178.73	5.90	7.44	22.58
30327	450A	231.49	5.90	7.44	22.58
30328	500A	257.03	5.90	7.44	22.58
30329	630A	304.63	7.44	8.98	25.98
30330	800A	389.31	7.44	8.98	25.98
	Semi-enclosed fuse to BS 3036 of rating : -				
	<i>Each</i>				
30331	3/ 5A	21.55	2.63	3.22	8.63
30332	10/ 15/ 20A	27.83	2.63	3.22	9.58
30333	25/ 30A	32.50	2.63	3.22	10.29

Item					Item	
TIME SWITCHES & BOXES						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30334	20A (1-day) integrated with cassette type alkaline battery back-up to provide 360 hours continuous operation upon power failure	388.54	5.97	9.13	23.33	30334
30335	20A (7-day) integrated with cassette type alkaline battery back-up to provide 360 hours continuous operation upon power failure	642.47	5.97	9.13	23.33	30335
30336	30A (1-day) integrated with cassette type alkaline battery back-up to provide 360 hours continuous operation upon power failure	510.30	5.97	9.13	23.33	30336
30337	30A (7-day) integrated with cassette type alkaline battery back-up to provide 360 hours continuous operation upon power failure	777.23	5.97	9.13	23.33	30337
30338	Up to 20A astronomical programmable (24 hours or 7-day) with digital display, integrated with battery back-up to provide 200 hours continuous operation upon power failure	890.61	5.97	9.13	23.33	30338
30339	Metal box for 20A/ 30A time switch	198.47	5.97	9.13	23.33	30339
30340	IP53 Plastic box for 20A/ 30A time switch	606.89	5.97	9.13	23.33	30340
30341	Programmable quartz class changing bell timer with two control output channels, choice of a minimum of 4 melodies, up to 120 weekly programs and 366 weekly programs of minimum one minute setting, with sockets for microphone and external speaker, power failure backup by lithium primary battery and rechargeable NiCd battery for not less than 800 hours	5,385.83	69.01	85.82	266.70	30341
E.L.V. TERMINAL UNITS						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30342	Extra low voltage terminal unit with stainless steel sign plate, each unit shall incorporate a 13A fuse	294.68	10.43	13.05	40.01	30342
EARTHING AND LIGHTNING CONDUCTOR FITTINGS						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30343	Copper tape, without tinned, 25 x 3mm with saddles	117.58	11.05	13.41	41.41	30343
30344	Copper tape, tinned entire length 25 x 3mm with saddles	122.29	11.05	13.41	41.41	30344
30345	Copper tape, PVC sheathed, 25 x 3mm with saddles	167.17	11.05	13.41	41.41	30345
30346	Copper tape, without tinned, 25 x 3mm laid in trench or duct (ducting, excavation and back-filling measured separately)	104.89	8.84	10.84	30.54	30346
30347	Copper tape, tinned entire length, 25 x 3mm laid in trench or duct (ducting, excavation and back-filling measured separately)	105.73	8.84	10.84	30.54	30347
30348	Aluminum type 25 x 3 mm with saddles (for lightning conductors)	76.09	12.27	15.31	45.97	30348
30349	Braided copper tape with PVC sheath 25 x 3 mm	149.48	11.05	13.41	41.41	30349

Item					Item	
EARTHING AND LIGHTNING CONDUCTOR FITTINGS (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30350	Copper bond earth rod 16 mm diameter 1.2 m long consists of pure electrolytic copper uniformly molecularly bonded onto a high tensile steel core to a minimum thickness of 0.25 mm c/w driving head and coupling	155.08	-	-	112.80	30350
30351	Ditto but 2.4 m	243.26	-	-	138.59	30351
30352	Copper earth plate, lattice type 600 x 600 mm (excavation measured separately)	2,414.01	59.87	74.35	226.01	30352
30353	Ditto but 900 x 900 mm (ditto)	3,500.02	60.52	76.31	228.93	30353
30354	Earth clips with plugs, tinned copper, for pipes n.e. 25 mm diameter	22.53	5.84	7.16	18.06	30354
30355	Ditto for pipes exc. 25 mm diameter but n.e. 38 mm diameter	23.87	5.84	7.16	18.06	30355
30356	Ditto for pipes exc. 38 mm diameter but n.e. 75 mm diameter	29.64	5.84	7.16	18.06	30356
30357	Tape clip only, for tape 25 x 3 mm wide	32.93	5.84	7.16	18.06	30357
30358	Saddle only, for securing tapes by and including single set screw	40.62	7.86	9.41	23.85	30358
30359	Light duty air terminal, with 16 mm diameter rod up to 300 mm long (copper rod taper pointed)	179.34	23.67	29.19	89.03	30359
30360	Ditto 300 mm - 500 mm long (ditto)	208.87	23.67	29.19	89.03	30360
30361	Ditto 500 mm - 1000 mm long (ditto)	285.00	23.67	29.19	89.03	30361
30362	Ditto but with 20 mm diameter rod, 1000 mm long (ditto)	323.21	23.67	29.19	89.03	30362
30363	Ditto but with 25 mm diameter rod, 1000 mm long (ditto)	352.01	23.67	29.19	89.03	30363
30364	Multi-pointed air terminal c/w 300 mm - 600 mm long copper rod and base	370.20	23.67	29.19	89.03	30364
30365	Tape connection for 25 mm tape	41.32	8.72	10.44	26.66	30365
30366	Tape to plate connector	67.55	10.85	13.21	36.63	30366
30367	Circular plate type test clamp for 25 mm tape	99.10	10.85	13.21	36.63	30367
30368	Connector clamp for 16 mm, 20 mm and 25 mm diameter rod, pressure type	64.23	10.85	13.21	36.63	30368
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
30369	Down conductor for early streamer lightning protection system, composing of two identical conductors placed one coaxially about the other with separation by a layer of insulator to form a high capacitance between the conducting layers, designed to withstand 250 kV transient at 1/ 50 wave to IEC 60230 c/w saddles	980.20	19.01	25.47	64.06	30369

Item					Item	
EARTHING AND LIGHTNING CONDUCTOR FITTINGS (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30370	Early streamer emission lightning protection system to French standard NF C17-102, comprising of lightning terminal in a 2 m 316 stainless steel pole, supporting insulation mast/ stainless steel mast, connection clamps, lightning counter and all necessary accessories. The lightning terminal shall generate a leader to capture the lightning and direct it to earth during a lightning event. Radius of protection (level 1) with the terminal 5 m above the protected surface at 20 m striking distance being 48 m. Down conductors shall be measured separately.	47,498.78	603.05	755.95	2,212.00	30370
30371	Ditto but radius of protection (level 1) with the terminal 5 m above the protected surface at 20 m striking distance being 63 m	57,172.54	603.05	755.95	2,212.00	30371
30372	Ditto but radius of protection (level 1) with the terminal 5 m above the protected surface at 20 m striking distance being 79 m	68,742.28	603.05	755.95	2,212.00	30372
30373	Early streamer lightning terminal to French standard NF C17-102; Radius of protection (level 1) with the terminal 5 m above the protected surface at 20 m striking distance being 48 m.	29,641.43	466.27	700.49	1,507.45	30373
30374	Early streamer lightning terminal to French standard NF C17-102; Radius of protection (level 1) with the terminal 5 m above the protected surface at 20 m striking distance being 63 m.	39,057.56	466.27	700.49	1,507.45	30374
30375	Early streamer lightning terminal to French standard NF C17-102; Radius of protection (level 1) with the terminal 5 m above the protected surface at 20 m striking distance being 79 m.	49,398.45	466.27	700.49	1,507.45	30375
30376	Air termination support c/w connection clamps and all necessary accessories	14,076.76	247.04	308.94	748.39	30376
30377	Stainless steel mast assembly	4,378.93	444.67	571.77	1,796.29	30377
30378	Lightning event counter	4,276.97	50.56	63.19	191.51	30378
Power surge protection devices in compliance with IEC 61643-1						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Shunt type Surge Protection Devices for primary incoming power protection : -					
	<i>Each</i>					
30379	20 kA (8/ 20 μ s), single-phase	923.00	12.27	16.41	47.92	30379
30380	Ditto but three phase	2,818.76	12.27	16.41	47.92	30380
30381	40 kA (8/ 20 μ s), single-phase	933.67	12.27	16.41	47.92	30381
30382	Ditto but three-phase	2,823.37	12.27	16.41	47.92	30382
30383	65 kA (8/ 20 μ s), single-phase	1,990.19	16.20	20.02	60.90	30383
30384	Ditto but three-phase	5,562.03	16.20	20.02	60.90	30384
30385	80 kA (8/ 20 μ s), single-phase	2,647.94	16.20	20.02	60.90	30385
30386	Ditto but three-phase	7,887.03	16.20	20.02	60.90	30386
30387	100 kA (8/ 20 μ s), single-phase	2,705.49	18.77	23.48	71.73	30387
30388	Ditto but three-phase	8,045.09	18.77	23.48	71.73	30388
30389	150 kA (8/ 20 μ s), single-phase	3,815.61	18.77	23.48	71.73	30389
30390	Ditto but three-phase c/w counter	13,411.52	18.77	23.48	71.73	30390

Item					Item	
	EARTHING AND LIGHTNING CONDUCTOR FITTINGS (CONT'D)					
	Surge Reduction Filters for electronic equipment with surge rating : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30391	6A, 4 - 16 kA (8/ 20 μs), single-phase	3,007.05	12.23	16.37	47.81	30391
30392	10A/ 20A, 40 - 55 kA (8/ 20 μs), single-phase	4,583.48	12.23	16.37	47.81	30392
30393	20A, 40 - 55 kA (8/ 20 μs), three-phase	7,046.99	16.35	19.91	59.90	30393
30394	32A, 135 kA (8/ 20 μs), single-phases	5,414.30	12.23	16.37	47.81	30394
30395	63A/ 125A, 135 kA (8/ 20 μs), single-phase	5,511.30	12.23	16.37	47.81	30395
30396	32A, 135 kA (8/ 20 μs), three-phase	7,540.25	16.35	19.91	59.90	30396
30397	64A, 135 kA (8/ 20 μs), three-phase	7,638.90	16.35	19.91	59.90	30397
30398	125A, 135 kA (8/ 20 μs), three-phase	7,644.38	16.35	19.91	59.90	30398
30399	200A/ 315A, 135 kA (8/ 20 μs), three-phase	7,809.29	16.35	19.91	59.90	30399
30400	630A, 135 kA (8/ 20 μs), three-phase	7,878.63	16.35	19.91	59.90	30400
	Surge protectors for radio, telecommunications & signal protection : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30401	500A (8/ 20 μs)	1,790.36	12.23	16.37	47.81	30401
30402	2.5 kA (8/ 20 μs)	1,790.58	12.23	16.37	47.81	30402
30403	10 kA (8/ 20 μs)	1,804.79	12.23	16.37	47.81	30403
30404	20 kA (8/ 20 μs)	1,810.98	12.23	16.37	47.81	30404
	Miscellaneous item : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30405	Supplementary bonding to metal type ceiling grid, window frame and service pipes c/w box for wiring not exceeding 2 m	17.02	3.68	-	-	30405

Item

Item

EARTHING AND LIGHTNING CONDUCTOR FITTINGS (CONT'D)

Chemicals for soil treatment : -

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A	B	C	D	
		\$	\$	\$	\$	
<i>Per kg</i>						
30406	Ammonium chloride	43.75	-	-	24.19	30406
30407	Copper sulphate	47.75	-	-	24.19	30407
30408	Bentonite	44.42	-	-	24.19	30408
30409	Lime powder for mixing of earthing chemical	26.57	-	-	24.19	30409
30410	Industrial salt for mixing of earthing chemical	40.27	-	-	24.19	30410
30411	Carbolic powder for mixing of earthing chemical	42.14	-	-	24.19	30411

Item					Item	
ELECTRICAL APPLIANCES						
<i>Each</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30412	Electric rice cooker for 10 persons	478.77	5.20	7.31	20.87	30412
30413	Electric rice cooker for 15 persons	649.58	5.20	7.31	20.87	30413
30414	Electric cooker 2 rings	1,918.06	21.78	27.22	81.51	30414
30415	Electric cooker 3 or 4 rings	4,426.62	36.49	46.04	135.26	30415
30416	Water heater, instantaneous type, 6 kW, single-phase	1,569.64	21.78	27.22	81.51	30416
30417	Water heater, instantaneous type, 18 kW, three-phase	2,510.44	21.78	27.22	90.49	30417
30418	Water heater, instantaneous type, 24 kW, three-phase	2,716.41	36.49	46.04	135.26	30418
30419	Electric water heater, storage type, n.e. 10 litres, minimum 3kW, single-phase	2,372.04	21.78	27.22	81.51	30419
30420	Electric water heater, storage type, 13 litres, minimum 3kW, single-phase	2,372.04	21.78	27.22	81.51	30420
30421	Electric water heater, storage type, 25 litres, minimum 3kW, single-phase	2,881.06	21.78	27.22	81.51	30421
30422	Electric water heater, storage type, 38 litres, minimum 3kW, single-phase	3,969.13	21.78	27.22	81.51	30422
30423	Electric water heater, storage type, 57 litres, minimum 3kW, single-phase	4,415.22	21.78	27.22	81.51	30423
30424	Electric water heater, storage type, 90 litres, minimum 2.5kW, single-phase	6,027.89	36.49	46.04	135.26	30424
30425	Electric water heater, storage type, 135 litres, minimum 2.5kW, single-phase	8,186.86	36.49	46.04	135.26	30425
30426	Electric water heater, storage type, 135 litres, minimum 18kW, three-phase	9,113.54	36.49	46.04	135.26	30426
30427	Electric water heater, storage type, 150 litres, minimum 3kW, single-phase	8,878.04	36.49	46.04	135.26	30427
30428	Electric water heater, storage type, 150 litres, minimum 18kW, three-phase	9,888.69	36.49	46.04	135.26	30428
30429	Electric water heater, storage type, 180 litres, minimum 18kW, three-phase	13,515.88	36.49	46.04	135.26	30429
30430	Electric water heater, storage type, 225 litres, minimum 18kW, three-phase	15,716.89	36.49	46.04	135.26	30430
30431	Tubular heater, 300 mm	158.86	11.83	14.86	43.22	30431
30432	Tubular heater, 600 mm	533.62	11.83	14.86	43.22	30432
30433	Tubular heater, 1200 mm	603.66	11.83	14.86	43.22	30433
30434	Kettle, 3.5 - 4.5 litre, 2 kW (max.), single-phase	425.90	5.20	7.31	20.87	30434
30435	Water boiler, 3 kW (max.), single-phase	4,924.78	5.20	7.31	20.87	30435
30436	Tea urn, 18 litres	1,379.05	5.20	7.31	20.87	30436
30437	Electric fire, 1 kW (max.), wall mounted	261.76	14.84	18.45	56.24	30437

Item	Rate A \$	Item
PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC)		
Testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2.		
Testing of installed rising mains and feeder circuit in single-phase or three-phase : - (Testing of plug-in unit/ tee-off switch, sub-main circuit/ final circuit, functional test of RCD shall be measured separately)		
Per item		
30463	597.71	30463
Rating of outgoing switch of switchboard or cut-out switch not exceeding 630A		
30464	799.08	30464
Rating of outgoing switch of switchboard or cut-out switch 630A – 1600A		
30465	1,247.16	30465
Rating of outgoing switch of switchboard or cut-out switch 1600A – 3200A		
Testing of plug-in unit/ tee-off switch		
Each		
30466	88.26	30466
Tee off switch/ plug in unit from the rising main		
Type of premises : Clinic & Child Care Centre; Control Point; Prison; Correctional Institution and Detention Centre : -		
Testing of sub-main circuit : -		
Per circuit		
30467	54.87	30467
Testing of single phase circuit		
30468	72.69	30468
Testing of three phase circuit		
Testing of 13A socket outlet circuit : -		
Per circuit		
30469	243.44	30469
Testing of single phase circuit		
Testing of residual current device (RCD) : -		
Each		
30470	51.28	30470
Functional test of RCD with or without tester, any rating		
Testing of final circuit for lighting fittings : -		
Per circuit		
30471	283.65	30471
Testing of single phase circuit		

Item			Item
	PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
	Testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. (Cont'd)		
		Rate A \$	
	Type of premises : Clinic & Child Care Centre; Control Point; Prison; Correctional Institution and Detention Centre : -		
	Testing of final circuit other than 13A socket outlet and lighting fittings : -		
	<i>Per circuit</i>		
30472	Testing of single phase circuit	54.87	30472
30473	Testing of three phase circuit	72.69	30473
	Type of premises : Institution Buildings including Primary, Secondary and Vocational Training School; Police Stations; F.S. Stations; Ambulance Depots; Prestige Buildings including Museums, Art Galleries, Legislative Council Buildings and Court; Playground; Stadium; Sportsground; Park; Hawker Bazaars; Pier; Cemeteries; Public Latrines; Bath House; Refuse Collection Point; Toilet Block; and all other single-user building : -		
	Testing of sub-main circuit : -		
	<i>Per circuit</i>		
30474	Testing of single phase circuit	53.80	30474
30475	Testing of three phase circuit	71.22	30475
	Testing of 13A socket outlet circuit : -		
	<i>Per circuit</i>		
30476	Testing of single phase circuit	238.58	30476
	Testing of residual current device (RCD) : -		
	<i>Each</i>		
30477	Functional test of RCD with or without tester, any rating	51.28	30477
	Testing of final circuit for lighting fittings : -		
	<i>Per circuit</i>		
30478	Testing of single phase circuit	277.96	30478

Item			Item
	PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
	Testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. (Cont'd)		
		Rate A \$	
	Testing of final circuit other than 13A socket outlet and lighting fittings : -		
	<i>Per circuit</i>		
30479	Testing of single phase circuit	53.80	30479
30480	Testing of three phase circuit	71.22	30480
	Type of premises : Office Building including Office, Government House, Carpark and Post Office; Quarters; Municipal Building including Civic Centre, Community Centre, Culture Centre, Theatre, Swimming Pool, Market, Mortuaries, Libraries, Indoor Game Hall; Industrial Building including Workshop, Depot, Laboratory and Plant; and all other multi-user building : -		
	Testing of sub-main circuit : -		
	<i>Per circuit</i>		
30481	Testing of single phase circuit	52.14	30481
30482	Testing of three phase circuit	69.04	30482
	Testing of 13A socket outlet circuit : -		
	<i>Per circuit</i>		
30483	Testing of single phase circuit	231.25	30483
	Testing of residual current device (RCD) : -		
	<i>Each</i>		
30484	Functional test of RCD with or without tester, any rating	51.28	30484
	Testing of final circuit for lighting fittings : -		
	<i>Per circuit</i>		
30485	Testing of single phase circuit	269.45	30485
	Testing of final circuit other than 13A socket outlet and lighting fittings : -		
	<i>Per circuit</i>		
30486	Testing of single phase circuit	52.14	30486
30487	Testing of three phase circuit	69.04	30487

Item	Rate A \$	Item
PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
Testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. (Cont'd)		
Submission of Form WR2 to EMSD		
<i>Per item</i>		
30488	2,548.56	30488
Submit Form WR2 to EMSD including endorsement fee		
<i>Per installation</i>		
30489	2,630.00	30489
Testing of power factor correction installation up to 240 kVAr at 380V nominal voltage including PF control relays, circuit protective devices, contactors and capacitors		
30490	3,501.53	30490
Testing of power factor correction installation exceeding 240 kVAr at 380V nominal voltage including PF control relays, circuit protective devices, contactors and capacitors		
Current Capacity of Low voltage cubicle switchboard :-		
<i>Per item</i>		
30491	14,922.17	30491
below 800A 3 Phase (1 - 3 cubicle column)		
30492	26,467.52	30492
below 800A 3 Phase (4 - 6 cubicle column)		
30493	14,922.17	30493
800A/ 1000A 3 Phase (1 - 3 cubicle column)		
30494	26,467.52	30494
800A/ 1000A 3 Phase (4 - 6 cubicle column)		
30495	16,030.73	30495
1200A/ 1600A 3 Phase (1 - 3 cubicle column)		
30496	30,901.82	30496
1200A/ 1600A 3 Phase (4 - 6 cubicle column)		
30497	43,856.71	30497
1200A/ 1600A 3 Phase (7 - 9 cubicle column)		
30498	16,030.73	30498
2000A/ 2250A/ 2500A 3 Phase (1 - 3 cubicle column)		
30499	30,901.82	30499
2000A/ 2250A/ 2500A 3 Phase (4 - 6 cubicle column)		
30500	43,856.71	30500
2000A/ 2250A/ 2500A 3 Phase (7 - 9 cubicle column)		
30501	58,475.60	30501
2000A/ 2250A/ 2500A 3 Phase (10 - 12 cubicle column)		
30502	4,872.97	30502
2000A/ 2250A/ 2500A 3 Phase (Extra for each addition cubicle column over 12 cubicle column)		
30503	19,853.85	30503
3000A/ 3200A 3 Phase (1 - 3 cubicle column)		
30504	31,454.96	30504
3000A/ 3200A 3 Phase (4 - 6 cubicle column)		
30505	51,616.73	30505
3000A/ 3200A 3 Phase (7 - 9 cubicle column)		
30506	62,909.89	30506
3000A/ 3200A 3 Phase (10 - 12 cubicle column)		
30507	5,242.50	30507
3000A/ 3200A 3 Phase (Extra for each addition cubicle column over 12 cubicle column)		
Testing of IDMT earth fault relay :-		
<i>Per item</i>		
30508	7,190.76	30508
Carry out site testing work for IDMT earth fault relay including provision of full set of test report and Form WR2A		

Item	Rate A S	Item
PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
Entrusted testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. The cost of planning and arrangement of venues, engagement of the Independent PITC Checker and uploading the PITC record to the "Electronic System for Planning, Programming, Data Inputting, Storage and Retrievals of Inspection and Maintenance Works in Buildings" shall be deemed to be included in the respective items for PITC works, in addition, the Contractor shall also proceed with the rectification work and submit the test certificate upon completion.		
Testing of installed rising mains and feeder circuit in single-phase or three-phase : - (Testing of plug-in unit/ tee-off switch, sub-main circuit/ final circuit, functional test of RCD shall be measured separately)		
<i>Per item</i>		
30509	708.58	30509
Rating of outgoing switch of switchboard or cut-out switch not exceeding 630A		
30510	909.96	30510
Rating of outgoing switch of switchboard or cut-out switch 630A – 1600A		
30511	1,358.00	30511
Rating of outgoing switch of switchboard or cut-out switch 1600A – 3200A		
Testing of plug-in unit/ tee-off switch		
<i>Each</i>		
30512	143.70	30512
Tee off switch/ plug in unit from the rising main		
Type of premises : Clinic & Child Care Centre; Control Point; Prison; Correctional Institution and Detention Centre : -		
Testing of sub-main circuit : -		
<i>Per circuit</i>		
30513	77.05	30513
Testing of single phase circuit		
30514	94.85	30514
Testing of three phase circuit		
Testing of 13A socket outlet circuit : -		
<i>Per circuit</i>		
30515	265.57	30515
Testing of single phase circuit		
Testing of residual current device (RCD) : -		
<i>Each</i>		
30516	53.40	30516
Functional test of RCD with or without tester, any rating		

Item		Rate A S	Item
	PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
	Entrusted testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. The cost of planning and arrangement of venues, engagement of the Independent PITC Checker and uploading the PITC record to the "Electronic System for Planning, Programming, Data Inputting, Storage and Retrievals of Inspection and Maintenance Works in Buildings" shall be deemed to be included in the respective items for PITC works, in addition, the Contractor shall also proceed with the rectification work and submit the test certificate upon completion. (Cont'd)		
	Testing of final circuit for lighting fittings : - <i>Per circuit</i>		
30517	Testing of single phase circuit	305.80	30517
	Testing of final circuit other than 13A socket outlet and lighting fittings : - <i>Per circuit</i>		
30518	Testing of single phase circuit	77.05	30518
30519	Testing of three phase circuit	94.85	30519
	Type of premises : Institution Buildings including Primary, Secondary and Vocational Training School; Police Stations; F.S. Stations; Ambulance Depots; Prestige Buildings including Museums, Art Galleries, Legislative Council Buildings and Court; Playground; Stadium; Sportsground; Park; Hawker Bazaars; Pier; Cemeteries; Public Latrines; Bath House; Refuse Collection Point; Toilet Block; and all other single-user building : -		
	Testing of sub-main circuit : - <i>Per circuit</i>		
30520	Testing of single phase circuit	75.96	30520
30521	Testing of three phase circuit	93.42	30521
	Testing of 13A socket outlet circuit : - <i>Per circuit</i>		
30522	Testing of single phase circuit	260.72	30522
	Testing of residual current device (RCD) : - <i>Each</i>		
30523	Functional test of RCD with or without tester, any rating	53.40	30523
	Testing of final circuit for lighting fittings : - <i>Per circuit</i>		
30524	Testing of single phase circuit	300.13	30524

Item			Item
	PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
	Entrusted testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. The cost of planning and arrangement of venues, engagement of the Independent PITC Checker and uploading the PITC record to the "Electronic System for Planning, Programming, Data Inputting, Storage and Retrievals of Inspection and Maintenance Works in Buildings" shall be deemed to be included in the respective items for PITC works, in addition, the Contractor shall also proceed with the rectification work and submit the test certificate upon completion. (Cont'd)		
		Rate A \$	
	Testing of final circuit other than 13A socket outlet and lighting fittings : -		
	<i>Per circuit</i>		
30525	Testing of single phase circuit	75.96	30525
30526	Testing of three phase circuit	93.42	30526
	Type of premises : Office Building including Office, Government House, Carpark and Post Office; Quarters; Municipal Building including Civic Centre, Community Centre, Culture Centre, Theatre, Swimming Pool, Market, Mortuaries, Libraries, Indoor Game Hall; Industrial Building including Workshop, Depot, Laboratory and Plant; and all other multi-user building : -		
	Testing of sub-main circuit : -		
	<i>Per circuit</i>		
30527	Testing of single phase circuit	74.31	30527
30528	Testing of three phase circuit	91.22	30528
	Testing of 13A socket outlet circuit : -		
	<i>Per circuit</i>		
30529	Testing of single phase circuit	253.43	30529
	Testing of residual current device (RCD) : -		
	<i>Each</i>		
30530	Functional test of RCD with or without tester, any rating	53.40	30530
	Testing of final circuit for lighting fittings : -		
	<i>Per circuit</i>		
30531	Testing of single phase circuit	291.65	30531

Item			Item
	PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
	Entrusted testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. The cost of planning and arrangement of venues, engagement of the Independent PITC Checker and uploading the PITC record to the "Electronic System for Planning, Programming, Data Inputting, Storage and Retrievals of Inspection and Maintenance Works in Buildings" shall be deemed to be included in the respective items for PITC works, in addition, the Contractor shall also proceed with the rectification work and submit the test certificate upon completion. (Cont'd)		
		Rate A \$	
	Testing of final circuit other than 13A socket outlet and lighting fittings : -		
	<i>Per circuit</i>		
30532	Testing of single phase circuit	74.31	30532
30533	Testing of three phase circuit	91.22	30533
	Submission of Form WR2 to EMSD		
	<i>Per item</i>		
30534	Submit Form WR2 to EMSD including endorsement fee	2,548.56	30534
	<i>Per installation</i>		
30535	Testing of power factor correction installation up to 240 kVA _r at 380V nominal voltage including PF control relays, circuit protective devices, contactors and capacitors	3,738.58	30535
30536	Testing of power factor correction installation exceeding 240 kVA _r at 380V nominal voltage including PF control relays, circuit protective devices, contactors and capacitors	4,610.11	30536

Item			Item
	PERIODIC INSPECTION, TESTING AND CERTIFICATION (PITC) (CONT'D)		
	Entrusted testing and inspection of electrical installation comprising rising mains, feeder circuit, sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the provision of electrical schematic, test report and test certificate which should be certified by Registered Electrical Worker of the appropriate grade and submit Form WR2. The cost of planning and arrangement of venues, engagement of the Independent PITC Checker and uploading the PITC record to the "Electronic System for Planning, Programming, Data Inputting, Storage and Retrievals of Inspection and Maintenance Works in Buildings" shall be deemed to be included in the respective items for PITC works, in addition, the Contractor shall also proceed with the rectification work and submit the test certificate upon completion. (Cont'd)		
	Testing and inspection of electrical installation of the low voltage cubicle switchboard where all existing switchgear, busbar, IDMT, circuit breaker, earthing devices and etc. are inspected, tested and issue of test certificate.		
	Current Capacity of Low voltage cubicle switchboard : -		
	<i>Per item</i>	Rate A S	
30537	below 800A 3 Phase (1 - 3 cubicle column)	16,030.73	30537
30538	below 800A 3 Phase (4 - 6 cubicle column)	27,576.10	30538
30539	800A/ 1000A 3 Phase (1 - 3 cubicle column)	16,030.73	30539
30540	800A/ 1000A 3 Phase (4 - 6 cubicle column)	27,576.10	30540
30541	1200A/ 1600A 3 Phase (1 - 3 cubicle column)	17,139.32	30541
30542	1200A/ 1600A 3 Phase (4 - 6 cubicle column)	32,010.40	30542
30543	1200A/ 1600A 3 Phase (7 - 9 cubicle column)	44,965.28	30543
30544	2000A/ 2250A/ 2500A 3 Phase (1 - 3 cubicle column)	17,139.32	30544
30545	2000A/ 2250A/ 2500A 3 Phase (4 - 6 cubicle column)	32,010.40	30545
30546	2000A/ 2250A/ 2500A 3 Phase (7 - 9 cubicle column)	44,965.28	30546
30547	2000A/ 2250A/ 2500A 3 Phase (10 - 12 cubicle column)	59,584.18	30547
30548	2000A/ 2250A/ 2500A 3 Phase (Extra for each addition cubicle column over 12 cubicle column)	4,965.36	30548
30549	3000A/ 3200A 3 Phase (1 - 3 cubicle column)	20,962.43	30549
30550	3000A/ 3200A 3 Phase (4 - 6 cubicle column)	32,563.52	30550
30551	3000A/ 3200A 3 Phase (7 - 9 cubicle column)	52,725.31	30551
30552	3000A/ 3200A 3 Phase (10 - 12 cubicle column)	64,018.48	30552
30553	3000A/ 3200A 3 Phase (Extra for each addition cubicle column over 12 cubicle column)	5,334.87	30553
	Testing of IDMT earth fault relay : -		
	<i>Per item</i>		
30554	Carry out site testing work for IDMT earth fault relay including provision of full set of test report and Form WR2A	8,299.32	30554

Item			Item
	TESTING		
	Testing and inspection of electrical installation comprising sub-main circuit, final circuit, protective conductors, earthing facilities, power supplies to all communal services, but excluding main switch board, for the premises in accordance with the requirements as specified in Chapter 406, Electricity Ordinance and the latest edition of Code of Practice for Electricity (Wiring) Regulations published by Electrical and Mechanical Services Department and all subsequent amendments thereto issued prior to the date of first notice of tender invitation c/w the submission of Form WR2 for annual renewal of Dangerous Goods Licence -		
		Rate	
		A \$	
	Type of premises : Dangerous Goods store : -		
	Testing of sub-main circuit : -		
	<i>Per circuit</i>		
30555	Testing of single phase circuit	109.19	30555
30556	Testing of three phase circuit	139.08	30556
	Testing of 13A socket outlet circuit : -		
	<i>Per circuit</i>		
30557	Testing of single phase circuit	324.85	30557
	Testing of residual current device (RCD) : -		
	<i>Each</i>		
30558	Functional test of RCD with or without tester, any rating	53.40	30558
	Testing of final circuit for lighting fittings : -		
	<i>Per circuit</i>		
30559	Testing of single phase circuit	390.90	30559
	Testing of final circuit other than 13A socket outlet and lighting fittings : -		
	<i>Per circuit</i>		
30560	Testing of single phase circuit	109.19	30560
30561	Testing of three phase circuit	139.08	30561

Item			Item
	TESTING (CONT'D)		
	Testing and inspection of electrical installation for domestic quarters where all existing switchgear, wiring, lighting, power points, appliances, etc. are inspected and tested, and test certificate is issued to enable the new tenant to obtain electricity supply from Power Company upon change of tenancy (with usable floor area of quarters) :-		
		Rate A \$	
	<i>Per item</i>		
30562	Not exceeding 50 m ²	1,736.91	30562
30563	50 m ² - 100 m ²	2,484.89	30563
30564	100 m ² - 150 m ²	2,632.55	30564
30565	150 m ² - 200 m ²	3,149.93	30565
30566	Over 200 m ²	5,004.08	30566
	Measurement of circuit :-		
	<i>Per way</i>		
30567	Measurement of current, single phase current	112.86	30567
30568	Measurement of current, three phases current, not exceeding 400A	158.17	30568
30569	Measurement of current, three phases current, exceeding 400A	174.42	30569
	(Note : The following items are not applicable for new installation. It will only be paid for testing on existing installation if ordered by the Maintenance Surveyor in writing.)		
		Rate A \$	
	Testing of each emergency lighting :-		
	<i>Per item</i>		
30570	Testing and provision of written report of emergency lighting fitting including a discharge test to the central battery, for a minute at the 10-hour discharge rate according to the Fire Services Departments latest requirements for Minimum Fire Service Installation and Equipment and Inspection, Testing and Maintenance of Installation and Equipment published by Fire Services Department and all amendment subsequent thereto issued prior to the date of first notice of tender invitation	164.78	30570
30571	Testing and provision of written report of single battery emergency lighting fitting including testing of self contained battery according to Fire Services Departments latest requirements for Minimum Fire Service Installation and self contained battery Inspection, Testing and Maintenance of Installation and Equipment published by Fire Services Department and all amendment subsequent thereto issued prior to the date of first notice of tender invitation.	139.95	30571
30572	Inspection of emergency lighting by registered fire service contractor	103.84	30572
30573	Issue of FS251 on certification of emergency lighting installation	2,243.10	30573

Item					Item	
	MISCELLANEOUS					
	Isolating transformer comply with IEC 60076, including submission of test certificates : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30574	Not exceeding 5 kVA	12,980.66	851.41	1,064.40	3,184.34	30574
30575	5 - 25 kVA	35,140.30	1,272.31	1,587.48	4,761.23	30575
30576	25 - 50 kVA	59,844.25	1,920.04	2,399.40	7,440.12	30576
30577	50 - 100 kVA	77,746.89	2,519.88	3,146.53	9,569.97	30577
30578	Add to last item for each additional 50 kVA or part thereof	18,969.94	639.16	799.33	2,398.72	30578
	Active harmonic filter					
	Active harmonic filter c/w current transformer, wiring and all necessary accessories; with total rms current rating (Arms) rating up to : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30579	50A (The actual rate should be : \$100,848.90 for Item 30579A)	10,084.89	1,948.59	2,587.42	3,871.59	30579
30580	100A (The actual rate should be : \$138,409.50 for Item 30580A)	13,840.95	2,579.45	3,228.40	4,973.65	30580
30581	300A (The actual rate should be : \$413,663.50 for Item 30581A)	41,366.35	2,902.29	4,204.22	5,615.07	30581
	Surge protection device					
	Surge protection device c/w necessary cable and wiring, which shall be capable of diverting the following current levels : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30582	80A/ 120A/ 160A per phase	10,884.06	82.11	135.20	158.51	30582
30583	200A/ 240A/ 360A/ 480A per phase	11,572.94	82.11	135.20	188.31	30583
30584	600A/ 720A per phase	15,117.07	164.06	193.06	235.29	30584
30585	960A per phase	19,576.74	234.63	293.46	322.56	30585

Item						Item
	MISCELLANEOUS (CONT'D)					
	Electronic power meter c/w current transformer (all types), wiring for sampling current & voltage supply sources, power point with spur/ connection unit and all necessary accessories, using in circuit current rating up to :-					
	<i>Each</i>					
30586	60A/ 100A	24,863.16	1,642.14	2,278.11	2,507.61	30586
30587	200A	27,777.63	1,642.14	2,278.11	2,507.61	30587
30588	400A/ 600A/ 800A	30,971.07	1,966.14	2,938.07	3,123.48	30588
30589	1000A/ 1600A/ 2250A	33,932.27	2,436.12	3,247.71	3,917.44	30589
	Microprocessor based digital multifunction power meter c/w current transformer (all types), metal box and all necessary interconnection wiring for sampling current & voltage supply sources, power point with spur/ connection unit and all necessary accessories, using in circuit current rating up to :-					
	<i>Each</i>					
30590	Up to 10A	2,872.32	478.52	533.77	894.71	30590
30591	10 - 40A	3,016.96	478.52	533.77	894.71	30591
30592	40 - 125A	5,148.09	478.52	533.77	894.71	30592
	Ceiling rose and connector :-					
	<i>Each</i>					
30593	Ceiling rose surface 2 or 3 terminal cordgrip pattern	57.54	10.09	12.10	31.14	30593
30594	Ditto, small cap type	45.12	7.94	9.84	30.13	30594
30595	Connector porcelain, single way	9.67	1.34	1.65	4.01	30595
30596	Connector porcelain, double way	10.90	1.34	1.65	4.01	30596
	<i>Per way</i>					
30597	Connector moulded with non-rotable tinned brass inserts 5 - 10A	3.97	0.51	0.61	1.53	30597
30598	Ditto, 15 - 30A	4.83	0.51	0.61	1.53	30598

Item					Item	
	MISCELLANEOUS (CONT'D)					
	Sundries : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30599	Provision of framed as-built drawing/ safety instruction/ operation instruction in an aluminium frame suitable for A2 size paper c/w 3 mm thick clear plastic front sheet & wooden back plate	995.37	12.88	15.77	40.09	30599
30600	Ditto, for A3 size paper	853.14	9.73	11.73	30.18	30600
30601	Numbered ferrule for 1 core PVC cable per way	16.95	3.37	-	13.20	30601
30602	Label for distribution board per way	10.18	1.14	1.25	2.58	30602
30603	Adhesive circuitry label at least 4mm in height showing circuit numbers	1.63	0.46	0.49	1.06	30603
30604	Traffolyte type warning notice for switch room, size 300 x 150 mm	164.06	6.43	8.06	22.81	30604
30605	Traffolyte type label with engraved English and Chinese lettering, size up to 0.002 m ²	9.27	1.14	1.47	3.81	30605
30606	Traffolyte type label with engraved English and Chinese lettering, size 0.002 - 0.006 m ²	20.20	1.14	1.47	3.81	30606
30607	Warning label for different cable colour code	93.36	6.43	8.06	22.81	30607
30608	Label on next date of Periodic Inspection and Testing	46.16	1.14	1.47	3.81	30608
30609	Label on testing of residual current device	30.83	1.14	1.47	3.81	30609
	Motor starter D.O.L. T.P. with enclosure : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30610	15/ 30A	746.98	21.12	26.48	81.11	30610
30611	45A	1,293.82	25.79	31.47	98.74	30611
30612	60A	1,509.66	27.30	34.33	104.75	30612
30613	Packing gland for circular P.V.C. or T.R.S. flexible cord (1 mm ² or 1.5 mm ²) brass, with compression ring as required	19.90	0.33	0.51	1.57	30613

Item					Item	
	MISCELLANEOUS (CONT'D)					
	Heat-shrunk corrosion protection sleeve standard length 450 mm suitable for pipe size of :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30614	150/ 104 mm	678.19	17.71	21.99	67.33	30614
30615	165/ 127 mm	747.50	19.18	24.17	73.86	30615
30616	196/ 140 mm	814.07	20.62	25.61	79.46	30616
30617	255/ 150 mm	859.68	22.09	27.90	83.96	30617
30618	300/ 210 mm	889.85	22.88	28.63	87.20	30618
	Auto transformer :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30619	Auto transformer 15 kVA, single phase, 50 Hz, with 400/ 260/ 240/ 220V tappings	14,387.13	84.15	105.41	326.67	30619
30620	Auto transformer 25 kVA, single phase, 50 Hz, with 400/ 260/ 240/ 220V tappings	19,965.27	84.15	105.41	326.67	30620
30621	Auto transformer 45 kVA, three phases, 50 Hz, with 600/ 420/ 400/ 380/ 346V tappings	28,299.44	92.08	115.06	356.29	30621
	Weatherproof stainless steel grade 316 metal box/ chamber other than those item explicitly specified for housing electrical instrument, switches, relays, socket outlets, MCB units etc. with minimum thickness 1.6 mm for casing and 2 mm for front panel, and with hinged cover, lock and handle, viewing glass. Square or rectangular pattern, including all bends, ends, inlets, junctions, connections, flanged joints, bonding and the like of the following sizes in volume: -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30622	Not exceeding 0.005 m ³	939.90	91.53	152.74	182.71	30622
30623	0.005 m ³ - 0.01 m ³	1,049.04	91.53	152.74	182.71	30623
30624	0.01 m ³ - 0.03 m ³	1,554.10	91.53	152.74	182.71	30624
30625	0.03 m ³ - 0.05 m ³	2,212.79	152.17	194.81	242.16	30625
30626	0.05 m ³ - 0.1 m ³	2,830.02	152.17	194.81	242.16	30626
30627	0.1 m ³ - 0.3 m ³	6,939.76	242.16	305.35	332.02	30627

Item						Item
	MISCELLANEOUS (CONT'D)					
	Galvanized sheet metal box/ chamber other than those items explicitly specified for housing electrical instrument, switches, relays, socket outlets, MCB units etc. with minimum thickness 1.6 mm for casing and 2 mm for front panel, and with hinged cover, lock and handle, viewing glass, painted overall where necessary. Square or rectangular pattern, including all bends, ends, inlets, junctions, connections, flanged joints, bonding and the like of the following sizes in volume : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30628	Not exceeding 0.005 m ³	347.73	14.63	18.36	55.03	30628
30629	0.005 m ³ - 0.01 m ³	381.71	14.63	18.36	55.03	30629
30630	0.01 m ³ - 0.03 m ³	475.52	17.57	22.81	67.55	30630
30631	0.03 m ³ - 0.05 m ³	731.57	22.17	27.71	83.70	30631
30632	0.05 m ³ - 0.1 m ³	1,034.15	25.50	32.11	97.59	30632
30633	0.1 m ³ - 0.3 m ³	2,264.55	36.73	46.23	140.02	30633
	Weather proof galvanized sheet metal box/ chamber other than those items explicitly specified for housing electrical instrument, switches, relays, socket outlets, MCB units etc. with minimum thickness 1.6 mm for casing and 2 mm for front panel, and with hinged cover, lock and handle, viewing glass, painted overall where necessary. Square or rectangular pattern, including all bends, ends, inlets, junctions, connections, flanged joints, bonding and the like of the following sizes in volume : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30634	Not exceeding 0.005 m ³	480.13	91.53	152.74	182.71	30634
30635	0.005 m ³ - 0.01 m ³	524.72	91.53	152.74	182.71	30635
30636	0.01 m ³ - 0.03 m ³	721.11	91.53	152.74	182.71	30636
30637	0.03 m ³ - 0.05 m ³	1,016.29	152.17	194.81	242.16	30637
30638	0.05 m ³ - 0.1 m ³	1,268.06	152.17	194.81	242.16	30638
30639	0.1 m ³ - 0.3 m ³	2,990.58	242.16	305.35	332.02	30639

Item						Item
	MISCELLANEOUS (CONT'D)					
	Emergency call system : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30640	Emergency call panel, c/w emergency call button, metal case, weatherproof indication panel integrated with indicating lamp, buzzer unit, mute switch, reset switch, timer for auto-mute of buzzer unit, lamp test button, transformer, conduit and wiring	5,757.25	133.61	154.64	694.92	30640
30641	Emergency call button c/w relay and accessories connected to emergency call panel	619.40	106.07	112.05	231.75	30641
30642	Additional repeater panel connected to emergency call panel to receive repeated signals, c/w metal case, weatherproof indication panel integrated with indicating lamp, buzzer unit, mute switch, reset switch, timer for auto-mute of buzzer unit, lamp test button, transformer, conduit and wiring	4,222.10	111.70	119.37	433.11	30642
30643	Additional 1 emergency call panel connected to emergency call repeater panel, including necessary relay, indicating lamp, wiring and accessories	3,622.86	106.84	140.37	282.10	30643
	Buildings Energy Efficiency Ordinance (BEEO) Submission					
					Rate	
					A \$	
	All lighting installations, unless otherwise specified, in a prescribed building should be assessed in accordance with the energy efficient requirements, for the premises in accordance with the requirements as specified in the latest edition of Code of Practice for Energy Efficiency of Building Services Installation (Building Energy Code or BEC in abbreviation), preparation and completion of the installation summaries and worksheets, including but not limited to Form EE-LG, LG-G, LG-1 and LG-2 as required by the BEEO and to coordinate with the Registered Energy Assessor for submission.					
	Type of premises : Prison; Fire Station; Judiciary Building; Police Station; Correctional Institution; Government Offices Building : - The Area as below is independent on total floor area of superstructures inclusive of ancillary buildings within the building complex of the premises specified in the Works Order:					
	<i>Per item</i>					
30644	Not exceeding 1000 m ²				60,625.18	30644
30645	Exceeding 1000 m ² but not exceeding 2000 m ²				84,875.25	30645
30646	Exceeding 2000 m ² but not exceeding 3000 m ²				97,000.30	30646
30647	Exceeding 3000 m ²				14,550.05	30647
	(The actual rate should be : \$145,500.50 for Item 30647A)					
	Type of premises : Hospital/ Health Care Building :- The Area as below is independent on total floor area of superstructures inclusive of ancillary buildings within the building complex of the premises specified in the Works Order:					
	<i>Per item</i>					
30648	Not exceeding 1000 m ²				63,656.46	30648
30649	Exceeding 1000 m ² but not exceeding 2000 m ²				89,119.01	30649
30650	Exceeding 2000 m ² but not exceeding 3000 m ²				10,185.03	30650
	(The actual rate should be : \$101,850.30 for Item 30650A)					
30651	Exceeding 3000 m ²				15,277.54	30651
	(The actual rate should be : \$152,775.40 for Item 30651A)					

Item			Rate	Item	
MISCELLANEOUS (CONT'D)					
Buildings Energy Efficiency Ordinance (BEEO) Submission (Cont'd)					
			A \$		
Type of premises : District Open Space/ Park (with Toilet Block, Service Block and Fountain); District Open Space/ Park (with Toilet Block and Service Block); District Open Space/ Park (with Toilet Block only); Library; Indoor Games Hall; Indoor Swimming Pool; Sport Ground/ Stadium; School with Noise Abatement; School with No Noise Abatement :- The Area as below is independent on total floor area of superstructures inclusive of ancillary buildings within the building complex of the premises specified in the Works Order:					
<i>Per item</i>					
30652	Not exceeding 1000 m ²		62,443.95	30652	
30653	Exceeding 1000 m ² but not exceeding 2000 m ²		87,421.52	30653	
30654	Exceeding 2000 m ² but not exceeding 3000 m ²		99,910.29	30654	
30655	Exceeding 3000 m ²		14,986.55	30655	
(The actual rate should be : \$149,865.50 for Item 30655A)					
All electrical installations, unless otherwise specified, in a prescribed building should be assessed in accordance with the energy efficient requirements, for the premises in accordance with the requirements as specified in the latest edition of Code of Practice for Energy Efficiency of Building Services Installation (Building Energy Code or BEC in abbreviation), preparation and completion of the installation summaries and worksheets, including but not limited to Form EE-EL, EL-1 to EL-5 as required by the BEEO and to coordinate with the Registered Energy Assessor for submission.					
Type of premises : Prison; Fire Station; Judiciary Building; Police Station; ;Correctional Institution; Government Offices Building; Hospital/ Health Care Building; District Open Space/ Park (with Toilet Block, Service Block and Fountain); District Open Space/ Park (with Toilet Block and Service Block); District Open Space/ Park (with Toilet Block only); Library; Indoor Games Hall; Indoor Swimming Pool; Sport Ground/ Stadium; School with Noise Abatement; School with No Noise Abatement :- The Area as below is independent on total floor area of superstructures inclusive of ancillary buildings within the building complex of the premises specified in the Works Order:					
<i>Per item</i>					
30656	Up to 50 nos. of circuits/ motors		5,727.65	30656	
30657	51 nos. of circuits to 100 nos. of circuits/ motors		10,716.25	30657	
30658	101 nos. of circuits to 200 nos. of circuits/ motors		21,802.01	30658	
30659	201 nos. of circuits to 300 nos. of circuits/ motors		32,518.21	30659	
30660	301 nos. of circuits to 400 nos. of circuits/ motors		43,603.97	30660	
30661	401 nos. of circuits to 500 nos. of circuits/ motors		54,320.21	30661	
30662	Every 100 nos. of additional circuits above 500 nos. of circuits/ motors		11,455.26	30662	
FANS & VENTILATION SYSTEM					
Ceiling fan, c/w regulator and down rod of any length including application of glue to all thread parts of the fan :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
30663	900 mm diameter	701.62	38.88	48.44	146.81
30664	1200 mm diameter	756.42	43.96	51.26	155.56
30665	1400 mm diameter	825.52	51.26	58.49	166.80
30666	For existing ceiling fan only, application of rust inhibitor to screw thread, of each ceiling fan down rod (taking down and re-fix ceiling fan, where required, measured separately)	33.10	-	-	-

Item						Item
	FANS & VENTILATION SYSTEM (CONT'D)					
	Wall mounted fan, 3-speed c/w off pull switch and oscillation control pull switch, cord-operated : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30667	400 mm diameter	710.56	21.06	26.48	81.22	30667
30668	500 mm diameter	1,525.51	28.96	32.48	92.35	30668
	Wall mounted rotary fan, industrial type, c/w selector switch for 2 or 3 speed control and oscillation control switch : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30669	600 mm diameter	1,792.68	32.48	36.23	103.41	30669
30670	630 mm diameter	1,910.97	33.59	37.06	106.55	30670
	Ceiling mounted rotary fan c/w regulator : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30671	400 mm diameter	1,090.45	29.56	33.72	100.21	30671
	Regulator for fan : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Each</i>	A \$	B \$	C \$	D \$	
30672	Regulator for fan, 3 speed or above	270.62	11.65	14.58	43.25	30672

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Domestic type exhaust fan, wall/ window mounted c/w automatic/ cord operated shutter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30673	150 mm diameter	457.33	23.24	29.10	89.37	30673
30674	200 mm diameter	460.33	23.24	29.10	89.37	30674
30675	250 mm diameter	492.17	23.24	29.10	89.37	30675
30676	300 mm diameter	594.11	23.24	29.10	89.37	30676
	Domestic type exhaust fan, wall/ window mounted c/w louvre and automatic/ cord operated shutter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30677	150 mm diameter	498.80	28.28	35.47	110.02	30677
30678	200 mm diameter	527.22	28.28	35.47	110.02	30678
30679	250 mm diameter	568.99	28.28	35.47	110.02	30679
30680	300 mm diameter	685.82	28.28	35.47	110.02	30680
	Domestic type exhaust fan, wall/ window mounted c/w louvre and electrical operated shutter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30681	150 mm diameter	1,381.12	23.24	29.10	89.37	30681
30682	200 mm diameter	1,616.77	23.24	29.10	89.37	30682
30683	230 mm diameter	1,914.23	23.24	29.10	89.37	30683
30684	300 mm diameter	2,510.97	23.24	29.10	89.37	30684

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Exhaust fan, propeller type : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30685	250 mm diameter	734.27	29.64	37.69	114.70	30685
30686	315 mm diameter	939.28	29.64	37.69	114.70	30686
30687	335 mm diameter	1,048.91	29.64	37.69	114.70	30687
30688	400 mm diameter	1,473.41	37.69	47.01	144.63	30688
30689	450 mm diameter	1,629.22	42.57	53.21	162.74	30689
30690	500 mm diameter	1,848.23	47.01	58.50	181.04	30690
30691	630 mm diameter	3,442.25	79.55	98.76	306.03	30691
30692	800 mm diameter	5,621.28	115.71	144.87	447.12	30692
	Plate axial fan, wall mounted c/w speed controller : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30693	315 mm diameter; speed up to 1000 rpm, sound level less than 39 dBA	3,787.29	50.70	63.03	191.84	30693
30694	375 mm diameter; speed up to 1000 rpm, sound level less than 45 dBA	4,603.07	63.03	78.91	239.20	30694
30695	450 mm diameter; speed up to 1000rpm, sound level less than 50 dBA	5,663.84	75.09	94.10	287.05	30695
30696	630 mm diameter; speed up to 750 rpm, sound level less than 51 dBA	7,654.70	124.73	155.93	478.75	30696
	Fume cupboard exhaust fan : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30697	152 mm diameter; speed up to 3000 rpm	9,902.16	23.24	29.10	89.37	30697
30698	241 mm diameter; speed up to 1500 rpm	11,022.47	39.53	46.79	95.01	30698
30699	241 mm diameter; speed up to 3000 rpm	13,606.77	39.53	46.79	95.01	30699
30700	305 mm diameter; speed up to 1500 rpm	16,420.53	46.79	56.88	104.06	30700

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Exhaust fan, axial, speed up to 750 rpm, 380V/ 3-phase/ 50 Hz. :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30701	560 mm diameter, 1.5 m ³ / sec. air volume, 30 pa static pressure	7,628.45	60.73	75.50	233.40	30701
30702	600 mm diameter, 2.3 m ³ / sec. air volume, 40 pa static pressure	9,503.16	79.55	98.76	306.03	30702
30703	800 mm diameter, 5.0 m ³ / sec. air volume, 50 pa static pressure	11,937.51	115.71	144.87	448.53	30703
	Wire mesh protective guard for exhaust fan (all types) :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30704	250 mm diameter	118.88	21.33	26.35	79.28	30704
30705	315 mm diameter	123.67	21.33	26.35	79.28	30705
30706	335 mm diameter	130.27	22.01	27.02	80.28	30706
30707	400 mm diameter	138.12	22.71	28.44	84.47	30707
30708	450 mm diameter	154.95	25.52	31.76	95.11	30708
30709	500 mm diameter	163.32	26.19	32.48	97.28	30709
30710	630 mm diameter	193.40	26.84	33.75	101.29	30710
30711	800 mm diameter	247.20	27.52	34.44	104.36	30711
	Air curtain c/w galvanized sheet metal casing with powder coating finishing coat. Fan motor shall have 2-step air flow rate changeover and c/w a controller of on/ off and Hi/ Lo speed operation, including all supporting mild steel hanger and wall bracket fixed to structural member, c/w all necessary accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30712	600 mm long	1,688.17	37.48	46.82	139.84	30712
30713	900 mm long	2,052.27	53.48	61.99	151.19	30713
30714	1200 mm long	2,401.58	70.94	91.65	162.25	30714

Item					Item	
BEDHEAD TRUNKING AND STAFF/ EMERGENCY/ NURSE CALL SYSTEM						
Bedhead trunking : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Per linear metre</i>						
30715	Bedhead trunking, constructed from aluminium extrusions of minimum size 180 mm(H) x 90 mm(D), 3 compartments c/w front plate and panel to accommodate electrical and medical gas bedhead services	2,120.17	19.76	21.12	63.51	30715
30716	Ditto, size 250 mm(H) x 90 mm(D)	2,454.64	20.49	21.99	65.92	30716
<i>Each</i>						
30717	Right angle vertical bend for bedhead trunking	2,021.88	16.75	17.45	52.91	30717
30718	End cap for bedhead trunking	249.74	12.81	13.01	21.14	30718
30719	Bedhead 13A single socket	566.56	13.92	14.71	52.23	30719
30720	Bedhead 13A single socket (switched)	584.63	13.92	14.71	52.23	30720
30721	Bedhead 13A twin socket	854.73	13.92	14.71	52.23	30721
30722	Bedhead 13A single socket c/w RCD	1,842.45	13.92	14.71	52.23	30722
30723	Bedhead 13A single socket (switched) c/w RCD	1,865.82	13.92	14.71	52.23	30723
30724	Bedhead 13A twin socket c/w RCD	2,123.11	13.92	14.71	52.23	30724
30725	Bedhead 13A twin socket (switched) c/w RCD	2,157.33	13.92	14.71	52.23	30725
30726	Bedhead single switch c/w fuse spur	761.10	13.92	14.71	52.23	30726
30727	Bedlight switch c/w bedlight mounting bracket	1,029.06	13.92	14.71	52.23	30727
30728	Bedhead staff call socket	138.36	13.92	14.71	52.23	30728
30729	Angle poise bedlight unit c/w trunking mounting bracket for 11W compact fluorescent lamp	4,227.25	28.17	29.56	106.97	30729
Bedhead trunking-mounted fluorescent luminaries : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
30730	400 mm length	2,782.16	21.80	22.53	128.02	30730
30731	600 mm length	3,100.32	21.80	22.53	129.37	30731
30732	1000 mm length	3,727.25	21.80	22.53	130.48	30732

Item					Item	
BEDHEAD TRUNKING AND STAFF/ EMERGENCY/ NURSE CALL SYSTEM (CONT'D)						
Indicator lamp : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30733	Overdoor indicator lamp (red)	526.46	13.92	14.71	52.23	30733
<i>Each</i>						
Hard-wire staff/ emergency/ nurse call system : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30734	Bedhead staff call push/ reset	1,366.23	14.67	15.38	63.80	30734
30735	Bedhead nurse call/ present/ reset unit with reassurance indicator and handset jack socket	2,064.58	14.67	15.38	63.80	30735
30736	Bedhead nurse call/ present/ reset unit with reassurance indicator, emergency pull/ push unit and handset jack socket	2,428.13	14.67	15.38	63.80	30736
30737	Bedhead RDS control station	2,661.55	14.01	14.76	52.69	30737
30738	Staff/ emergency/ nurse call panel c/w intercom	4,659.43	20.92	22.28	157.69	30738
30739	Nurse call/ reset unit with reset push	1,412.00	17.47	18.18	104.93	30739
30740	Nurse call/ reset unit with reassurance indicator	1,505.56	17.47	18.18	104.93	30740
30741	Nurse call/ reset unit with reassurance indicator and emergency pull/ push unit	1,865.01	18.18	18.92	107.30	30741
Nurse/ staff/ emergency call control & monitoring console/ panel for hard-wire system c/w intercom and wiring : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
30742	Up to 10 ways	8,324.30	103.29	110.41	634.99	30742
30743	10 - 20 ways	8,889.10	110.41	117.15	694.01	30743
30744	20 - 30 ways	9,499.12	117.03	123.94	747.77	30744
30745	30 - 40 ways	11,003.59	123.94	130.82	805.84	30745

Item					Item	
	BEDHEAD TRUNKING AND STAFF/ EMERGENCY/ NURSE CALL SYSTEM (CONT'D)					
	Multiplexed/ microprocessor staff/ emergency/ nurse call system : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30746	Bedhead nurse call/ present/ reset unit with reassurance indicator, emergency pull/ push unit and handset jack socket	2,883.64	14.54	15.28	63.80	30746
30747	Bedhead nurse call/ present/ reset unit with reassurance indicator, RDS control and handset jack socket	5,129.69	15.28	15.94	70.53	30747
30748	Bedhead nurse call/ present/ reset unit with reassurance indicator, emergency pull/ push, RDS control and handset jack socket	5,491.17	15.28	15.94	70.53	30748
30749	Bedhead nurse call/ present/ reset unit with reassurance indicator, RDS control, intercom and handset jack socket	7,141.71	15.28	15.94	70.53	30749
30750	Bedhead nurse call/ present/ reset unit with reassurance indicator, emergency pull/ push, RDS control, intercom and handset jack socket	7,442.51	15.28	15.94	70.53	30750
30751	Bedhead speaker microphone unit	2,062.20	13.92	14.71	52.23	30751
	<i>Each</i>					
30752	Light dimmer; PCB type	1,730.55	13.92	14.71	52.23	30752
30753	Nurse call/ present/ reset unit	1,668.81	17.47	18.18	104.93	30753
30754	Nurse call/ present/ reset unit with reassurance indicator	1,778.72	17.47	18.18	104.93	30754
30755	Nurse call/ present/ reset unit with reassurance indicator and intercom	3,789.10	18.18	18.92	110.43	30755
30756	Nurse/ staff/ emergency call panel c/w touch screen control, intercom and wiring	87,842.03	85.93	107.46	688.02	30756
	Nurse/ staff/ emergency call control & monitoring console/ panel for multiplexed/ microprocessor system c/w intercom and wiring : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
30757	Up to 10 ways	12,402.59	110.41	117.15	697.10	30757
30758	10 - 20 ways	15,666.25	117.03	123.94	752.86	30758
30759	20 - 30 ways	19,691.01	123.94	130.82	807.41	30759
30760	30 - 40 ways	23,799.59	130.89	137.67	863.67	30760
30761	40 - 60 ways	39,344.45	145.06	151.78	973.57	30761
30762	Keyboard console, 70 ways c/w LCD display and intercom	68,486.86	155.25	168.72	1,193.68	30762

Item

Item

BEDHEAD TRUNKING AND STAFF/ EMERGENCY/ NURSE CALL SYSTEM (CONT'D)

Control circuit c/w cables/ wiring, trunking, conduits (surface or concealed in partition and ceiling) and all necessary accessories and connected to nurse/ emergency/ staff call control panel : -

Each

	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	A \$	B \$	C \$	D \$	
30763 Nurse call point	503.13	85.47	92.58	383.30	30763
30764 Nurse present/ reset point	518.58	86.32	93.20	396.30	30764
30765 Nurse call/ present/ reset point	532.93	87.01	94.11	407.48	30765
30766 Emergency call point	503.13	85.47	92.58	383.30	30766
30767 Emergency reset point	503.13	85.47	92.58	383.30	30767
30768 Emergency call/ reset point	518.58	86.32	93.20	396.30	30768
30769 Staff call point	503.13	85.47	92.58	383.30	30769
30770 Staff reset point	503.13	85.47	92.58	383.30	30770
30771 Staff call/ reset point	518.58	86.32	93.20	396.30	30771

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
BEDHEAD TRUNKING AND STAFF/ EMERGENCY/ NURSE CALL SYSTEM (CONT'D)						
General items applicable to all bedhead trunking and staff/ emergency/ nurse call system : -						
	<i>Each</i>					
30772	Headset; stethoscope type c/w parking bracket/ hood to bedhead trunking	335.44	2.88	4.24	10.97	30772
30773	Dummy handset jack plug	63.09	2.88	4.24	10.97	30773
30774	Nurse call handset c/w call button only	862.73	7.09	7.83	17.06	30774
30775	Nurse call handset c/w call button and RDS control	997.21	7.09	7.83	17.06	30775
30776	Nurse call handset parking bracket	74.96	7.09	7.83	22.07	30776
30777	Nurse call handset linen clip	40.25	7.09	7.83	22.07	30777
30778	Nurse call handset socket	73.71	7.09	7.83	22.07	30778
30779	Nurse call handset c/w call button, RDS control and intercom microphone	4,835.46	7.09	7.83	22.39	30779
30780	Nurse call handset/ patient remote call unit with nurse call push, power supply unit, reassurance indicator, intercom, bedlight switch, sound channel selector, volume control and flexible cable	5,065.60	7.09	7.83	22.39	30780
30781	Staff call unit, vandal-proof push	465.50	17.47	18.18	104.93	30781
30782	Emergency call unit	1,130.89	17.47	18.18	104.93	30782
30783	Present/ reset unit	469.83	17.47	18.18	104.93	30783
30784	Present/ reset unit with emergency pull/ push unit	1,293.75	18.18	18.92	111.28	30784
30785	Repeater unit with indicator and mute switch	1,401.95	18.18	18.92	111.28	30785
30786	Pull-cord type nurse call unit with reassurance indicator	371.42	17.47	18.18	104.93	30786
30787	Splash-proof nurse call unit with reassurance indicator	639.20	17.47	18.18	104.93	30787
30788	Splash-proof nurse call/ present/ reset unit with reassurance indicator	1,425.13	18.18	18.92	111.28	30788
30789	Splash-proof present/ reset unit	1,027.86	18.18	18.92	111.28	30789
30790	RDS jack socket unit	197.55	7.09	7.83	22.07	30790
30791	Buzzer unit	584.27	13.92	14.71	52.23	30791
30792	Call indicator	373.23	13.92	14.71	52.23	30792
30793	Call indicator c/w buzzer unit	847.59	14.54	15.28	57.84	30793
30794	Power supply unit 220/ 24V or 220/ 28V for multi-zone nurse/ emergency/ staff call system	15,037.22	35.99	39.46	199.55	30794
DETECTION SENSOR						
Occupancy/ Motion Sensor : -						
	<i>Each</i>					
30795	Wall mounted occupancy sensor, single pole switching, 400W 150° field of view, switches lights ON by passive infrared technology and OFF after an adjustable time delay, with manual overriding switch	429.97	15.92	19.29	47.86	30795
30796	Ditto but single pole and 3 way switching, 180° field of view	569.06	15.92	19.29	47.86	30796
30797	Ceiling mounted occupancy sensor, 10A, 360° detection using passive infrared technology, effective coverage up to 74 m² at 2.4 m ceiling height	1,255.70	15.92	20.42	49.93	30797

Item									Item																
PHOTOVOLTAIC SYSTEM (CONT'D)																									
Photovoltaic system with photovoltaic modules to IEC 60904, mounted on fixed rack with G.I./aluminium frame, protecting diode, inverter, smart inverter, isolating transformer, data logger, circuit breaker, connectors, distribution board, power and control cable, cable containment work, fixing and wiring works, structurally support, controller, surge protection device and all necessary accessories: - (Cont'd)																									
Mono-crystalline type photovoltaic panel with anti-reflective coating having a reflectance <= 4% comply to ISO9050 or equivalent) : - (Total maximum power of PV module under standard test condition)																									
Total number of PV panels																									
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Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above																		
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$																		
<i>Each</i>																									
30813	Supply and fix modules of power 180 - 250 Wp	43,391.57	34,713.26	31,820.48	29,795.55	28,927.71	26,902.77	25,311.75	24,010.00	30813															
30814	Ditto 250 - 300 Wp	43,543.07	34,949.04	32,084.37	30,079.09	29,219.69	27,214.42	25,638.85	24,349.75	30814															
30815	Ditto 300 - 350 Wp	43,694.57	35,182.64	32,345.33	30,359.22	29,508.02	27,521.90	25,961.38	24,684.59	30815															
30816	Ditto 350 - 400 Wp	63,886.84	51,600.91	47,505.60	44,638.88	43,410.29	40,543.57	38,291.15	36,448.26	30816															
30817	Ditto 400 - 450 Wp	64,038.00	51,879.00	47,826.00	44,989.00	43,773.00	40,936.00	38,707.00	36,883.00	30817															
30818	Ditto 450 - 500 Wp	64,190.00	52,154.00	48,142.00	45,334.00	44,130.00	41,322.00	39,116.00	37,310.00	30818															
30819	Ditto 500 - 550 Wp	64,341.00	52,426.00	48,454.00	45,674.00	44,483.00	41,703.00	39,518.00	37,731.00	30819															
30820	Ditto 550 - 600 Wp	76,870.00	62,808.00	58,121.00	54,840.00	53,434.00	50,153.00	47,575.00	45,466.00	30820															
30821	Ditto 600 - 750 Wp	77,022.00	63,102.00	58,462.00	55,214.00	53,822.00	50,574.00	48,023.00	45,935.00	30821															
30822	Ditto 750 - 900 Wp	93,570.61	76,861.58	71,291.89	67,393.12	65,722.22	61,823.44	58,760.11	56,253.76	30822															
30823	Add to last item for each additional 100Wp or part thereof, up to 3000Wp	11,032.41	9,173.05	8,553.26	8,119.41	7,933.48	7,499.63	7,158.07	6,879.17	30823															
30824	Take down and cart away the above mono-crystalline type photovoltaic panel with anti-reflective coating	976.00	976.00	976.00	976.00	976.00	976.00	976.00	976.00	30824															
30825	Take down and set aside for re-use ditto	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	30825															
30826	Fix only ditto	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	30826															

Item									Item																								
PHOTOVOLTAIC SYSTEM (CONT'D)																																	
Photovoltaic system with photovoltaic modules to IEC 60904, mounted on fixed rack with G.I./aluminium frame, protecting diode, inverter, smart inverter, isolating transformer, data logger, circuit breaker, connectors, distribution board, power and control cable, cable containment work, fixing and wiring works, structurally support, controller, surge protection device and all necessary accessories: - (Cont'd)																																	
Multi-crystalline type photovoltaic panel : - (Total maximum power of PV module under standard test condition)																																	
Total number of PV panels																																	
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Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above																										
A	B	C	D	E	F	G	H																										
\$	\$	\$	\$	\$	\$	\$	\$																										
<i>Each</i>																																	
30827	Supply and fix modules of power 180 - 250 Wp	41,845.25	33,476.20	30,686.52	28,733.74	27,896.83	25,944.06	24,409.73	23,154.37	30827																							
30828	Ditto 250 - 300 Wp	41,995.25	33,706.71	30,943.87	29,009.88	28,181.02	26,247.03	24,727.47	23,484.19	30828																							
30829	Ditto 300 - 350 Wp	42,145.25	33,935.14	31,198.43	29,282.74	28,461.73	26,546.03	25,040.85	23,809.33	30829																							
30830	Ditto 350 - 400 Wp	57,964.57	46,817.54	43,101.86	40,500.89	39,386.18	36,785.21	34,741.59	33,069.53	30830																							
30831	Ditto 400 - 450 Wp	58,115.00	47,080.51	43,402.34	40,827.63	39,724.18	37,149.46	35,126.47	33,471.30	30831																							
30832	Ditto 450 - 500 Wp	58,265.00	47,340.31	43,698.75	41,149.66	40,057.19	37,508.09	35,505.23	33,866.53	30832																							
30833	Ditto 500 - 550 Wp	58,415.00	47,597.41	43,991.54	41,467.44	40,385.68	37,861.57	35,878.35	34,255.71	30833																							
30834	Ditto 550 - 600 Wp	73,761.00	60,268.13	55,770.51	52,622.18	51,272.89	48,124.55	45,650.86	43,626.93	30834																							
30835	Ditto 600 - 750 Wp	73,911.00	60,553.59	56,101.12	52,984.39	51,648.65	48,531.92	46,083.06	44,079.45	30835																							
30836	Ditto 750 - 900 Wp	89,852.75	73,807.62	68,459.24	64,715.37	63,110.86	59,367.00	56,425.39	54,018.62	30836																							
30837	Add to last item for each additional 100Wp or part thereof, up to 3000Wp	10,627.83	8,836.02	8,238.75	7,820.65	7,641.47	7,223.39	6,894.89	6,626.11	30837																							
30838	Take down and cart away the above multi-crystalline type photovoltaic panel	976.00	976.00	976.00	976.00	976.00	976.00	976.00	976.00	30838																							
30839	Take down and set aside for re-use ditto	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	30839																							
30840	Fix only ditto	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	30840																							

Item									Item																
PHOTOVOLTAIC SYSTEM (CONT'D)																									
Photovoltaic system with photovoltaic modules to IEC 60904, mounted on fixed rack with G.I./aluminium frame, protecting diode, inverter, smart inverter, isolating transformer, data logger, circuit breaker, connectors, distribution board, power and control cable, cable containment work, fixing and wiring works, structurally support, controller, surge protection device and all necessary accessories: - (Cont'd)																									
Multi-crystalline type photovoltaic panel with anti-reflective coating having a reflectance <= 4% comply to ISO9050 or equivalent : - (Total maximum power of PV module under standard test condition)																									
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Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above																		
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$																		
<i>Each</i>																									
30841	Supply and fix modules of power 180 - 250 Wp	42,263.70	33,810.96	30,993.39	29,021.08	28,175.80	26,203.50	24,653.83	23,385.91	30841															
30842	Ditto 250 - 300 Wp	42,415.20	34,043.78	31,253.31	29,299.98	28,462.83	26,509.50	24,974.74	23,719.03	30842															
30843	Ditto 300 - 350 Wp	42,566.70	34,274.49	31,510.41	29,575.57	28,746.35	26,811.49	25,291.26	24,047.42	30843															
30844	Ditto 350 - 400 Wp	58,544.22	47,285.72	43,532.88	40,905.90	39,780.04	37,153.06	35,089.01	33,400.23	30844															
30845	Ditto 400 - 450 Wp	58,696.00	47,551.00	43,836.00	41,236.00	40,121.00	37,521.00	35,478.00	33,806.00	30845															
30846	Ditto 450 - 500 Wp	58,848.00	47,814.00	44,136.00	41,561.00	40,458.00	37,883.00	35,860.00	34,205.00	30846															
30847	Ditto 500 - 550 Wp	58,999.00	48,073.00	44,431.00	41,882.00	40,790.00	38,240.00	36,237.00	34,598.00	30847															
30848	Ditto 550 - 600 Wp	74,499.00	60,871.00	56,328.00	53,148.00	51,786.00	48,606.00	46,107.00	44,063.00	30848															
30849	Ditto 600 - 750 Wp	74,650.00	61,159.00	56,662.00	53,514.00	52,165.00	49,017.00	46,544.00	44,520.00	30849															
30850	Ditto 750 - 900 Wp	90,751.28	74,545.70	69,143.83	65,362.52	63,741.97	59,960.67	56,989.64	54,558.81	30850															
30851	Add to last item for each additional 100Wp or part thereof, up to 3000Wp	10,734.19	8,924.47	8,321.22	7,899.01	7,717.98	7,295.78	6,963.76	6,692.54	30851															
30852	Take down and cart away the above multi-crystalline type photovoltaic panel with anti-reflective coating	976.00	976.00	976.00	976.00	976.00	976.00	976.00	976.00	30852															
30853	Take down and set aside for re-use ditto	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	30853															
30854	Fix only ditto	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	30854															

Item									Item	
	PHOTOVOLTAIC SYSTEM (CONT'D)									
	Photovoltaic system with copper indium gallium diselenide (CIGS) flexible type modules, smart inverter, data logger, circuit breaker, connectors, cable containment works, fixing and wiring works, structurally support, controller and all necessary accessories: - (Total maximum power of PV module under standard test condition)									
	Total number of PV panels									
	Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above		
	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$		
	<i>Each</i>									
30855	Supply and fix modules of power 70 - 100Wp	21,193.32	14,959.99	12,882.21	11,635.54	11,012.21	9,557.76	8,622.76	7,687.76	30855
30856	Ditto 100 - 150Wp	21,401.10	15,167.77	13,089.99	11,843.32	11,219.99	9,765.54	8,830.54	7,895.54	30856
30857	Ditto 150 - 200 Wp	21,608.88	15,375.55	13,297.77	12,051.10	11,427.77	9,973.32	9,038.32	8,103.32	30857
30858	Ditto 200 - 250 Wp	21,816.66	15,583.33	13,505.55	12,258.88	11,635.55	10,181.10	9,246.10	8,311.10	30858
30859	Ditto 250 - 300 Wp	22,024.44	15,791.11	13,713.33	12,466.66	11,843.33	10,388.88	9,453.88	8,518.88	30859
30860	Ditto 300 - 350 Wp	22,440.00	16,206.67	14,128.89	12,882.22	12,258.89	10,804.44	9,869.44	8,934.44	30860
30861	Ditto 350 - 400 Wp	30,158.00	21,933.09	19,191.45	17,546.47	16,723.98	14,804.84	13,571.10	12,337.36	30861
30862	Ditto 400 - 450 Wp	30,706.33	22,481.42	19,739.78	18,094.80	17,272.31	15,353.17	14,119.43	12,885.69	30862
30863	Ditto 450 - 500 Wp	31,254.66	23,029.75	20,288.11	18,643.13	17,820.64	15,901.50	14,667.76	13,434.02	30863
30864	Ditto 500 - 550 Wp	31,802.99	23,578.08	20,836.44	19,191.46	18,368.97	16,449.83	15,216.09	13,982.35	30864
30865	Ditto 550 - 600 Wp	32,351.32	24,126.41	21,384.77	19,739.79	18,917.30	16,998.16	15,764.42	14,530.68	30865
30866	Add to last item for each additional 100Wp or part thereof, up to 3000Wp	365.55	365.55	365.55	365.55	365.55	365.55	365.55	365.55	30866
30867	Take down and cart away the above CIGS flexible type panels	976.00	976.00	976.00	976.00	976.00	976.00	976.00	976.00	30867
30868	Take down and set aside for re-use ditto	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	30868
30869	Fix only ditto	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	30869

Item									Item	
	PHOTOVOLTAIC SYSTEM (CONT'D)									
	Mono-crystalline type flexible photovoltaic panel ,smart inverter, data logger,circuit breaker, connectors, cable containment works, fixing and wiring works, structurally support, controller and all necessary accessories: - (Total maximum power of PV module under standard test condition)									
	Total number of PV panels									
	Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above		
	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$		
<i>Each</i>										
30870	Supply and fix module of power 70 - 100Wp	20,565.80	14,270.14	12,171.58	10,912.49	10,282.88	8,813.93	7,869.58	6,925.23	30870
30871	Ditto 100 - 150Wp	20,985.52	14,689.86	12,591.30	11,332.20	10,702.60	9,233.64	8,289.29	7,344.94	30871
30872	Ditto 150 - 200 Wp	21,405.24	15,109.58	13,011.02	11,751.91	11,122.32	9,653.35	8,709.00	7,764.65	30872
30873	Ditto 200 - 250 Wp	21,824.96	15,529.30	13,430.74	12,171.62	11,542.04	10,073.06	9,128.71	8,184.36	30873
30874	Ditto 250 - 300 Wp	22,244.68	15,949.02	13,850.46	12,591.33	11,961.76	10,492.77	9,548.42	8,604.07	30874
30875	Ditto 300 - 350 Wp	22,664.40	16,368.74	14,270.18	13,011.04	12,381.48	10,912.48	9,968.13	9,023.78	30875
30876	Ditto 350 - 400 Wp	30,459.58	22,152.42	19,383.36	17,721.93	16,891.22	14,952.89	13,706.81	12,460.73	30876
30877	Ditto 400 - 450 Wp	31,013.39	22,706.23	19,937.18	18,275.75	17,445.03	15,506.70	14,260.62	13,014.55	30877
30878	Ditto 450 - 500 Wp	31,567.21	23,260.05	20,490.99	18,829.56	17,998.85	16,060.52	14,814.44	13,568.36	30878
30879	Ditto 500 - 550 Wp	32,121.02	23,813.86	21,044.80	19,383.37	18,552.66	16,614.33	15,368.25	14,122.17	30879
30880	Ditto 550 - 600 Wp	32,121.02	23,813.86	21,044.80	19,383.37	18,552.66	16,614.33	15,368.25	14,122.17	30880
30881	Add to last item for each additional 100Wp or part thereof, up to 3000Wp	369.21	369.21	369.21	369.21	369.21	369.21	369.21	369.21	30881
30882	Take down and cart away the above mono-crystalline type flexible panels	976.00	976.00	976.00	976.00	976.00	976.00	976.00	976.00	30882
30883	Take down and set aside for re-use ditto	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	1,151.00	30883
30884	Fix only ditto	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	30884

Item									Item																
PHOTOVOLTAIC SYSTEM (CONT'D)																									
Photovoltaic system with thin-film amorphous silicon type photovoltaic cells, smart inverter, data logger, circuit breaker, connectors, cable containment works, fixing and wiring works, structurally support, controller and all necessary accessories:- (Total maximum power of PV module under standard test condition)																									
Total number of PV panels																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 12.5%;">Up to 20</th> <th style="width: 12.5%;">20 to 40</th> <th style="width: 12.5%;">40 to 60</th> <th style="width: 12.5%;">60 to 80</th> <th style="width: 12.5%;">80 to 100</th> <th style="width: 12.5%;">100 to 150</th> <th style="width: 12.5%;">150 to 200</th> <th style="width: 12.5%;">200 or above</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> <th style="text-align: center;">E \$</th> <th style="text-align: center;">F \$</th> <th style="text-align: center;">G \$</th> <th style="text-align: center;">H \$</th> </tr> </thead> </table>										Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above																		
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$																		
<i>Each</i>																									
30885	Supply and fix modules of power 70 - 100Wp	15,680.08	15,635.68	15,562.62	14,627.29	13,358.85	12,109.09	11,061.84	9,799.68	30885															
30886	Ditto 100 - 150Wp	16,312.77	16,268.00	16,194.38	15,258.98	13,990.99	12,741.22	11,694.13	10,432.43	30886															
30887	Ditto 150 - 200 Wp	16,945.35	16,900.19	16,826.03	15,890.53	14,622.95	13,373.14	12,326.18	11,064.87	30887															
30888	Ditto 200 - 250 Wp	23,193.99	23,133.86	23,035.30	21,800.79	20,128.70	18,479.52	17,098.19	15,434.31	30888															
30889	Ditto 250 - 300 Wp	24,028.39	23,967.69	23,868.45	22,633.81	20,962.17	19,312.89	17,931.67	16,268.19	30889															
30890	Ditto 300 - 350 Wp	24,862.67	24,801.38	24,701.47	23,466.69	21,795.48	20,146.09	18,764.96	17,101.79	30890															
30891	Ditto 350 - 400 Wp	25,696.82	25,634.92	25,534.36	24,299.44	22,628.62	20,979.11	19,598.04	17,935.16	30891															
30892	Ditto 400 - 450 Wp	26,530.84	26,468.33	26,367.15	25,132.09	23,461.62	21,811.98	20,430.96	18,768.33	30892															
30893	Ditto 450 - 500 Wp	27,364.77	27,301.63	27,199.82	25,964.62	24,294.50	22,644.71	21,263.74	19,601.32	30893															
30894	Ditto 500 - 600 Wp	28,058.99	27,994.84	27,892.23	26,516.46	24,846.50	23,196.17	21,814.89	20,152.29	30894															
30895	Add to last item for each additional 100Wp or part thereof, up to 3000Wp	462.81	462.14	461.61	367.89	368.00	367.64	367.43	367.31	30895															
30896	Take down and cart away the above thin-film amorphous silicon type panels	195.20	195.20	195.20	195.20	195.20	195.20	195.20	195.20	30896															
30897	Take down and set aside for re-use ditto	230.24	230.24	230.24	230.24	230.24	230.24	230.24	230.24	30897															
30898	Fix only ditto	600.00	600.00	600.00	600.00	600.00	600.00	600.00	600.00	30898															
Photovoltaic system with walkable monocrystalline type photovoltaic cell, clear or opal surface treatment with R10-R12 anti-skid to DIN 51 130 or equivalent, IP68, maximum loading allowable not less than 20kPa, smart inverter, data logger, circuit breaker, connectors, wiring works, structurally support, controller and all necessary accessories:- (Total maximum power of PV module under standard test condition)																									
Total number of PV panels																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 12.5%;">Up to 20</th> <th style="width: 12.5%;">20 to 40</th> <th style="width: 12.5%;">40 to 60</th> <th style="width: 12.5%;">60 to 80</th> <th style="width: 12.5%;">80 to 100</th> <th style="width: 12.5%;">100 to 150</th> <th style="width: 12.5%;">150 to 200</th> <th style="width: 12.5%;">200 or above</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> <th style="text-align: center;">E \$</th> <th style="text-align: center;">F \$</th> <th style="text-align: center;">G \$</th> <th style="text-align: center;">H \$</th> </tr> </thead> </table>										Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above																		
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$																		
<i>Each</i>																									
30899	Supply and fix modules of power 18 - 22Wp	22,248.76	15,954.78	13,857.13	12,385.15	11,755.79	10,287.37	9,128.70	8,184.35	30899															
30900	Take down and cart away the above walkable monocrystalline type panels	390.41	390.41	390.41	390.41	390.41	390.41	390.41	390.41	30900															
30901	Take down and set aside for re-use ditto	460.48	460.48	460.48	460.48	460.48	460.48	460.48	460.48	30901															
30902	Fix only ditto	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00	30902															

Item									Item																
PHOTOVOLTAIC SYSTEM (CONT'D)																									
Building integrated photovoltaic system with mono-crystalline PV panels in the form of double-glazed panels c/w integrated PV cells, mounted horizontally/ vertically as glass panel, smart inverter, data logger, circuit breaker, connectors, wiring works, structurally support, controller and all necessary accessories: - (Total maximum power of PV module under standard test condition)																									
Total number of PV panels																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 12.5%;">Up to 20</th> <th style="width: 12.5%;">20 to 40</th> <th style="width: 12.5%;">40 to 60</th> <th style="width: 12.5%;">60 to 80</th> <th style="width: 12.5%;">80 to 100</th> <th style="width: 12.5%;">100 to 150</th> <th style="width: 12.5%;">150 to 200</th> <th style="width: 12.5%;">200 or above</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> <th style="text-align: center;">E \$</th> <th style="text-align: center;">F \$</th> <th style="text-align: center;">G \$</th> <th style="text-align: center;">H \$</th> </tr> </thead> </table>										Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above	A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$
Up to 20	20 to 40	40 to 60	60 to 80	80 to 100	100 to 150	150 to 200	200 or above																		
A \$	B \$	C \$	D \$	E \$	F \$	G \$	H \$																		
<i>Each</i>																									
30903	Supply and fix modules of power 70 - 90Wp	18,713.00	15,834.00	14,874.00	14,395.00	13,147.00	12,475.00	12,139.00	10,748.00	30903															
30904	Ditto 115 - 135Wp	28,069.00	24,326.00	23,079.00	22,455.00	20,833.00	19,960.00	19,524.00	17,715.00	30904															
30905	Ditto 135 - 270Wp	68,614.00	60,542.00	57,851.00	56,506.00	53,008.00	51,124.00	50,182.00	46,281.00	30905															
30906	Ditto 270 - 350Wp	10,915.80	97,668.00	93,838.00	91,923.00	86,943.00	84,262.00	82,922.00	77,368.00	30906															
(The actual rate should be : \$109,158.00 for Item 30906A)																									
30907	Ditto 360 - 470Wp	14,658.40	13,262.40	12,797.00	12,564.30	11,959.40	11,633.70	11,470.80	10,796.00	30907															
(The actual rate should be : \$146,584.00 for Item 30907A)																									
(The actual rate should be : \$132,624.00 for Item 30907B)																									
(The actual rate should be : \$127,970.00 for Item 30907C)																									
(The actual rate should be : \$125,643.00 for Item 30907D)																									
(The actual rate should be : \$119,594.00 for Item 30907E)																									
(The actual rate should be : \$116,337.00 for Item 30907F)																									
(The actual rate should be : \$114,708.00 for Item 30907G)																									
(The actual rate should be : \$107,960.00 for Item 30907H)																									
30908	Take down and cart away the above building integrated photovoltaic panels	1,418.99	1,418.99	1,418.99	1,418.99	1,418.99	1,418.99	1,418.99	1,418.99	30908															
30909	Take down and set aside for re-use ditto	2,837.97	2,837.97	2,837.97	2,837.97	2,837.97	2,837.97	2,837.97	2,837.97	30909															
30910	Fix only ditto	4,256.96	4,256.96	4,256.96	4,256.96	4,256.96	4,256.96	4,256.96	4,256.96	30910															
Sundries : -																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> </tr> </thead> </table>											Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	A \$	B \$	C \$	D \$							
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only																					
A \$	B \$	C \$	D \$																						
<i>Each</i>																									
30911	LCD video display unit, active screen size 480mm diagonally measured, colour display, min. of 1024x768 pixels resolutions c/w all necessary meters, cable and wiring, conduits and trunkings, software and dashboard graphic	26,456.46	12.76	15.05	34.76					30911															
30912	Ditto active screen size 480 - 546mm diagonally measured, colour display with min. 3840x2160 pixels resolution	26,654.46	12.76	15.05	34.76					30912															
30913	Ditto active screen size 546 - 711mm diagonally measured, colour display with min. 3840x2160 pixels resolution	27,004.46	12.76	15.05	34.76					30913															
30914	Ditto active screen size 711 - 1080mm diagonally measured, colour display with min. 3840x2160 pixels resolution	28,784.46	12.76	15.05	34.76					30914															
30915	Ditto active screen size 1080 - 1270mm diagonally measured, colour display with min. 3840x2160 pixels resolution	29,594.46	12.76	15.05	34.76					30915															
30916	Ditto active screen size 1270 - 1397mm diagonally measured, colour display with min. 3840x2160 pixels resolution	30,216.46	12.76	15.05	34.76					30916															
30917	Energy Management and Monitoring System with data logging function for photovoltaic (PV) system include workstation c/w mouse and keyboard, LCD/ LED display monitor of viewable size not less than 530mm (21" diagonally), A3 ink/ laser printer capable of handing continuous paper, software, software license and all necessary accessories, e.g. HDMI cables, Control Cables	14,250.00	-	-	-					30917															
30918	Independent calibrated microclimate station including temperature sensor, anemometer, rain sensor, solar irradiance, UV sensor, power and control cable and all necessary accessories to record weather data for estimating the electricity generated from photovoltaic (PV) system	26,600.00	-	-	-					30918															
30919	DDC Controller/ Programmable Logic Controller c/w Control Panels, microprocessor, memories, Input/Output Modules, Communication Modules, program/ software, program/ software license, other necessary hardware, cabling and accessories for photovoltaic (PV) system	19,000.00	-	-	-					30919															

Item			Rate	Item	
	RECONDITIONING OF LAMP POLE				
	Refurbishment of lamp pole including surface reconditioning, apply coating with priming paint and finishing paint of identical colours, replacement of safety chain where applicable : -				
	<i>Each</i>		Rate A \$		
30920	For lamp pole height up to 4.5 m		5,635.90	30920	
30921	For lamp pole height 4.5 m to 7.5 m		7,331.09	30921	
30922	For lamp pole height 7.5 m to 12 m		9,613.51	30922	
30923	For lamp pole height above or equal to 12 m		12,767.37	30923	
	SUNDRIES				
	Labour to disconnect all existing electrical installation for an area inside a building, take down and clear the entire electrical installation inside the area (area shall be measured net on the gross floor area of the building covered by the electrical installation) : -				
	<i>Per square metre</i>		Rate A \$		
30924	For area up to 100 m ²		30.50	30924	
30925	For area 101 - 500 m ²		30.04	30925	
30926	For area above 500 m ²		29.47	30926	
	GEARED MOTOR				
	Geared motor, 24V DC, brushed finishes, including enclosure: -				
	<i>Each</i>				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
30927	For power rating up to 10W	1,459.70	29.64	37.69	114.70
30928	For power rating 10W - 20W	1,998.07	29.64	37.69	114.70
30929	For power rating 20W - 30W	2,977.43	29.64	37.69	114.70
	PORTABLE INDUCTION LOOP SYSTEM				
	Portable induction loop system c/w microphone, amplifier, rechargeable battery and charger and aerial : -				
	<i>Each</i>				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
30930	Portable induction loop system (one to one type)	2,623.74	85.67	108.23	582.06

Section 31

LOW VOLTAGE CUBICLE SWITCHBOARD

SECTION 31

LOW VOLTAGE CUBICLE SWITCHBOARD

SPECIAL CONDITIONS

**Measurement
generally**

SC31.01

For the avoidance of doubt, all rates in this Section shall only apply to the works executed by the Approved Suppliers of Materials and Specialist Contractors for Public Works : Low Voltage Cubicle Switchboard Installation.

Unless otherwise specified separately in items under this Section, switchboard cubicle shall be measured on the basis of complete unit.

All electrical and other related work items except those items specifically included in this Section shall be measured and paid for at the appropriate rates under Section 28 - Electrical Installation - Small Power Distribution, Section 29 - Electrical Installation - Main Distribution Systems and Section 30 - Electrical Installation - Miscellaneous or other applicable Work Sections of this Schedule.

**Measurement
of multi-cubicle
type switchboard**

SC31.02

The multi-cubicle type switchboard shall consist of cubicle columns (items are included in this Section) to accommodate different arrangement of switchgear, protective and metering units. To facilitate payment, the basic cubicle column shall consist of two base types basing on their panel widths : -

Type A Cubicle Column : cubicle width - 750mm to 900mm

The cubicle column with this width shall accommodate the major switchgear units, such as air circuit breakers (ACB), automatic changeover units, MCCBs, fuseswitches and overcurrent and earth fault relays units for ACBs etc. It may also accommodate some switchgear units of smaller ratings together with the major units in the same cubicle column as indicated in the Works Order.

Type B Cubicle Column : cubicle width - 350mm to 450mm

The cubicle column with this width shall accommodate largely the smaller switchgear units, such as MCCBs, fuseswitches, switchfuses, isolators etc. of smaller ratings.

The arrangement of a whole cubicle switchboard as specified by the Works Order shall be a combination of different cubicle columns with the abovementioned width types to suit different requirements as required by the Works Order. The rate for the combined switchboard cubicle shall be the summation of the single and/or multiples of the rates of the cubicle columns items under this Section which also describes the requirements on the height and depth of the cubicle columns. The side end panels of the utmost left and right cubicle columns shall be deemed to be included in the rates.

SPECIAL CONDITIONS**Measurement
of temporary
supply****SC31.03**

Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings, switchgear and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.

For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.

No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.

Rates generally**SC31.04**

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including drilling of the background and provision of all supporting frames, fixings, hangers, brackets, nails, bolts, nuts, holes, screws, plugs, shotfired pins and the like.
- (g) Assembling and jointing together with the component parts of composite units and providing any necessary jointing materials.
- (h) Provision of all indication lamps.
- (i) Earth/equipotential bonding.
- (j) Design and submission of design drawings and the like.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC31.04
(Cont'd)**

- (k) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (l) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (m) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (n) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (o) Provision all necessary power, labour and testing instrument of approved type for testing and commissioning.
- (p) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (q) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (r) Provision of complete set of spare fuses complete with spare fuse board as specified.
- (s) Provision of manufacturer's guarantee.

**Rates for "Take
down and clear
away" or "Take
down and set aside
for re-use"**

SC31.05

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with low voltage cubicle switchboard installation shall further include for : -

- (a) Taking down all associated building services works.
- (b) Plugging off remaining ends with plugs or caps as required.
- (c) Preparing remaining ends of building services works to receive connections with new work if required.
- (d) Making good all works disturbed.

**Particular
Specification**

SC31.06

The Particular Specification for low voltage cubicle switchboard can be found in the Contract.

Item						Item
	LOW VOLTAGE CUBICLE SWITCHBOARD					
	Multi-cubicle type switchboard, factory built assembly (suitable for incoming/ outgoing cabling from top or bottom), height : 2 to 2.2 m, depth : 1 to 1.5 m c/w compartments for switchgear/ busbars/ cables, segregations, door/ panels, indication labels, engraved labels, push buttons, selector switches, all interconnecting, control and ancillary wiring and fixings, earth terminals, rubber insulating mat, operating handles and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
31001	Type A cubicle column (750 - 900 mm)	33,940.43	2,726.42	2,825.71	4,214.66	31001
31002	Type B cubicle column (350 - 450 mm)	27,032.18	2,315.21	2,437.68	3,971.14	31002
	Draw-out type air-circuit breaker c/w DC shunt trip coil/ release, electrical and mechanical interlock device and keys, control wiring and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
31003	400A; 3-pole	21,400.46	1,485.36	1,646.40	2,633.23	31003
31004	500A; 3-pole	21,926.12	1,485.36	1,646.40	2,633.23	31004
31005	600A; 3-pole	22,376.64	1,485.36	1,646.40	2,633.23	31005
31006	800A; 3-pole	22,677.01	1,542.34	1,703.64	2,756.65	31006
31007	1000A; 3-pole	24,404.06	1,545.57	1,712.38	2,779.63	31007
31008	1200A; 3-pole	25,980.91	1,548.82	1,720.37	2,800.76	31008
31009	1500/ 1600A; 3-pole	28,759.25	1,616.93	1,797.20	2,909.21	31009
31010	2000A; 3-pole	33,940.43	1,690.95	1,894.73	3,067.27	31010
31011	2500A; 3-pole	37,694.88	1,697.37	1,905.77	3,096.27	31011
31012	3000/ 3200A; 3-pole	41,749.70	1,767.20	1,984.86	3,239.80	31012
31013	400A; 4-pole	22,158.90	1,503.53	1,675.18	2,707.62	31013
31014	500A; 4-pole	22,519.32	1,503.53	1,675.18	2,707.62	31014
31015	600A; 4-pole	22,752.10	1,503.53	1,675.18	2,707.62	31015
31016	800A; 4-pole	23,420.38	1,561.95	1,734.47	2,838.30	31016
31017	1000A; 4-pole	25,365.20	1,564.17	1,740.70	2,855.04	31017
31018	1200A; 4-pole	26,761.86	1,568.24	1,746.46	2,870.60	31018
31019	1500/ 1600A; 4-pole	29,089.62	1,632.13	1,824.06	2,980.25	31019
31020	2000A; 4-pole	39,346.84	1,704.63	1,917.96	3,128.65	31020
31021	2500A; 4-pole	43,702.03	1,708.91	1,928.03	3,155.46	31021
31022	3000/ 3200A; 4-pole	49,416.34	1,776.72	2,001.75	3,285.08	31022

Item					Item
	LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)				
	Four-pole air-circuit breaker (ACB) for automatic transfer switch c/w DC shunt trip coil/ release, electrical and mechanical interlock device and keys, control wiring and all necessary accessories :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31023	<i>Each</i> 1500/ 1600A	43,551.86	2,721.61	3,056.32	6,345.73
31024	2000A	46,555.43	2,782.15	3,119.58	6,462.09
	Four-pole automatic changeover switch c/w E&M interlock :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31025	<i>Each</i> 200A	9,386.17	222.28	235.65	569.79
31026	300A	10,670.21	222.28	235.65	569.79
	Four-pole automatic changeover contactor c/w E&M interlock :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31027	<i>Each</i> 400A	13,516.08	217.23	231.05	530.47
31028	500A	18,772.36	217.23	231.05	530.47
31029	600/ 630A	28,533.97	217.23	231.05	530.47
31030	800A	36,793.82	220.11	235.31	538.66
31031	1000A	39,046.50	220.11	235.31	538.66

Item					Item
LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)					
Moulded case circuit breaker (MCCB) for automatic transfer switch c/w electrical and mechanical interlock device and all necessary accessories; four-pole type : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31032	200A	28,533.97	217.23	231.05	530.47
31033	300A/ 400A	39,046.50	217.23	231.05	530.47
31034	500A/ 600A	43,777.12	217.23	231.05	530.47
<i>Each</i>					
Moulded case circuit breaker (MCCB); breaking capacity 50 kA r.m.s. c/w shunt trip coil, wiring and all necessary accessories; three-pole type : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31035	32A to 63A	2,132.54	256.27	269.95	496.51
31036	100A to 200A	2,868.43	263.61	280.21	532.41
31037	225A to 400A	4,152.46	277.91	291.75	569.43
31038	500A	5,856.98	299.31	316.90	658.23
31039	600/ 630A	6,622.89	300.08	317.60	677.36
31040	800A	8,920.64	303.02	322.40	699.54
<i>Each</i>					
Moulded case circuit breaker (MCCB); breaking capacity 50 kA r.m.s. c/w shunt trip coil, wiring and all necessary accessories; four-pole type : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31041	100A to 200A	3,394.03	276.00	286.76	556.53
31042	225A to 400A	5,173.69	280.73	294.60	586.92
31043	500A	8,237.30	301.16	319.84	671.02
31044	600/ 630A	8,237.30	301.92	320.57	690.89
31045	800A	10,414.91	304.21	324.51	709.53
<i>Each</i>					

Item					Item	
LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)						
Fuse-switch; TP&N c/w fuses : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
31046	32A	1,351.63	180.82	183.66	356.88	31046
31047	63A	1,501.78	180.82	183.66	356.88	31047
31048	100A	1,651.97	180.82	183.66	356.88	31048
31049	200A	2,102.50	186.24	192.62	392.32	31049
31050	300A	3,604.29	199.06	204.88	472.09	31050
31051	400A	3,904.67	205.50	209.00	475.54	31051
31052	500A	4,580.46	218.97	229.94	614.81	31052
31053	600A	5,856.98	219.27	230.15	615.36	31053
Isolating switch; TP & N : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
31054	32A	938.63	189.72	209.87	451.21	31054
31055	63A	1,201.43	189.72	209.87	451.21	31055
31056	100A	1,389.16	189.72	209.87	451.21	31056
31057	200A	1,877.24	194.62	209.87	480.02	31057
31058	300A	3,153.75	202.68	219.42	548.78	31058
31059	400A	3,664.37	202.68	219.42	548.78	31059
31060	500A	4,392.73	216.27	235.50	632.66	31060
31061	600A	5,106.08	216.27	235.50	632.66	31061

Item					Item
	LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)				
	Power factor correction module; 25kVAr at 380V nominal voltage per stage control c/w capacitor banks, automatic switching facilities, fuses, control relays, contactors, ammeters and all necessary control accessories; wiring and interconnection with other devices for functioning : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31062	150 kVAr	22,091.30	596.17	626.54	1,752.55
31063	200 kVAr	29,727.91	784.03	815.79	2,126.92
31064	250 kVAr	36,418.35	972.18	1,005.19	2,417.66
31065	300 kVAr	42,846.01	1,159.65	1,195.30	3,413.44
31066	Add to last item for each additional 50 kVAr	5,856.98	187.39	190.22	618.88
	Real time power factor correction module; 25/ 50kVAr at 380V nominal voltage per stage control c/w capacitor banks, automatic switching facilities, fuses, control relays, ammeters and all necessary control accessories; wiring and interconnection with other devices for functioning : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
31067	150 kVAr (The actual rate should be : \$108,879.70 for Item 31067A)	10,887.97	596.17	626.54	1,752.55
31068	200 kVAr (The actual rate should be : \$119,992.90 for Item 31068A)	11,999.29	784.03	815.79	2,126.92
31069	250 kVAr (The actual rate should be : \$128,402.90 for Item 31069A)	12,840.29	972.18	1,005.19	2,417.66
31070	300 kVAr (The actual rate should be : \$136,662.80 for Item 31070A)	13,666.28	1,159.65	1,195.30	3,413.44

Item					Item	
LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)						
Sundries : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
31071	Electro-mechanical type earth fault relay (single element) c/w wiring and accessories	4,888.33	238.36	257.97	561.66	31071
31072	Electro-mechanical type overcurrent relay (three element) c/w wiring and accessories	11,128.26	332.58	368.58	766.57	31072
31073	Microprocessor-based digital protection relay c/w wiring and accessories	12,187.01	310.22	342.58	648.10	31073
31074	Secondary battery system comprising trickle type battery chargers, sealed Ni-Cd/ Ni-MH batteries, voltmeter, ammeter and battery test facilities, for voltage rating below 50V D.C.	9,102.56	453.59	493.46	993.02	31074
31075	Voltmeter and associated wiring	1,787.13	275.41	281.79	426.21	31075
31076	Ammeter and associated wiring	1,674.49	275.41	281.79	426.21	31076
31077	Power factor meter and associated wiring	3,153.75	264.30	278.60	630.65	31077
31078	Maximum demand indicating meter and associated wiring	1,088.81	202.60	226.68	275.63	31078
31079	Microprocessor based digital multifunction power meter c/w all necessary interconnection wiring for functioning	5,128.83	293.90	324.91	545.87	31079
31080	Microprocessor based digital power analyzer c/w all necessary interconnection wiring for functioning	9,803.08	422.87	605.80	691.38	31080
31081	Anti-condensation heaters and thermostats in switchboard c/w with wiring and accessories	1,818.72	267.69	271.75	407.93	31081
31082	Undervoltage relay	848.51	179.48	203.38	238.83	31082
Current transformer (for protection) including all wiring and accessories : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
31083	200 or 300 or 400 or 500/ 5A	675.80	167.07	187.02	283.53	31083
31084	600 or 800 or 1000/ 5A	713.37	167.07	187.02	283.53	31084
31085	1200 or 1500/ 5A	735.89	167.07	187.02	283.53	31085
31086	1600 or 2000/ 5A	765.90	170.00	190.07	287.96	31086
31087	2250 or 2500/ 5A	788.46	174.73	195.11	298.86	31087
31088	3000/ 5A	863.53	176.68	197.23	304.64	31088
31089	3200/ 5A	938.63	176.68	197.23	304.64	31089

Item					Item	
LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)						
Current transformer (for measurement) including all wiring and accessories : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
31090	200/ 5A	450.52	167.07	187.02	283.53	31090
31091	300 or 400/ 5A	465.55	167.07	187.02	283.53	31091
31092	500 or 600/ 5A	473.08	167.07	187.02	283.53	31092
	Each					
31093	800/ 5A	488.08	167.07	187.02	283.53	31093
31094	1000/ 5A	525.62	167.07	187.02	283.53	31094
31095	1200/ 5A	540.66	167.07	187.02	283.53	31095
31096	1500 or 1600/ 5A	563.17	167.07	187.02	283.53	31096
31097	2000/ 5A	578.19	167.07	187.02	283.53	31097
31098	2250/ 5A	585.71	167.07	187.02	283.53	31098
31099	2500/ 5A	615.75	167.07	187.02	283.53	31099
31100	3000 or 3200/ 5A	645.77	167.07	187.02	283.53	31100
Copper busbar, triple pole and full neutral, enclosed inside switchboard c/w insulation and all necessary accessories : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Per linear meter					
31101	400A	3,123.71	107.38	115.52	321.54	31101
31102	600A	3,439.10	114.06	124.53	342.89	31102
31103	800A	4,114.91	119.19	129.80	363.93	31103
31104	1000A	4,520.39	125.62	136.32	383.24	31104
31105	1500A	6,412.62	131.07	142.62	399.03	31105
31106	2000A	7,786.76	136.22	147.77	414.45	31106
31107	2500A	9,664.00	147.26	159.67	456.09	31107
31108	3000A	11,263.41	147.26	159.67	456.09	31108
	Each					
31109	Portable earthing equipment for main incoming air circuit breaker	4,220.02	197.95	210.84	514.56	31109
31110	Hydraulic operated truck for handling air circuit breaker, and all necessary accessories	7,493.92	319.84	423.59	905.02	31110

Item

Item

LOW VOLTAGE CUBICLE SWITCHBOARD (CONT'D)

Copper busbar, triple pole and full neutral, enclosed inside switchboard c/w insulation and all necessary accessories : - (Cont'd)

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
750.91	40.61	48.73	203.11

Per square meter

31111 Rubber mats; ribbed surface comply with BS 921 or IEC 6111, laid in front of and at the rear of switchboard; minimum 10mm thick continuous sheet

31111

Section 32

EMERGENCY GENERATOR INSTALLATION

SECTION 32

EMERGENCY GENERATOR INSTALLATION

SPECIAL CONDITIONS

Measurement of power supply	SC32.01	<p>All works of electrical power supply up to power supply points (e.g. switchfuse or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Electrical Installation - Lighting System and Fixtures, Section 28 - Electrical Installation - Small Power Distribution, Section 29 - Electrical Installation - Main Distribution Systems and Section 30 - Electrical Installation - Miscellaneous or other applicable Work Sections of this Schedule.</p>
Measurement of temporary supply	SC32.02	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings, switchgear and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>
Rates generally	SC32.03	<p>The rates for all items shall generally include for : -</p> <ul style="list-style-type: none"> (a) Colour band and colour identification work. (b) Lettering and engraving for identification, signs, labels in both English and Chinese. (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese. (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly. (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC32.03
(Cont'd)**

- (f) Any kind of fixing method including drilling of the background and provision of all fixings, hangers, nails, bolts, nuts, holes, screws, washers, plugs, shotfired pins and the like.
- (g) Assembling and jointing together with the component parts of composite units and providing any necessary jointing materials.
- (h) All brackets and methods of supports including supporting frames and anti-vibration mounting.
- (i) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (j) Submission of catalogues, technical literature, data, calculations, original official birth certificate, manufacturing certificates, official test certificates for major components and approval documentation covering the equipment and materials being supplied.
- (k) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (l) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (m) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (n) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (o) Submitting all relevant documentation to Fire Services Department and obtaining necessary approval.
- (p) Obtaining necessary approval from Environmental Protection Department including submission of all relevant documentation.
- (q) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (r) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (s) Provision of manufacturer's guarantee. Submission of sample board for all materials and accessories, and supply of samples of materials for testing (including testing to destruction).
- (t) Submission of sample board for all compact sized materials and accessories, and supply of samples of materials for testing (including testing to destruction).

SPECIAL CONDITIONS

**Rates for
emergency
generator set**

SC32.04

The rates for emergency generator set shall further include for : -

- (a) All necessary assembly, orientation, alignment, levelling, lifting and bolting down facilities, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like.
- (b) Electric starting equipment including starter motor, starting battery with hardwood stand and cover, battery charger and all necessary wiring and switchgear.
- (c) Alternator complete with exciter, automatic voltage regulator and termination box including insulation as specified.
- (d) Engine mounted instrument panel including gauges, tachometer and hourmeter.
- (e) Protective screens for flywheel and coupling (if exposed) and other exposed moving parts.
- (f) Engine cooling system including pumps, pipework and valves, regulating devices, radiator with fan, heat exchanger, expansion tank if required, ductwork and silencers.
- (g) All necessary pipework and associated fittings for filling, overflow, outlet, drain, return and vent including necessary connection and jointing, valves, pipework hangers, supports, anchor and the like.
- (h) Engine exhaust system including fan, silencer, bellows, hangers with anti-vibration spring mechanism, pipework, ductwork, insulation, cladding, clamps, flange couplings, heat resisting jointing and the like.
- (i) All necessary operational and control accessories (e.g. selector switch, key switch, fuel control solenoid, relays, fuses, contactors, push button, indication lamp, meters and the like) that are required to put the generator set in proper operation.
- (j) Anti-vibration materials and sound insulation materials in generator set bases.
- (k) Earth/ equipotential bonding.
- (l) All lubricating oil and greases, including initial charge and subsequent replenishment during warranty period.

SPECIAL CONDITIONS

**Rates for fuel
oil supply system**

SC32.05

The rates for fuel oil supply system shall further include for : -

- (a) Daily services fuel tank complete with socket connections for filling, overflow, outlet, drain, return and vent including all necessary fittings, union couplings, strainers, valves and the like, content gauge units, oil drip trays and all necessary accessories.
- (b) All necessary pipework and associated fittings for filling, overflow, outlet, drain, return and vent including necessary connections and jointing with diesel resistant jointing materials, valves, pipework hangers, supports, anchors and the like.
- (c) Oil transfer pump, injection pump, oil hand pump, injectors and filters.
- (d) Dial gauge, float switch, quick closing mechanism comprising break glass unit, pull handle, pulley, steel wire rope and the like.
- (e) Mild steel stand and all necessary accessories required for the completion of the system.
- (f) Hydraulic test on the system including draining, drying and flushing all pipework, fittings and valves after the test.

**Rates for
lifting hoist**

SC32.06

The rates for lifting hoist shall further include for : -

- (a) Geared trolley, load chain, hooks with catch and ball or roller bearings.
- (b) Submission of test certificate for the load chain.
- (c) Submission of test certificate for the lift hoist.
- (d) Structural calculation and surveyor's certificate of I-beam.

**Rates for
acoustic
treatment
installation**

SC32.07

The rates for acoustic treatment installation shall further include for providing all necessary suitable acoustic treatment to achieve acceptable noise levels as specified, including : -

- (a) Pipework acoustic sleeving to all pipes penetrating building structure and provision of split clamping rings, resilient hangers and seals.
- (b) Acoustic treatment to walls, doors, louvres and ceiling of the emergency generator room and provision of galvanized steel framing with fixing accessories, polyester membrane lining and protective perforated steel sheeting.
- (c) Duct silencers for ventilation fans, air inlet louvres, air discharge louvres, coupled radiators and all other air passage.
- (d) Mufflers for engine exhaust air system.

SPECIAL CONDITIONS

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC32.08

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with emergency generator set shall further include for :-

- (a) Taking down all associated plumbing works and building services works.
- (b) Plugging off remaining ends with plugs or caps as required.
- (c) Preparing remaining ends of plumbing works and building services works to receive connections with new work if required.
- (d) Making good all works disturbed.

Particular Specification

SC32.09

The Particular Specification for emergency generator set can be found in the Contract.

Item					Item	
	EMERGENCY GENERATOR SET					
	Emergency generator installation comprising diesel engine, alternator, electrical starting system, cooling system, fresh air supply/ exhaust air system, exhaust air ductwork, exhaust pipework with cladding and thermal insulation (each within 10m), intake/ discharge silencers, protection device and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per item</i>					
32001	Not exceeding 100 kVA (The actual rate should be : \$321,811.70 for Item 32001A)	32,181.17	2,669.69	2,956.78	7,988.86	32001
32002	100 - 150 kVA (The actual rate should be : \$375,446.90 for Item 32002A)	37,544.69	3,058.88	3,335.86	9,798.31	32002
32003	150 - 200 kVA (The actual rate should be : \$429,082.20 for Item 32003A)	42,908.22	3,252.96	3,524.88	11,121.53	32003
32004	200 - 250 kVA (The actual rate should be : \$482,717.60 for Item 32004A)	48,271.76	3,588.56	3,858.49	12,579.19	32004
32005	250 - 300 kVA (The actual rate should be : \$589,988.10 for Item 32005A)	58,998.81	3,649.22	3,914.07	13,033.06	32005
32006	300 - 350 kVA (The actual rate should be : \$675,804.50 for Item 32006A)	67,580.45	3,834.21	4,152.64	14,593.83	32006
32007	350 - 400 kVA (The actual rate should be : \$750,893.90 for Item 32007A)	75,089.39	3,834.21	4,152.64	14,593.83	32007
32008	400 - 450 kVA (The actual rate should be : \$911,799.90 for Item 32008A)	91,179.99	4,003.03	4,325.48	15,893.80	32008
32009	450 - 500 kVA (The actual rate should be : \$965,435.00 for Item 32009A)	96,543.50	4,003.03	4,325.48	15,893.80	32009
32010	500 - 550 kVA (The actual rate should be : \$1,072,706.00 for Item 32010A)	10,727.06	4,389.17	4,766.23	18,569.58	32010
32011	550 - 600 kVA (The actual rate should be : \$1,179,976.00 for Item 32011A)	11,799.76	4,389.17	4,766.23	18,569.58	32011

Item

Item

EMERGENCY GENERATOR SET (CONT'D)

Emergency generator installation (remote radiator type) comprises with diesel engine, alternator, electrical starting system, cooling system (excluding remote radiator), fresh air supply/ exhaust air system, exhaust air ductwork, exhaust pipework with cladding and thermal insulation (each within 10m), intake/ discharge silencers, protection device and all necessary accessories : -

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Per item</i>						
32012	for generator set n.e. 100 kVA	64,362.34	2,669.69	2,956.78	7,988.86	32012
32013	for generator set 100 - 150 kVA	66,150.17	3,058.88	3,335.86	9,798.31	32013
32014	for generator set 150 - 200 kVA	67,938.02	3,252.96	3,524.88	11,121.53	32014
32015	for generator set 200 - 250 kVA	69,725.86	3,588.56	3,858.46	12,579.21	32015
32016	for generator set 250 - 300 kVA	72,790.74	3,649.22	3,914.07	13,033.06	32016
32017	for generator set 300 - 350 kVA	75,855.60	3,834.21	4,152.64	14,593.83	32017
32018	for generator set 350 - 400 kVA	78,920.47	3,834.21	4,152.64	14,593.83	32018
32019	for generator set 400 - 450 kVA	81,985.35	4,003.03	4,325.49	15,893.80	32019
32020	for generator set 450 - 500 kVA	85,050.24	4,003.03	4,325.49	15,893.80	32020
32021	for generator set 500 - 550 kVA	88,115.11	4,389.17	4,766.22	18,569.58	32021
32022	for generator set 550 - 600 kVA	91,179.99	4,389.17	4,766.22	18,569.58	32022

Remote radiator for emergency generator set c/w remote radiator system, cooling system and pipework, fresh air supply/ exhaust air system, exhaust air ductwork, intake/ discharge silencers, protection device, all cabling and wiring works and all necessary accessories : -

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Per item</i>						
32023	for generator set n.e. 100 kVA	75,089.39	2,669.69	2,956.78	7,988.86	32023
32024	for generator set 100 - 150 kVA	76,877.24	3,058.88	3,335.86	9,798.31	32024
32025	for generator set 150 - 200 kVA	78,665.09	3,252.96	3,524.88	11,121.53	32025
32026	for generator set 200 - 250 kVA	80,452.91	3,588.56	3,858.46	12,579.21	32026
32027	for generator set 250 - 300 kVA	83,517.79	3,649.22	3,914.07	13,033.06	32027
32028	for generator set 300 - 350 kVA	86,582.67	3,834.21	4,152.64	14,593.83	32028
32029	for generator set 350 - 400 kVA	89,647.54	3,834.21	4,152.64	14,593.83	32029
32030	for generator set 400 - 450 kVA	92,712.42	4,003.03	4,325.49	15,893.80	32030
32031	for generator set 450 - 500 kVA	95,777.28	4,003.03	4,325.49	15,893.80	32031
32032	for generator set 500 - 550 kVA	98,842.18	4,389.17	4,766.22	18,569.58	32032
32033	for generator set 550 - 600 kVA	10,190.71	4,389.17	4,766.22	18,569.58	32033

(The actual rate should be : \$101,907.10 for Item 32033A)

Item					Item	
	EMERGENCY GENERATOR SET (CONT'D)					
	Exhaust pipework c/w cladding, thermal insulation and necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
32034	for generator set n.e. 100 kVA	3,614.25	85.93	101.09	387.16	32034
32035	for generator set 100 - 150 kVA	3,892.27	85.93	101.09	387.16	32035
32036	for generator set 150 - 200 kVA	4,170.30	105.12	116.24	437.71	32036
32037	for generator set 200 - 250 kVA	4,448.32	105.12	130.40	479.17	32037
32038	for generator set 250 - 300 kVA	4,905.05	109.18	133.44	491.28	32038
32039	for generator set 300 - 350 kVA	5,361.81	134.44	156.67	579.23	32039
32040	for generator set 350 - 400 kVA	5,818.55	138.50	161.74	621.69	32040
32041	for generator set 400 - 450 kVA	6,275.29	148.58	189.05	668.19	32041
32042	for generator set 450 - 500 kVA	6,732.05	182.97	216.32	784.43	32042
32043	for generator set 500 - 550 kVA	7,188.79	206.21	242.63	879.45	32043
32044	for generator set 550 - 600 kVA	7,645.54	229.48	261.83	979.54	32044
	Fuel oil supply system including daily services fuel tank c/w socket connections for filling, overflow, outlet, drain, return and vent including all necessary fittings, union couplings, strainer, valve and the like, content gauge unit, oil drip tray and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per item</i>					
32045	for generator set n.e. 100 kVA	60,138.78	724.80	791.51	1,795.30	32045
32046	for generator set 100 - 150 kVA	63,783.58	896.67	973.46	2,240.07	32046
32047	for generator set 150 - 200 kVA	67,428.35	947.17	1,043.20	2,316.90	32047
32048	for generator set 200 - 250 kVA	71,073.11	1,017.95	1,120.06	2,494.81	32048
32049	for generator set 250 - 300 kVA	74,717.92	1,074.55	1,165.54	2,672.73	32049
32050	for generator set 300 - 350 kVA	78,362.68	1,256.48	1,347.48	3,166.01	32050
32051	for generator set 350 - 400 kVA	82,007.43	1,303.00	1,475.86	3,494.58	32051
32052	for generator set 400 - 450 kVA	85,652.21	1,445.52	1,530.45	3,702.78	32052
32053	for generator set 450 - 500 kVA	89,297.00	1,514.28	1,588.08	4,129.36	32053
32054	for generator set 500 - 550 kVA	92,941.78	1,622.43	1,711.40	4,307.30	32054
32055	for generator set 550 - 600 kVA	96,586.54	1,865.04	2,076.31	4,845.07	32055

Item					Item
	EMERGENCY GENERATOR SET (CONT'D)				
	Topping up of fuel oil tanks with fuel of 0.005% sulphur content and of capacity : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Per item</i>				
32056	Not exceeding 300 litres	5,004.33	-	-	-
32057	300 - 400 litres	6,672.47	-	-	-
32058	400 - 500 litres	8,340.56	-	-	-
32059	500 - 600 litres	10,008.70	-	-	-
32060	600 - 700 litres	11,676.80	-	-	-
32061	700 - 800 litres	13,344.93	-	-	-
32062	800 - 900 litres	15,013.03	-	-	-
32063	900 -1000 litres	16,681.17	-	-	-
32064	Add to last item for each additional 100 litres or part thereof	1,668.10	-	-	-
	Lifting hoist c/w geared trolley and all necessary accessories : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Per item</i>				
32065	for generator set n.e. 100 kVA	24,383.17	832.96	926.95	2,847.58
32066	for generator set 100 - 150 kVA	29,684.18	991.64	1,103.85	3,461.20
32067	for generator set 150 - 200 kVA	30,729.42	991.64	1,103.85	3,461.20
32068	for generator set 200 - 250 kVA	32,542.31	1,086.68	1,214.04	3,832.19
32069	for generator set 250 - 300 kVA	34,243.93	1,151.39	1,277.74	4,055.60
32070	for generator set 300 - 350 kVA	39,418.75	1,334.35	1,481.94	4,701.53
32071	for generator set 350 - 400 kVA	42,564.01	1,374.76	1,507.21	4,794.52
32072	for generator set 400 - 450 kVA	45,226.50	1,416.23	1,540.56	4,981.54
32073	for generator set 450 - 500 kVA	48,418.00	1,461.70	1,594.14	5,187.76
32074	for generator set 500 - 550 kVA	51,282.73	1,510.23	1,653.76	5,380.83
32075	for generator set 550 - 600 kVA	55,217.33	1,590.09	1,718.47	5,655.76

Item					Item	
	EMERGENCY GENERATOR SET (CONT'D)					
	Acoustic treatment installation to the whole emergency generator set; all as necessary to achieve the specified noise levels : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per item</i>					
32076	for generator set n.e. 100 kVA	80,958.66	3,872.61	3,983.82	13,362.61	32076
32077	for generator set 100 - 150 kVA	88,704.06	4,165.77	4,282.02	14,529.14	32077
32078	for generator set 150 - 200 kVA	93,914.88	4,398.27	4,531.70	15,340.86	32078
32079	for generator set 200 - 250 kVA	10,044.77	4,677.27	4,816.76	16,430.58	32079
	(The actual rate should be : \$100,447.70 for Item 32079A)					
32080	for generator set 250 - 300 kVA	10,809.92	4,979.51	5,123.05	17,621.38	32080
	(The actual rate should be : \$108,099.20 for Item 32080A)					
32081	for generator set 300 - 350 kVA	11,410.91	5,276.70	5,426.32	18,759.60	32081
	(The actual rate should be : \$114,109.10 for Item 32081A)					
32082	for generator set 350 - 400 kVA	12,051.06	5,573.92	5,739.67	19,878.64	32082
	(The actual rate should be : \$120,510.60 for Item 32082A)					
32083	for generator set 400 - 450 kVA	12,586.44	5,869.07	6,028.81	20,981.50	32083
	(The actual rate should be : \$125,864.40 for Item 32083A)					
32084	for generator set 450 - 500 kVA	13,464.67	6,161.22	6,321.94	22,130.84	32084
	(The actual rate should be : \$134,646.70 for Item 32084A)					
32085	for generator set 500 - 550 kVA	14,021.44	6,479.63	6,650.48	23,271.11	32085
	(The actual rate should be : \$140,214.40 for Item 32085A)					
32086	for generator set 550 - 600 kVA	14,917.81	6,805.12	6,979.02	24,365.86	32086
	(The actual rate should be : \$149,178.10 for Item 32086A)					
	Electrical installation c/w all cabling and wiring works including sensor cables, motor starters, conduits and trunking from switches to the equipment, earthing system and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per item</i>					
32087	for generator set n.e. 100 kVA	49,321.29	1,854.93	2,021.73	5,955.00	32087
32088	for generator set 100 - 150 kVA	52,573.91	1,874.15	2,039.92	6,339.14	32088
32089	for generator set 150 - 200 kVA	54,951.27	1,936.82	2,101.60	6,582.75	32089
32090	for generator set 200 - 250 kVA	57,328.64	1,999.50	2,163.27	6,826.36	32090
32091	for generator set 250 - 300 kVA	59,100.49	2,018.69	2,180.43	7,039.65	32091
32092	for generator set 300 - 350 kVA	61,867.47	2,059.13	2,221.90	7,336.84	32092
32093	for generator set 350 - 400 kVA	63,887.59	2,102.60	2,265.33	7,532.95	32093
32094	for generator set 400 - 450 kVA	67,152.46	2,139.98	2,302.75	7,671.45	32094
32095	for generator set 450 - 500 kVA	69,409.47	2,182.46	2,345.20	7,880.71	32095
32096	for generator set 500 - 550 kVA	70,584.62	2,220.87	2,378.56	8,034.35	32096
32097	for generator set 550 - 600 kVA	72,613.51	2,259.29	2,416.98	8,174.86	32097

Item

Item

EMERGENCY GENERATOR SET (CONT'D)

Control cubicle c/w switchgear, wiring, contactors, starters, relays, meters, air circuit breaker, switches, battery charger, push buttons, cable terminal box, safety and protection devices, timers, control equipment, indicator lights, alarm, rubber mats and all necessary accessories : -

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A	B	C	D	
		\$	\$	\$	\$	
<i>Per item</i>						
32098	for generator set n.e. 100 kVA	68,331.76	1,189.80	1,300.97	3,953.49	32098
32099	for generator set 100 - 150 kVA	72,139.13	1,346.46	1,399.03	4,566.09	32099
32100	for generator set 150 - 200 kVA	91,206.81	1,427.34	1,546.62	5,026.03	32100
32101	for generator set 200 - 250 kVA	11,027.45	1,508.21	1,694.20	5,485.96	32101
	(The actual rate should be : \$110,274.50 for Item 32101A)					
32102	for generator set 250 - 300 kVA	11,312.43	1,544.60	1,728.57	5,573.92	32102
	(The actual rate should be : \$113,124.30 for Item 32102A)					
32103	for generator set 300 - 350 kVA	14,024.93	1,666.90	1,815.51	6,106.62	32103
	(The actual rate should be : \$140,249.30 for Item 32103A)					
32104	for generator set 350 - 400 kVA	14,358.59	1,700.28	1,845.86	6,195.59	32104
	(The actual rate should be : \$143,585.90 for Item 32104A)					
32105	for generator set 400 - 450 kVA	16,159.97	1,825.61	1,975.23	6,608.03	32105
	(The actual rate should be : \$161,599.70 for Item 32105A)					
32106	for generator set 450 - 500 kVA	16,494.91	1,855.95	2,003.52	6,692.92	32106
	(The actual rate should be : \$164,949.10 for Item 32106A)					
32107	for generator set 500 - 550 kVA	18,018.37	1,931.77	2,072.26	7,129.62	32107
	(The actual rate should be : \$180,183.70 for Item 32107A)					
32108	for generator set 550 - 600 kVA	18,344.09	1,958.03	2,097.53	7,213.51	32108
	(The actual rate should be : \$183,440.90 for Item 32108A)					

Section 33

BURGLAR ALARM AND SECURITY

SECTION 33

BURGLAR ALARM AND SECURITY

SPECIAL CONDITIONS

Measurement of power supply	SC33.01	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Electrical Installation - Lighting System and Fixtures, Section 28 - Electrical Installation - Small Power Distribution, Section 29 - Electrical Installation - Main Distribution Systems and Section 30 - Electrical Installation - Miscellaneous or other applicable Work Sections of this Schedule.
Measurement of security alarm control panel	SC33.02	The interconnecting cables and the cable containment for the control panel connecting to external equipment or existing panel shall be measured separately.
Measurement of coaxial cables and shield cables	SC33.03	<p>Cables for the equipment, control panels, push buttons, door contacts, etc. have been allowed in the rates under this Section. No measurement shall be made for cables except for coaxial cables and shield cable where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Coaxial cables and shield cables shall be measured the net length as fixed in linear metres.</p>
Measurement of temporary supply	SC33.04	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>

SPECIAL CONDITIONS

Rates generally
SC33.05

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including drilling of the background and provision of all fixings, nails, bolts, nuts, washers, holes, screws, plugs, shotfired pins and the like.
- (g) Assembling and jointing together with the component parts of composite units and providing any necessary jointing materials.
- (h) All brackets and methods of supports.
- (i) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (j) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (k) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (l) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (m) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (n) Provision of all necessary power, labour and testing instrument of approved type for testing and commissioning.
- (o) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (p) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (q) Provision of manufacturer's guarantee.

SPECIAL CONDITIONS

Rates for equipment	SC33.06	<p>The rates for equipment shall further include for : -</p> <ul style="list-style-type: none"> (a) Interfacing, connecting, interconnecting cables, jointing and making all busbar, cable, conduit, trunking and cable tray connections and the like and provision of all associated components. (b) Provision of all components forming part of the equipment including batteries and chargers with all supply and interconnecting wiring and the like and provision of software including back-up copies (if required). (c) All necessary sensors, instruments, devices and the like including appropriate connections thereto. (d) Cables, conduits including flexible conduits and adaptors, trunkings, trays, ladders, outlet boxes, junction boxes, universal boxes including special boxes, all fixings, bending, cutting, screwing and jointing. (e) Earth/ equipotential bonding.
Rates for push buttons, door contacts, etc.	SC33.07	<p>The rates for push buttons, door contacts, window contacts, detectors, tamper switches, alarm sirens, kick bars and keyswitches shall further include for cables, conduits, trunkings and all necessary accessories including provision of all associated fixing components for connection to the security alarm control panel.</p>
Rates for control panels	SC33.08	<p>Control panel shall be measured on the basis of complete unit monitoring and controlling the number of zones as specified. The rates for control panels shall further include for all necessary relays, alarms, indicating lamps, buzzers, zone isolation switches, test key switches, internal wiring and all necessary accessories. The cables and cable containment between the equipment and the control/ indicating panel and/ or for connection to existing control/ indicating panel shall be measured separately and paid for at appropriate rates under this Section and Sections 27 to 30.</p>
Rates for coaxial cables and shield cables	SC33.09	<p>The rates for coaxial cables and shield cables shall further include for : -</p> <ul style="list-style-type: none"> (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment. (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like. (c) Making cable-joints. (d) All necessary fixings complete with accessories and fittings as required. (e) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.

SPECIAL CONDITIONS

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC33.10

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with burglar alarm and security installation shall further include for : -

- (a) Taking down all associated building services works.
- (b) Plugging off remaining ends with plugs or caps as required.
- (c) Preparing remaining ends of building services works to receive connections with new work if required.
- (d) Making good all works disturbed.

Particular Specification

SC33.11

The Particular Specification for burglar alarm and security installation can be found in the Contract.

Item					Item	
	CENTRAL CONTROL STATION EQUIPMENT					
	Equipment/ components c/w all necessary accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33001	Security system computer designed for multi-user, multi-tasking point monitoring and control c/w CPU and mother board, disk drives/ streamer/ DVD writer drive, interface connection parts, keyboard, I/O card, mouse, cables, standard application software, software programmes for burglar alarm and security installation with unlimited usage licences	16,090.59	64.70	81.87	438.71	33001
33002	Standby computer c/w CPU and mother board, disk drives/ streamer/ DVD writer drive, interface connection ports, keyboard, I/O card, mouse, cables, standard application software	16,090.59	64.70	81.87	376.04	33002
33003	Uninterrupted power supply system for the operation of the security computer and terminal, and matrix switcher of the Closed Circuit Television System, for a minimum of 10 Ah c/w changeover switch, isolation switches, static bypass, manual bypass, microprocessor managed mimic and control panel, LCD display and keyboard	6,403.33	29.33	30.33	123.34	33003
33004	Uninterrupted power supply system for the operation of the security computer and terminal, and matrix switcher of the Closed Circuit Television System, for 10 - 40 Ah c/w changeover switch, isolation switches, static bypass, manual bypass, microprocessor managed mimic and control panel, LCD display and keyboard	8,300.00	29.33	30.33	123.34	33004
	<i>Each</i>					
33005	Video display units, flat square type, active screen size 380 mm minimum diagonally measured, super high resolution colour monitor, 1024 x 768 pixels resolutions multiscanning with tilt/ swivel base c/w add-on anti-glare high quality circular polarizer screen filter	1,817.16	11.13	13.13	30.33	33005
33006	LCD video display unit, active screen size 350mm diagonally measured, colour display, minimum of 1024 x 768 pixels resolutions with tilt/ swivel base	2,213.99	11.21	13.22	30.54	33006
33007	Ditto active screen size 380 mm	2,315.82	11.21	13.22	30.54	33007
33008	Ditto active screen size 430 mm	2,751.54	11.21	13.22	30.54	33008
33009	Ditto active screen size 480 mm	3,102.00	11.21	13.22	30.54	33009
33010	LCD monitor, active screen size n.e. 546 mm diagonally measured, colour display, 3840 x 2160 pixels resolutions c/w mounting bracket	3,300.00	11.21	13.22	30.54	33010
33011	Ditto active screen size 546 mm - 711 mm	3,650.00	11.21	13.22	30.54	33011
33012	Ditto active screen size 711 mm - 1080 mm	5,430.00	11.21	13.22	30.54	33012
33013	Ditto active screen size 1080 mm - 1270 mm	6,240.00	11.21	13.22	30.54	33013
33014	Ditto active screen size 1270 mm - 1397 mm	6,862.00	11.21	13.22	30.54	33014
33015	Report printer, dry-type laser type, monochrome, random access memory, paper tray	1,943.29	11.13	13.13	67.72	33015
33016	Event printer, ink jet type	959.01	11.13	13.13	67.72	33016
33017	Intelligent local control units, microprocessor based controller, housed in tamper-proof housing c/w tampering switches, control programme, backup battery, database file and connector plugs and all necessary accessories	2,964.58	29.33	35.38	125.34	33017
33018	Server rack cabinet with 1 set AC ventilation fan	4,932.00	87.94	93.00	351.79	33018
33019	Rack cabinet c/w tempered glass front door, 27U	3,825.00	87.94	93.00	351.79	33019

Item					Item	
	CENTRAL CONTROL STATION EQUIPMENT (CONT'D)					
	Alarm/ security control panel, stainless steel type c/w battery and chargers, ammeter, control components and all other necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
33020	Panel of 4 zones or less	5,054.12	87.94	93.00	351.79	33020
33021	Panel of 5 - 8 zones	6,734.80	94.00	99.08	371.00	33021
33022	Panel of 9 - 12 zones	8,151.06	100.07	105.12	389.18	33022
33023	Panel of 13 - 18 zones	10,524.06	106.16	110.19	407.39	33023
33024	Panel of 19 - 24 zones	12,630.38	112.20	116.24	419.50	33024
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Standby battery set : -					
	<i>Each</i>					
33025	Standby battery set	2,156.41	29.33	30.33	59.64	33025
	Sundries : -					
	<i>Each</i>					
33026	Interconnection point for F.S. panel	245.97	32.33	34.35	124.32	33026
33027	Interconnection point for matrix switching system of the CCTV system	240.46	32.33	34.35	124.32	33027
33028	Security equipment console and racks, hairline stainless steel, c/w a 1500 x 700 mm deep (min) horizontal flat surface section finished with plastic laminate and 1500 mm high vertical rack sections attached together to form a continuous rack system including full height locking doors, front below counter solid doors with recessed handle and lock, a armrest swivel leather chair and all necessary accessories	24,379.72	162.77	173.87	418.52	33028
	<i>Per lot</i>					
33029	Provide system grounding for the burglar alarm and security system	1,640.15	-	-	-	33029
33030	Provide direct link to the security control centre including the first year rental charge	6,092.83	-	-	-	33030

Item					Item	
	ACCESS CONTROL SYSTEM					
	Proximity card system components :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
33031	Proximity card reader c/w 12V power supply, tamper-proof housing with tampering switches	1,609.05	34.35	37.40	53.58	33031
33032	Interfacing module	3,164.47	34.35	37.40	53.58	33032
33033	Central card access controller	12,872.47	34.35	37.40	62.67	33033
33034	Emergency break glass; for card access reader	245.19	56.61	63.70	115.25	33034
33035	Proximity card	10.03	-	-	-	33035
	Video door phone system component including conduits, trunkings, cables, and all other accessories, and connection to the control panel :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
33036	Intercom video handset c/w door release button	3,313.76	89.96	97.04	200.15	33036
33037	Wall mounted s.s. intercom panel c/w camera & all necessary accessories	4,675.30	94.00	100.07	266.87	33037
	Intercom door lock system component including conduits, trunkings, cables and all other accessories, and connection to the control panel :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
33038	Intercom handset c/w door release button	2,145.41	89.96	97.04	200.15	33038
33039	Wall mounted s.s. intercom panel c/w camera & all necessary accessories	2,717.21	94.00	100.07	266.87	33039

Item					Item	
	FIELD ALARM DEVICES SYSTEM					
	Equipment/ components c/w all necessary accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33040	Personal attack push button c/w necessary accessories	536.35	56.61	58.62	110.19	33040
33041	Magnetic door contact for door, concealed/ surface type c/w necessary accessories	268.17	59.64	60.65	115.25	33041
33042	Magnetic door contact, heavy duty type, concealed/ surface, for roller shutter/ strong room c/w necessary accessories	536.35	59.64	60.65	115.25	33042
33043	Motion detector, combined infrared and ultrasonic detection type c/w necessary accessories	858.16	59.64	60.65	115.25	33043
33044	Magnetic window contact c/w necessary accessories	536.35	59.64	60.65	115.25	33044
33045	Glass break detectors, housed in tamper-proof housing with tampering switches c/w necessary accessories	784.65	59.64	60.65	115.25	33045
33046	Kick bar underneath counter, 450 mm length c/w necessary accessories	1,072.72	59.64	60.65	124.32	33046
33047	Duress push button, self-locking type c/w necessary accessories	536.35	56.61	57.61	109.18	33047
33048	Tamper switch, plunger type c/w necessary accessories	536.35	56.61	57.61	109.18	33048
33049	Alarm shunt key switch unit c/w necessary accessories	536.35	56.61	57.61	109.18	33049
33050	Alarm push button, stainless steel vandal resistant type c/w necessary accessories	536.35	56.61	57.61	109.18	33050
33051	Over-ride key switch c/w necessary accessories	268.17	56.61	57.61	109.18	33051
33052	Alarm siren c/w necessary accessories	536.35	59.64	60.65	124.32	33052
33053	Alarm siren, weatherproof type c/w necessary accessories	858.16	59.64	60.65	124.32	33053
	EXIT CONTROL LOCK SYSTEM					
	Equipment/ components c/w all necessary accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33054	Exit device, fail-secure or fail-open electric lock strikes, c/w internal thumb-turn, pushbar and cylinder for single door	1,503.24	19.20	22.25	59.64	33054
33055	Exit device, fail-secure or fail-open electric lock strikes, c/w internal thumb-turn, pushbar and cylinder for double door	2,271.58	19.20	22.25	66.73	33055
33056	Weather proof electronic digital keypad c/w stainless steel panel and box, numeric keypad, suitable for outdoor environment	877.51	19.20	22.25	61.68	33056

Item					Item	
	EXIT CONTROL LOCK SYSTEM (CONT'D)					
	Power supply unit : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33057	Power supply unit for electronic digital security c/w Up to 1 Ah maintenance free standby-battery, 12V charger and metal box	678.16	29.33	34.86	68.57	33057
33058	Power supply unit for electronic digital security c/w 1 to 2 Ah maintenance free standby-battery, 12V charger and metal box	714.16	29.33	34.86	68.57	33058
33059	Power supply unit for electronic digital security c/w 2 to 3 Ah maintenance free standby-battery, 12V charger and metal box	750.16	29.33	34.86	68.57	33059
33060	Power supply unit for electronic digital security c/w 3 to 4 Ah maintenance free standby-battery, 12V charger and metal box	786.16	29.33	34.86	68.57	33060
33061	Power supply unit for electronic digital security c/w 4 to 5 Ah maintenance free standby-battery, 12V charger and metal box	822.16	29.33	34.86	68.57	33061
33062	Power supply unit for electronic digital security c/w 5 to 6 Ah maintenance free standby-battery, 12V charger and metal box	858.16	29.33	30.33	59.64	33062
	Door lock system : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33063	Scramble door lock system including cable containments, cables, electronic digital push-button c/w stainless steel panel & box, combination lock, touch screen access reader, scramble keypad, suitable for outdoor environment and all other accessories and connection to the alarm panel	4,416.27	98.06	101.09	232.51	33063
33064	Push button door lock system including cable containments, trunkings, cables, electronic digital push-button c/w stainless steel panel & box, numeric keypad, combination lock, suitable for outdoor environment and all other accessories and connection to the alarm panel	3,387.89	98.06	101.09	232.51	33064
33065	Push button door lock system c/w remote door release button including cable containments, cables, electronic digital push-button c/w stainless steel panel & box, numeric keypad, combination lock, suitable for outdoor environment and all other accessories and connection to the alarm panel	3,658.29	116.24	122.31	316.40	33065
33066	Screening area door lock system for two access doors with interlock door locks and two remote release buttons, door indicator unit and associated cable containments to ensure the two doors not to be opened at one time	4,911.45	112.20	117.26	266.87	33066
	Control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33067	Door release control panel connection to digital keypad locking devices and to a designated power supply point	2,135.08	94.00	100.07	266.87	33067
33068	Fire alarm interface control panel connection to the dry contact of fire alarm panel & door release control panel and to a designated power supply point	2,094.99	94.00	100.07	266.87	33068

Item					Item	
CLOSED CIRCUIT TELEVISION SURVEILLANCE SYSTEM						
Equipment/ components c/w trays, trunking, ladders, conduits, boxes, cables and all necessary accessories : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
33069	Colour CCD video camera c/w lens, housing & bracket	2,926.70	52.58	60.65	194.08	33069
33070	Digital Colour CCD video camera c/w auto-iris lens, housing & bracket	3,395.65	52.58	60.65	194.08	33070
33071	Dome colour camera c/w lens	1,329.84	52.58	60.65	180.94	33071
33072	Matrix switcher c/w control keypad, 16-way	46,710.64	29.33	31.32	93.00	33072
33073	Colour CRT CCTV monitor, 390 mm	-	25.27	27.30	61.68	33073
33074	Colour CRT CCTV monitor, 550 mm	-	25.27	27.30	61.68	33074
33075	Black and white CRT CCTV monitor, 390 mm	-	25.27	27.30	61.68	33075
33076	Colour TFT LCD CCTV monitor, 430 mm with BNC in/ out	3,807.00	25.27	27.30	61.68	33076
33077	Colour TFT LCD CCTV monitor, 480 mm with BNC in/ out	4,377.16	25.27	27.30	61.68	33077
33078	Colour TFT LCD CCTV monitor, 550 mm with BNC in/ out	6,568.00	25.27	27.30	61.68	33078
33079	Colour TFT LCD CCTV monitor, 1270 mm with BNC in/ out	8,550.00	25.27	27.30	61.68	33079
33080	1/ 3" CCD colour dome camera	2,579.32	52.56	60.65	194.09	33080
33081	High resolution network/ IP based camera	1,549.47	52.56	60.65	194.09	33081
33082	High resolution network/IP based colour dome camera, 1080P, fixed	2,029.20	52.56	60.65	194.09	33082
33083	High resolution network/IP based colour dome camera, 4K, fixed	4,275.00	52.56	60.65	194.09	33083
33084	High resolution network/IP based colour dome camera, 1080P , PTZ c/w 32X optical zoom	18,810.00	52.56	60.65	194.09	33084
33085	Ultra high definition/4K fixed network/IP camera c/w lens, IP67 and IK10, housing & bracket	4,560.00	52.56	60.65	194.09	33085
33086	Ultra high definition/4K pan-tilt-zoom network network/IP dome camera c/w lens, IP67 and IK10, housing & bracket	23,750.00	52.56	60.65	194.09	33086
33087	DVI extender	6,592.38	29.31	31.32	93.00	33087
33088	IP based KVM with LCD display panel	8,205.69	25.27	27.30	61.68	33088
33089	Video server (32 Channels)	43,071.84	25.27	27.30	61.68	33089
33090	Video multiplexer, 16-way, duplex type	8,546.10	37.40	39.43	110.19	33090
33091	Quad unit, 4-way	3,479.61	37.40	39.43	85.93	33091
33092	Video cassette recorder, 24 hours time lapse type	-	25.27	28.31	61.68	33092

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
CLOSED CIRCUIT TELEVISION SURVEILLANCE SYSTEM (CONT'D)						
Equipment/ components c/w trays, trunking, ladders, conduits, boxes, cables and all necessary accessories : - (Cont'd)						
	<i>Per set</i>					
33093	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 1 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	3,133.56	25.27	28.31	61.68	33093
33094	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 2 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	3,657.50	25.27	28.31	61.68	33094
33095	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 4 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	3,952.00	25.27	28.31	61.68	33095
33096	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 6 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	4,227.50	25.27	28.31	61.68	33096
33097	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 8 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	4,731.00	25.27	28.31	61.68	33097
33098	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 10 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	5,272.50	25.27	28.31	61.68	33098
33099	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 12 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	6,403.00	25.27	28.31	61.68	33099
33100	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 18 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	7,932.50	25.27	28.31	61.68	33100
33101	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 20 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	8,407.50	25.27	28.31	61.68	33101
33102	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 40 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	12,017.50	25.27	28.31	61.68	33102
33103	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 60 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	15,181.00	25.27	28.31	61.68	33103
33104	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 80 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	18,855.00	25.27	28.31	61.68	33104
33105	Digital video recorder, DVD recording operation, with built-in hard disk of minimum 90 TB storage capacity, can record 9/ 16 channels video to up to 25 fps per channel	21,825.00	25.27	28.31	61.68	33105
33106	Extra for each additional 1 TB hard disk storage	237.50	-	-	-	33106
33107	Network video recorder (NVR) for video input and transmission up to 64-channel 12MP IP cameras, c/w FHD resolution video output and hard disk of minimum 8TB storage capacity, RAID I, can record up to 8 channels video to up to 25fps per channel	10,260.00	25.27	28.31	61.68	33107
33108	Network video recorder (NVR) for video input and transmission up to 64-channel 12MP IP cameras, c/w FHD resolution video output and hard disk of minimum 8TB storage capacity, RAID I, can record 8 to 16 channels video to up to 25fps per channel	11,495.00	25.27	28.31	61.68	33108
33109	Network video recorder (NVR) for video input and transmission up to 64-channel 12MP IP cameras, c/w FHD resolution video output and hard disk of minimum 8TB storage capacity, RAID I, can record 16 to 24 channels video to up to 25fps per channel	13,224.00	25.27	28.31	61.68	33109
33110	Network video recorder (NVR) for video input and transmission up to 64-channel 12MP IP cameras, c/w FHD resolution video output and hard disk of minimum 8TB storage capacity, RAID I, can record 24 to 48 channels video to up to 25fps per channel	15,437.50	25.27	28.31	61.68	33110
33111	Extra for each additional 1TB hard disk storage for NVR	225.00	-	-	-	33111
33112	DVD rewritable computer disc of minimum 4.7 GB storage capacity, support writing speed at least 4x	9.48	-	-	-	33112
33113	Super VHS video tapes - 180 mins	24.80	-	-	-	33113
33114	Video distribution amplifier	575.24	25.27	28.31	61.68	33114
33115	Pan/ tilt driver, 360° pan, ±75° tilt (minimum)	8,674.64	89.96	97.04	200.15	33115
33116	Pan/ tilt controller	2,868.83	25.27	28.31	61.68	33116
33117	Video splitter	107.58	5.06	7.06	18.22	33117
33118	Network switch, power over ethernet (POE) type, gigabit up to 16 ports	2,002.04	20.22	21.22	62.00	33118

Item					Item
	DIGITAL VIDEO MOTION DETECTION SYSTEM				
	Equipment/ components c/w all necessary accessories :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
33132	<i>Per set</i> Video motion detector, able to handle 16 cameras simultaneously and independently c/w remote keyboard for set up, control and all other accessories, connection to the central control station located at the same floor	35,828.15	164.77	172.84	464.98
	WATCHMAN TOUR SYSTEM				
	Equipment/ components c/w all necessary accessories :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
33133	<i>Per set</i> Data collector, handheld intelligent type, vandal proof and weatherproof construction, LCD readout, record minimum 2000 checkpoint readings, 99 user programmable incident codes, automatic downloading capability, pass word controller	14,910.88	-	-	-
33134	Check point, magnetic type, tamper-proof, vandal resistant	333.04	29.33	30.33	61.68
33135	Data transfer unit; able to transmit and receives data from data collector c/w battery charge, and necessary accessories	9,239.82	10.11	12.12	36.37
	RADIO FREQUENCY DISTRIBUTION SYSTEM				
	Equipment/ components c/w all necessary accessories :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
33136	<i>Per set</i> Radio frequency distribution system for long distance signal transmission between camera multi-channel video signals and monitors	3,303.38	57.61	69.74	245.64
33137	Fibre optics transmission system c/w transmitter and receiver for convey single and multi video signals through optical fibre over long distance. Fibre optics cable shall be measured separately	3,922.36	57.61	69.74	203.17

Item					Item
	CALL BELL SYSTEM				
	Call bell control/ indication panel, stainless steel type c/w all necessary accessories and connection to a designated power supply point :-				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
33138	Panel of 4 zones or less	3,514.45	74.79	87.94	308.31
33139	Panel of 5 - 8 zones	4,992.40	80.85	94.00	325.50
33140	Panel of 9 - 12 zones	6,376.40	86.92	99.08	339.64
	<i>Each</i>				
	Call push button				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
33141	Call push button c/w necessary accessories and connection to the call bell control/ indication panel	456.68	80.85	83.90	194.08
	<i>Each</i>				
	COAXIAL CABLES AND SHIELDED CABLES				
	(Note : The following five items will only be paid for if ordered by the Maintenance Surveyor in writing)				
	Coaxial cables :				
	<i>Per linear metre</i>				
33142	Coaxial cables, RG-6 / RG-11 / RG-58 / RG-59	22.23	2.01	3.05	7.09
	Twisted pair shielded cables :-				
	<i>Per linear metre</i>				
33143	1-pair	12.95	2.34	2.83	7.09
33144	2-pair	15.64	2.34	2.83	7.09
33145	4-pair	19.11	2.58	3.15	8.09
33146	8-pair	30.10	3.45	4.14	9.10

Section 34

PUBLIC ADDRESS SYSTEM

SECTION 34

PUBLIC ADDRESS SYSTEM

SPECIAL CONDITIONS

Measurement of power supply	SC34.01	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Electrical Installation - Lighting System and Fixtures, Section 28 - Electrical Installation - Small Power Distribution, Section 29 - Electrical Installation - Main Distribution Systems and Section 30 - Electrical Installation - Miscellaneous or other applicable Work Sections of this Schedule.
Measurement of excavations, ducts, chases, holes and other subsidiary work	SC34.02	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All pipe ducts, concrete thrust blocks and anchor blocks, chases in, and holes through existing walls, ceilings and similar for pipes, etc., (but not mortices or holes for brackets) except specifically stated, shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work and Section 05 - Brickwork and Blockwork or other applicable Work Sections of this Schedule.
Measurement of microphone cables and loudspeaker cables	SC34.03	<p>Cables for the equipment have been allowed in the rates under this Section. No measurement shall be made for cables except for microphone cables and loudspeaker cables where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Microphone cables and loudspeaker cables shall be measured the net length as fixed in linear metres.</p>
Measurement of temporary supply	SC34.04	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>

SPECIAL CONDITIONS

Rates generally

SC34.05

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including drilling of the background and provision of all fixings, nails, bolts, nuts, washers, holes, screws, plugs, shotfired pins and the like.
- (g) Assembling and jointing together with the component parts of composite units and providing any necessary jointing materials.
- (h) All brackets and methods of supports.
- (i) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (j) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (k) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (l) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (m) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (n) Provision of all necessary power, labour and testing instrument of approved type for testing and commissioning.
- (o) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (p) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (q) Provision of manufacturer's guarantee.

SPECIAL CONDITIONS

Rates for equipment	SC34.06	<p>The rates for equipment shall further include for : -</p> <ul style="list-style-type: none"> (a) Connecting, interconnecting cables, jointing and making all cable, conduit, trunking and cable tray connections and the like and provision of all associated components. (b) Provision of all components forming part of the equipment complete with all supply and interconnecting wiring and the like. (c) All necessary instruments, devices and the like including appropriate connections thereto. (d) Cables, conduits including flexible conduits and adaptors, trunkings, trays, ladders, outlet boxes, junction boxes, universal boxes including special boxes, all fixings, bending, cutting, screwing and jointing. (e) Earth/ equipotential bonding.
Rates for microphone cables and loudspeaker cables	SC34.07	<p>The rates for microphone cables and loudspeaker cables shall further include for : -</p> <ul style="list-style-type: none"> (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment. (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like. (c) Making cable-joints. (d) All necessary fixings completed with accessories and fittings as required. (e) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.
Rates for "Take down and clear away" or "Take down and set aside for re-use"	SC34.08	<p>The rates for "Take down and clear away" or "Take down and set aside for re-use" existing items in connection with public address installation shall further include for : -</p> <ul style="list-style-type: none"> (a) Taking down all associated building services works. (b) Plugging off remaining ends with plugs or caps as required. (c) Preparing remaining ends of building services works to receive connections with new work if required. (d) Making good all works disturbed.
Particular Specification	SC34.09	<p>The Particular Specification for public address system can be found in the Contract.</p>

Item					Item	
PUBLIC ADDRESS SYSTEM						
Equipment/ component c/w all necessary accessories : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
<i>Each</i>						
34001	Ceiling panel speaker, surface-mount type, 3W c/w matching transformer	775.91	29.19	32.18	117.26	34001
34002	Ceiling panel speaker, surface-mount type, 6W c/w matching transformer	811.67	29.19	32.18	117.26	34002
34003	Ceiling panel speaker, ceiling-recessed, 3W c/w matching transformer	1,076.28	29.19	32.18	122.31	34003
34004	Ceiling panel speaker, ceiling-recessed, 6W c/w matching transformer	1,201.41	29.19	32.18	122.31	34004
34005	Box speaker, 3W	1,072.70	29.19	32.18	117.26	34005
34006	Box speaker, 6W	1,153.17	29.19	32.18	117.26	34006
34007	Horn speaker, 3W	1,097.71	29.19	32.18	117.26	34007
34008	Horn speaker, 6W	1,205.00	29.19	32.18	117.26	34008
34009	Speaker column; 95 dB/ W (min.); four dynamic cone speaker units (min.); wooden enclosure c/w front grille cloth, insulation, matching transformer	4,855.75	32.23	34.65	123.33	34009
34010	Desk top microphone c/w chime unit	2,449.31	4.60	5.77	17.19	34010
34011	Unidirectional microphone c/w built-in blast and pop protection, microphone holder, mike cable and connector	3,568.51	4.60	5.77	17.19	34011
34012	Paging microphone c/w desk stand, microphone holder, mike cable and connector	4,576.84	4.60	5.77	18.22	34012
34013	Miniature omnidirectional lavalier microphone c/w long-life-cable and lavalier holder	4,791.38	1.70	2.25	5.07	34013
34014	Microphone floor stand and boom arm c/w 900 to 1600 mm nominal length floor stand, 700 mm minimum length boom arm of 360° adjustment direction, locking device and microphone and boom adaptor	2,073.86	4.60	5.77	18.22	34014
34015	Microphone desk stand and flexible gooseneck shaft c/w 100 to 200 mm adjustable support and connector	2,524.42	4.60	5.77	17.19	34015
34016	Volume control unit with wall mounting box, 30W c/w all necessary accessories	983.33	75.79	90.37	267.88	34016
34017	UHF Hand-held (vocal) Wireless Microphone	2,269.84	1.70	2.25	5.07	34017
34018	UHF Tuner	2,477.96	75.79	90.37	267.88	34018
34019	UHF Wireless Tuner	4,975.42	75.79	90.37	267.88	34019
34020	UHF Wireless Antenna	1,295.37	75.79	90.37	267.88	34020
<i>Each</i>						
34021	Mixer power amplifier, 60W r.m.s., 3 inputs	4,469.57	23.42	25.74	68.75	34021
34022	Mixer power amplifier, 120W r.m.s., 3 inputs	6,218.06	23.42	25.74	68.75	34022
34023	Mixer pre-amplifier panel with 6-channel pre-amplifier unit (4 microphone inputs)	9,096.45	23.42	25.74	68.75	34023
34024	Cassette deck c/w tape recorder and player, microphone and headphone jacks, input/ output level control and meters, 3-digital resettable tape counter, automatic shut-off and noise reduction system	2,359.92	23.42	25.74	68.75	34024
34025	Background music CD/ DVD player	2,295.56	23.42	25.74	68.75	34025
34026	Remote microphone unit in sheet metal cabinet comprising of 1 no. flexible gooseneck microphone and zone selection buttons (6 zone)	11,209.65	11.61	12.86	24.26	34026
34027	Monitor panel; stainless steel enclosure c/w monitor speaker with volume control, system power on/ off switch, sound level meter, channel selector switch and line voltage selector switch	9,922.42	69.69	92.28	352.79	34027

Item					Item	
PUBLIC ADDRESS SYSTEM (CONT'D)						
Sundries : -						
<i>Each</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
34028	Jack point c/w jack plug and socket, conduit and wiring and all necessary accessories	375.45	75.79	90.37	272.93	34028
34029	Speaker point c/w 2A - 3pin plug and socket, conduit and wiring and all necessary accessories	348.65	75.79	90.37	272.93	34029
Equipment cabinet : -						
<i>Per linear metre</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
34030	Equipment cabinet; well ventilated 483 mm standard high; teakwood construction c/w locking doors and 3-pin power sockets and all necessary accessories	4,719.86	19.94	21.05	29.33	34030
34031	Equipment cabinet; well ventilated 483mm standard high; stainless steel construction c/w locking doors and 3-pin power sockets and all necessary accessories	5,899.83	19.94	21.05	29.33	34031
Microphone cables and loudspeaker cables : - (Note : The following six items will only be paid for if ordered by the Maintenance Surveyor in writing)						
<i>Per linear metre</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
34032	Microphone cable	17.59	2.35	3.50	7.06	34032
34033	Loudspeaker cable	22.64	2.35	3.50	7.06	34033
34034	Underground microphone cable	45.11	2.25	3.25	6.09	34034
34035	Underground loudspeaker cable	68.77	2.25	3.25	6.09	34035
34036	Waterproof type microphone cable	39.75	2.35	3.50	7.06	34036
34037	Waterproof type loudspeaker cable	66.11	2.35	3.50	7.06	34037

Section 35

BROADCAST RECEPTION

SECTION 35

BROADCAST RECEPTION

SPECIAL CONDITIONS

Measurement of power supply	SC35.01	<p>All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Electrical Installation - Lighting System and Fixtures, Section 28 - Electrical Installation - Small Power Distribution, Section 29 - Electrical Installation - Main Distribution Systems and Section 30 - Electrical Installation - Miscellaneous or other applicable Work Sections of this Schedule.</p>
Measurement of coaxial cables	SC35.02	<p>Cables for the equipment have been allowed in the rates under this Section. No measurement shall be made for cables except for coaxial cables where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Coaxial cables shall be measured the net length as fixed in linear metres.</p>
Measurement of temporary supply	SC35.03	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>
Rates generally	SC35.04	<p>The rates for all items shall generally include for : -</p> <ul style="list-style-type: none"> (a) Colour band and colour identification work. (b) Lettering and engraving for identification, signs, labels in both English and Chinese. (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC35.04
(Cont'd)**

- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including drilling of the background and provision of all fixings, nails, bolts, nuts, washers, holes, screws, plugs, shotfired pins and the like.
- (g) Assembling and jointing together with the component parts of composite units and providing any necessary jointing materials.
- (h) All brackets and methods of supports.
- (i) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (j) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (k) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (l) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (m) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (n) Provision of all necessary power, labour and testing instrument of approved type for testing and commissioning.
- (o) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (p) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (q) Provision of manufacturer's guarantee.

**Rates for
equipment**

SC35.05

The rates for equipment shall further include for : -

- (a) Interfacing, connecting, interconnecting cables, jointing and making all bus bar, cable, conduit, trunking and cable tray connections and the like and provision of all associated components.
- (b) Provision of all components forming part of the equipment including batteries and chargers with all supply and interconnecting wiring and the like.

SPECIAL CONDITIONS

Rates for equipment (Cont'd)	SC35.05 (Cont'd)	<ul style="list-style-type: none"> (c) All necessary sensors, instruments, devices and the like including appropriate connections thereto. (d) Cables, conduits including flexible conduits and adaptors, trunkings, trays, ladders, outlet boxes, junction boxes, universal boxes including special boxes, all fixings, bending, cutting, screwing and jointing. (e) Earth/ equipotential bonding.
Rates for coaxial cables	SC35.06	<p>The rates for coaxial cables shall further include for : -</p> <ul style="list-style-type: none"> (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment. (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like. (c) Making cable-joints. (d) All necessary fixings complete with accessories and fittings as required. (e) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.
Rates for "Take down and clear away" or "Take down and set aside for re-use"	SC35.07	<p>The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with broadcast reception installation shall further include for : -</p> <ul style="list-style-type: none"> (a) Taking down all associated building services works. (b) Plugging off remaining ends with plugs or caps as required. (c) Preparing remaining ends of building services works to receive connections with new work if required. (d) Making good all works disturbed.
Particular Specification	SC35.08	<p>The Particular Specification for broadcast reception installation can be found in the Contract.</p>

Item					Item	
BROADCAST RECEPTION INSTALLATION						
Equipment/ components c/w necessary accessories : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
35001	FM aerial c/w stainless steel aerial masts/ poles	3,385.92	108.14	115.66	462.96	35001
35002	UHF multi-channel aerial including receiving high definition television signal, minimize ghost image type, c/w stainless steel aerial masts/ poles	3,894.58	108.14	115.66	462.96	35002
35003	Aerial, combining-unit, FM/ UHF including receiving high definition television signal, minimize ghost image type c/w stainless steel aerial masts/ poles	5,101.54	110.82	116.79	493.31	35003
35004	Pre-amplifiers	1,426.07	26.23	27.74	68.75	35004
35005	Frequency converter	2,986.84	29.18	33.13	82.89	35005
35006	Wideband and channel amplifier	4,296.65	29.18	33.13	82.89	35006
35007	TV bandpass pre-amplifier	1,452.14	26.23	27.74	68.75	35007
35008	FM bandpass pre-amplifier	1,117.84	26.23	27.74	68.75	35008
35009	TV bandpass filter	1,035.81	26.23	27.74	68.75	35009
35010	FM bandpass filter	785.68	26.23	27.74	68.75	35010
Sundries : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
35011	TV/ FM socket outlet c/w coaxial cables, conduits (surface or concealed type) and all necessary accessories	662.78	93.08	109.49	331.55	35011
35012	Splitter unit	90.38	2.70	3.37	10.11	35012
35013	Tee unit	93.38	2.70	3.37	10.11	35013
35014	Lockable well-ventilated metal enclosure to house all headend circuit components	1,562.80	65.10	72.14	234.53	35014
Coaxial cable : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
35015	Coaxial cable, 75 ohm	18.85	2.62	3.30	8.09	35015
	(Note : The above item will only be paid for if ordered by the Maintenance Surveyor in writing)	-	-	-	-	

Item					Item	
	BROADCAST RECEPTION INSTALLATION (CONT'D)					
	The satellite master antenna TV sub-system c/w steel supporting framework, stray wires and certification by a Registered Structural Engineer under Section 3 of the Building Ordinance (Cap123)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Diameter of the antenna : -					
	<i>Each</i>					
35016	4 metres (The actual rate should be : \$147,708.50 for Item 35016A)	14,770.85	2,617.92	3,967.08	6,881.96	35016
35017	6 metres (The actual rate should be : \$367,062.20 for Item 35017A)	36,706.22	3,311.01	5,279.19	9,532.45	35017
	Feedhorn c/w low noise block down converter and mounting supports : -					
	<i>Each</i>					
35018	Ku-Band	6,501.62	26.58	39.29	68.75	35018
35019	C-Band	5,975.78	26.58	39.29	68.75	35019
	Satellite receivers/ modulators c/w racks : -					
	<i>Each</i>					
35020	Analogue type	10,393.59	26.58	39.29	68.75	35020
35021	Digital type	6,527.25	26.58	39.29	68.75	35021
35022	Satellite amplifier	3,602.28	29.40	33.41	81.89	35022

Section 36

HEATING, VENTILATION AND AIR-CONDITIONING - PIPEWORK

SECTION 36

HEATING, VENTILATION AND AIR-CONDITIONING

SPECIAL CONDITIONS

(Note: The following special conditions shall apply equally where appropriate to rates under Sections 36 to 39)

Measurement of power supply	SC36.01	All works of electrical power supply up to power supply points (e.g. MCB switchboard or switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Sections 28 to 30 or other applicable Work Sections of this Schedule.
Measurement of water supply or gas supply	SC36.02	All works of water supply and gas supply up to the respective termination points for the equipment and boilers shall be measured separately and paid for at the appropriate rates under applicable Work Sections of this Schedule.
Measurement of pipework	SC36.03	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches (but not through the items of in-line equipment, headers and trapping sets).
Measurement of ductwork	SC36.04	Ductwork rectangular in section shall be measured in square metres whereas ductwork circular and oval in section shall be measured in linear metres. All types of ductwork shall be measured over all in-line fittings, short running lengths and branches (but not through the items of in-line equipment). Ductwork rectangular in section shall be measured net as the area of sheet material fabricated. Allowance for seams, joints and the like shall be included in the rates.
Measurement of insulation to rectangular ductwork	SC36.05	Insulation to ductwork rectangular in section shall be measured in square metres and to the net area in contact with the base of all ducting as installed and over all ducting fittings and joints.
Measurement of insulation to pipework	SC36.06	Insulation to pipework shall be measured in linear metres for the diameter of the pipes to be insulated.

SPECIAL CONDITIONS

**Measurement
of temporary
supply**

SC36.07

Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings, switchgear and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.

For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.

No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.

**Rates
generally**

SC36.08

The rates for all items shall generally include for :-

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All supports in outdoor environment which shall be hot dip galvanized, unless they are part of the ex-factory painted proprietary equipment in which case the ex-factory paint finish may be accepted.
- (f) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (g) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, spring compensated and seismic restraints and isolated components and the like.
- (h) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.

SPECIAL CONDITIONS

Rates generally (Cont'd)

SC36.08 (Cont'd)

- (i) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (j) Preparing and submitting detail working drawings and combined services drawings as required and all shop drawings for the fabrication and installation.
- (k) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (l) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (m) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (n) Submitting all relevant documentation to Fire Services Department and obtaining necessary approval.
- (o) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works including soft copies as required.
- (p) Provision of schematic diagrams in plastic envelopes including fixing to wall.
- (q) Provision of manufacturer's guarantee.
- (r) Attending fault and complaint during the Maintenance Period.
- (s) Meeting statutory requirements for disposal of waste materials
- (t) Submission of sample board for all compact sized materials and accessories, and supply of samples of materials for testing (including testing to destruction).

Rates for equipment

SC36.09

The rates for equipment (e.g. chillers, heat pumps, air handling units, variable refrigerant volume air-conditioning units, fresh air pre-conditioner, split type air-conditioning units, fan coil units, room coolers, fans, pumps, tanks, heat exchangers and the like) shall further include for : -

- (a) All necessary assembly, orientation, alignment, levelling, lifting and bolting down facilities, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like.
- (b) All supporting frames required for proper installation of equipment except the supporting frames for floor slab structure, reinforcement or other special requirements. When the equipment supporting beams have to be extended beyond the requirements, or have to be incorporated into the elevated structure, the extra structural cost of the supporting frames shall be measured separately and paid for at the appropriate rates under Section 10 Steel and Metal Work. For major equipment or equipment as requested by the Maintenance Surveyor, the Contractor shall submit the installation and structural details of the supporting frames for endorsement by the Maintenance Surveyor before carrying out the installation works.

SPECIAL CONDITIONS

Rates for equipment (Cont'd)**SC36.09 (Cont'd)**

- (c) Connections including flexible joints between pipework and equipment.
- (d) All necessary operational and control accessories (e.g. valves, gauges, mechanical flow meters, indicating lamps and the like) forming part of the equipment, connection and termination.
- (e) Condensate drain pipes forming part of the equipment.
- (f) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing and water supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties.
- (g) Anti-vibration mountings for plant, machinery and the like.
- (h) Anti-vibration materials and sound insulating materials in plant and machinery bases, so that when the installed equipment is put into operation, the resulting noise and vibration level at the location within the building and at the building adjacent or nearby shall not exceed the acceptable limit as promulgated by the latest statutory requirements of the Environmental Protection Department.
- (i) Thermal insulation for plant, machinery and the like if required.
- (j) Direct-on-line or Star-Delta motor starters (if the equipment requires motor starters).
- (k) Earth/ equipotential bonding.
- (l) Emergency stop button.

Rates for ductwork generally**SC36.10**

The rates for ductwork (rectangular in section or circular or oval in section) shall further include for :-

- (a) All short lengths, cutting and waste, joints including stiffeners and flanges in the running length and forming openings for branches.
- (b) All connections to fittings, equipment and ancillaries including flexible connections and providing all necessary materials, bolts, nuts, washers, brackets, supports, hangers and everything necessary for making joints and connections.
- (c) Alternative method of jointing and fixing as specified (if any).
- (d) Connections between ductwork of different materials.
- (e) Spring compensated components of ductwork supports.
- (f) Ductwork turns, splitter dampers, mid-feathers, air duct cleaning points, access panels and openings, test holes and covers, flashing plates, companion frames and the like.
- (g) In-line fittings (e.g. bends, branches, elbows, reducers, tees, air turning vanes and the like).
- (h) All necessary components for earth continuity as specified.

SPECIAL CONDITIONS

Rates for ductwork circular or oval in section	SC36.11	The rates for ductwork circular or oval in section shall, in addition to the appropriate sub-clauses of Clause SC36.10, include for insulation including working or cutting around supports, small drains, vents or similar obstructions, joints, bends, tees, duct fittings, stiffeners, access panels, ancillaries and the like, and provision of adhesive, sealing tapes and vapour barriers, and finishing with aluminium foil or cement plaster and painting or metal cladding as required.
Rates for pipework	SC36.12	<p>The rates for pipework shall further include for : -</p> <ul style="list-style-type: none"> (a) All short lengths, cutting and waste, and joints in the running length. (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any). (c) All in-line pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings. (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges. (e) Connections between pipework of different materials and differing grades of same material. (f) Spring compensated components of pipework supports. (g) Provision of wall plates, ceiling plates, floor plates, high tensile holding down bolts, tapered washers and the like for casting into the reinforced concrete corbels. (h) Trapping sets. (i) Any flanges, unions or other devices used solely for erection purposes. (j) All jointing including provision of flexible connections and/ or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required. (k) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings. (l) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required. (m) Fixing in any position to floors, walls and ceilings and fixing in chases, ducts, false ceilings and similar positions.

SPECIAL CONDITIONS

**Rates for
in-line pipework
equipment****SC36.13**

The rates for in-line pipework equipment (e.g. valves, mechanical flow meters, gauges, strainers and the like) shall further include for : -

- (a) Cutting and jointing to pipes and fittings.
- (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.

**Rates for
supervisory
panel****SC36.14**

The supervisory panel shall be measured on the basis of complete unit monitoring and controlling a series of equipment with interaction. Rates for supervisory panel shall further include for all necessary relays, contactors, circuit protection devices, indicating lamps, push button package and selector switches and the like for the supervising the operation of the whole series of equipment. The cable and cable containment to existing equipment or existing panel shall be measured separately and paid for at the appropriate rates under Sections 28 to 30.

For the avoidance of doubt, every set of pump (i.e. one duty pump and one standby pump), condenser, condensation unit, air handling unit, package chiller, heat pump, contactor for a group of fans or fan coil units shall mean one set of equipment. An evaporator and an outdoor condensing unit of a split unit shall also mean one set of equipment. An actuator for operating a motorized valve or damper shall also be regarded as one set of equipment. Switches and devices (e.g. pressure switch, thermostat, humidistat, level switch, sail switch and the like) that provide contacts for control functions shall not be measured as equipment.

Furthermore, the local control panel which is an integral part of the equipment shall be regarded as a complete monitoring and controlling unit including all necessary relays, contactors, circuit protection devices, indicating lamps, push button package and switches and the like for the efficient operation of the equipment and thus shall not be measured separately. Rather, the costs of which shall be deemed to have been included in the rates of the concerned equipment. Only those switches and devices (sensors/ controllers) for additional functions shall be measured separately and the rates thereof shall include for all necessary control wiring to the local control panel.

**Rates for
boilers****SC36.15**

The rates for boilers shall further include for : -

- (a) All necessary assembly, orientation, alignment, levelling, lifting and bolting down facilities, together with the provision of shims and packing pieces, strainers, instrumentation and the like.
- (b) Supporting frames.
- (c) Provision of associated components.
- (d) All necessary operational and control accessories (e.g. heat exchanger, air nozzle, valves, thermostat, control panels, gauges, pumps, switches and the like), connection and termination.

SPECIAL CONDITIONS

Rates for boilers (Cont'd)	SC36.15 (Cont'd)	<ul style="list-style-type: none"> (e) Thermal insulation. (f) Storage tank with copper lining internally and thermal insulation and decoration as specified externally. (g) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing, water supply and/or gas supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties. (h) Earth/ equipotential bonding.
Rates for "Take down and clear away" or "Take down and set aside for re-use"	SC36.16	<p>The rates for "Take down and clear away" or "Take down and set aside for re-use" existing pipework, ductwork, equipment, boiler and the like shall further include for where applicable : -</p> <ul style="list-style-type: none"> (a) All in-line pipework fittings and in-line pipework equipment including brackets, supports, hangers and the like. (b) Cutting into existing pipework, ductwork and the like in position. (c) Preparing remaining ends to receive joints with new work if required. (d) Plugging off remaining ends with plugs or caps as required. (e) In the case of equipment, boiler and the like, taking down all associated plumbing works and/ or building services work. (f) Making good all works disturbed.
Rates for insulation to rectangular ductwork	SC36.17	<p>The rates for insulation to ductwork rectangular in section shall further include for : -</p> <ul style="list-style-type: none"> (a) All fixings, adhesive, sealing tapes, vapour barriers and the like. (b) Forming laps, welts, cut outs, recesses and the like. (c) Pointing, sealing, trowelling smooth, chamfered and sealed edges and the like. (d) Working around supports, small drains, vents or similar obstructions. (e) Working around ducting fittings, stiffeners, joints, access panels, ancillaries and the like. (f) Forming of angles and all other labour. (g) Finishing with aluminium foils as required.

SPECIAL CONDITIONS

Rates for insulation to pipework**SC36.18**

The rates for insulation to pipework shall further include for : -

- (a) Cutting into existing insulation to pipework in position.
- (b) Taking down existing insulation either in whole or in part as required.
- (c) All preparation work including preparing remaining ends to receive new insulation if required.
- (d) All fixings, adhesive, sealing tapes, vapour barriers and the like.
- (e) Forming laps, welts, cut outs, recesses and the like.
- (f) Pointing, sealing, trowelling smooth, chamfered and sealed edges and the like.
- (g) Working around supports, small drains, vents or similar obstructions.
- (h) Working around in-line fittings, joints and the like.
- (i) Forming of angles and all other labour.
- (j) Finishing with aluminium foils as required.
- (k) Making good all works disturbed.

Cooling capacity criteria**SC36.19**

Cooling capacity shall be based on the following criteria except otherwise specified : -

- | | | | |
|-------|------------------------|--|---------------------|
| (i) | Condenser | Condensing air temperature
(for air-cooled chiller only) | 35°C |
| | | Condensing water entering temperature
(for water-cooled chiller only) | 32°C |
| | | Condensing water leaving temperature
(for water-cooled chiller only) | 37°C |
| (ii) | Chiller | Chilled water return temperature | 12.5°C |
| | | Chilled water leaving temperature | 7°C |
| (iii) | Air handling equipment | Entering air on evaporator | 27°C DB
21°C WB |
| | | Supply air | 13°C DB (Saturated) |
| (iv) | PAU | Entering air | 33°C DB
28°C WB |

SPECIAL CONDITIONS**Rates for
pressure
vessels****SC36.20**

The rates for pressure vessels shall further include for :-

- (a) Supply and installation in accordance with the manufacturer's instructions.
- (b) Providing and fixing all accessories, fittings and the like as recommended by the manufacturer.
- (c) Any colour and shape.
- (d) Providing and fixing with anchor bolts.
- (e) Cutting mortice, sinking or drilling in concrete, brick, stone or other surfaces as required.
- (f) Grouting into new or existing mortice or holes.
- (g) Making good disturbed surfaces.
- (h) Masking, protecting and cleaning.
- (i) Submission of catalogues, technical literature, operation manuals and manufacturer's guarantee for the approval of the Maintenance Surveyor.
- (j) Testing and providing test certificates.
- (k) Providing Statutory Inspection Certificate.

SPECIAL CONDITIONS

Rates for Buildings Energy Efficiency Ordinance	SC36.21	<p>(a) In order to fulfill the energy efficiency requirements by the Buildings Energy Efficiency Ordinance, the Contractor is required to appoint a Registered Energy Assessors (REA) at his own cost for the completion and submission of the Form of Compliance - Form EE4 to the EMSD for approval including but not limited to compilation and certification of the required forms and worksheets for the electrical installations, lighting installations and air-conditioning installations, where applicable, including any necessary endorsement fees.</p> <p>(b) The rates as separately scheduled for the Buildings Energy Efficiency Ordinance submission shall generally include for the preparation of the installation summaries, worksheets, relevant drawings, drawing lists and other supportive documents by the Contractor. The Contractor shall further coordinate with the REA and provide the required information at no extra cost for his submission of the Form of Compliance to the EMSD as required to fulfill the latest requirements of the Buildings Energy Efficiency Ordinance.</p>
Rates for interfacing control for monitoring and /or controlling of existing equipment	SC36.22	<p>The interfacing control shall be measured on the basis of connections between a set of existing equipment/panel and network for controlling and/or monitoring equipment, such as central control and monitoring system or automatic fire alarm system, etc. permitting information exchange. Rates for interfacing control shall further include for all necessary control modules, relays, cables and cable containments, and the like for the efficient operation of the whole series of equipment.</p> <p>For the avoidance of doubt, every set of pump (i.e. one duty pump and one standby pump), condenser, condensation unit, air handling unit, package chiller, heat pump, contactor for a group of fans or fan coil units shall mean one set of equipment. An evaporator and an outdoor condensing unit of a split unit shall also mean one set of equipment. Equipment/panel connecting to other network/ panel shall also be regarded as one set of equipment. Switches and devices (e.g. pressure switch, thermostat, humidistat, level switch, sail switch and the like) that provide contacts for control functions shall not be measured as equipment.</p>
Particular Specification	SC36.23	<p>The Particular Specification for air-conditioning, heating and ventilation can be found in the Contract.</p>

Item					Item	
	REFRIGERANT CIRCUIT (CONT'D)					
	Copper refrigerant pipes c/w phenolic foam insulation, cement plaster, painting and finish of pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36019	9 mm <i>Per linear metre</i>	297.70	8.12	8.83	127.10	36019
36020	15 mm <i>Per linear metre</i>	362.46	8.57	9.27	145.39	36020
36021	18 mm <i>Per linear metre</i>	400.44	8.83	9.49	154.35	36021
36022	22 mm <i>Per linear metre</i>	455.15	10.12	11.01	163.74	36022
36023	28 mm <i>Per linear metre</i>	544.14	11.24	11.71	182.70	36023
36024	35 mm <i>Per linear metre</i>	668.87	12.19	12.88	197.64	36024
	Copper refrigerant pipes c/w flexible closed cell elastomeric insulation of pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36025	9 mm <i>Per linear metre</i>	198.45	5.85	6.14	86.12	36025
36026	15 mm <i>Per linear metre</i>	240.66	6.14	6.46	100.17	36026
36027	18 mm <i>Per linear metre</i>	260.69	6.14	6.67	107.18	36027
36028	22 mm <i>Per linear metre</i>	290.18	7.24	7.57	115.12	36028
36029	28 mm <i>Per linear metre</i>	344.22	7.72	8.05	127.69	36029
36030	35 mm <i>Per linear metre</i>	419.51	8.54	8.84	138.09	36030
	Refrigerant circuit accessories					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Refrigerant stop valves for copper refrigerant pipe diameter : -					
	<i>Each</i>					
36031	9 mm <i>Each</i>	150.35	24.37	31.80	40.13	36031
36032	15 mm <i>Each</i>	251.79	27.47	35.87	48.80	36032
36033	18 mm <i>Each</i>	335.51	27.62	36.84	51.13	36033
36034	22 mm <i>Each</i>	437.34	28.15	37.50	57.95	36034
36035	28 mm <i>Each</i>	482.51	28.56	38.17	63.62	36035
36036	35 mm <i>Each</i>	691.44	29.04	39.28	70.52	36036

Item					Item	
	REFRIGERANT CIRCUIT (CONT'D)					
	Refrigerant solenoid valves for copper refrigerant pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36037	9 mm	586.77	25.11	31.99	37.93	36037
36038	15 mm	696.55	29.63	36.22	44.34	36038
36039	18 mm	1,022.38	29.83	37.02	47.44	36039
36040	22 mm	1,446.88	30.70	37.66	51.21	36040
36041	28 mm	1,899.39	31.35	38.35	60.58	36041
36042	35 mm	2,775.51	32.17	39.49	65.98	36042
	Cartridge refrigerant filter/dryer for copper refrigerant pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36043	9 mm	136.29	26.74	34.08	40.47	36043
36044	15 mm	186.28	31.58	38.54	47.31	36044
36045	18 mm	347.01	31.80	39.47	50.62	36045
36046	22 mm	494.42	32.72	40.13	54.65	36046
36047	28 mm	1,112.76	33.40	40.88	64.62	36047
36048	35 mm	1,344.98	34.27	42.05	70.38	36048
	Refrigerant oil separator for copper refrigerant pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36049	9 mm	550.65	26.74	34.08	43.61	36049
36050	15 mm	868.60	31.58	38.54	51.37	36050
36051	18 mm	1,016.52	31.80	39.47	54.73	36051
36052	22 mm	1,176.41	32.72	40.13	59.07	36052
36053	28 mm	1,240.59	33.40	40.88	68.16	36053
36054	35 mm	1,376.29	34.27	42.05	73.76	36054

Item					Item	
	REFRIGERANT CIRCUIT (CONT'D)					
	Refrigerant sight glass of copper refrigerant pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36055	9 mm	184.86	25.11	31.99	40.89	36055
36056	15 mm	215.24	29.63	36.22	48.16	36056
36057	18 mm	238.25	29.83	37.02	51.31	36057
36058	22 mm	267.20	30.70	37.66	55.36	36058
36059	28 mm	302.20	31.35	38.35	63.92	36059
36060	35 mm	720.93	32.17	39.49	68.01	36060
	Liquid receiver c/w liquid level gauge, purge valve, pressure relief valve and accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36061	0.02 - 0.03 m ³	3,056.26	25.87	28.34	53.17	36061
36062	0.03 - 0.14 m ³	3,689.23	33.90	36.44	70.25	36062
36063	0.14 - 0.2 m ³	4,584.18	37.75	40.23	77.20	36063
36064	0.2 - 0.3 m ³	5,446.43	41.86	44.27	80.85	36064
36065	0.3 - 0.52 m ³	8,114.63	45.80	48.26	91.34	36065
	Gauges c/w stop valve : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36066	Refrigerant high pressure gauge	341.15	31.19	37.28	50.92	36066
36067	Refrigerant low pressure gauge	341.15	31.19	37.28	50.92	36067

Item					Item	
	REFRIGERANT CIRCUIT (CONT'D)					
	Refrigerant : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per kg</i>					
36068	Refrigerant (R134a) c/w charging	80.97	-	-	18.65	36068
36069	Refrigerant (R407C) c/w charging	249.84	-	-	18.65	36069
36070	Refrigerant (R410a) c/w charging	325.57	-	-	18.65	36070
36071	Lubricating oil c/w charging	258.36	-	-	18.72	36071
	Hi /Lo pressure cut-out : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
36072	Hi /Lo pressure cut-out c/w manual reset	505.66	26.07	31.52	42.78	36072
	Aluminium metal cladding not less than 0.8mm for insulated refrigerant pipe work of diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
36073	9 mm	132.36	0.67	0.84	10.85	36073
36074	15 mm	142.59	0.76	0.89	11.72	36074
36075	18 mm	148.98	0.84	1.04	12.83	36075
36076	22 mm	152.47	0.96	1.14	13.67	36076
36077	28 mm	158.71	1.14	1.36	14.62	36077
36078	35 mm	170.87	1.36	1.58	15.57	36078

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES					
	Chilled water pipes					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Chilled water pipework (bare pipe) of pipe diameter: -					
	<i>Per linear metre</i>					
36079	25 mm	188.79	4.59	5.09	64.21	36079
36080	32 mm	202.13	5.09	5.72	68.26	36080
36081	40 mm	227.10	5.59	6.22	73.30	36081
36082	50 mm	291.69	6.07	6.60	84.92	36082
36083	65 mm	345.22	7.20	7.79	97.03	36083
36084	80 mm	409.72	8.38	9.01	109.41	36084
36085	100 mm	515.12	9.42	10.12	125.00	36085
36086	125 mm	654.78	13.97	15.14	145.88	36086
36087	150 mm	769.86	15.59	16.90	166.14	36087
36088	200 mm	1,023.61	18.27	20.20	202.87	36088
36089	250 mm	1,079.13	20.68	22.46	241.59	36089
36090	300 mm	1,204.69	23.58	27.05	288.41	36090
	Chilled water pipework c/w 50 mm polystyrene insulation, cement plaster, painting & finish of pipe diameter: -					
	<i>Per linear metre</i>					
36091	20 mm or below	246.00	7.04	8.12	103.41	36091
36092	25 mm	275.79	7.98	8.85	112.29	36092
36093	32 mm	299.68	8.85	9.97	119.59	36093
36094	40 mm	327.99	9.73	10.85	128.42	36094
36095	50 mm	389.17	10.64	11.57	148.78	36095
36096	65 mm	454.61	12.54	13.58	170.14	36096
36097	80 mm	528.02	14.66	15.74	191.78	36097
36098	100 mm	647.34	16.49	17.73	219.71	36098
36099	125 mm	765.77	20.74	22.46	250.79	36099
36100	150 mm	930.61	26.76	29.20	291.11	36100
	<i>Per linear metre</i>					
36101	200 mm	1,087.99	28.95	30.30	342.77	36101
36102	250 mm	1,297.86	32.54	34.54	420.83	36102
36103	300 mm	1,463.52	37.30	41.31	502.48	36103

Item					Item	
VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)						
Chilled water pipes (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Chilled water pipework c/w 50 mm phenolic foam insulation, cement plaster, painting & finish of pipe diameter : -						
<i>Per linear metre</i>						
36104	20 mm or below	408.07	7.04	8.12	103.41	36104
36105	25 mm	472.35	7.98	8.85	112.29	36105
36106	32 mm	527.87	8.85	9.97	119.59	36106
36107	40 mm	573.72	9.73	10.85	128.42	36107
36108	50 mm	685.57	10.64	11.57	148.78	36108
36109	65 mm	812.78	12.54	13.58	170.14	36109
36110	80 mm	923.94	14.66	15.74	191.78	36110
36111	100 mm	1,126.58	16.49	17.73	219.71	36111
36112	125 mm	1,554.68	20.74	22.46	250.79	36112
36113	150 mm	1,618.22	26.76	29.20	291.11	36113
36114	200 mm	2,204.74	28.95	30.30	342.77	36114
36115	250 mm	2,663.26	32.54	34.54	420.83	36115
36116	300 mm	3,423.26	37.30	41.31	502.48	36116
Chilled water pipework c/w 50 mm phenolic foam insulation of pipe diameter : -						
<i>Per linear metre</i>						
36117	20 mm or below	309.39	4.38	5.12	67.22	36117
36118	25 mm	353.45	4.96	5.75	72.91	36118
36119	32 mm	394.82	5.62	6.40	77.59	36119
36120	40 mm	432.02	6.25	7.04	83.42	36120
36121	50 mm	506.73	6.89	7.68	96.14	36121
36122	65 mm	602.50	7.98	8.76	110.29	36122
36123	80 mm	701.85	9.30	10.03	124.31	36123
36124	100 mm	870.82	10.54	11.45	158.08	36124
36125	125 mm	1,041.43	15.01	16.36	183.78	36125
36126	150 mm	1,288.32	17.32	18.59	210.13	36126
36127	200 mm	1,450.14	18.02	19.70	240.49	36127
36128	250 mm	1,767.53	21.33	23.11	299.92	36128
36129	300 mm	2,057.71	23.98	26.08	362.44	36129

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Chilled water pipes (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Chilled water pipework c/w 25 mm flexible closed cell elastomeric insulation, cement plaster, painting & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36130	20 mm or below	210.87	7.04	8.12	103.41	36130
36131	25 mm	239.74	7.98	8.85	112.29	36131
36132	32 mm	266.48	8.85	9.97	119.59	36132
36133	40 mm	292.32	9.73	10.85	128.42	36133
36134	50 mm	356.63	10.64	11.57	148.78	36134
36135	65 mm	423.12	12.54	13.58	170.14	36135
36136	80 mm	494.36	14.66	15.74	191.78	36136
36137	100 mm	610.45	16.49	17.73	219.71	36137
36138	150 mm	907.96	27.23	29.56	291.89	36138
	Chilled water pipe c/w 20 mm flexible closed cell elastomeric insulation & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36139	25 mm or below	194.82	7.63	8.45	87.58	36139
36140	32 mm	218.40	8.20	9.15	93.29	36140
36141	40 mm	238.27	9.15	10.05	99.69	36141
36142	50 mm	275.64	10.64	11.57	114.81	36142
36143	65 mm	325.93	12.54	13.58	131.59	36143
36144	80 mm	387.17	14.66	15.74	146.64	36144
36145	100 mm	480.41	16.49	17.73	169.17	36145
36146	125 mm	593.84	21.31	21.61	193.51	36146
36147	150 mm	718.85	27.23	29.56	224.28	36147
36148	200 mm	940.61	38.36	39.13	264.05	36148
36149	250 mm	1,137.58	51.79	56.05	329.54	36149
36150	300 mm	1,328.53	66.26	73.17	444.59	36150

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Chilled water pipes (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Chilled water pipe c/w 25 mm flexible closed cell elastomeric insulation & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36151	20 mm or below	176.17	4.93	5.51	75.17	36151
36152	25 mm	198.93	5.55	6.17	82.75	36152
36153	32 mm	230.76	6.29	6.89	87.36	36153
36154	40 mm	269.12	6.95	7.79	92.95	36154
36155	50 mm	314.87	7.71	8.64	109.06	36155
	Chilled water pipe c/w 50 mm flexible closed cell elastomeric insulation & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36156	20 mm or below	220.61	4.18	5.85	62.38	36156
36157	25 mm	255.70	4.56	6.51	67.67	36157
36158	32 mm	281.78	5.23	7.30	72.25	36158
36159	40 mm	306.31	5.72	7.98	77.76	36159
36160	50 mm	371.64	6.24	8.60	89.49	36160
36161	65 mm	434.94	7.41	10.05	100.64	36161
36162	80 mm	506.25	8.77	11.67	109.41	36162
36163	100 mm	612.38	11.38	13.24	135.08	36163
36164	150 mm	792.51	17.64	23.45	182.47	36164
	Chilled water pipe c/w 50 mm flexible closed cell elastomeric insulation, cement plaster, painting & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36165	20 mm or below	238.72	6.05	6.69	90.59	36165
36166	25 mm	276.69	6.60	7.45	98.28	36166
36167	32 mm	304.91	7.57	8.35	104.93	36167
36168	40 mm	331.45	8.28	9.13	112.93	36168
36169	50 mm	402.14	9.04	9.84	129.96	36169
36170	65 mm	470.63	10.74	11.50	146.15	36170
36171	80 mm	562.05	12.50	13.24	162.41	36171
36172	100 mm	685.50	13.67	15.04	187.63	36172
36173	150 mm	1,020.47	22.65	24.85	257.21	36173

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Chilled water pipes (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Pre-insulated chilled water pipe c/w galvanized iron metal jacket for outdoor conditions : -					
	<i>Per linear metre</i>					
36174	25 mm diameter chilled water pipe c/w 50 mm thick insulation	380.37	5.33	6.12	78.90	36174
36175	32 mm diameter chilled water pipe c/w 50 mm thick insulation	423.91	5.91	6.66	85.73	36175
36176	40 mm diameter chilled water pipe c/w 50 mm thick insulation	454.18	6.66	7.44	91.64	36176
36177	50 mm diameter chilled water pipe c/w 65 mm thick insulation	675.53	7.24	8.12	98.13	36177
36178	65 mm diameter chilled water pipe c/w 65 mm thick insulation	745.60	7.96	8.76	113.54	36178
36179	80 mm diameter chilled water pipe c/w 65 mm thick insulation	848.32	9.21	10.12	129.78	36179
36180	100 mm diameter chilled water pipe c/w 65 mm thick insulation	1,002.06	10.85	11.80	145.49	36180
36181	125 mm diameter chilled water pipe c/w 65 mm thick insulation	1,185.49	12.38	13.24	167.79	36181
36182	150 mm diameter chilled water pipe c/w 75 mm thick insulation	1,690.46	20.35	22.01	222.59	36182
36183	200 mm diameter chilled water pipe c/w 75 mm thick insulation	2,125.00	30.57	32.88	288.30	36183
36184	250 mm diameter chilled water pipe c/w 75 mm thick insulation	2,621.55	40.65	45.23	363.09	36184
36185	300 mm diameter chilled water pipe c/w 75 mm thick insulation	3,001.46	50.77	57.35	437.55	36185
	Pre-insulated chilled water pipe c/w galvanized iron metal jacket for indoor conditions : -					
	<i>Per linear metre</i>					
36186	25 mm diameter chilled water pipe c/w 25 mm thick insulation	254.04	5.33	6.12	78.49	36186
36187	32 mm diameter chilled water pipe c/w 25 mm thick insulation	285.79	5.91	6.66	85.33	36187
36188	40 mm diameter chilled water pipe c/w 25 mm thick insulation	310.77	6.66	7.44	91.22	36188
36189	50 mm diameter chilled water pipe c/w 40 mm thick insulation	464.62	7.24	8.12	97.88	36189
36190	65 mm diameter chilled water pipe c/w 40 mm thick insulation	536.94	7.96	8.76	113.12	36190
36191	80 mm diameter chilled water pipe c/w 40 mm thick insulation	592.65	9.21	10.12	129.61	36191
36192	100 mm diameter chilled water pipe c/w 40 mm thick insulation	784.20	10.85	11.80	145.43	36192
36193	125 mm diameter chilled water pipe c/w 40 mm thick insulation	899.23	12.38	13.24	167.73	36193
36194	150 mm diameter chilled water pipe c/w 50 mm thick insulation	1,173.01	20.35	22.01	221.75	36194
36195	200 mm diameter chilled water pipe c/w 50 mm thick insulation	1,466.07	30.57	32.88	288.24	36195
36196	250 mm diameter chilled water pipe c/w 50 mm thick insulation	1,833.96	40.65	45.23	363.01	36196
36197	300 mm diameter chilled water pipe c/w 50 mm thick insulation	2,196.56	50.77	57.35	436.27	36197

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Condensate drain					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	GI drain pipe c/w 50 mm phenolic foam insulation, cement plaster, painting & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36198	20 mm or below	420.69	7.04	8.12	103.41	36198
36199	25 mm	491.44	7.98	8.85	112.29	36199
36200	32 mm	550.49	8.85	9.97	119.59	36200
36201	40 mm	591.71	9.73	10.85	128.42	36201
36202	50 mm	717.93	10.64	11.57	148.78	36202
36203	65 mm	856.65	12.54	13.58	170.14	36203
36204	80 mm	994.30	14.66	15.74	191.78	36204
	GI drain pipe c/w 50 mm polystyrene insulation, cement plaster, painting & finish of pipe diameter : -					
	<i>Per linear metre</i>					
36205	20 mm or below	257.73	7.04	8.12	103.41	36205
36206	25 mm	299.71	7.98	8.85	112.29	36206
36207	32 mm	333.86	8.85	9.97	119.59	36207
36208	40 mm	358.28	9.73	10.85	128.42	36208
36209	50 mm	437.06	10.64	11.57	148.78	36209
36210	65 mm	510.90	12.54	13.58	170.14	36210
36211	80 mm	602.58	14.66	15.74	191.78	36211
	GI drain pipe c/w 20 mm flexible closed cell elastomeric insulation and finish of pipe diameter : -					
	<i>Per linear metre</i>					
36212	20 mm or below	219.37	7.04	8.12	103.41	36212
36213	25 mm	263.15	7.98	8.85	112.29	36213
36214	32 mm	298.52	8.85	9.97	119.59	36214
36215	40 mm	322.08	9.73	10.85	128.42	36215
36216	50 mm	400.28	10.64	11.57	148.78	36216

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Condensate drain (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	PVC drain pipe c/w 20 mm flexible closed cell elastomeric insulation and finish of pipe diameter :-					
	<i>Per linear metre</i>					
36217	20 mm or below	194.74	7.20	8.31	106.02	36217
36218	25 mm	214.75	8.15	9.06	115.15	36218
36219	32 mm	234.55	9.06	10.17	122.71	36219
	PVC flexible drain pipe of pipe diameter :-					
	<i>Per linear metre</i>					
36220	20 mm or below	39.22	5.44	5.94	26.79	36220
36221	25 mm	55.29	7.20	7.85	37.57	36221
36222	32 mm	61.70	8.15	8.63	41.57	36222
	GI drain pan c/w insulation of size :-					
	<i>Each</i>					
36223	Up to 0.55 m ²	395.19	8.17	8.63	59.33	36223
36224	0.55 - 0.73 m ²	500.19	17.52	25.29	88.95	36224
36225	0.73 - 0.9 m ²	632.10	37.54	45.54	118.05	36225
	GI drain pan of size :-					
	<i>Each</i>					
36226	Up to 0.55 m ²	232.55	6.58	6.60	53.89	36226
36227	0.55 - 0.73 m ²	282.04	13.77	20.57	76.32	36227
36228	0.73 - 0.9 m ²	342.51	32.80	39.54	101.97	36228
	Stainless steel drain pan c/w insulation of size :-					
	<i>Each</i>					
36229	Up to 0.55 m ²	479.53	8.17	8.63	59.33	36229
36230	0.55 - 0.73 m ²	637.32	17.52	25.29	88.95	36230
36231	0.73 - 0.9 m ²	831.36	37.54	45.54	118.05	36231

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Condensate drain (Cont'd)					
	Stainless steel drain pan of size :-					
	<i>Each</i>					
36232	Up to 0.55 m ²	311.54	6.58	6.60	53.89	36232
36233	0.55 - 0.73 m ²	406.75	13.77	20.57	76.32	36233
36234	0.73 - 0.9 m ²	525.99	32.80	39.54	101.97	36234
	uPVC pipework of diameter :-					
	<i>Per linear metre</i>					
36235	25 mm or below	99.99	4.76	5.59	36.19	36235
36236	32 mm	118.47	5.39	6.16	38.08	36236
36237	40 mm	152.79	5.94	6.81	40.75	36237
36238	50 mm	195.73	6.60	7.37	46.87	36238
36239	65 mm	261.82	7.59	8.46	53.42	36239
36240	80 mm	346.14	8.94	9.81	60.36	36240
36241	100 mm	387.73	10.10	11.19	77.48	36241
36242	150 mm	564.45	16.66	18.22	103.06	36242
	Chilled water valves					
	Chilled water gate valves :-					
	<i>Each</i>					
36243	20 mm or below	197.72	25.56	32.14	40.49	36243
36244	25 mm	249.56	26.06	32.84	44.06	36244
36245	32 mm	342.84	26.51	33.28	47.37	36245
36246	40 mm	435.50	27.39	34.10	50.85	36246
36247	50 mm	708.70	28.75	35.22	54.26	36247
36248	65 mm	1,411.61	30.33	36.82	57.69	36248
36249	80 mm	1,648.88	31.91	38.83	60.49	36249
36250	100 mm	1,980.72	36.76	43.95	68.09	36250
36251	150 mm	3,524.04	48.66	57.32	87.96	36251

Item					Item
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)				
	Chilled water valves (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Chilled water check valves :-				
	<i>Each</i>				
36252	20 mm or below	312.17	25.56	32.14	40.49
36253	25 mm	343.47	26.06	32.84	44.06
36254	32 mm	403.39	26.51	33.28	47.37
36255	40 mm	510.82	27.39	34.10	50.85
36256	50 mm	670.17	28.75	35.22	54.26
36257	65 mm	721.66	30.33	36.82	57.69
36258	80 mm	871.40	31.91	38.83	60.49
36259	100 mm	1,433.19	36.76	43.95	68.09
36260	150 mm	2,384.98	48.66	57.32	87.96
	Chilled water globe valves :-				
	<i>Each</i>				
36261	20 mm or below	414.34	25.56	32.14	40.49
36262	25 mm	491.98	26.06	32.84	44.06
36263	32 mm	504.71	26.51	33.28	47.37
36264	40 mm	661.51	27.39	34.10	50.85
36265	50 mm	958.38	28.75	35.22	54.26
36266	65 mm	1,160.49	30.33	36.82	57.69
36267	80 mm	1,502.03	31.91	38.83	60.49
36268	100 mm	1,982.86	36.76	43.95	68.09
36269	150 mm	3,570.60	48.66	57.32	87.96
	Pressure reducing valve :-				
	<i>Each</i>				
36270	15 mm or below	626.30	20.10	25.11	29.39
36271	20 mm	776.93	20.77	25.72	33.80
36272	25 mm	909.97	21.33	26.40	36.14
36273	32 mm	1,127.20	21.90	26.92	39.49
36274	40 mm	1,332.48	22.29	27.53	42.78

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Chilled water valves (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Balancing valve : -					
	<i>Each</i>					
36275	20 mm or below	474.71	19.14	24.28	33.58	36275
36276	25 mm	509.17	21.04	25.89	36.48	36276
36277	32 mm	547.13	21.57	26.40	40.23	36277
36278	40 mm	654.94	22.43	27.17	42.63	36278
36279	50 mm	1,375.15	22.89	28.16	45.46	36279
36280	65 mm	2,156.13	24.44	29.35	48.50	36280
36281	80 mm	3,843.70	25.87	31.09	50.77	36281
36282	100 mm	5,975.35	29.95	34.62	57.17	36282
36283	150 mm	8,966.03	40.83	60.01	91.95	36283
	Chilled water valves c/w 50 mm phenolic foam insulation					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Chilled water gate valves c/w filled galvanized steel split boxes : -					
	<i>Each</i>					
36284	n.e. 20 mm	257.19	32.42	39.71	48.16	36284
36285	25 mm	310.12	32.95	40.65	52.73	36285
36286	32 mm	404.18	33.50	41.23	56.68	36286
36287	40 mm	498.21	34.27	41.79	61.16	36287
36288	50 mm	775.27	35.72	43.15	65.29	36288
36289	65 mm	1,488.06	37.72	44.47	69.54	36289
36290	80 mm	1,728.70	39.70	47.30	73.81	36290
36291	100 mm	2,064.31	41.91	49.41	76.52	36291
36292	150 mm	3,627.51	53.16	60.81	93.28	36292

Item					Item	
VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)						
Chilled water valves c/w 50 mm phenolic foam insulation (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Chilled water check valves c/w filled galvanized steel split boxes : -						
<i>Each</i>						
36293	n.e. 20 mm	375.62	32.42	39.71	48.16	36293
36294	25 mm	406.62	32.95	40.65	52.73	36294
36295	32 mm	466.58	33.50	41.23	56.68	36295
36296	40 mm	575.14	34.27	41.79	61.16	36296
36297	50 mm	735.99	35.72	43.15	65.29	36297
36298	65 mm	788.56	37.72	44.47	69.54	36298
36299	80 mm	940.54	39.70	47.30	73.81	36299
36300	100 mm	1,510.38	41.91	49.41	76.52	36300
36301	150 mm	2,474.49	53.16	60.81	93.28	36301
Chilled water globe valves c/w filled galvanized steel split boxes : -						
<i>Each</i>						
36302	n.e. 20 mm	480.72	32.42	39.71	48.16	36302
36303	25 mm	555.00	32.95	40.65	52.73	36303
36304	32 mm	568.39	33.50	41.23	56.68	36304
36305	40 mm	727.35	34.27	41.79	61.16	36305
36306	50 mm	1,028.67	35.72	43.15	65.29	36306
36307	65 mm	1,233.59	37.72	44.47	69.54	36307
36308	80 mm	1,580.19	39.70	47.30	73.81	36308
36309	100 mm	2,067.18	41.91	49.41	76.52	36309
36310	150 mm	3,677.87	53.16	60.81	93.28	36310

Item					Item	
VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)						
Chilled water valves c/w 50 mm phenolic foam insulation (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Chilled water 2 way modulating control valve c/w electric motors couplings, unions, adapters and filled galvanized steel split box : -						
<i>Each</i>						
36311	n.e. 20 mm	562.38	25.93	31.67	41.09	36311
36312	25 mm	709.98	26.68	32.62	44.58	36312
36313	32 mm	1,251.84	40.70	49.89	68.78	36313
36314	40 mm	2,045.84	41.46	50.62	74.23	36314
36315	50 mm	2,675.39	43.12	52.43	79.54	36315
36316	65 mm	5,985.27	44.08	54.16	83.15	36316
36317	80 mm	8,659.21	48.43	57.69	90.24	36317
36318	100 mm	12,213.46	51.12	60.36	94.03	36318
36319	150 mm	16,376.50	53.09	64.27	101.36	36319
Chilled water 3 way modulating control valve c/w electric motors couplings, unions, adapters and filled galvanized steel split box : -						
<i>Each</i>						
36320	n.e. 20 mm	562.38	25.93	31.67	41.09	36320
36321	25 mm	709.98	26.68	32.62	44.58	36321
36322	32 mm	1,251.84	40.70	49.89	68.78	36322
36323	40 mm	2,045.84	41.46	50.62	74.23	36323
36324	50 mm	2,675.39	43.12	52.43	79.54	36324
36325	65 mm	5,985.27	44.08	54.16	83.15	36325
36326	80 mm	8,659.21	48.43	57.69	90.24	36326
36327	100 mm	12,213.46	51.12	60.36	94.03	36327
36328	150 mm	16,376.50	53.09	64.27	101.36	36328

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)						
Chilled water valves c/w 50 mm phenolic foam insulation (Cont'd)						
Chilled water 2 way, 2 position electric control valve c/w motor, couplings, unions, adapters and filled galvanized steel split boxes : -						
<i>Each</i>						
36329	n.e. 20 mm	497.64	25.93	31.67	41.09	36329
36330	25 mm	642.57	26.68	32.62	44.58	36330
36331	32 mm	1,023.10	40.70	49.89	68.78	36331
36332	40 mm	1,516.69	41.46	50.62	74.23	36332
36333	50 mm	2,165.03	43.12	52.43	79.54	36333
36334	65 mm	4,819.50	44.08	54.16	83.15	36334
36335	80 mm	7,535.12	48.43	57.69	90.24	36335
36336	100 mm	11,129.22	51.12	60.36	94.03	36336
36337	150 mm	13,867.96	53.09	64.27	101.36	36337
Chilled water 3 way, 2 position electric control valve c/w motor, couplings, unions, adapters and filled galvanized steel split boxes : -						
<i>Each</i>						
36338	n.e. 20 mm	497.64	25.93	31.67	41.09	36338
36339	25 mm	642.57	26.68	32.62	44.58	36339
36340	32 mm	1,023.10	40.70	49.89	68.78	36340
36341	40 mm	1,516.69	41.46	50.62	74.23	36341
36342	50 mm	2,165.03	43.12	52.43	79.54	36342
36343	65 mm	4,819.50	44.08	54.16	83.15	36343
36344	80 mm	7,535.12	48.43	57.69	90.24	36344
36345	100 mm	11,129.22	51.12	60.36	94.03	36345
36346	150 mm	13,867.96	53.09	64.27	101.36	36346

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Chilled water valves c/w 50 mm phenolic foam insulation (Cont'd)					
	Chilled water 2 way electric operated solenoid valve c/w unions, adapters, filled galvanized steel split box, insulation and finish : -					
	<i>Each</i>					
36347	n.e. 20 mm	504.18	36.32	44.84	60.03	36347
36348	25 mm	746.76	36.96	45.43	64.31	36348
36349	32 mm	910.10	37.67	46.12	66.61	36349
36350	40 mm	1,349.16	38.50	46.92	74.23	36350
36351	50 mm	1,871.36	40.19	48.50	78.57	36351
36352	65 mm	4,097.26	40.99	50.09	80.73	36352
36353	80 mm	6,420.66	44.85	53.17	87.77	36353
36354	100 mm	9,610.81	47.02	55.55	91.32	36354
36355	150 mm	14,417.73	56.05	66.12	109.01	36355
	Chilled water double regulating valve c/w metering station, insulation and finish, filled galvanized iron split boxes : -					
	<i>Each</i>					
36356	40 mm	1,174.49	38.50	46.92	74.23	36356
36357	50 mm	1,553.07	40.19	48.50	78.57	36357
36358	65 mm	3,256.08	40.99	50.09	80.73	36358
36359	80 mm	5,014.00	44.85	53.17	87.77	36359
36360	100 mm	5,278.82	47.02	55.55	91.32	36360
36361	150 mm	6,225.27	53.73	60.81	98.07	36361
	Pressure reducing valve : -					
	<i>Each</i>					
36362	15 mm or below	756.51	21.40	26.44	32.33	36362
36363	20 mm	940.01	21.87	27.00	37.57	36363
36364	25 mm	1,095.08	22.33	27.45	39.62	36364
36365	32 mm	1,367.53	22.89	28.24	43.84	36365
36366	40 mm	1,618.58	23.45	28.69	47.02	36366

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Chilled water valves c/w 50 mm phenolic foam insulation (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Balancing valve : -					
	<i>Each</i>					
36367	n.e. 20 mm	488.48	21.19	25.79	35.41	36367
36368	25 mm	524.96	21.85	26.80	38.19	36368
36369	32 mm	668.95	26.74	32.84	48.92	36369
36370	40 mm	740.82	27.35	33.40	52.56	36370
36371	50 mm	880.01	28.52	34.50	56.10	36371
36372	65 mm	1,775.84	29.09	35.58	58.49	36372
36373	80 mm	2,833.67	31.89	37.86	63.40	36373
36374	100 mm	5,162.13	33.53	39.57	65.86	36374
36375	150 mm	7,935.78	42.65	48.85	81.42	36375
	Chilled water pipe work accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
36376	Water flow switch	869.46	5.62	8.08	14.83	36376
36377	Direct reading type electromagnetic/ultrasonic water flow meter c/w flow sensor, an integral signal converter/transmitter and a digital display unit	8,689.07	42.24	43.40	78.66	36377
36378	Pressure gauge & cock	226.86	5.62	8.08	14.83	36378
36379	Thermometer & stainless steel thermometer well	2,946.77	20.09	24.28	52.83	36379
36380	Low temperature cutout thermostat with manual reset	353.88	5.62	8.08	14.83	36380

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Gate valve for sea water application 316 stainless steel :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
36381	25 mm	1,068.78	26.08	32.08	44.64	36381
36382	32 mm	1,136.58	26.74	32.84	48.92	36382
36383	40 mm	1,248.74	27.35	33.40	52.56	36383
36384	50 mm	1,366.70	28.52	34.50	56.10	36384
36385	65 mm	1,516.29	29.09	35.58	58.49	36385
	<i>Each</i>					
36386	80 mm	1,762.52	31.89	37.86	63.40	36386
36387	100 mm	2,442.37	33.53	39.57	65.86	36387
36388	125 mm	3,192.29	37.57	42.47	72.43	36388
36389	150 mm	3,940.68	42.65	48.85	81.42	36389
36390	200 mm	6,893.58	51.12	57.36	93.90	36390
	Globe valve for sea water application 316 stainless steel :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
36391	25 mm	786.59	26.08	32.08	44.64	36391
36392	32 mm	949.13	26.74	32.84	48.92	36392
36393	40 mm	1,178.83	27.35	33.40	52.56	36393
36394	50 mm	1,422.81	28.52	34.50	56.10	36394
36395	65 mm	1,792.64	29.09	35.58	58.49	36395
36396	80 mm	2,137.00	31.89	37.86	63.40	36396
36397	100 mm	2,846.34	33.53	39.57	65.86	36397
36398	125 mm	3,759.38	37.57	42.47	72.43	36398
36399	150 mm	5,754.56	42.65	48.85	81.42	36399
36400	200 mm	10,282.37	51.12	57.36	93.90	36400

Item					Item		
VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)							
Swing check valve for sea water application 316 stainless steel : -							
			Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
			A \$	B \$	C \$	D \$	
36401	25 mm		561.94	26.08	32.08	44.64	36401
36402	32 mm		628.20	26.74	32.84	48.92	36402
36403	40 mm		788.78	27.35	33.40	52.56	36403
36404	50 mm		978.63	28.52	34.50	56.10	36404
36405	65 mm		1,286.37	29.09	35.58	58.49	36405
	<i>Each</i>						
36406	80 mm		1,509.22	31.89	37.86	63.40	36406
36407	100 mm		2,151.58	33.53	39.57	65.86	36407
36408	150 mm		3,750.80	42.65	48.85	81.42	36408
36409	200 mm		6,576.01	51.12	57.36	93.90	36409
Drain cock : -							
			Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
			A \$	B \$	C \$	D \$	
36410	25 mm diameter or below		258.35	26.08	32.08	44.64	36410
36411	50 mm diameter		315.78	28.52	34.50	56.10	36411
Strainer : -							
			Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
			A \$	B \$	C \$	D \$	
36412	32 mm diameter or below		287.34	23.73	29.14	43.12	36412
36413	50 mm diameter		336.30	25.31	30.61	49.45	36413
36414	80 mm diameter		401.57	28.27	33.59	55.91	36414
36415	100 mm diameter		438.01	29.74	35.14	58.13	36415
36416	125 mm diameter		457.58	31.98	37.14	61.88	36416
36417	150 mm diameter		495.86	37.86	43.35	71.74	36417

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Pipework vibration isolation					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Pipe flexible rubber connector : -					
	<i>Each</i>					
36418	50 mm	543.82	25.31	30.61	49.45	36418
36419	65 mm	715.63	25.79	31.58	51.60	36419
36420	80 mm	815.67	28.27	33.59	55.91	36420
36421	100 mm	893.56	29.74	35.14	58.13	36421
36422	125 mm	1,369.53	33.80	37.14	64.75	36422
36423	150 mm	2,524.59	37.86	43.35	71.74	36423
	Pipe flexible metallic hose : -					
	<i>Per linear metre</i>					
36424	50 mm	668.34	1.24	1.39	16.14	36424
36425	65 mm	822.76	1.45	1.70	18.35	36425
36426	80 mm	921.07	1.70	1.81	21.11	36426
36427	100 mm	1,005.88	1.81	1.92	26.87	36427
36428	125 mm	1,509.51	2.32	2.57	31.10	36428
36429	150 mm	2,591.03	2.85	3.12	35.44	36429

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Sundries : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
36430	Chiller sequence controller including transmitter, etc.	846.18	13.57	15.67	27.62	36430
36431	Water flow sensor c/w all necessary mounting accessories	679.36	10.95	12.49	22.08	36431
36432	Temperature sensor	291.11	10.95	12.49	23.80	36432
36433	Sail switch	317.05	9.88	11.88	20.71	36433
36434	Electromagnetic flow meter c/w digital display unit	4,919.28	94.16	135.48	292.78	36434
36435	Chemical storage tank	7,766.91	82.18	125.76	217.78	36435
36436	Chemical feed pump	5,384.10	70.84	100.22	197.29	36436
36437	Manual air vent	123.00	17.75	20.15	36.76	36437
36438	Automatic air vent	198.83	19.32	21.48	38.76	36438
36439	Temperature gauge with pocket	901.58	17.16	19.39	37.13	36439
36440	Testing point	404.80	13.57	14.95	26.07	36440
	Butterfly valve : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
36441	25 mm or below	410.64	24.08	29.61	41.04	36441
36442	32 mm	517.82	24.67	30.33	44.94	36442
36443	40 mm	645.47	25.23	30.84	48.31	36443
36444	50 mm	778.28	26.34	31.85	51.56	36444
36445	65 mm	1,609.99	26.84	32.84	53.78	36445
36446	80 mm	1,697.33	29.43	34.93	58.30	36446
36447	100 mm	1,827.52	30.94	36.53	60.58	36447
36448	125 mm	1,963.39	33.85	39.74	68.33	36448
36449	150 mm	2,238.76	39.39	45.10	74.78	36449

Item					Item
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)				
	Protection coating paint : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
36450	Protection coating paint for thermal insulation (flexible closed cell elastomeric) of same manufacturer as the thermal insulation for refrigerant pipework (25mm diameter or below) at outdoor area	122.37	-	-	-
	<i>Per linear metre</i>				
	Insulation to pipework				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Polystyrene insulation c/w cement plaster, finish and painting for chilled water pipework of diameter : -				
	<i>Per linear metre</i>				
36451	25 mm or below	116.44	5.62	6.26	35.80
36452	32 mm	124.77	5.85	6.66	37.93
36453	40 mm	132.98	6.23	6.95	40.13
36454	50 mm	150.47	7.63	8.34	46.60
36455	65 mm	170.23	8.23	8.95	53.39
36456	80 mm	188.80	8.85	9.63	61.62
36457	100 mm	223.31	11.64	12.46	72.33
36458	125 mm	259.43	13.67	14.45	80.93
36459	150 mm	294.04	15.67	16.40	94.69
36460	200 mm	357.23	18.85	19.83	114.16
36461	250 mm	453.40	24.35	25.35	147.13
36462	300 mm	689.77	37.46	40.88	221.51

Item					Item	
VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)						
Insulation to pipework (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Flexible closed cell elastomeric insulation c/w cement plaster, painting and finish for chilled water pipework of diameter : -						
<i>Per linear metre</i>						
36463	25 mm or below	87.38	5.62	6.26	35.80	36463
36464	32 mm	96.33	5.85	6.66	37.93	36464
36465	40 mm	102.97	6.23	6.95	40.13	36465
36466	50 mm	120.36	7.63	8.34	46.60	36466
36467	65 mm	138.45	8.23	8.95	53.39	36467
36468	80 mm	158.45	8.85	9.63	61.62	36468
36469	100 mm	184.68	11.64	12.46	72.33	36469
36470	150 mm	258.89	15.67	16.40	94.69	36470
Aluminium metal cladding for insulated chilled water pipes of diameter : -						
<i>Per linear metre</i>						
36471	25 mm or below	127.83	0.85	1.04	11.96	36471
36472	32 mm	135.98	1.04	1.14	12.84	36472
36473	40 mm	144.15	1.14	1.24	13.72	36473
36474	50 mm	157.45	1.24	1.39	15.80	36474
36475	65 mm	177.26	1.46	1.58	18.37	36475
36476	80 mm	197.09	1.58	1.71	21.21	36476
36477	100 mm	220.51	1.71	1.82	27.12	36477
36478	125 mm	246.24	2.37	2.63	30.52	36478
36479	150 mm	278.76	2.85	3.12	33.80	36479
36480	200 mm	322.68	3.25	3.46	38.84	36480
36481	250 mm	392.91	3.93	4.26	48.16	36481
36482	300 mm	473.09	4.85	5.31	59.34	36482

Item					Item	
	VALVE, PIPE WORKS AND ACCESSORIES (CONT'D)					
	Insulation to pipework (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Phenolic foam insulation c/w cement plaster, painting and finish for chilled water pipework of diameter : -					
	<i>Per linear metre</i>					
36483	25 mm or below	268.95	5.62	6.26	35.80	36483
36484	32 mm	302.32	5.85	6.66	37.93	36484
36485	40 mm	326.31	6.23	6.95	40.13	36485
36486	50 mm	382.80	7.63	8.34	46.60	36486
36487	65 mm	448.35	8.23	8.95	53.39	36487
36488	80 mm	504.75	8.85	9.63	61.62	36488
36489	100 mm	596.46	11.64	12.46	72.33	36489
36490	150 mm	857.66	15.67	16.40	94.69	36490
	Phenolic foam insulation for chilled water pipework of diameter : -					
	<i>Per linear metre</i>					
36491	25 mm or below	182.87	0.85	1.04	11.96	36491
36492	32 mm	203.29	1.04	1.14	12.84	36492
36493	40 mm	219.04	1.14	1.24	13.72	36493
36494	50 mm	252.72	1.24	1.39	15.80	36494
36495	65 mm	300.96	1.39	1.58	18.37	36495
36496	80 mm	337.70	1.58	1.71	21.21	36496
36497	100 mm	407.12	1.71	1.82	27.12	36497
36498	150 mm	584.42	2.85	3.12	33.80	36498
	Flue pipe : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
36499	200 mm stainless steel flue pipe c/w fittings, 50 mm thick fiberglass insulation and 0.8 mm galvanized iron sheet cladding rain cap and steel wire	3,288.66	13.84	23.76	41.70	36499

Item					Item	
	STEAM AND HOT WATER SYSTEM					
	Black mild steel steam return pipeworks c/w preformed rigid glass fiber insulation system, hammered aluminium sheeting of pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Heavy quality					
	<i>Per linear metre</i>					
36500	15 mm	191.20	6.37	7.24	81.03	36500
36501	20 mm	223.74	6.75	7.64	99.36	36501
36502	25 mm	261.48	7.64	8.49	107.92	36502
36503	32 mm	300.91	8.49	9.29	115.32	36503
36504	40 mm	330.42	9.38	10.31	123.90	36504
36505	50 mm	420.71	10.50	11.14	143.58	36505
36506	65 mm	514.04	12.09	13.15	164.43	36506
36507	80 mm	623.47	14.19	15.01	185.29	36507
36508	100 mm	869.72	15.96	17.05	213.52	36508
36509	150 mm	1,158.68	26.76	28.26	283.47	36509
	Copper pipe for cold water system of pipe diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
36510	below 12 mm	90.63	4.00	4.31	59.83	36510
36511	12 mm	106.00	4.10	4.44	64.25	36511
36512	15 mm	125.85	4.18	4.58	69.50	36512
36513	18 mm	145.19	4.44	4.76	72.52	36513
36514	22 mm	171.09	5.45	5.65	78.13	36514
36515	28 mm	207.65	5.65	5.86	87.32	36515
36516	35 mm	281.72	6.44	6.69	92.50	36516
36517	42 mm	324.99	6.85	7.13	100.90	36517
36518	54 mm	398.25	7.64	7.85	115.98	36518
36519	67 mm	541.73	7.79	8.06	127.95	36519

Item					Item	
	STEAM AND HOT WATER SYSTEM (CONT'D)					
	Copper pipe for cold water system of pipe diameter : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
36520	76 mm	722.84	9.29	9.80	138.92	36520
36521	108 mm	943.00	10.75	11.12	178.38	36521
36522	133 mm	1,097.94	12.77	13.10	207.21	36522
36523	159 mm	1,269.82	14.45	14.84	238.59	36523
	Steam, condensate return, compressed air and hot water valves c/w preformed rigid glass fiber insulation.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Y-type strainers c/w filled aluminium split boxes : -					
	<i>Each</i>					
36524	32 mm or below	502.04	32.65	40.52	64.48	36524
36525	40 mm	530.77	33.53	41.32	69.34	36525
36526	50 mm	578.72	35.14	42.56	72.98	36526
36527	65 mm	642.80	35.98	44.58	77.43	36527
36528	80 mm	654.41	39.90	47.05	83.74	36528
36529	100 mm	780.37	42.00	49.92	87.32	36529
36530	150 mm	872.85	52.70	60.30	108.55	36530
	Globe valve c/w filled aluminium split boxes : -					
	<i>Each</i>					
36531	15 mm	137.28	32.10	39.90	51.45	36531
36532	20 mm	175.41	32.95	40.54	56.36	36532
36533	25 mm	222.73	33.61	41.31	61.92	36533
36534	32 mm	302.48	34.27	42.02	67.03	36534
36535	40 mm	394.12	35.20	42.44	71.54	36535
36536	50 mm	593.74	36.57	43.75	76.52	36536

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
STEAM AND HOT WATER SYSTEM (CONT'D)						
Steam, condensate return, compressed air and hot water valves c/w preformed rigid glass fiber insulation. (Cont'd)						
Parallel slide valve c/w filled aluminium split boxes : -						
<i>Each</i>						
36537	65 mm	2,703.19	35.23	43.29	76.48	36537
36538	80 mm	4,699.48	38.88	46.01	83.27	36538
36539	100 mm	7,119.85	41.56	48.68	86.12	36539
36540	150 mm	13,366.68	51.88	60.06	106.57	36540
Safety and relief valve c/w filled aluminium split boxes : -						
<i>Each</i>						
36541	32 mm or below	1,586.77	35.48	43.40	69.07	36541
36542	40 mm	2,343.10	36.19	44.00	74.47	36542
36543	50 mm	2,833.14	37.91	45.67	80.05	36543
36544	65 mm	5,684.54	38.60	47.23	83.45	36544
36545	80 mm	8,475.60	42.18	50.24	90.26	36545
36546	100 mm	12,271.88	44.73	52.53	93.94	36546
36547	150 mm	15,735.82	56.59	64.64	115.79	36547
Pressure reducing valve c/w filled aluminium split boxes : -						
<i>Each</i>						
36548	32 mm or below	2,524.63	35.48	43.40	69.07	36548
36549	40 mm	3,134.09	36.19	44.00	74.47	36549
36550	50 mm	3,877.29	37.91	45.67	80.05	36550
36551	65 mm	4,991.52	38.60	47.23	83.45	36551
36552	80 mm	7,391.23	42.18	50.24	90.26	36552
36553	100 mm	8,320.02	44.73	52.53	93.94	36553
36554	150 mm	10,423.56	56.59	64.64	115.79	36554
Temperature and pressure gauge : -						
<i>Each</i>						
36555	Temperature gauge c/w filled aluminium split boxes	1,251.11	20.68	24.00	48.80	36555
36556	Pressure gauge c/w filled aluminium split boxes	338.68	20.68	24.00	48.80	36556

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
STEAM AND HOT WATER SYSTEM (CONT'D)						
Steam, condensate return, compressed air and hot water valves c/w preformed rigid glass fiber insulation. (Cont'd)						
Steam separator c/w filled aluminium split boxes : -						
<i>Each</i>						
36557	32 mm or below	3,749.80	35.48	43.40	69.07	36557
36558	40 mm	4,682.51	36.19	44.00	74.47	36558
36559	50 mm	5,846.02	37.91	45.67	80.05	36559
36560	65 mm	7,563.69	38.60	47.23	83.45	36560
36561	80 mm	9,184.02	42.18	50.24	90.26	36561
36562	100 mm	11,419.45	44.73	52.53	93.94	36562
36563	150 mm	16,625.34	56.59	64.64	115.79	36563
Steam trap set comprising of globe valve, strainer, float operated steam trap, sight glass, check valve, gate valve and all union c/w filled aluminium split boxes; connect to pipe diameter of : -						
<i>Per set</i>						
36564	32 mm or below	8,375.85	153.67	185.83	684.68	36564
36565	40 mm	11,013.32	180.40	208.03	725.49	36565
36566	50 mm	12,481.05	201.59	231.73	756.67	36566
36567	65 mm	14,895.85	227.32	250.51	808.26	36567
36568	80 mm	16,971.26	251.12	276.64	851.12	36568
36569	100 mm	20,205.07	270.14	300.42	911.39	36569
36570	150 mm	27,337.06	293.85	325.67	949.18	36570
Check valve c/w filled aluminium split boxes : -						
<i>Each</i>						
36571	65 mm	765.42	35.46	43.58	77.07	36571
36572	80 mm	922.89	38.88	45.32	82.98	36572
36573	100 mm	1,468.95	40.47	47.96	84.20	36573
36574	150 mm	2,414.19	50.52	58.70	102.50	36574

Item					Item	
STEAM AND HOT WATER SYSTEM (CONT'D)						
Steam, condensate return, compressed air and hot water valves c/w preformed rigid glass fiber insulation. (Cont'd)						
Drain valve c/w hose union ends and loose key and filled aluminium split box : -						
<i>Each</i>						
36575	50 mm	812.63	34.89	42.12	73.63	36575
36576	65 mm	1,065.32	35.76	43.99	74.82	36576
36577	80 mm	1,339.46	39.21	47.96	83.33	36577
36578	100 mm	1,714.31	41.08	50.25	85.00	36578
36579	150 mm	2,642.09	52.74	59.77	104.41	36579
Gate valve c/w filled aluminium split boxes : -						
<i>Each</i>						
36580	50 mm	1,088.63	34.89	42.12	73.63	36580
36581	65 mm	1,224.52	35.76	43.99	74.82	36581
36582	80 mm	1,437.57	39.21	47.96	83.33	36582
36583	100 mm	1,829.56	41.08	50.25	85.00	36583
36584	150 mm	3,435.74	52.74	59.77	104.41	36584

Item					Item	
	STEAM AND HOT WATER SYSTEM (CONT'D)					
	Insulation of pipeworks					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Preformed rigid glass fiber insulation c/w hammered aluminium cladding for black mild steel condensate pipe of diameter : -					
	<i>Per linear metre</i>					
36585	15 mm	77.90	5.54	5.74	28.53	36585
36586	20 mm	91.37	6.29	6.46	35.40	36586
36587	25 mm	103.76	6.44	6.58	39.79	36587
36588	32 mm	112.08	6.60	7.13	41.76	36588
36589	40 mm	123.00	7.20	8.20	44.58	36589
36590	50 mm	143.22	8.38	9.53	50.84	36590
36591	65 mm	166.78	9.53	10.31	58.83	36591
36592	80 mm	192.22	10.41	11.35	67.14	36592
36593	100 mm	224.78	13.28	14.18	76.42	36593
36594	150 mm	366.59	18.34	19.32	101.39	36594
	Preformed rigid glass fiber insulation c/w hammered aluminium cladding for black mild steel steam pipe of diameter : -					
	<i>Per linear metre</i>					
36595	15 mm	107.14	5.54	5.74	28.53	36595
36596	20 mm	122.47	6.29	6.46	35.40	36596
36597	25 mm	134.30	6.44	6.58	39.79	36597
36598	32 mm	147.37	6.60	7.13	41.76	36598
36599	40 mm	159.06	7.20	8.20	44.58	36599
36600	50 mm	212.04	8.38	9.53	50.84	36600
36601	65 mm	243.23	9.53	10.31	58.83	36601
36602	80 mm	311.23	10.41	11.35	67.14	36602
36603	100 mm	477.17	13.28	14.18	76.42	36603
36604	150 mm	591.30	18.34	19.32	101.39	36604

Item					Item	
	STEAM AND HOT WATER SYSTEM (CONT'D)					
	Insulation of pipeworks (Cont'd)					
	Preformed rigid glass fiber insulation c/w hammered aluminium cladding for copper pipe of hot water system of diameter : -					
	<i>Per linear metre</i>					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36605	n.e. 12 mm	95.00	5.36	6.18	41.76	36605
36606	12 mm	102.62	5.94	6.69	46.47	36606
36607	15 mm	107.02	6.47	7.13	49.32	36607
36608	18 mm	113.56	6.96	7.74	52.65	36608
36609	22 mm	149.74	7.54	8.34	55.23	36609
36610	28 mm	167.36	8.00	8.77	61.68	36610
36611	35 mm	184.76	8.68	9.36	65.52	36611
36612	42 mm	197.93	9.29	10.20	72.34	36612
36613	54 mm	225.09	10.11	10.76	81.81	36613
36614	67 mm	257.36	10.85	11.62	92.47	36614
36615	76 mm	279.57	12.54	14.29	101.87	36615
36616	108 mm	403.80	15.61	16.97	126.19	36616
36617	133 mm	519.76	18.45	21.02	148.74	36617
36618	159 mm	591.58	22.11	23.11	169.96	36618
	Plugged branch : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
36619	<i>Each</i> 25 mm plugged branch	48.82	6.29	7.93	19.04	36619

Section 37

HEATING, VENTILATION AND AIR-CONDITIONING - DUCTWORK

Item					Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES				
	Sheet metal ducts (rates for taking down of ductwork shall include for taking down of ALL duct accessories including dampers, registers, diffuser, heater, batteries, etc.)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	GI sheet metal ductwork/ air plenum; un-insulated : -				
	<i>Per square metre</i>				
37001	0.6 mm thick	476.65	11.33	14.62	11.57
37002	0.8 mm thick	542.07	13.01	15.23	13.29
37003	1.0 mm thick	573.14	13.68	16.06	13.98
37004	1.2 mm thick	644.48	14.40	16.80	14.71
37005	1.5 mm thick	762.17	15.24	17.67	15.57
	Glass fibre duct (rectangular/round/oval shape) : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Per square metre</i>				
37006	48 kg/ m ³	741.79	12.88	15.10	13.16
37007	64 kg/ m ³	769.62	13.57	15.93	13.87
	Factory made GI round/oval spiral duct c/w insulation equivalent round diameter for equal capacity and friction loss : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Per linear metre</i>				
37008	Up to 165 mm diameter	1,099.94	53.35	57.63	54.51
37009	165 - 255 mm diameter	1,153.96	60.91	65.33	62.23
37010	255 - 355 mm diameter	1,308.33	64.52	69.13	65.93
37011	355 - 470 mm diameter	1,472.10	68.38	72.94	69.87
37012	470 - 546 mm diameter	1,623.98	72.24	76.82	73.81
37013	546 - 622 mm diameter	1,761.09	76.03	84.41	77.68
37014	622 - 800 mm diameter	2,037.40	79.62	87.99	81.36
37015	800 - 1000 mm diameter	2,347.86	83.65	92.01	85.49

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Ductboard air duct : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
37016	Ductboard air duct/ air plenum (phenolic foam or PU)	592.13	13.44	15.74	13.72	37016
	0.8 mm thick grade 316 stainless steel round duct with hairline finish c/w stainless steel frame support and all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
37017	150 mm diameter	1,062.81	4.16	7.24	4.25	37017
37018	200 mm diameter	1,879.95	5.54	9.64	5.65	37018
37019	250 mm diameter	2,958.27	6.93	12.07	7.07	37019
37020	600 mm diameter	9,640.91	16.60	28.95	16.96	37020
37021	700 mm diameter	11,523.19	19.38	33.78	19.80	37021
37022	800 mm diameter	12,022.51	22.15	38.61	22.62	37022
	Stainless steel grade 304 sheet metal air duct/ air plenum : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
37023	0.6 mm thick	948.98	11.33	14.62	11.57	37023
37024	0.8 mm thick	1,204.43	13.01	15.23	13.29	37024
37025	1.0 mm thick	1,457.18	13.68	16.06	13.98	37025
37026	1.2 mm thick	1,573.02	14.40	16.80	14.71	37026
37027	1.5 mm thick	2,059.58	15.24	17.67	15.57	37027

Item					Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)				
	Stainless steel grade 304 sheet metal air duct/ air plenum with colour powder coating on one surface : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37028	0.6 mm thick	1,099.91	11.33	14.62	11.57
37029	0.8 mm thick	1,340.42	13.01	15.23	13.29
37030	1.0 mm thick	1,581.61	13.68	16.06	13.98
	<i>Per square metre</i>				
	Stainless steel 316 sheet metal air duct/ air plenum : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37031	0.6 mm thick	1,180.63	11.33	14.62	11.57
37032	0.8 mm thick	1,420.26	13.01	15.23	13.29
37033	1.0 mm thick	1,687.90	13.68	16.06	13.98
37034	1.2 mm thick	1,923.13	14.40	16.80	14.71
37035	1.5 mm thick	2,404.23	15.24	17.67	15.57
	<i>Per square metre</i>				
	Factory made aluminium flexible duct bare without insulation : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37036	Up to 153 mm diameter	350.84	12.49	14.63	12.76
37037	153 - 204 mm diameter	387.89	13.15	15.44	13.43
37038	204 - 254 mm diameter	447.93	13.85	16.14	14.16
37039	254 - 305 mm diameter	626.20	14.64	16.96	14.96
	<i>Per linear metre</i>				

Item						Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Factory made aluminium flexible duct with 25 mm thick fiberglass insulation : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Per linear metre</i>	A \$	B \$	C \$	D \$	
37040	Up to 153 mm diameter	494.97	18.78	24.46	19.19	37040
37041	153 - 204 mm diameter	580.97	19.41	25.30	19.83	37041
37042	204 - 254 mm diameter	693.70	20.09	25.97	20.53	37042
37043	254 - 305 mm diameter	909.33	20.85	26.60	21.30	37043
	UPVC seamless circular duct : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	<i>Per linear metre</i>	A \$	B \$	C \$	D \$	
37044	150 mm diameter	240.36	12.49	14.62	12.76	37044
37045	200 mm diameter	308.54	13.87	16.14	14.17	37045
37046	250 mm diameter	377.35	15.40	17.70	15.73	37046
	Slim duct in associated with air-conditioning installation					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Slim duct system, suitable in use at corrosive environment (Rates shall include all associated mounting bracket, support and fittings including all straight runs, joints, flanges, tees and elbows etc.), U.V. resistant and fireproof to BS 476 Part 7 Class I : -					
	<i>Per linear metre</i>					
37047	Slim duct; n.e. 300 mm girth	253.37	1.89	11.57	1.93	37047
37048	Slim duct; 300 - 400 mm girth	381.25	1.89	11.57	1.93	37048
37049	Slim duct; 400 - 500 mm girth	452.87	1.89	12.84	1.93	37049
37050	Slim duct; 500 - 600 mm girth	524.49	1.89	14.11	1.93	37050

Item					Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)				
	Proprietary fire protection ductwork of non-combustible calcium silicate board reinforced with selected fibres and fillers. The board has smooth surface on one face and a lightly textured sanded surface on the other, without insulation : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37091	9 mm thick	1,191.27	12.46	16.35	12.74
37092	12 mm thick	1,616.38	12.96	17.73	13.24
37093	25 mm thick	2,068.82	15.15	19.70	15.49
	<i>Per square metre</i>				
	Proprietary fire protection ductwork of non-combustible composite panel of fibre reinforced cement, mechanically bonded to punched steel sheet on both surfaces, without insulation : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37094	9 mm thick	1,679.52	17.33	20.81	17.71
37095	12 mm thick	2,382.56	18.28	22.07	18.68
37096	25mm thick	2,892.20	20.95	24.31	21.40
	<i>Per square metre</i>				
	Air diffusers / grilles				
	Air diffusers / grilles of all shape (aluminium type) c/w volume control damper of size : -				
	<i>Each</i>				
37097	Up to 0.1 m ²	356.29	5.71	7.13	5.83
37098	0.1 - 0.3 m ²	702.18	6.98	8.55	7.13
37099	0.3 - 0.5 m ²	1,539.48	8.43	9.86	8.61
37100	0.5 - 0.8 m ²	2,435.01	9.86	11.29	10.08

Item					Item	
AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)						
Air diffusers / grilles (Cont'd)						
Air diffusers / grilles of all shape (aluminium type) of size :-						
<i>Each</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Air diffusers / grilles of all shape (metal type c/w painting) c/w volume control damper of size :-						
<i>Each</i>						
37101	Up to 0.1 m ²	283.70	5.71	7.13	16.52	37101
37102	0.1 - 0.3 m ²	694.48	6.98	8.55	19.14	37102
37103	0.3 - 0.5 m ²	1,014.85	8.43	9.86	21.48	37103
37104	0.5 - 0.8 m ²	1,986.51	9.86	11.29	23.67	37104
Air diffusers / grilles of all shape (metal type c/w painting) of size :-						
<i>Each</i>						
37105	Up to 0.1 m ²	275.39	5.71	7.13	5.83	37105
37106	0.1 - 0.3 m ²	531.35	6.98	8.55	7.13	37106
37107	0.3 - 0.5 m ²	1,037.19	8.43	9.86	8.61	37107
37108	0.5 - 0.8 m ²	2,051.04	9.86	11.29	10.08	37108
Air diffusers / grilles of all shape (metal type c/w painting) of size :-						
<i>Each</i>						
37109	Up to 0.1 m ²	148.18	5.71	7.13	16.52	37109
37110	0.1 - 0.3 m ²	285.91	6.98	8.55	19.14	37110
37111	0.3 - 0.5 m ²	558.13	8.43	9.86	21.48	37111
37112	0.5 - 0.8 m ²	1,103.61	9.86	11.29	23.67	37112

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Linear diffusers					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Aluminium linear slot diffuser c/w adjustable damper and accessories : -					
	<i>Per linear metre</i>					
37113	1 slot	476.00	7.03	9.21	7.18	37113
37114	2 slots	570.83	7.03	9.21	7.18	37114
37115	3 slots	668.37	7.03	9.21	7.18	37115
37116	4 slots	761.16	7.03	9.21	7.18	37116
	Linear air grille					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Aluminium linear bar grille c/w blank-off plate where applicable : -					
	<i>Per linear metre</i>					
37117	Up to 100 mm width	430.93	8.76	13.15	8.95	37117
37118	100 mm - 200 mm width	517.12	8.76	13.15	8.95	37118
37119	200 mm - 300 mm width	603.31	8.76	13.15	8.95	37119
	Aluminium linear bar grille with volume control damper c/w blank-off plate where applicable : -					
	<i>Per linear metre</i>					
37120	Up to 100 mm width	560.20	10.53	15.76	10.75	37120
37121	100 mm -200 mm width	646.39	10.53	15.76	10.75	37121
37122	200 mm - 300 mm width	732.58	10.53	15.76	10.75	37122
	Aluminium linear bar grille with detachable core and volume control damper c/w blank-off plate where applicable : -					
	<i>Per linear metre</i>					
37123	Up to 100 mm width	646.39	13.15	17.53	13.43	37123
37124	100 mm - 200 mm width	732.58	13.15	17.53	13.43	37124
37125	200 mm - 300 mm width	818.78	13.15	17.53	13.43	37125

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Transfer air grille					
	Transfer air grille (metal type c/w painting) :-					
	<i>Each</i>					
37126	Up to 0.1 m ²	296.34	5.71	7.13	16.52	37126
37127	0.1 to 0.3 m ²	607.51	6.98	8.55	19.14	37127
37128	0.3 to 0.5 m ²	953.79	8.43	9.86	21.48	37128
37129	0.5 to 0.8 m ²	1,278.09	9.86	11.29	23.67	37129
	Transfer air grille (aluminium type) :-					
	<i>Each</i>					
37130	Up to 0.1 m ²	431.87	5.71	7.13	16.52	37130
37131	0.1 to 0.3 m ²	1,166.04	6.98	8.55	19.14	37131
37132	0.3 to 0.5 m ²	1,585.81	8.43	9.86	21.48	37132
37133	0.5 to 0.8 m ²	1,902.98	9.86	11.29	23.67	37133
	Return air grille					
	Return air grille (metal type c/w painting) c/w air filter (including hinged type) :-					
	<i>Each</i>					
37134	Up to 0.1 m ²	429.52	5.71	7.77	5.83	37134
37135	0.1 - 0.3 m ²	880.46	6.98	9.89	7.13	37135
37136	0.3 - 0.5 m ²	1,383.45	8.43	10.67	8.61	37136
37137	0.5 - 0.8 m ²	1,849.14	9.13	11.35	9.33	37137
37138	0.8 - 1.1 m ²	2,314.81	9.13	11.35	9.33	37138

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Return air grille (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Return air grille (aluminium type) c/w air filter : -					
	<i>Each</i>					
37139	Up to 0.1 m ²	514.08	7.03	9.21	7.18	37139
37140	0.1 - 0.3 m ²	1,386.37	7.80	10.64	7.97	37140
37141	0.3 - 0.5 m ²	1,880.78	8.45	11.29	8.64	37141
37142	0.5 - 0.8 m ²	2,263.80	9.86	13.32	10.08	37142
37143	0.8 - 1.1 m ²	2,646.83	9.86	13.32	10.08	37143
	Exhaust air grille c/w volume control damper					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Aluminium type : -					
	<i>Each</i>					
37144	Up to 0.2 m ²	485.74	7.03	9.21	7.18	37144
37145	0.2 - 0.4 m ²	763.48	7.80	9.89	7.97	37145
37146	0.4 - 0.6 m ²	1,130.57	8.45	10.67	8.64	37146
	Metal type with painting : -					
	<i>Each</i>					
37147	Up to 0.2 m ²	366.40	7.03	9.21	7.18	37147
37148	0.2 - 0.4 m ²	519.00	7.80	9.89	7.97	37148
37149	0.4 - 0.6 m ²	888.47	8.45	10.67	8.64	37149
	Stainless steel 316 type : -					
	<i>Each</i>					
37150	Up to 0.2 m ²	3,925.72	7.03	9.21	17.64	37150
37151	0.2 - 0.4 m ²	6,025.72	7.80	9.89	18.65	37151
37152	0.4 - 0.6 m ²	8,125.72	8.45	10.67	19.87	37152

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Exhaust air grille c/w volume control damper (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Stainless steel 304 type : -					
	<i>Each</i>					
37153	Up to 0.2 m ²	3,425.72	7.03	9.21	17.64	37153
37154	0.2 - 0.4 m ²	5,525.72	7.80	9.89	18.65	37154
37155	0.4 - 0.6 m ²	7,125.72	8.45	10.67	19.87	37155
	Duct work accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
37156	Flexible Joints, a heavy glass fabric, double-coated	334.71	6.44	8.09	6.59	37156
37157	Flexible Joints, a heavy glass fabric, double-coated c/w insulation	505.57	6.44	8.76	6.59	37157
	Dampers					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Fire damper (all type c/w holding frame, enclosure, access panel, electro- thermal link etc.) of F.S.D. approved type : -					
	<i>Each</i>					
37158	Up to 0.1 m ²	923.59	11.11	16.64	11.35	37158
37159	0.1 - 0.3 m ²	1,401.10	12.40	17.94	12.67	37159
37160	0.3 - 0.5 m ²	1,818.10	13.68	19.24	13.98	37160
37161	0.5 - 0.8 m ²	2,480.12	15.22	20.76	15.55	37161

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Dampers (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Fire damper (all type c/w stainless steel blades, galvanised steel holding frame, enclosure, access panel, electro thermal link etc.) of F.S.D. approved type : -					
	<i>Each</i>					
37162	Up to 0.1 m ²	1,264.19	11.11	16.64	11.35	37162
37163	0.1 - 0.3 m ²	1,917.77	12.40	17.94	12.67	37163
37164	0.3 - 0.5 m ²	2,488.55	13.68	19.24	13.98	37164
37165	0.5 - 0.8 m ²	3,394.71	15.22	20.76	15.55	37165
	Fire damper (all type c/w holding frame, enclosure, access panel, fusible link etc.) of F.S.D. approved type : -					
	<i>Each</i>					
37166	Up to 0.1 m ²	849.70	6.07	9.24	6.20	37166
37167	0.1 - 0.3 m ²	1,289.01	6.81	9.97	6.96	37167
37168	0.3 - 0.5 m ²	1,672.66	7.50	10.66	7.66	37168
37169	0.5 - 0.8 m ²	2,281.73	8.34	11.50	8.52	37169
	Fire damper (all type c/w stainless steel blades, galvanised steel holding frame, enclosure, access panel, fusible link etc.) of F.S.D. approved type : -					
	<i>Each</i>					
37170	Up to 0.1 m ²	1,163.03	6.07	9.24	6.20	37170
37171	0.1 - 0.3 m ²	1,764.34	6.81	9.97	6.96	37171
37172	0.3 - 0.5 m ²	2,289.47	7.50	10.66	7.66	37172
37173	0.5 - 0.8 m ²	3,123.15	8.34	11.50	8.52	37173
	Combined smoke and fire damper c/w holding frame, enclosure, access panel, fusible link or electromagnet release of F.S.D. approved type : -					
	<i>Each</i>					
37174	Up to 0.1 m ²	3,890.38	6.44	9.80	6.59	37174
37175	0.1 - 0.3 m ²	5,267.47	7.20	10.54	7.36	37175
37176	0.3 - 0.5 m ²	7,141.14	7.94	11.29	8.11	37176
37177	0.5 - 0.8 m ²	9,213.30	8.85	12.19	9.04	37177

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)						
Dampers (Cont'd)						
Combined smoke and fire damper c/w actuator and electrical connection :-						
<i>Each</i>						
37178	Up to 0.1 m ²	3,163.49	5.75	8.76	5.89	37178
37179	0.1 - 0.3 m ²	4,459.10	6.25	9.21	6.38	37179
37180	0.3 - 0.5 m ²	5,810.25	6.77	9.77	6.92	37180
37181	0.5 - 0.8 m ²	6,754.95	7.71	10.55	7.87	37181
Fire damper to louver door c/w all necessary accessories of F.S.D. approved type :-						
<i>Each</i>						
37182	Up to 0.1 m ²	1,146.18	122.65	130.48	125.31	37182
37183	0.1 - 0.3 m ²	1,408.08	138.52	145.54	141.53	37183
37184	0.3 - 0.5 m ²	1,647.97	150.41	158.79	153.69	37184
37185	0.5 - 0.8 m ²	2,011.77	165.49	173.07	169.09	37185
Motorized damper c/w actuator, coupling, electrical connection, connected to an electricity supply point :-						
<i>Each</i>						
37186	Up to 0.1 m ²	1,582.38	23.75	38.60	24.28	37186
37187	0.1 - 0.3 m ²	3,142.87	34.32	48.16	35.06	37187
37188	0.3 - 0.5 m ²	4,185.29	38.18	59.62	39.01	37188
37189	0.5 - 0.8 m ²	5,166.96	43.96	67.12	44.92	37189
Stainless steel 304 volume control damper (motorized type) c/w actuator, coupling, electrical connection, connected to an electricity supply point :-						
<i>Each</i>						
37190	Up to 0.1 m ²	3,870.67	17.57	25.93	17.95	37190
37191	0.1 - 0.3 m ²	5,384.40	17.57	25.93	17.95	37191
37192	0.3 - 0.5 m ²	7,170.29	17.57	25.93	17.95	37192
37193	0.5 - 0.8 m ²	8,852.10	17.57	25.93	17.95	37193

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Dampers (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Stainless steel 316 volume control damper (motorized type) c/w actuator, coupling, electrical connection, connected to an electricity supply point : -					
	<i>Each</i>					
37194	Up to 0.1 m ²	4,962.00	17.57	25.93	17.95	37194
37195	0.1 - 0.3 m ²	6,422.62	17.57	25.93	17.95	37195
37196	0.3 - 0.5 m ²	8,071.06	17.57	25.93	17.95	37196
37197	0.5 - 0.8 m ²	9,964.15	17.57	25.93	17.95	37197
37198	Damper actuator that shall be of the linear or rotary type for either modulating or two-positioning control.	1,774.76	18.86	30.46	19.27	37198
	Self-closing (non-return) damper c/w device for position and locking the damper blades, access panel and label etc. : -					
	<i>Each</i>					
37199	Up to 0.1 m ²	207.29	5.30	8.03	5.42	37199
37200	0.1 - 0.3 m ²	402.90	5.86	8.63	5.99	37200
37201	0.3 - 0.5 m ²	779.80	6.50	9.21	6.64	37201
37202	0.5 - 0.8 m ²	1,552.76	7.20	9.90	7.36	37202
	Air filter c/w enclosure, holding frame and air gasket : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre of surface area facing air stream</i>					
37203	Filter for FCU/fresh air filter/pre-filter	1,944.94	10.46	14.11	10.69	37203
37204	Main filter cartridge type	2,430.14	10.46	14.11	10.69	37204
37205	HEPA filter	4,857.80	10.46	14.11	10.69	37205
37206	Bag filter of high efficiency with extended area, deep pleated type mounted to modular sections and equipped with holding frames & c/w at least four heavy duty spring type positive sealing latches (Air velocity flow rate of 1.0 to 3.5 m ³ /s)	1,642.06	10.54	15.02	10.76	37206

Item					Item	
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Perforated diffuser c/w volume control damper and HEPA filter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
37207	1200 mm x 600 mm	13,601.29	24.36	32.75	24.90	37207
37208	600 mm x 600 mm	7,245.13	19.42	26.10	19.85	37208
	<i>Per set</i>					
	Electro-static filter and accessories					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal airflow rate : -					
	<i>Per set</i>					
37209	Up to 0.5 m³/s	6,779.65	16.75	20.25	17.12	37209
37210	0.5 - 1 m³/s	13,473.67	20.15	23.63	20.57	37210
37211	1 - 2 m³/s	27,096.81	23.32	26.94	23.83	37211
37212	2 - 3 m³/s	28,969.08	26.62	30.23	27.20	37212
37213	3 - 4 m³/s	31,789.89	29.99	33.59	30.64	37213
37214	4 - 5 m³/s	36,356.52	33.18	37.13	33.90	37214
37215	5 - 6 m³/s	41,898.43	36.50	40.23	37.29	37215
	Active carbon filter c/w high-grade activated carbon filters and pre-filter and housed in a frame structure					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal airflow rate : -					
	<i>Per set</i>					
37216	Up to 0.5 m³/s	6,074.50	10.88	14.67	11.12	37216
37217	0.5 - 1 m³/s	9,075.72	14.50	18.17	14.82	37217
37218	1 - 2 m³/s	14,179.83	18.14	21.89	18.53	37218
37219	2 - 3 m³/s	20,298.00	21.76	25.54	22.24	37219
37220	3 - 4 m³/s	24,220.24	25.21	29.09	25.76	37220
37221	4 - 5 m³/s	32,098.33	28.69	32.57	29.32	37221
37222	5 - 6 m³/s	38,218.86	32.33	36.22	33.03	37222

Item					Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)				
	Electric duct heater of black sheathed element type c/w enclosure, access panel, safety cut-off, thermostat, sail switch and accessories : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37223	Up to 3 kW	2,401.46	10.15	12.16	10.36
37224	3 - 6 kW	3,008.70	10.77	12.90	11.01
37225	6 - 9 kW	3,590.44	11.54	13.57	11.80
37226	9 - 12 kW	3,995.56	12.16	14.27	12.43
	Duct silencers : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37227	Up to 0.5 m³/s	3,162.40	20.71	34.60	21.16
37228	0.5 - 0.75 m³/s	3,339.69	25.32	39.23	25.87
37229	0.75 - 1.0 m³/s	4,586.73	31.03	45.11	31.70
37230	Add to last item for each additional 0.25 m³/s or part thereof	1,264.06	4.78	5.54	4.89
	Ductwork acoustic insulation : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37231	Ductwork acoustic insulation, 50mm thick including metal perforated sheet	1,160.42	11.85	17.33	12.11
	Duct access panel : -				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
37232	Up to 0.1 m²	343.12	8.95	10.49	9.15
37233	0.1 - 0.25 m²	510.93	10.50	12.05	10.73
37234	0.25 - 0.5 m²	900.51	12.75	14.27	13.02

Item						Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Regulation damper / volume control damper: -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
37235	Regulation damper / volume control damper c/w operating handle, access panel, device for position and locking the damper blades, label etc.	322.54	17.55	23.33	17.92	37235
37236	Stainless steel regulation damper / volume control damper c/w operating handle, access panel, device for position and locking the damper blades, label etc.	2,217.72	17.55	23.33	17.92	37236
	Galvanized iron wire mesh : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
37237	Galvanized iron wire mesh (straight lattice mesh/diamond mesh)	178.52	12.07	14.45	12.34	37237
	Galvanized iron air duct c/w volume control damper, painted with anti-corrosive paint : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
37238	1.0 mm thick	663.74	13.62	20.01	13.91	37238
37239	1.2 mm thick	748.50	15.10	21.66	15.43	37239
	Anti-acidic/anti-corrosive PVC duct for exhaust fans of diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
37240	150 mm	1,189.73	6.81	11.85	6.96	37240
37241	250 mm	1,245.08	8.35	13.62	8.54	37241
37242	300 mm	1,444.92	10.12	15.35	10.34	37242

Item						Item
	AIR DUCTS, THERMAL INSULATION & ACCESSORIES (CONT'D)					
	Air duct cleaning : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Each					
37243	Air duct cleaning point c/w metal flange and air tight screw plug fixing on air duct with no work on ceiling or demountable ceiling	62.70	-	-	-	37243
37244	Air duct cleaning point c/w metal flange, extended collar, air tight screw plug fixing on air duct with fixed ceiling	75.34	-	-	-	37244
	Per linear metre					
37245	Air duct cleaning and disinfection process with proprietary type compressed air lance, disinfection application lance, sampling probe and necessary accessories, video recording, video inspection and reporting	117.71	-	-	-	37245
	Per point					
37246	Inspection and photograph taking using borescope, c/w particulate and micro-biological monitoring report	531.46	-	-	-	37246
	Protection coating paint : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Per square metre					
37247	Protection coating paint for thermal insulation (flexible closed cell elastomeric) of same manufacturer as the thermal insulation for ductwork at outdoor area	1,529.48	-	-	-	37247

Section 38

HEATING, VENTILATION AND AIR-CONDITIONING - EQUIPMENT

Item					Item										
UNITARY AIR CONDITIONERS															
Air to air packaged air conditioner (refrigerant R22) c/w motors, compressors, filter, filter chamber, noise control equipment, copper tube with pre-corrosion resisting treated aluminium fins cooling coils, condensers, blowers, starters, refrigerant, drain pan, emergency stop button, probe type smoke detector, local control panel.															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> </tr> <tr> <th></th> <th>A \$</th> <th>B \$</th> <th>C \$</th> <th>D \$</th> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only		A \$	B \$	C \$	D \$
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only											
	A \$	B \$	C \$	D \$											
External or internally mounted, of cooling capacity : -															
<i>Each</i>															
38001	Up to 15 kW	-	236.62	261.53	906.60	38001									
38002	15 - 21 kW	-	256.62	271.52	929.03	38002									
38003	21 - 30 kW	-	262.98	296.47	946.97	38003									
38004	30 - 50 kW	-	269.37	311.17	977.62	38004									
Air to air packaged air conditioner (refrigerant zero ODP) c/w motors, compressors, filter, filter chamber, noise control equipment, copper tube with pre-corrosion resisting treated aluminium fins cooling coils, condensers, blowers, starters, refrigerant, drain pan, emergency stop button, probe type smoke detector, local control panel.															
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 65%;"></th> <th style="width: 12.5%;">Supply and fix</th> <th style="width: 12.5%;">Take down and clear away</th> <th style="width: 12.5%;">Take down and set aside for re-use</th> <th style="width: 12.5%;">Fix only</th> </tr> <tr> <th></th> <th>A \$</th> <th>B \$</th> <th>C \$</th> <th>D \$</th> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only		A \$	B \$	C \$	D \$
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only											
	A \$	B \$	C \$	D \$											
External or internally mounted, of cooling capacity : -															
<i>Each</i>															
38005	Up to 15 kW	29,065.46	236.62	261.53	906.60	38005									
38006	15 - 21 kW	37,439.21	256.62	271.52	929.03	38006									
38007	21 - 30 kW	54,521.62	262.98	296.47	946.97	38007									
38008	30 - 50 kW	68,840.14	269.37	311.17	977.62	38008									
38009	50 - 61 kW	79,144.82	278.06	322.38	1,008.97	38009									
38010	61 - 91 kW	94,042.79	280.66	336.29	1,041.51	38010									

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Air cooled packaged heat recovery chiller (refrigerant zero ODP) c/w motor, compressor, condenser, blower, noise control equipment, copper tube with pre-corrosion resisting treated copper fins evaporators, filter drier, water strainer, crank case heater, switch, muffler, refrigerant, oil separator, safety cutout, control metering device, temperature thermometers, starter, receiver, seamless copper tubing, weather-proof cabinet, emergency stop button.						
Cooling capacity : -						
<i>Each</i>						
38011	300 - 400 kW (The actual rate should be : \$1,316,497.00 for Item 38011A)	13,164.97	5,051.56	6,797.18	18,684.06	38011
38012	400 - 500 kW (The actual rate should be : \$1,464,593.00 for Item 38012A)	14,645.93	5,580.81	7,497.47	20,737.44	38012
38013	500 - 600 kW (The actual rate should be : \$1,717,534.00 for Item 38013A)	17,175.34	6,587.09	8,222.69	23,690.13	38013
38014	600 - 700 kW (The actual rate should be : \$2,056,248.00 for Item 38014A)	20,562.48	7,221.27	9,332.77	25,742.82	38014
38015	700 - 800 kW (The actual rate should be : \$2,297,674.00 for Item 38015A)	22,976.74	7,562.98	9,465.04	27,196.08	38015
38016	800 - 900 kW (The actual rate should be : \$2,510,154.00 for Item 38016A)	25,101.54	7,759.48	9,729.90	28,237.07	38016
Acoustic enclosure for above chillers : -						
<i>Each</i>						
38017	300 - 400 kW (The actual rate should be : \$138,214.50 for Item 38017A)	13,821.45	899.50	1,373.23	3,166.52	38017
38018	400 - 500 kW (The actual rate should be : \$155,178.10 for Item 38018A)	15,517.81	1,033.00	1,472.62	3,736.13	38018
38019	500 - 600 kW (The actual rate should be : \$192,333.90 for Item 38019A)	19,233.39	1,322.83	1,924.53	5,044.12	38019
38020	600 - 700 kW (The actual rate should be : \$242,346.80 for Item 38020A)	24,234.68	1,547.07	2,157.06	5,905.73	38020
38021	700 - 800 kW (The actual rate should be : \$269,238.20 for Item 38021A)	26,923.82	1,752.02	2,622.38	6,611.88	38021
38022	800 - 900 kW (The actual rate should be : \$290,672.00 for Item 38022A)	29,067.20	1,933.24	2,901.59	7,294.41	38022

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Air cooled packaged water chiller (refrigerant zero ODP) for external mounting c/w motors, compressors, condensers, blowers, noise control equipment, copper tube with pre-corrosion resisting treated copper fins, evaporators, filter drier, water strainer, capacity controller, liquid receivers, starters, refrigerant, weather-proof cabinet, emergency stop button, local control panel.						
Cooling capacity : -						
<i>Each</i>						
38023	Up to 44 kW (The actual rate should be : \$121,560.00 for Item 38023A)	12,156.00	1,390.18	1,680.13	5,292.49	38023
38024	44 - 68 kW (The actual rate should be : \$162,769.20 for Item 38024A)	16,276.92	1,714.99	2,516.28	7,041.64	38024
38025	68 - 100 kW (The actual rate should be : \$245,187.70 for Item 38025A)	24,518.77	2,288.92	3,395.34	9,144.04	38025
38026	100 - 150kW (The actual rate should be : \$342,934.60 for Item 38026A)	34,293.46	2,823.93	4,194.54	9,720.46	38026
38027	150 - 200 kW (The actual rate should be : \$426,696.00 for Item 38027A)	42,669.60	3,530.14	5,062.48	11,769.32	38027
38028	200 - 300 kW (The actual rate should be : \$492,909.20 for Item 38028A)	49,290.92	3,733.66	5,446.66	13,041.69	38028
38029	300 - 350 kW (The actual rate should be : \$788,958.70 for Item 38029A)	78,895.87	4,510.99	6,000.21	13,824.25	38029
38030	350 - 450 kW (The actual rate should be : \$902,207.20 for Item 38030A)	90,220.72	5,312.10	7,266.70	15,615.06	38030
Acoustic enclosure for above chillers : -						
<i>Each</i>						
38031	Up to 100 kW (The actual rate should be : \$157,431.60 for Item 38031A)	48,350.91	400.00	657.91	2,147.90	38031
38032	100 - 150 kW (The actual rate should be : \$157,431.60 for Item 38032A)	67,506.37	479.44	808.79	2,327.31	38032
38033	150 - 200 kW (The actual rate should be : \$157,431.60 for Item 38033A)	84,218.16	566.07	1,101.73	2,812.98	38033
38034	200 - 300 kW (The actual rate should be : \$157,431.60 for Item 38034A)	97,854.29	681.54	1,266.49	2,963.06	38034
38035	300 - 350 kW (The actual rate should be : \$157,431.60 for Item 38035A)	15,743.16	799.92	1,390.41	3,404.46	38035
38036	350 - 450 kW (The actual rate should be : \$191,960.90 for Item 38036A)	19,196.09	963.61	1,537.66	3,592.30	38036

Item

Item

UNITARY AIR CONDITIONERS (CONT'D)

Air cooled packaged water chiller (refrigerant zero ODP) for external mounting c/w motors, 'scroll' compressor, condensers, blowers, copper tube with pre-corrosion resisting treated aluminium fins, evaporator, filter drier, water strainer, capacity controller, starters, refrigerant, weather-proof cabinet, emergency stop button, local control panel, expansion vessel and circulating pump set.

	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	A	B	C	D	
	\$	\$	\$	\$	
Cooling capacity : -					
<i>Each</i>					
38037 Up to 25 kW	85,534.10	1,129.76	1,442.48	5,333.11	38037
38038 25 - 45 kW	11,748.35	1,372.02	1,611.03	6,244.01	38038
(The actual rate should be : \$117,483.50 for Item 38038A)					
38039 45 - 100 kW	28,111.15	1,849.47	2,694.56	7,492.76	38039
(The actual rate should be : \$281,111.50 for Item 38039A)					
38040 100 - 140 kW	33,513.50	2,694.56	3,821.19	9,313.87	38040
(The actual rate should be : \$335,135.00 for Item 38040A)					
38041 140 - 170 kW	37,811.39	2,821.46	4,216.88	10,041.15	38041
(The actual rate should be : \$378,113.90 for Item 38041A)					
38042 170 - 230 kW	49,012.13	3,546.40	4,825.29	11,383.64	38042
(The actual rate should be : \$490,121.30 for Item 38042A)					
38043 230 - 300 kW	62,079.66	4,392.15	5,535.11	12,949.88	38043
(The actual rate should be : \$620,796.60 for Item 38043A)					
38044 300 - 350 kW	71,413.61	4,996.30	6,042.12	14,068.64	38044
(The actual rate should be : \$714,136.10 for Item 38044A)					
38045 350 - 400 kW	80,747.54	5,600.40	6,549.13	15,187.40	38045
(The actual rate should be : \$807,475.40 for Item 38045A)					

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Air cooled packaged water chiller (refrigerant zero ODP) for external mounting c/w motors, 'screw' compressor, condensers, blowers, copper tube with pre-corrosion resisting treated aluminium fins, evaporator, filter drier, water strainer, capacity controller, starters, refrigerant, weather-proof cabinet, emergency stop button, local control panel, expansion vessel and circulating pump set.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity : -					
	<i>Each</i>					
38046	Up to 25 kW (The actual rate should be : \$104,449.90 for Item 38047A)	58,117.31	1,020.11	1,300.90	4,823.38	38046
38047	25 - 45 kW (The actual rate should be : \$104,449.90 for Item 38047A)	10,444.99	1,235.47	1,446.80	5,648.46	38047
38048	45 - 100 kW (The actual rate should be : \$220,501.10 for Item 38048A)	22,050.11	1,657.38	2,408.13	6,778.12	38048
38049	100 - 140 kW (The actual rate should be : \$330,300.30 for Item 38049A)	33,030.03	2,408.13	3,404.67	8,405.48	38049
38050	140 - 170 kW (The actual rate should be : \$422,885.00 for Item 38050A)	42,288.50	2,523.17	3,762.21	9,043.20	38050
38051	170 - 230 kW (The actual rate should be : \$509,051.90 for Item 38051A)	50,905.19	3,167.34	4,294.01	10,234.20	38051
38052	230 - 300 kW (The actual rate should be : \$609,580.00 for Item 38052A)	60,958.00	3,918.92	4,914.46	11,623.70	38052
38053	300 - 350 kW (The actual rate should be : \$681,385.60 for Item 38053A)	68,138.56	4,455.74	5,357.64	12,616.20	38053
38054	350 - 400 kW (The actual rate should be : \$753,191.50 for Item 38054A)	75,319.15	4,992.57	5,800.80	13,608.71	38054
	Water-cooled packaged chiller (refrigerant zero ODP) c/w motor, semi-hermetic screw type compressor, shell and tube evaporator / condenser, refrigeration components, control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity : -					
	<i>Each</i>					
38055	400 - 500 kW (The actual rate should be : \$854,674.90 for Item 38055A)	85,467.49	4,523.44	6,111.74	13,835.37	38055
38056	500 - 600 kW (The actual rate should be : \$993,151.70 for Item 38056A)	99,315.17	5,429.85	7,338.07	16,553.39	38056
38057	600 - 700 kW (The actual rate should be : \$1,185,485.00 for Item 38057A)	11,854.85	6,254.38	8,466.92	19,804.83	38057
38058	700 - 800 kW (The actual rate should be : \$1,396,067.00 for Item 38058A)	13,960.67	7,343.11	9,938.23	23,303.31	38058
38059	800 - 900 kW (The actual rate should be : \$1,759,908.00 for Item 38059A)	17,599.08	9,996.93	12,911.43	29,669.43	38059
38060	900 - 1000 kW (The actual rate should be : \$2,036,340.00 for Item 38060A)	20,363.40	12,867.58	16,796.39	35,354.28	38060

Item						
	UNITARY AIR CONDITIONERS (CONT'D)					
	Water-cooled packaged chiller (refrigerant zero ODP) c/w motor, semi-hermetic screw type compressor, shell and tube evaporator / condenser, refrigeration components, control panel : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Automatic tube cleaning system for above chiller : -					
	<i>Each</i>					
38061	400 - 500 kW	20,871.10	64.33	67.20	423.05	38061
38062	500 - 600 kW	23,414.59	70.72	73.76	465.13	38062
38063	600 - 700 kW	25,107.11	76.03	79.34	497.78	38063
38064	700 - 800 kW	26,316.33	80.14	83.67	534.67	38064
38065	800 - 900 kW	27,934.76	84.38	88.02	556.33	38065
38066	900 - 1000 kW	29,158.40	86.02	90.60	596.71	38066
	Air to air split type air conditioners (refrigerant zero ODP) of cooling capacity as specified (direct expansion)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Condensing units c/w motors, compressors, condenser, copper tubes and pre-painted anti-corrosion resin coated aluminium fins, blowers, filter drier, refrigerant, refrigerant pipework to the internally mounted AHU/ FCU, starters, weather-proof cabinet, emergency stop button, liquid receivers.					
	Cooling capacity : -					
	<i>Each</i>					
38067	Up to 14 kW	22,980.09	603.57	844.26	2,355.12	38067
38068	14 - 20 kW	29,710.87	723.03	906.72	2,766.58	38068
38069	20 - 30 kW	40,966.22	748.55	949.38	3,063.50	38069
38070	30 - 44 kW	53,419.50	823.92	1,013.34	3,337.44	38070
38071	44 - 58 kW	80,780.69	890.00	1,084.89	3,605.36	38071
38072	58 - 86 kW	10,579.04	986.38	1,185.60	3,842.33	38072
	(The actual rate should be : \$105,790.40 for Item 38072A)					

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Air to air split type air conditioners (refrigerant zero ODP) of cooling capacity as specified (direct expansion) (Cont'd)						
Condensing units c/w motors, compressors, condenser, copper tubes and pre-painted anti-corrosion resin coated aluminium fins, blowers, filter drier, refrigerant, refrigerant pipework to the internally mounted PAU, starters, weather-proof cabinet, emergency stop button, liquid receivers.						
Cooling capacity :-						
<i>Each</i>						
38073	Up to 14 kW	24,372.45	624.82	904.70	3,231.11	38073
38074	14 - 20 kW	30,744.38	695.11	1,016.72	3,231.11	38074
38075	20 - 30 kW	43,943.73	781.69	1,032.85	3,231.11	38075
38076	30 - 44 kW	60,417.31	805.59	1,211.21	3,520.06	38076
38077	44 - 58 kW	97,449.74	900.05	1,318.44	3,733.78	38077
38078	58 - 86 kW	12,200.59	1,012.73	1,435.15	4,011.61	38078
(The actual rate should be : \$122,005.90 for Item 38078A)						
Internal mounted DX AHU/ FCU of copper tube and pre-treated anti-corrosion aluminium fin cooling coil, c/w filter chamber, flexible connector, air filters, filter clog indicator, starters, emergency stop button, local control panel.						
Cooling capacity :-						
<i>Each</i>						
38079	Up to 14 kW	11,465.50	190.52	308.39	959.48	38079
38080	14 - 20 kW	13,897.78	213.49	329.06	1,015.00	38080
38081	20 - 30 kW	17,645.76	223.80	337.43	1,070.19	38081
38082	30 - 44 kW	27,398.77	235.93	343.34	1,126.54	38082
38083	44 - 58 kW	35,973.41	259.36	361.40	1,182.75	38083
38084	58 - 86 kW	43,317.40	266.99	375.52	1,216.37	38084
Internal mounted DX PAU of copper tube and pre-treated anti-corrosion aluminium fin cooling coil, c/w filter chamber, flexible connector, air filters, filter clog indicator, starters, emergency stop button, local control panel.						
Cooling capacity :-						
<i>Each</i>						
38085	Up to 14 kW	11,454.19	196.06	310.51	1,016.44	38085
38086	14 - 20 kW	13,876.71	218.87	329.80	1,112.29	38086
38087	20 - 30 kW	17,620.63	229.74	338.05	1,180.56	38087
38088	30 - 44 kW	29,189.43	242.57	343.49	1,254.31	38088
38089	44 - 58 kW	38,129.44	259.44	363.75	1,333.39	38089
38090	58 - 86 kW	44,811.88	267.38	380.27	1,391.70	38090

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Air to air split type room air conditioner (direct expansion type), (refrigerant zero ODP), indoor and outdoor unit (shall consist of copper tube and pre-treated anti-corrosion aluminium fins), refrigerant pipework c/w insulation not exceeding manufacturer's maximum permitted length, refrigerant, local control panel.						
Complete set with indoor unit of wall mounted type, cooling only						
Cooling capacity :-						
<i>Each</i>						
38091	Up to 3.5 kW	13,182.84	450.40	544.03	1,741.79	38091
38092	3.5 - 5.2 kW	18,067.83	488.65	584.58	1,871.00	38092
38093	5.2 - 6.5 kW	23,197.13	525.78	622.00	2,106.76	38093
38094	6.5 - 7.5 kW	27,738.01	562.83	660.55	2,223.02	38094
38095	7.5 - 9.5 kW	32,884.01	599.69	698.70	2,322.09	38095
38096	9.5 - 12 kW	40,707.15	636.51	731.23	2,444.19	38096
Complete set with indoor unit of ceiling suspended type, cooling only						
Cooling capacity :-						
<i>Each</i>						
38097	Up to 6.5 kW	22,165.54	583.58	688.74	2,183.78	38097
38098	6.5 - 7.5 kW	25,041.14	622.97	732.79	2,273.80	38098
38099	7.5 - 9 kW	31,129.37	661.50	773.45	2,338.85	38099
38100	9 - 11 kW	37,138.40	699.63	813.31	2,462.04	38100
38101	11 - 13 kW	44,502.57	777.13	897.03	2,583.32	38101
38102	13 - 17 kW	54,446.36	849.12	969.37	2,718.23	38102
Complete set with indoor unit of ceiling cassette type, cooling only						
Cooling capacity :-						
<i>Each</i>						
38103	Up to 5 kW	19,294.59	553.50	626.04	1,655.76	38103
38104	5 - 6 kW	22,773.39	565.82	653.64	1,848.84	38104
38105	6 - 8 kW	29,731.05	590.52	708.85	2,235.04	38105
38106	8 -11 kW	40,264.96	675.29	770.98	2,458.91	38106
38107	11 - 13 kW	47,492.77	699.63	813.31	2,564.95	38107
38108	13 - 16.5 kW	60,669.29	783.87	900.75	2,678.16	38108

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Air to air split type room air conditioner (direct expansion type), (refrigerant zero ODP), indoor and outdoor unit (shall consist of copper tube and pre-treated anti-corrosion aluminium fins), refrigerant pipework c/w insulation not exceeding manufacturer's maximum permitted length, refrigerant, local control panel. (Cont'd)						
Complete set with indoor unit of ceiling mounted ducted type, cooling only						
Cooling capacity : -						
<i>Each</i>						
38109	Up to 5 kW	15,435.68	553.50	626.04	1,655.76	38109
38110	5 - 6 kW	18,218.73	565.82	653.64	1,848.84	38110
38111	6 - 8 kW	23,784.83	590.52	708.85	2,235.04	38111
38112	8 -11 kW	32,211.99	675.29	770.98	2,458.91	38112
38113	11 - 13 kW	37,994.21	699.63	813.31	2,564.95	38113
38114	13 - 16.5 kW	48,535.43	783.87	900.75	2,678.16	38114
Complete set with indoor unit of wall mounted type; cooling/ heating (heat pump)						
Cooling and heating capacity : -						
<i>Each</i>						
38115	Up to 6 kW (cooling) and up to 7.5 kW (heating)	22,908.83	569.60	664.60	2,108.94	38115
38116	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	29,076.89	618.83	716.25	2,271.70	38116
38117	8 - 11 kW (cooling) and 9 - 11 kW (heating)	38,328.96	692.64	793.72	2,515.81	38117
Complete set with indoor unit of ceiling suspended type, cooling/ heating (heat pump)						
Cooling and heating capacity : -						
<i>Each</i>						
38118	Up to 6 kW (cooling) and up to 7.5 kW (heating)	25,444.80	567.27	662.26	2,331.51	38118
38119	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	32,034.92	668.90	774.50	2,465.52	38119
38120	8 - 11 kW (cooling) and 9 - 11 kW (heating)	41,920.13	821.35	942.85	2,666.57	38120
Complete set with indoor unit of ceiling cassette type, cooling/ heating (heat pump)						
Cooling and heating capacity : -						
<i>Each</i>						
38121	Up to 6 kW (cooling) and up to 7.5 kW (heating)	27,100.99	562.34	699.81	2,171.79	38121
38122	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	34,887.87	647.15	771.91	2,352.17	38122
38123	8 - 11 kW (cooling) and 9 - 11 kW (heating)	46,568.19	774.38	880.10	2,622.73	38123

Item						Item
	UNITARY AIR CONDITIONERS (CONT'D)					
	Air to air split type room air conditioner (direct expansion type), (refrigerant zero ODP), indoor and outdoor unit (shall consist of copper tube and pre-treated anti-corrosion aluminium fins), refrigerant pipework c/w insulation not exceeding manufacturer's maximum permitted length, refrigerant, local control panel. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Complete set with indoor unit of ceiling mounted ducted type, cooling/ heating (heat pump)					
	Cooling and heating capacity : -					
	<i>Each</i>					
38124	Up to 6 kW (cooling) and up to 7.5 kW (heating)	21,680.81	562.34	699.81	2,171.79	38124
38125	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	27,910.29	647.15	771.91	2,352.17	38125
38126	8 - 11 kW (cooling) and 9 - 11 kW (heating)	37,254.54	774.38	880.10	2,622.73	38126
	Air to air split type room air conditioner (Inverter type), (refrigerant zero ODP), indoor and outdoor unit (shall consist of copper tube and pre-treated anti-corrosion aluminium fins), refrigerant pipe work c/w insulation not exceeding manufacturer's maximum permitted length, refrigerant, local control panel.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Complete set with indoor unit of wall mounted type, cooling only					
	Cooling capacity : -					
	<i>Each</i>					
38127	Up to 3.5 kW	14,321.42	450.40	544.03	1,741.79	38127
38128	3.5 - 5.2 kW	19,341.30	488.65	584.58	1,871.00	38128
38129	5.2 - 6.5 kW	24,139.71	525.78	622.00	2,106.76	38129
38130	6.5 - 7.5 kW	28,790.48	562.83	660.55	2,223.02	38130
38131	7.5 - 9.5 kW	33,957.99	599.69	698.70	2,322.09	38131
38132	9.5 - 12.0 kW	41,340.18	636.51	731.23	2,444.19	38132
	Complete set with indoor unit of ceiling suspended type, cooling only					
	Cooling capacity : -					
	<i>Each</i>					
38133	Up to 6.5 kW	25,983.90	583.58	688.74	2,183.78	38133
38134	6.5 - 7.5 kW	30,931.70	622.97	732.79	2,273.80	38134
38135	7.5 - 9 kW	35,854.31	661.50	773.45	2,338.85	38135
38136	9 - 11 kW	42,330.07	699.63	813.31	2,462.04	38136
38137	11 - 13 kW	53,660.71	777.13	897.03	2,583.32	38137
38138	13 - 17 kW	61,269.14	849.12	969.37	2,718.23	38138

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Air to air split type room air conditioner (Inverter type), (refrigerant zero ODP), indoor and outdoor unit (shall consist of copper tube and pre-treated anti-corrosion aluminium fins), refrigerant pipe work c/w insulation not exceeding manufacturer's maximum permitted length, refrigerant, local control panel. (Cont'd)					
	Complete set with indoor unit of ceiling cassette type, cooling only					
	Cooling capacity : -					
	<i>Each</i>					
38139	Up to 5 kW	20,064.12	553.50	626.04	1,655.76	38139
38140	5 - 6 kW	24,476.01	565.82	653.64	1,848.84	38140
38141	6 - 8 kW	30,999.73	590.52	708.85	2,235.04	38141
38142	8 -11 kW	41,192.79	675.29	770.98	2,458.91	38142
38143	11 - 13 kW	48,966.69	699.63	813.31	2,564.95	38143
38144	13 - 16.5 kW	61,731.22	783.87	900.75	2,678.16	38144
	Complete set with indoor unit of ceiling mounted ducted type, cooling only					
	Cooling capacity : -					
	<i>Each</i>					
38145	Up to 5 kW	19,957.82	553.50	626.04	1,655.76	38145
38146	5 - 6 kW	26,743.82	565.82	653.64	1,848.84	38146
38147	6 - 8 kW	31,047.27	590.52	708.85	2,235.04	38147
38148	8 -11 kW	42,782.78	675.29	770.98	2,458.91	38148
38149	11 - 13 kW	52,192.02	699.63	813.31	2,564.95	38149
38150	13 - 16.5 kW	58,120.66	783.87	900.75	2,678.16	38150
	Complete set with indoor unit of wall mounted type, cooling/ heating (heat pump)					
	Cooling and heating capacity : -					
	<i>Each</i>					
38151	Up to 6 kW (cooling) and up to 7.5 kW (heating)	26,723.26	569.60	664.60	2,108.94	38151
38152	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	36,616.10	618.83	716.25	2,271.70	38152
38153	8 - 11 kW (cooling) and 9 - 11 kW (heating)	51,455.40	692.64	793.72	2,515.81	38153

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Air to air split type room air conditioner (Inverter type), (refrigerant zero ODP), indoor and outdoor unit (shall consist of copper tube and pre-treated anti-corrosion aluminium fins), refrigerant pipe work c/w insulation not exceeding manufacturer's maximum permitted length, refrigerant, local control panel. (Cont'd)						
Complete set with indoor unit of ceiling suspended type, cooling/ heating (heat pump)						
Cooling and heating capacity : -						
<i>Each</i>						
38154	Up to 6 kW (cooling) and up to 7.5 kW (heating)	33,951.82	567.27	662.26	2,331.51	38154
38155	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	44,237.49	668.90	774.50	2,465.52	38155
38156	8 - 11 kW (cooling) and 9 - 11 kW (heating)	51,187.42	821.35	942.85	2,666.57	38156
Complete set with indoor unit of ceiling cassette type, cooling/ heating (heat pump)						
Cooling and heating capacity : -						
<i>Each</i>						
38157	Up to 6 kW (cooling) and up to 7.5 kW (heating)	38,336.90	562.34	699.81	2,171.79	38157
38158	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	47,937.87	647.15	771.91	2,352.17	38158
38159	8 - 11 kW (cooling) and 9 - 11 kW (heating)	59,697.51	774.38	880.10	2,622.73	38159
Complete set with indoor unit of ceiling mounted ducted type, cooling/ heating (heat pump)						
Cooling and heating capacity : -						
<i>Each</i>						
38160	Up to 6 kW (cooling) and up to 7.5 kW (heating)	27,229.70	562.34	699.81	2,171.79	38160
38161	6 - 8 kW (cooling) and 7.5 - 9 kW (heating)	35,526.51	647.15	771.91	2,352.17	38161
38162	8 - 11 kW (cooling) and 9 - 11 kW (heating)	44,516.87	774.38	880.10	2,622.73	38162
Window-split type air-conditioner with remote controller						
Cooling capacity : -						
<i>Each</i>						
38163	Up to 2.8 kW	12,612.51	489.43	590.85	1,890.85	38163
38164	2.8 - 3.7 kW	16,309.76	530.94	634.38	2,071.48	38164
38165	3.7 - 5.5 kW	21,296.86	572.32	677.76	2,298.28	38165
38166	3.7 - 5.5 kW for dual indoor units	25,460.31	658.52	784.64	2,730.80	38166
38167	5.5 - 7.0 kW	25,452.80	606.81	713.93	2,487.28	38167
38168	7.0 - 7.9kW	27,946.35	635.56	744.07	2,644.75	38168

Item						Item
	UNITARY AIR CONDITIONERS (CONT'D)					
	Stainless steel 316 panel housing; weatherproof type : -					
	<i>Each</i>					
38169	Panel for housing gauges for split type A/C outdoor units (gauges measured separately)	1,039.07	111.33	192.34	434.73	38169
	Computer room air conditioning unit (direct expansion type with refrigerant zero ODP), indoor and outdoor unit (outdoor unit shall consist of copper pipes and pre-treated anti-corrosion aluminium fins) with electrode boiler humidifier, electric reheat, microprocessor control with local alarm and BMS interface provisions, high efficient filter, refrigerant pipework with length not exceeding manufacturer's maximum permitted length, local control panel. Operating room conditions are 22°C, 50% RH at ambient 35°C.					
	Cooling capacity : -					
	<i>Each</i>					
38170	Up to 13 kW	90,389.32	694.26	907.11	2,904.35	38170
38171	13 - 26 kW	11,846.76	843.70	1,050.85	3,406.66	38171
	(The actual rate should be : \$118,467.60 for Item 38171A)					
38172	26 - 35 kW	13,908.06	924.00	1,140.27	3,633.84	38172
	(The actual rate should be : \$139,080.60 for Item 38172A)					
38173	35 - 50 kW	15,768.65	1,003.76	1,220.17	3,859.05	38173
	(The actual rate should be : \$157,686.50 for Item 38173A)					
38174	50 - 75 kW	20,640.41	1,069.84	1,268.21	4,021.07	38174
	(The actual rate should be : \$206,404.10 for Item 38174A)					
38175	75 - 84 kW	22,394.25	1,093.63	1,285.50	4,079.40	38175
	(The actual rate should be : \$223,942.50 for Item 38175A)					

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Computer room air conditioning unit (direct expansion type with refrigerant zero ODP), indoor and outdoor unit (outdoor unit shall consist of copper pipes and pre-treated anti-corrosion aluminium fins) with electrode boiler humidifier, electric reheat, microprocessor control with local alarm and BMS interface provisions, high efficient filter, EC plug fans, refrigerant pipework with length not exceeding manufacturer's maximum permitted length, local control panel. Operating room conditions are 22°C, 50% RH at ambient 35°C.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity : -					
	<i>Each</i>					
38176	Up to 13 kW	99,360.00	694.26	907.11	2,904.35	38176
38177	13 - 26 kW	11,880.00	843.70	1,050.85	3,406.66	38177
	(The actual rate should be : \$118,800.00 for Item 38177A)					
38178	26 - 35 kW	14,040.00	924.00	1,140.27	3,633.84	38178
	(The actual rate should be : \$140,400.00 for Item 38178A)					
38179	35 - 50 kW	16,200.00	1,003.76	1,220.17	3,859.05	38179
	(The actual rate should be : \$162,000.00 for Item 38179A)					
38180	50 - 75 kW	21,600.00	1,069.84	1,268.21	4,021.07	38180
	(The actual rate should be : \$216,000.00 for Item 38180A)					
38181	75 - 84 kW	25,080.00	1,093.63	1,285.50	4,079.40	38181
	(The actual rate should be : \$250,800.00 for Item 38181A)					
	Acoustic enclosure for above computer room air conditioning units c/w acoustic panels and supporting framework: -					
	<i>Each</i>					
38182	Up to 13 kW	9,889.62	199.76	355.22	1,178.70	38182
38183	13 - 26 kW	11,103.42	224.28	398.82	1,323.38	38183
38184	26 - 35 kW	13,762.02	277.98	494.32	1,640.24	38184
38185	35 - 50 kW	17,340.59	350.25	622.86	2,066.75	38185
38186	50 - 75 kW	19,264.75	389.10	691.97	2,296.10	38186
38187	75 - 84 kW	20,798.37	420.09	747.05	2,478.89	38187
	Water leakage detection system : -					
	<i>Each</i>					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38188	Water leakage detection system with control panel providing audio and visual alarm, location of leak and BMS interface provisions connected to water-sensing cable for operation	23,092.48	333.44	361.75	1,129.02	38188
38189	Water leakage detection system with control panel providing audio and visual alarm, location of leak and BMS interface provisions connected to water-sensing cable for operation and to SMS and email notification system	37,800.00	648.00	648.00	1,620.00	38189

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Water leakage detection system : - (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per linear metre</i>					
38190	Water leakage sensing cable complete with branch connector, zone connector, compatible with the above water detection system c/w all necessary mountings	265.41	3.46	7.94	32.28	38190
	<i>Each</i>					
38191	Water leakage detection sensor; point type, complete with detection module, stainless steel probes, controller with buzzer, control panel, cables and cable containments, and all necessary accessories and BMS interface provisions	6,685.53	188.02	250.70	313.36	38191
38192	Water leakage detection sensor; point type, complete with cables and containments	592.93	18.08	24.10	30.14	38192
	<i>Per set</i>					
38193	Temperature and humidity recorder	8,627.23	7.16	9.07	56.65	38193
	Reheat coil air conditioners for dehumidity Internal mounted direct expansion fan coil unit of copper tube aluminium fins coils c/w filter and chamber, air filter, filter clog indicator, electric expansion valve, thermostat humidistat, fan speed control unit, auto-swing mechanism, starters, drain pan, connection to outdoor condensing unit.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling concealed type :-					
	<i>Per set</i>					
38194	Up to 5.8 kW	58,984.81	151.43	766.55	804.75	38194
38195	5.8 - 14.5 kW	80,855.24	151.43	1,075.92	1,175.17	38195
	Ceiling suspended type :-					
	<i>Per set</i>					
38196	Up to 5.8 kW	52,870.84	151.43	766.55	884.84	38196
38197	5.8 - 14.5 kW	74,114.54	151.43	1,075.92	1,175.17	38197

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Variable refrigerant volume (VRV) system (refrigerant zero ODP)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Outdoor condensing units c/w insulated gate bipolar transistor type inverter or the equivalent, hermetic scroll compressor, anti-corrosion resin coated condensing fin, propeller fan, accumulator, high pressure switch, crank case heater, over current protection for inverter, short recycling timer and oil recovery system, refrigerant (zero ODP), refrigerant pipework c/w insulation (with length not exceeding manufacturer's maximum permitted length) to the indoor units, weather proof cabinet, emergency stop button, local control panel for operation.					
	Cooling and heating, capacity : -					
	<i>Per set</i>					
38198	Up to 8 kW	44,771.73	803.35	876.38	2,921.28	38198
38199	8 - 14 kW	90,363.25	876.38	949.41	3,067.34	38199
38200	14 - 20 kW	12,375.92	912.92	1,097.39	3,542.64	38200
	(The actual rate should be : \$123,759.20 for Item 38200A)					
38201	20 - 30 kW	13,034.31	1,053.87	1,254.38	3,811.61	38201
	(The actual rate should be : \$130,343.10 for Item 38201A)					
38202	30 - 44 kW	17,890.74	1,196.14	1,405.16	4,046.47	38202
	(The actual rate should be : \$178,907.40 for Item 38202A)					
38203	44 - 58 kW	23,491.49	1,332.96	1,527.99	4,287.89	38203
	(The actual rate should be : \$234,914.90 for Item 38203A)					
38204	58 - 86 kW	32,450.80	1,507.36	1,766.69	4,564.62	38204
	(The actual rate should be : \$324,508.00 for Item 38204A)					
38205	86 - 90 kW	33,730.70	1,532.29	1,800.78	4,604.15	38205
	(The actual rate should be : \$337,307.00 for Item 38205A)					
	Stainless steel 316 panel housing; weatherproof type : -					
	<i>Each</i>					
38206	Panel for housing gauges for VRV outdoor units (gauges measured separately)	1,071.00	111.33	192.34	434.73	38206

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Variable refrigerant volume (VRV) system (refrigerant zero ODP) (Cont'd)					
	Water cooled outdoor condensing units c/w insulated gate bipolar transistor type inverter or the equivalent, hermetic scroll compressor, over current protection for inverter, and short recycling timer, refrigerant (zero ODP), refrigerant pipework c/w insulation (with length notexceeding manufacturer's maximum permitted length) to the indoor units, weather proof cabinet, emergency stop button, local control panel for operation.					
	Cooling and heating (heat pump), capacity : -					
	<i>Per set</i>					
38207	up to 22.7 kW (The actual rate should be : \$134,851.80 for Item 38207A)	13,485.18	983.97	1,169.17	3,618.07	38207
38208	22.7 - 27.0 kW (The actual rate should be : \$162,997.80 for Item 38208A)	16,299.78	1,150.31	1,356.79	4,070.78	38208
38209	27 - 45.4 kW (The actual rate should be : \$190,168.20 for Item 38209A)	19,016.82	1,285.31	1,530.75	4,479.86	38209
38210	45.4 - 49.7 kW (The actual rate should be : \$241,100.10 for Item 38210A)	24,110.01	1,511.69	1,745.19	5,095.68	38210
38211	49.7 - 54.0 kW (The actual rate should be : \$302,444.80 for Item 38211A)	30,244.48	1,803.36	2,115.03	5,809.54	38211
	Internally mounted refrigerant distributing and recirculating unit c/w valves, wiring and all necessary devices for controlling refrigerant flows and distributions : -					
	<i>Per set</i>					
38212	Up to 6 branches (The actual rate should be : \$149,218.80 for Item 38212A)	14,921.88	369.75	1,887.73	2,211.24	38212
38213	Up to 10 branches (The actual rate should be : \$240,366.10 for Item 38213A)	24,036.61	441.38	2,243.33	2,650.38	38213
	VRV master controller : -					
	Water cooled outdoor condensing units c/w insulated gate bipolar transistor type inverter or the equivalent, hermetic scroll compressor, over current protection for inverter, and short recycling timer, refrigerant (zero ODP), refrigerant pipework c/w insulation (with length notexceeding manufacturer's maximum permitted length) to the indoor units, weather proof cabinet, emergency stop button, local control panel for operation.					
	<i>Per set</i>					
38214	VRV air-conditioning unit master controller	21,233.88	492.97	1,478.98	2,957.94	38214

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Internal mounted direct expansion fan coil unit of copper tube aluminium fins coils c/w filter and chamber, air filter, filter clog indicator, electric expansion valve, thermostat, fan speed control unit, auto-swing mechanism, starters, drain pan, connection to outdoor condensing unit.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling cassette type/ concealed type; cooling only					
	Cooling capacity : -					
	<i>Per set</i>					
38215	Up to 3.8 kW	15,408.93	129.41	144.40	566.70	38215
38216	3.8 - 5.8 kW	16,722.93	145.30	161.23	614.91	38216
38217	5.8 - 9.4 kW	20,408.85	158.74	175.77	664.20	38217
38218	9.4 - 14.5 kW	23,338.39	172.54	190.31	713.56	38218
38219	14.5 - 22.3 kW	30,093.36	258.36	292.90	1,016.58	38219
38220	22.3 - 29.1 kW	36,134.46	344.53	375.50	1,520.09	38220
	Ceiling suspended type; cooling only					
	Cooling capacity : -					
	<i>Per set</i>					
38221	Up to 3.8 kW	14,482.76	107.92	118.75	498.12	38221
38222	3.8 - 5.8 kW	16,432.50	123.08	134.56	552.13	38222
38223	5.8 - 9.4 kW	17,029.26	138.98	146.41	607.57	38223
38224	9.4 - 14.5 kW	18,224.07	145.91	168.21	662.26	38224
	Ceiling mounted ducted type, cooling only					
	Cooling capacity : -					
	<i>Per set</i>					
38225	Up to 3.8 kW	13,048.83	107.92	118.75	498.12	38225
38226	3.8 - 5.8 kW	14,285.91	123.08	134.56	552.13	38226
38227	5.8 - 9.4 kW	17,408.35	138.98	146.41	607.57	38227
38228	9.4 - 14.5 kW	19,727.46	145.91	168.21	662.26	38228

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Internal mounted direct expansion fan coil unit of copper tube aluminium fins coils c/w filter and chamber, air filter, filter clog indicator, electric expansion valve, thermostat, fan speed control unit, auto-swing mechanism, starters, drain pan, connection to outdoor condensing unit. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Exposed wall mounted type, cooling and heating (heat pump)					
	Cooling and heating capacity : -					
	<i>Per set</i>					
38245	Up to 2.3 kW	10,758.15	363.61	441.67	1,238.36	38245
38246	2.3 - 2.9 kW	13,268.17	390.66	472.61	1,433.63	38246
38247	2.9 - 3.7 kW	17,791.81	425.17	504.97	1,617.98	38247
38248	3.7 - 4.7 kW	22,316.58	459.96	537.99	1,690.79	38248
38249	4.7 - 5.8 kW	28,655.57	491.21	570.81	1,774.47	38249
38250	5.8 - 7.3 kW	34,488.19	522.65	600.98	1,844.53	38250
	Internal mounted direct expansion fan coil unit of copper tube aluminium fins coils c/w stepless DC fan motor(s), filter and chamber, air filter, filter clog indicator, electric expansion valve, thermostat, fan speed control unit, auto-swing mechanism, starters, drain pan, connection to outdoor condensing unit.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling cassette type/ concealed type; cooling only					
	Cooling capacity : -					
	<i>Per set</i>					
38251	Up to 3.8 kW	15,120.00	129.41	144.40	566.70	38251
38252	3.8 - 5.8 kW	18,360.00	145.30	161.23	614.91	38252
38253	5.8 - 9.4 kW	21,600.00	158.74	175.77	664.20	38253
38254	9.4 - 14.5 kW	25,920.00	172.54	190.31	713.56	38254
38255	14.5 - 22.3 kW	30,240.00	258.36	292.90	1,016.58	38255
38256	22.3 - 29.1 kW	35,640.00	344.53	375.50	1,520.09	38256
	Ceiling suspended type; cooling only					
	Cooling capacity : -					
	<i>Per set</i>					
38257	Up to 3.8 kW	18,360.00	107.92	118.75	498.12	38257
38258	3.8 - 5.8 kW	21,600.00	123.08	134.56	552.13	38258
38259	5.8 - 9.4 kW	25,920.00	138.98	146.41	607.57	38259
38260	9.4 - 14.5 kW	30,240.00	145.91	168.21	662.26	38260

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
UNITARY AIR CONDITIONERS (CONT'D)						
Internal mounted direct expansion fan coil unit of copper tube aluminium fins coils c/w stepless DC fan motor(s), filter and chamber, air filter, filter clog indicator, electric expansion valve, thermostat, fan speed control unit, auto-swing mechanism, starters, drain pan, connection to outdoor condensing unit. (Cont'd)						
Ceiling mounted ducted type, cooling only						
Cooling capacity : -						
<i>Per set</i>						
38261	Up to 3.8 kW	12,960.00	107.92	118.75	498.12	38261
38262	3.8 - 5.8 kW	15,120.00	123.08	134.56	552.13	38262
38263	5.8 - 9.4 kW	17,280.00	138.98	146.41	607.57	38263
38264	9.4 - 14.5 kW	20,520.00	145.91	168.21	662.26	38264
Exposed wall mounted type, cooling only						
Cooling capacity : -						
<i>Per set</i>						
38265	Up to 3.8 kW	9,720.00	91.36	100.81	418.63	38265
38266	3.8 - 5.8 kW	10,800.00	104.06	113.73	464.70	38266
38267	5.8 - 9.4 kW	12,960.00	117.24	123.35	531.68	38267
38268	9.4 - 14.5 kW	15,120.00	123.08	141.37	581.27	38268
Ceiling cassette type/ concealed type; cooling and heating (heat pump)						
Cooling and heating capacity : -						
<i>Per set</i>						
38269	Up to 3.8 kW	15,120.00	129.41	144.40	566.70	38269
38270	3.8 - 5.8 kW	18,360.00	145.30	161.23	614.91	38270
38271	5.8 - 9.4 kW	21,600.00	158.74	175.77	664.20	38271
38272	9.4 - 14.5 kW	25,920.00	172.54	190.31	713.56	38272
Ceiling suspended type; cooling and heating (heat pump)						
Cooling and heating capacity : -						
<i>Per set</i>						
38273	Up to 3.8 kW	18,360.00	107.92	118.75	498.12	38273
38274	3.8 - 5.8 kW	21,600.00	123.08	134.56	552.13	38274
38275	5.8 - 9.4 kW	25,920.00	138.98	146.41	607.57	38275
38276	9.4 - 14.5 kW	30,240.00	145.91	168.21	662.26	38276

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Internal mounted direct expansion fan coil unit of copper tube aluminium fins coils c/w stepless DC fan motor(s), filter and chamber, air filter, filter clog indicator, electric expansion valve, thermostat, fan speed control unit, auto-swing mechanism, starters, drain pan, connection to outdoor condensing unit. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted ducted type, cooling and heating (heat pump)					
	Cooling and heating capacity : -					
	<i>Per set</i>					
38277	Up to 3.8 kW	12,960.00	107.92	118.75	498.12	38277
38278	3.8 - 5.8 kW	15,120.00	123.08	134.56	552.13	38278
38279	5.8 - 9.4 kW	17,280.00	138.98	146.41	607.57	38279
38280	9.4 - 14.5 kW	20,520.00	145.91	168.21	662.26	38280
	Exposed wall mounted type, cooling and heating (heat pump)					
	Cooling and heating capacity : -					
	<i>Per set</i>					
38281	Up to 2.3 kW	9,720.00	363.61	441.67	1,238.36	38281
38282	2.3 - 2.9 kW	10,800.00	390.66	472.61	1,433.63	38282
38283	2.9 - 3.7 kW	12,960.00	425.17	504.97	1,617.98	38283
38284	3.7 - 4.7 kW	15,120.00	459.96	537.99	1,690.79	38284
38285	4.7 - 5.8 kW	17,280.00	491.21	570.81	1,774.47	38285
38286	5.8 - 7.3 kW	20,520.00	522.65	600.98	1,844.53	38286
	Room cooler, (refrigerant R22), c/w aluminium supporting frame, stainless steel drain pan, all condensate drain pipework (size of drain pan to match with room cooler)					
	Cooling capacity : -					
	<i>Each</i>					
38287	Up to 2.8 kW	-	77.72	97.88	395.67	38287
38288	2.8 - 3.7 kW	-	98.69	145.27	478.31	38288
38289	3.7 - 4.6 kW	-	131.61	181.47	524.09	38289
38290	4.6 - 5.5 kW	-	143.37	215.13	695.89	38290
38291	5.5 - 6.3 kW	-	202.81	285.57	763.59	38291

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Room cooler, (refrigerant zero ODP, exclude R410A and R32), c/w aluminium supporting frame, stainless steel drain pan, all condensate drain pipework (size of drain pan to match with room cooler)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity :-					
	<i>Each</i>					
38292	Up to 2.8 kW	6,447.62	79.41	99.98	404.21	38292
38293	2.8 - 3.7 kW	7,736.54	100.82	148.38	488.61	38293
38294	3.7 - 4.6 kW	8,819.13	134.46	185.38	535.38	38294
38295	4.6 - 5.5 kW	10,216.79	146.48	219.30	710.80	38295
38296	5.5 - 6.3 kW	12,439.39	206.68	291.75	779.96	38296
38297	6.3 - 7.2 kW	13,484.21	227.70	344.83	942.53	38297
	Room cooler, (R410A and R32), c/w aluminium supporting frame, stainless steel drain pan, all condensate drain pipework (size of drain pan to match with room cooler)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity :-					
	<i>Each</i>					
38298	Up to 2.8 kW	4,527.20	79.41	99.98	404.21	38298
38299	2.8 - 3.7 kW	5,457.45	100.82	148.38	488.61	38299
38300	3.7 - 4.6 kW	6,697.77	134.46	185.38	535.38	38300
38301	4.6 - 5.5 kW	7,690.05	146.48	219.30	710.80	38301
38302	5.5 - 6.3 kW	8,992.39	206.68	291.75	779.96	38302
38303	6.3 - 7.2 kW	10,046.67	227.70	344.83	942.53	38303

Item					Item	
	UNITARY AIR CONDITIONERS (CONT'D)					
	Inverter window type cooling room cooler with / without remote, (refrigerant zero ODP), c/w aluminium supporting frame, stainless drain pan, all condensate drain pipework (size of drain pan to match with room cooler), all condensate drain pipework (size of drain pan to match with room cooler)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity :-					
	<i>Each</i>					
38304	Up to 2.8 kW	7,737.14	97.20	118.80	432.00	38304
38305	2.8 - 3.7 kW	9,283.85	118.80	140.40	518.40	38305
38306	3.7 - 4.6 kW	10,582.96	140.40	162.00	626.40	38306
38307	4.6 - 5.5 kW	12,260.15	162.00	194.40	745.20	38307
38308	5.5 - 6.5 kW	14,927.27	194.40	226.80	885.60	38308
	Internal mounted direct expansion fan coil unit for all fresh air intake with copper tube and aluminium fins, connection to VRV outdoor unit, c/w all necessary accessories. Opening outside condition are 33°C DB / 28°C WB for summer and 0°C DB / -2.9°C WB for winter					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling and heating capacity :-					
	<i>Each</i>					
38309	Up to 9 kW	35,028.47	1,196.77	1,504.28	2,145.33	38309
38310	9 kW - 16 kW	46,134.41	1,196.77	1,504.28	2,145.33	38310
38311	16 kW - 22 kW	62,931.91	1,657.91	2,241.72	3,195.71	38311
38312	22 kW - 28 kW	72,221.38	1,657.91	2,241.72	3,195.71	38312

Item					
	UNITARY AIR CONDITIONERS (CONT'D)				
	Cold room air conditioning unit (direct expansion type), indoor and outdoor unit c/w refrigerant (zero ODP), pipework not exceeding manufacturer's maximum permitted length, local control panel c/w 1 set point.				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Cold room of not less than 2.5 m height at 35°C ambient and indoor condition of 0°C - 4°C :-				
	<i>Each</i>				
38313	Cold room size up to 10 m ² (The actual rate should be : \$406,025.40 for Item 38313A)	40,602.54	1,481.54	1,943.50	6,518.24
38314	Cold room size 10 - 20 m ² (The actual rate should be : \$431,685.20 for Item 38314A)	43,168.52	1,694.83	2,150.30	7,085.92
38315	Cold room size 20 - 30 m ² (The actual rate should be : \$500,041.80 for Item 38315A)	50,004.18	1,970.30	2,421.54	7,699.05
38316	Cold room size 30 - 40 m ² (The actual rate should be : \$563,737.70 for Item 38316A)	56,373.77	2,138.43	2,665.29	8,349.90
38317	Cold room size 40 - 50 m ² (The actual rate should be : \$629,949.50 for Item 38317A)	62,994.95	2,393.03	2,860.70	8,932.92
38318	Cold room size 50 - 60 m ² (The actual rate should be : \$786,926.20 for Item 38318A)	78,692.62	2,544.87	3,166.01	9,502.00
	Air cooled rooftop unit c/w direct-driven, hermetic, scroll type compressor, centrifugal supply air fans, outdoor fans, motors, copper tube aluminium FC fins coil selection, 25 mm throwaway filters, temperature sensors, remote human interface, refrigerant (zero ODP) fully charged, emergency stop button, local control panel. Supply and fix with standard delivery and lifting method, such as using goods lifts of the building. (Remark: extra cost for delivery in case good lifts are not available shall be quoted separately)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Nominal air flow rate and (cooling capacity) :-				
	<i>Each</i>				
38319	2.3 m ³ /s (44 kW) to 2.9 m ³ /s (50 kW) (The actual rate should be : \$145,757.30 for Item 38319A)	14,575.73	1,246.49	2,742.30	5,009.57
38320	2.9 m ³ /s (50 kW) to 3.8 m ³ /s (69 kW) (The actual rate should be : \$170,084.20 for Item 38320A)	17,008.42	1,553.93	2,973.11	5,309.99
38321	3.8 m ³ /s (69 kW) to 4.3 m ³ /s (88 kW) (The actual rate should be : \$222,845.30 for Item 38321A)	22,284.53	1,864.01	3,216.08	5,624.48
38322	4.3 m ³ /s (88 kW) to 5.7 m ³ /s (126 kW) (The actual rate should be : \$276,098.90 for Item 38322A)	27,609.89	2,165.13	3,464.39	5,926.56
38323	5.7 m ³ /s (126 kW) to 6.8 m ³ /s (149 kW) (The actual rate should be : \$348,057.10 for Item 38323A)	34,805.71	2,473.74	3,710.52	7,459.79
38324	6.8 m ³ /s (149 kW) to 7.3 m ³ /s (160 kW) (The actual rate should be : \$380,765.30 for Item 38324A)	38,076.53	2,614.04	3,822.43	8,156.70

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT					
	Air handling units (chilled/ hot water) of copper tube aluminium fin cooling / heating coil, c/w double skin insulated galvanized iron casing, motor, blower, water pipe work, filter chamber, pre-filters and high efficiency filters, starters, thermostat/ humidistat, emergency stop button, probe type smoke detector, filter clog indicator, stainless steel drain pan, associated power and control wiring.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal air supply rate : -					
	Each					
38325	Up to 1 m ³ / s	51,119.96	295.74	438.51	1,342.70	38325
38326	1 - 2 m ³ / s	67,588.29	358.18	480.93	1,448.93	38326
38327	2 - 3 m ³ / s	87,477.63	371.22	554.48	1,609.53	38327
38328	3 - 4 m ³ / s	11,254.94	484.54	613.47	1,734.24	38328
	(The actual rate should be : \$112,549.40 for Item 38328A)					
38329	4 - 5 m ³ / s	12,968.92	537.35	667.40	1,839.13	38329
	(The actual rate should be : \$129,689.20 for Item 38329A)					
38330	5 - 6 m ³ / s	14,778.02	601.47	725.55	1,949.23	38330
	(The actual rate should be : \$147,780.20 for Item 38330A)					
	Add 13% to either of Items 38325 to 38330 using EC fan					
	Air handling units (chilled/ hot water) of copper tube aluminium fin cooling / heating coil, c/w double skin insulated galvanized iron casing, dual motors, blower, water pipe work, filter chamber, pre-filters and high efficiency filters, starters, thermostat/ humidistat, emergency stop button, probe type smoke detector, filter clog indicator, stainless steel drain pan, associated power and control wiring.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal air supply rate : -					
	Each					
38331	Up to 1 m ³ / s	64,656.69	295.74	438.51	1,342.70	38331
38332	1 - 2 m ³ / s	81,017.95	358.18	480.93	1,448.93	38332
38333	2 - 3 m ³ / s	10,116.93	371.22	554.48	1,609.53	38333
	(The actual rate should be : \$101,169.30 for Item 38333A)					
38334	3 - 4 m ³ / s	12,765.34	484.54	613.47	1,734.24	38334
	(The actual rate should be : \$127,653.40 for Item 38334A)					
38335	4 - 5 m ³ / s	14,414.82	537.35	667.40	1,839.13	38335
	(The actual rate should be : \$144,148.20 for Item 38335A)					
38336	5 - 6 m ³ / s	16,073.00	601.47	725.55	1,949.23	38336
	(The actual rate should be : \$160,730.00 for Item 38336A)					
	Add 13% to either of Items 38331 to 38336 using EC fan					

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	AHU system (multi zone control) of copper tube aluminium fin cooling / heating coil for energy saving (energy saving in design and during operation) and space saving (4 different temperatures of air can be supplied in one machine), c/w PU double skin cold insulated aluminium frame casing, 2-speed motor, centrifugal fans, pre-filter, medium filter, 1-4 zones supply air motorized damper, fresh air motorized damper, return air motorized damper, motorized water valve, fresh air temp. sensor, humidity sensor, room air temp. sensor, supply air temp. sensor, pressure switch, CCMS controller, associated power and control wiring					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal air supply rate : -					
	<i>Each</i>					
38337	Up to 2 m ³ /s (The actual rate should be : \$147,079.10 for Item 38337A)	14,707.91	492.32	680.10	2,365.17	38337
38338	2 - 4 m ³ /s (The actual rate should be : \$154,367.90 for Item 38338A)	15,436.79	594.36	824.57	2,454.08	38338
38339	4 - 6 m ³ /s (The actual rate should be : \$180,639.40 for Item 38339A)	18,063.94	762.00	944.54	2,684.88	38339
38340	6 - 8 m ³ /s (The actual rate should be : \$220,650.20 for Item 38340A)	22,065.02	805.15	1,001.10	2,862.81	38340
38341	8 - 10 m ³ /s (The actual rate should be : \$256,247.60 for Item 38341A)	25,624.76	871.48	1,050.95	3,016.07	38341
38342	10 - 14 m ³ /s (The actual rate should be : \$302,695.50 for Item 38342A)	30,269.55	905.70	1,108.61	3,225.51	38342
	Add 13% to either of Items 38337 to 38342 using EC fan					
	Dehumidifier heat pipes of 2 rows copper tube aluminium fin coils, c/w zero ODP refrigerant, galvanised steel frame, G.I. steel casing, coating and condensate pans : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38343	2.8 - 9.3 m ²	37,395.20	216.65	321.79	1,008.12	38343
38344	9.3 - 16.3 m ²	43,051.18	263.12	350.71	1,097.90	38344
38345	16.3 - 21 m ²	48,108.74	271.45	402.09	1,217.64	38345
38346	21 - 25.6 m ²	55,069.29	356.44	446.28	1,313.78	38346
38347	25.6 - 28 m ²	57,089.83	395.32	487.15	1,396.47	38347

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Dehumidifier, wall/ ceiling mounted with drainage connection of daily moisture removal capacity : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38348	Up to 15 litres	12,472.87	434.02	465.38	1,173.10	38348
38349	15 - 30 litres	52,402.31	480.79	520.56	1,458.39	38349
38350	30 - 60 litres	70,629.14	523.64	571.94	1,635.19	38350
	<i>Each</i>					
	Dehumidifier, ceiling cassette type with drainage connection of daily moisture removal capacity : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38351	Up to 15 litres	1,998.69	434.02	465.38	1,173.10	38351
38352	15 - 30 litres	8,397.10	480.79	520.56	1,458.39	38352
38353	30 - 60 litres	11,317.81	523.64	571.94	1,635.19	38353
	<i>Each</i>					
	Computer room air conditioning unit (chilled water type), unit shall consist of copper pipes and aluminium fins, with electrode boiler humidifier, electric reheat, microprocessor control with local alarm and BMS interface provisions, high efficient filter, local control panel. Operating cooling capacity rated at 7°C/ 12.5°C chilled water in/ out temperature and 22°C, 50% RH.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cooling capacity : -					
	<i>Each</i>					
38354	Up to 15 kW	77,343.52	1,249.87	1,568.01	5,371.68	38354
38355	15 - 33 kW	10,369.75	1,499.89	2,081.62	6,139.01	38355
	(The actual rate should be : \$103,697.50 for Item 38355A)					
38356	33 - 64 kW	13,710.85	1,746.36	2,608.85	6,895.92	38356
	(The actual rate should be : \$137,108.50 for Item 38356A)					
38357	64 - 100 kW	18,286.51	1,995.58	3,121.16	7,634.39	38357
	(The actual rate should be : \$182,865.10 for Item 38357A)					
38358	100 - 150 kW	25,850.00	2,341.71	3,832.72	8,660.05	38358
	(The actual rate should be : \$258,500.00 for Item 38358A)					
	Add 10% to either of Items 38354 to 38358 using EC fan					

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Air purifier unit, corona discharge type, c/w local control panel, removable electrode tubes, painted heavy steel power generator, remote control with regulator, stainless steel casing, fuse, on/ off switch, safety door switches, auto-off-manual switch, hour run meter, ampere meter, power electrode assemblies.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal air supply rate : -					
	<i>Each</i>					
38359	Up to 0.5 m ³ / s	15,301.30	103.61	174.04	795.64	38359
38360	0.5 - 1 m ³ / s	22,660.54	110.60	181.48	835.54	38360
38361	1 - 2 m ³ / s	33,850.48	117.27	188.30	905.86	38361
38362	2 - 3 m ³ / s	65,128.06	124.16	195.16	956.09	38362
38363	3 - 4 m ³ / s	87,289.76	127.89	198.98	1,024.99	38363
38364	4 - 5 m ³ / s	10,846.14	131.57	202.56	1,084.53	38364
	(The actual rate should be : \$108,461.40 for Item 38364A)					
38365	5 - 6 m ³ / s	12,921.36	138.45	209.59	1,182.09	38365
	(The actual rate should be : \$129,213.60 for Item 38365A)					
38366	6 - 7 m ³ / s	14,040.00	151.20	237.60	1,296.00	38366
	(The actual rate should be : \$140,400.00 for Item 38366A)					
38367	7 - 8 m ³ / s	16,200.00	172.80	280.80	1,512.00	38367
	(The actual rate should be : \$162,000.00 for Item 38367A)					
38368	8 - 9 m ³ / s	19,440.00	205.20	334.80	1,728.00	38368
	(The actual rate should be : \$194,400.00 for Item 38368A)					
38369	9 - 10 m ³ / s	22,680.00	237.60	399.60	2,052.00	38369
	(The actual rate should be : \$226,800.00 for Item 38369A)					

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Ultra violet sterilizer; factory assembled and tested, capable of killing airborne microbial contaminants with 90% of removal efficiency, UV lamps with control circuit, power generator, lamp support and inspection, access door with safety switch, manual control and CCMS control, local control panel, on/ off switch, overload protective device, auto-off-manual switch, hour run meter, ampere meter.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal air supply rate : -					
	<i>Per set</i>					
38370	Up to 0.5 m ³ / s	17,633.30	80.28	133.83	721.55	38370
38371	0.5 - 1 m ³ / s	22,851.96	104.39	147.21	770.45	38371
38372	1 - 2 m ³ / s	30,095.70	116.47	188.78	872.54	38372
38373	2 - 3 m ³ / s	50,835.73	136.44	225.16	924.84	38373
38374	3 - 4 m ³ / s	59,329.03	154.87	259.38	988.67	38374
38375	4 - 5 m ³ / s	80,494.39	172.08	269.19	1,038.66	38375
38376	5 - 6 m ³ / s	89,058.74	193.60	316.87	1,072.54	38376
38377	6 - 7 m ³ / s	97,200.00	216.00	356.40	1,188.00	38377
38378	7 - 8 m ³ / s	11,880.00	259.20	432.00	1,404.00	38378
	(The actual rate should be : \$118,800.00 for Item 38378A)					
38379	8 - 9 m ³ / s	14,040.00	302.40	518.40	1,620.00	38379
	(The actual rate should be : \$140,400.00 for Item 38379A)					
38380	9 - 10 m ³ / s	16,200.00	367.20	615.60	1,944.00	38380
	(The actual rate should be : \$162,000.00 for Item 38380A)					
	Air pressure stabilizer / air pressure control valves, imported proprietary manufacture, c/w high speed sealed-for-life ball bearings, adjustable centrally located balance weight mechanism.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Blade size 300 - 430 mm for number of : -					
	<i>Per set</i>					
38381	1 blade	8,548.65	141.42	146.29	544.55	38381
38382	2 blades	14,662.07	149.59	155.87	627.13	38382
38383	3 blades	21,778.18	152.44	165.87	711.64	38383
38384	4 blades	28,864.36	169.49	180.73	746.23	38384
38385	5 blades	37,252.55	179.09	197.61	794.55	38385

Item					Item
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)				
	Air pressure stabilizer / air pressure control valves, imported proprietary manufacture, c/w high speed sealed-for-life ball bearings, adjustable centrally located balance weight mechanism. (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Blade size 430 - 610 mm for number of : -				
	<i>Per set</i>				
38386	1 blade	16,785.37	137.59	146.56	539.15
38387	2 blades	23,711.15	147.88	161.56	624.11
38388	3 blades	31,477.65	151.50	165.74	753.03
38389	4 blades	39,472.47	158.00	180.14	781.50
38390	5 blades	47,715.57	164.46	197.51	837.31
	2-hour fire rated; blade size 300 - 430 mm for number of : -				
	<i>Per set</i>				
38391	1 blade	13,528.68	141.42	146.29	544.55
38392	2 blades	24,665.35	149.59	155.87	627.13
38393	3 blades	36,099.43	152.44	165.87	711.64
38394	4 blades	45,585.59	169.49	180.73	746.23
38395	5 blades	59,738.69	179.09	197.61	794.55
	2-hour fire rated; blade size 430 - 610 mm for number of : -				
	<i>Per set</i>				
38396	1 blade	27,519.94	137.59	146.56	539.15
38397	2 blades	37,245.47	147.88	161.56	624.11
38398	3 blades	49,429.43	151.50	165.74	753.03
38399	4 blades	61,266.06	158.00	180.14	781.50
38400	5 blades	74,610.01	164.46	197.51	837.31

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chilled water fan-coil units of 2 rows copper tube aluminium fin cooling coils, c/w stepless DC fan motor(s), thermostat, controller, filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted, concealed type c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38401	Up to 0.095 m ³ / s	9,313.12	160.67	277.52	1,095.48	38401
38402	0.095 - 0.141 m ³ / s	10,058.16	189.89	321.34	1,168.51	38402
38403	0.141 - 0.192 m ³ / s	12,687.97	233.71	350.55	1,241.54	38403
38404	0.192 - 0.284 m ³ / s	12,552.24	262.92	394.37	1,314.57	38404
38405	0.284 - 0.384 m ³ / s	13,197.06	328.65	438.19	1,387.61	38405
38406	0.384 - 0.479 m ³ / s	12,539.18	379.77	482.01	1,460.64	38406
38407	0.479 - 0.565 m ³ / s	13,010.25	423.58	511.22	1,533.67	38407
38408	0.565 - 0.665 m ³ / s	14,735.65	467.40	584.26	1,606.70	38408
	Chilled water fan-coil units of 3 rows copper tube aluminium fin cooling coils, c/w stepless DC fan motor(s), thermostat, controller, filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted, concealed type c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38409	Up to 0.095 m ³ / s	9,685.64	175.27	292.13	1,168.51	38409
38410	0.095 - 0.141 m ³ / s	10,430.68	219.10	350.55	1,241.54	38410
38411	0.141 - 0.192 m ³ / s	13,322.38	262.92	379.77	1,314.57	38411
38412	0.192 - 0.284 m ³ / s	13,122.80	306.74	408.98	1,387.61	38412
38413	0.284 - 0.384 m ³ / s	13,746.94	350.55	482.01	1,460.64	38413
38414	0.384 - 0.479 m ³ / s	13,021.45	394.37	511.22	1,533.67	38414
38415	0.479 - 0.565 m ³ / s	13,320.01	438.19	555.04	1,606.70	38415
38416	0.565 - 0.665 m ³ / s	15,196.14	511.22	598.87	1,679.73	38416

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chilled water fan-coil units of 4 rows copper tube aluminium fin cooling coils, c/w stepless DC fan motor(s), thermostat, controller, filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted, concealed type c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38417	Up to 0.095 m ³ / s	9,871.91	219.10	321.34	1,241.54	38417
38418	0.095 - 0.141 m ³ / s	10,616.93	262.92	379.77	1,314.57	38418
38419	0.141 - 0.192 m ³ / s	13,745.30	306.74	408.98	1,387.61	38419
38420	0.192 - 0.284 m ³ / s	13,693.35	350.55	482.01	1,460.64	38420
38421	0.284 - 0.384 m ³ / s	14,296.82	394.37	511.22	1,533.67	38421
38422	0.384 - 0.479 m ³ / s	13,342.98	438.19	555.04	1,606.70	38422
38423	0.479 - 0.565 m ³ / s	13,629.79	511.22	598.87	1,679.73	38423
38424	0.565 - 0.665 m ³ / s	16,577.62	555.04	657.29	1,752.77	38424
	Chilled water fan-coil units of 4 rows copper tube aluminium fin cooling coils, c/w filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, thermostat c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted, surface mounted c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38425	Up to 0.095 m ³ / s	9,566.88	158.52	288.24	921.29	38425
38426	0.095 - 0.142 m ³ / s	10,113.11	196.98	330.28	978.33	38426
38427	0.142 - 0.190 m ³ / s	12,451.20	240.69	361.08	1,016.99	38427
38428	0.190 - 0.284 m ³ / s	13,085.80	270.85	399.34	1,132.89	38428
38429	0.284 - 0.378 m ³ / s	14,411.07	336.34	427.43	1,188.35	38429
38430	0.378 - 0.473 m ³ / s	17,387.26	337.87	466.86	1,309.17	38430
38431	0.473 - 0.567 m ³ / s	18,303.82	379.82	507.42	1,389.62	38431
38432	0.567 - 0.659 m ³ / s	19,596.01	415.46	548.49	1,445.38	38432

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chilled water fan-coil units of 4 rows copper tube aluminium fin cooling coils, c/w filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, thermostat c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately) (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted fan coil unit, concealed type without casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38433	Up to 0.095 m ³ / s	6,705.26	182.01	308.96	963.58	38433
38434	0.095 - 0.142 m ³ / s	7,211.70	223.89	355.87	1,012.93	38434
38435	0.142 - 0.190 m ³ / s	8,736.35	267.28	395.24	1,061.21	38435
38436	0.190 - 0.284 m ³ / s	9,087.82	332.49	441.99	1,186.68	38436
38437	0.284 - 0.378 m ³ / s	9,729.62	351.96	474.13	1,237.11	38437
38438	0.378 - 0.473 m ³ / s	10,309.66	360.75	513.27	1,361.38	38438
38439	0.473 - 0.567 m ³ / s	10,775.69	402.51	552.88	1,443.21	38439
38440	0.567 - 0.659 m ³ / s	11,459.02	452.10	590.98	1,516.34	38440
	Vertical floor/ wall mounted fan coil unit, surface mounting c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38441	Up to 0.095 m ³ / s	9,711.26	100.57	216.55	838.61	38441
38442	0.095 - 0.142 m ³ / s	10,151.11	141.67	255.26	889.02	38442
38443	0.142 - 0.190 m ³ / s	12,446.52	164.63	286.34	926.11	38443
38444	0.190 - 0.284 m ³ / s	12,826.94	195.47	325.63	1,037.95	38444
38445	0.284 - 0.378 m ³ / s	14,034.33	230.67	353.50	1,095.79	38445
38446	0.378 - 0.473 m ³ / s	16,429.65	263.90	393.52	1,208.76	38446
38447	0.473 - 0.567 m ³ / s	17,084.80	306.89	433.52	1,288.21	38447
38448	0.567 - 0.659 m ³ / s	18,243.45	343.59	475.18	1,341.43	38448

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chilled water fan-coil units of 4 rows copper tube aluminium fin cooling coils, c/w filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, thermostat c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately) (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Vertical floor/ wall mounted fan coil unit, concealed type, without casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38449	Up to 0.095 m ³ / s	8,109.82	120.70	252.45	878.71	38449
38450	0.095 - 0.142 m ³ / s	8,939.80	159.66	287.03	938.17	38450
38451	0.142 - 0.190 m ³ / s	10,744.87	203.57	334.55	978.17	38451
38452	0.190 - 0.284 m ³ / s	11,245.71	234.53	365.59	1,092.73	38452
38453	0.284 - 0.378 m ³ / s	11,844.25	269.65	396.22	1,149.87	38453
38454	0.378 - 0.473 m ³ / s	13,157.23	303.20	440.38	1,267.98	38454
38455	0.473 - 0.567 m ³ / s	13,562.64	346.12	474.42	1,348.56	38455
38456	0.567 - 0.659 m ³ / s	14,575.71	385.86	523.18	1,403.75	38456
	Chiller water fan-coil units of 3 rows copper tube aluminium fin cooling coils, c/w filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, thermostat c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted, surface mounted c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38457	Up to 0.095 m ³ / s	8,610.19	142.67	259.44	829.17	38457
38458	0.095 - 0.142 m ³ / s	9,101.80	177.27	297.26	880.51	38458
38459	0.142 - 0.190 m ³ / s	11,206.09	216.63	324.97	915.29	38459
38460	0.190 - 0.284 m ³ / s	11,777.22	243.79	359.42	1,019.60	38460
38461	0.284 - 0.378 m ³ / s	12,969.97	302.72	384.69	1,069.52	38461
38462	0.378 - 0.473 m ³ / s	15,648.52	304.08	420.17	1,178.26	38462
38463	0.473 - 0.576 m ³ / s	16,473.43	341.84	456.67	1,250.66	38463
38464	0.576 - 0.659 m ³ / s	17,636.41	373.91	493.65	1,300.83	38464

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chiller water fan-coil units of 3 rows copper tube aluminium fin cooling coils, c/w filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, thermostat c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately) (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted fan coil unit, concealed type without casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38465	Up to 0.095 m ³ /s	6,034.74	163.80	278.08	867.22	38465
38466	0.095 - 0.142 m ³ /s	6,490.52	201.50	320.28	911.64	38466
38467	0.142 - 0.190 m ³ /s	7,862.72	240.57	355.71	955.08	38467
38468	0.190 - 0.284 m ³ /s	8,179.03	299.24	397.79	1,068.02	38468
38469	0.284 - 0.378 m ³ /s	8,756.66	316.76	426.70	1,113.40	38469
38470	0.378 - 0.473 m ³ /s	9,278.70	324.68	461.93	1,225.25	38470
38471	0.473 - 0.576 m ³ /s	9,698.13	362.27	497.58	1,298.89	38471
38472	0.576 - 0.659 m ³ /s	10,313.13	406.89	531.87	1,364.71	38472
	Vertical floor / wall mounted fan coil unit, surface mounting c/w casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38473	Up to 0.095 m ³ /s	8,740.14	90.51	194.90	754.74	38473
38474	0.095 - 0.142 m ³ /s	9,136.00	127.51	229.74	800.11	38474
38475	0.142 - 0.190 m ³ /s	11,201.86	148.17	257.72	833.51	38475
38476	0.190 - 0.284 m ³ /s	11,544.27	175.94	293.07	934.15	38476
38477	0.284 - 0.378 m ³ /s	12,630.89	207.58	318.14	986.22	38477
38478	0.378 - 0.473 m ³ /s	14,786.67	237.49	354.19	1,087.87	38478
38479	0.473 - 0.576 m ³ /s	15,376.32	276.21	390.18	1,159.39	38479
38480	0.576 - 0.659 m ³ /s	16,419.12	309.22	427.68	1,207.29	38480

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chiller water fan-coil units of 3 rows copper tube aluminium fin cooling coils, c/w filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, thermostat c/w digital temperature and speed control/ indicating heating (if required) (main chilled water distribution pipes to be measured separately) (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Vertical floor / wall mounted fan coil unit, concealed type without casing with nominal supply air rate at medium speed : -					
	<i>Each</i>					
38481	Up to 0.095 m ³ / s	7,298.85	108.62	227.22	790.85	38481
38482	0.095 - 0.142 m ³ / s	8,045.83	143.69	258.33	844.35	38482
38483	0.142 - 0.190 m ³ / s	9,670.37	183.22	301.10	880.36	38483
38484	0.190 - 0.284 m ³ / s	10,121.15	211.07	329.02	983.46	38484
38485	0.284 - 0.378 m ³ / s	10,659.82	242.68	356.61	1,034.87	38485
38486	0.378 - 0.473 m ³ / s	11,841.51	272.87	396.35	1,141.19	38486
38487	0.473 - 0.567 m ³ / s	12,206.38	311.52	426.99	1,213.71	38487
38488	0.567 - 0.659 m ³ / s	13,118.15	347.26	470.87	1,263.39	38488
	Chilled water fan-coil unit of cassette type, c/w condensate drain pump, overflow indication and alarm, 10 m insulated condensate drain pipes, chilled water pipes, condensate pans, coils, filters, face panel with discharge and return air grilles, ceiling mounted with nominal supply air rate at medium speed : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38489	Up to 0.17 m ³ / s	11,444.41	192.68	324.30	990.28	38489
38490	0.17 - 0.2 m ³ / s	12,992.93	256.68	388.71	1,134.32	38490
38491	0.2 - 0.34 m ³ / s	13,305.34	351.61	453.95	1,228.99	38491
38492	0.34 - 0.5 m ³ / s	13,710.02	385.19	518.59	1,416.64	38492

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Chilled water fan-coil unit of cassette type, c/w built-in heater, overheat protection device, condensate drain pump, overflow indication and alarm, face panel with discharge and return air grilles, coils, filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, ceiling mounted with nominal supply air rate at medium speed : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38493	<i>Each</i> Up to 0.17 m ³ /s	11,967.05	198.80	324.30	923.37	38493
38494	0.17 - 0.2 m ³ /s	13,244.17	256.68	388.71	1,080.49	38494
38495	0.2 - 0.34 m ³ /s	13,739.76	320.92	453.95	1,228.99	38495
38496	0.34 - 0.5 m ³ /s	14,423.03	385.19	518.59	1,322.62	38496
	Chilled water fan-coil unit of cassette type, c/w stepless DC fan motor(s), condensate drain pump, overflow indication and alarm, 10 m insulated condensate drain pipes, chilled water pipes, condensate pans, coils, filters, face panel with discharge and return air grilles, ceiling mounted with nominal supply air rate at medium speed : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38497	<i>Each</i> Up to 0.17 m ³ /s	12,540.00	198.80	324.30	923.37	38497
38498	0.17 - 0.2 m ³ /s	14,820.00	256.68	388.71	1,080.49	38498
38499	0.2 - 0.34 m ³ /s	17,100.00	320.92	453.95	1,228.99	38499
38500	0.34 - 0.5 m ³ /s	20,520.00	385.19	518.59	1,322.62	38500
	Chilled water fan-coil unit of cassette type, c/w stepless DC fan motor(s), built-in heater, overheat protection device, condensate drain pump, overflow indication and alarm, face panel with discharge and return air grilles, coils, filters, 10 m insulated condensate drain pipes, chilled water pipes and condensate pans, ceiling mounted with nominal supply air rate at medium speed : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38501	<i>Each</i> Up to 0.17 m ³ /s	14,820.00	198.80	324.30	923.37	38501
38502	0.17 - 0.2 m ³ /s	17,100.00	256.68	388.71	1,080.49	38502
38503	0.2 - 0.34 m ³ /s	20,520.00	320.92	453.95	1,228.99	38503
38504	0.34 - 0.5 m ³ /s	23,940.00	385.19	518.59	1,322.62	38504

Item						Item
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Fan coil unit controller : -					
	<i>Each</i>					
38505	Fan coil unit controller c/w thermostat, temperature and speed control/ indicating, and all necessary accessories	728.98	15.83	19.55	91.33	38505
	Stainless steel 316 panel housing; weatherproof type : -					
	<i>Each</i>					
38506	Weatherproof sheet metal box/ panel c/ w contactors, fused spur units, cable terminals, mounting din rails for fan coil units	2,737.73	104.48	181.41	407.73	38506
	Chilled water fresh air pretreating unit c/w blower, blower motor, cooling/ heating coil of copper tube resin coated aluminium fins, double skin casing, insulated drip pan, thermostats/ humidistat, filter chamber and filters, starter, emergency stop button, probe type smoke detector, filter clog indicator, chilled water pipework (main chilled water distribution pipes to be measured separately)					
	Nominal supply air rate at medium speed : -					
	<i>Each</i>					
38507	Up to 1 m ³ / s	48,802.74	326.10	452.63	1,213.97	38507
38508	1 - 2 m ³ / s	66,165.98	445.60	630.07	1,695.53	38508
38509	2 - 3 m ³ / s	74,408.31	502.12	711.72	1,904.98	38509
38510	3 - 4 m ³ / s	99,277.22	650.61	930.88	2,500.13	38510
38511	4 - 5 m ³ / s	11,443.99	745.20	1,060.55	2,854.78	38511
	(The actual rate should be : \$114,439.90 for Item 38511A)					
38512	5 - 6 m ³ / s	12,751.82	853.60	1,196.26	3,241.62	38512
	(The actual rate should be : \$127,518.20 for Item 38512A)					
38513	6 - 7 m ³ / s	16,200.00	972.00	1,404.00	3,780.00	38513
	(The actual rate should be : \$162,000.00 for Item 38513A)					
38514	7 - 8 m ³ / s	20,520.00	1,296.00	1,728.00	4,536.00	38514
	(The actual rate should be : \$205,200.00 for Item 38514A)					
38515	8 - 9 m ³ / s	24,840.00	1,620.00	2,052.00	5,400.00	38515
	(The actual rate should be : \$248,400.00 for Item 38515A)					
38516	9 - 10 m ³ / s	30,240.00	1,944.00	2,484.00	6,480.00	38516
	(The actual rate should be : \$302,400.00 for Item 38516A)					

Item					Item	
AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)						
Variable air volume equipment						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
VAV linear diffuser with acoustic air boot : -						
<i>Each</i>						
38517	Up to 0.1 m ³ / s	635.66	7.64	9.36	64.34	38517
38518	0.1 - 0.2 m ³ / s	738.76	8.46	10.03	65.87	38518
38519	0.2 - 0.3 m ³ / s	887.61	9.06	10.64	68.59	38519
38520	0.3 - 0.4 m ³ / s	1,010.84	9.75	11.54	71.39	38520
VAV diffuser of all shape c/w thermo actuator, constructed of pressed mild steel sheet with powder coating finish, auto air flow adjustment from 30% to 100% for normal flow rate only of neck size : -						
<i>Each</i>						
38521	Up to 0.018 m ²	6,950.66	84.05	169.27	486.89	38521
38522	0.018 - 0.032 m ²	7,280.38	85.83	171.48	492.18	38522
38523	0.032 - 0.051 m ²	7,569.47	87.60	173.75	498.42	38523
38524	0.051 - 0.073 m ²	7,876.20	89.42	176.10	503.39	38524
VAV multi-outlet air distribution box (octopus) connected to terminal box and ductwork : -						
<i>Each</i>						
38525	Up to 0.3 m ³ / s	443.30	9.45	11.19	71.24	38525
38526	0.3 - 0.4 m ³ / s	506.97	11.19	12.77	73.99	38526
38527	0.4 - 0.5 m ³ / s	549.70	12.63	14.45	76.83	38527
38528	0.5 - 0.6 m ³ / s	606.23	14.20	15.99	79.67	38528
VAV thermostatic controller : -						
<i>Each</i>						
38529	VAV thermostatic controller c/w all necessary accessories	-	16.83	-	-	38529

Item						Item
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Variable air volume equipment (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	VAV/ CAV terminal box c/w insulation, acoustical baffles, damper regulating controller and damper actuator : -					
	<i>Each</i>					
38530	Up to 0.3 m ³ / s	7,568.71	79.35	151.69	469.47	38530
38531	0.3 - 0.4 m ³ / s	8,094.34	80.67	153.69	475.46	38531
38532	0.4 - 0.5 m ³ / s	8,667.80	82.11	155.09	478.19	38532
38533	0.5 - 0.6 m ³ / s	8,768.69	83.52	156.55	484.35	38533
	Dry steam humidifier, steam injection type using electric elements/ electrodes, automatic water level control, overflow protection and drain connection.					
	<i>Each</i>					
38534	Up to 15 kg/ hr	47,873.46	228.49	230.87	572.84	38534
38535	15 - 30 kg/ hr	60,302.31	285.53	288.50	648.00	38535
38536	30 - 60 kg/ hr	84,052.96	342.46	346.01	718.47	38536
	Window / wall mounted paper plate type fresh air pre-conditioner c/w motor and 2 fans, non-flammable heat exchange element, air supply/ exhaust pipes, remote controller, a fresh air and washable air filters in both fresh and weatherproof covers in exhaust streams, casings and mounting; hinged access openable panel and outdoor-air shutter.					
	<i>Each</i>					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38537	65 m ³ / hr - 105 m ³ / hr	6,088.66	299.55	316.06	1,237.30	38537
38538	105 m ³ / hr – 200 m ³ / hr	9,551.30	365.16	379.77	1,460.64	38538

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Desiccant type fresh air pre-conditioner c/w total energy wheel with desiccant coating, an exhaust fan motor, flanged collars, a fresh air and washable air filters in both fresh and exhaust streams, casings and mounting; hinged access openable panel.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal supply air rate at medium speed : -					
	<i>Each</i>					
38539	Up to 0.125 m ³ /s	21,610.18	299.55	316.06	1,014.66	38539
38540	0.125 - 0.25 m ³ /s	29,079.15	379.95	395.48	1,045.42	38540
38541	0.25 - 0.5 m ³ /s	57,037.64	399.29	422.21	1,091.42	38541
38542	0.5 - 0.8 m ³ /s	70,158.80	410.00	444.16	1,114.94	38542
38543	0.8 - 1.4 m ³ /s	11,098.46	420.53	455.06	1,142.61	38543
	(The actual rate should be : \$110,984.60 for Item 38543A)					
38544	1.4 - 2 m ³ /s	14,842.07	431.59	465.66	1,170.21	38544
	(The actual rate should be : \$148,420.70 for Item 38544A)					
38545	2 - 2.9 m ³ /s	16,601.92	442.18	476.84	1,198.06	38545
	(The actual rate should be : \$166,019.20 for Item 38545A)					
38546	2.9 - 3.6 m ³ /s	19,580.36	453.38	488.37	1,225.69	38546
	(The actual rate should be : \$195,803.60 for Item 38546A)					
	Paper plate type fresh air pre-conditioner c/w supply air fan, non-flammable heat exchange element, exhaust air fan and resin set (washable) filter, motor, flanged collars, indoor and outdoor temperature sensors, remote controller.					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted ducted type, nominal supply air rate at medium speed : -					
	<i>Each</i>					
38547	Up to 0.05 m ³ /s	24,090.56	386.90	459.39	1,522.37	38547
38548	0.05 - 0.25 m ³ /s	45,050.05	453.75	535.97	1,733.04	38548
38549	0.25 - 0.5 m ³ /s	82,777.14	537.27	631.69	1,996.39	38549
38550	0.5 - 0.8 m ³ /s	10,026.35	637.52	746.55	2,312.41	38550
	(The actual rate should be : \$100,263.50 for Item 38550A)					
38551	0.8 - 1.4 m ³ /s	12,887.76	731.23	872.95	2,669.81	38551
	(The actual rate should be : \$128,877.60 for Item 38551A)					
38552	1.4 - 2 m ³ /s	16,702.98	851.26	985.70	3,025.83	38552
	(The actual rate should be : \$167,029.80 for Item 38552A)					
38553	2 - 2.9 m ³ /s	21,472.00	944.56	1,078.16	3,290.36	38553
	(The actual rate should be : \$214,720.00 for Item 38553A)					
38554	2.9 - 3.6 m ³ /s	26,558.94	1,094.66	1,211.07	3,630.62	38554
	(The actual rate should be : \$265,589.40 for Item 38554A)					
	Add 13% to either of Items 38547 to 38554 using EC fan					

Item					Item	
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Thermostat and humidistat : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38555	Space thermostat/ controller c/w wiring, conduit and necessary accessories	388.90	9.63	11.98	61.09	38555
38556	Space thermostat/ controller with digital setting and monitoring display c/w wiring, conduit and all functional accessories	838.20	9.63	11.98	61.09	38556
38557	Space humidistat c/w wiring, conduit and necessary accessories	382.92	9.63	11.98	61.09	38557
	Electrostatic precipitator c/w galvanized sheet metal housing, auto clean electrostatic filter c/w ioniser collector section and motorized washer/ adhesive applicator section, solenoid valve, manifold drive motor, manifold limit switch, timer control with field adjustable timer and timer bypass switch, access door with indicating light, internal panel with LED lights and digital readout, at least 10 to 15 steps of output voltage adjustment, remote relays, power supply indicating lamps, circuit breaker, manual reset button, time delay safety type door interlock switches : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Nominal air supply rate : -					
	Each					
38558	Up to 1.5 m ³ / s	40,807.57	1,454.39	2,219.01	7,775.30	38558
38559	1.5 - 3 m ³ / s	54,819.74	1,761.27	2,610.05	8,764.16	38559
38560	3 - 4.5 m ³ / s	75,438.57	2,132.93	3,070.03	9,878.79	38560
38561	4.5 - 6 m ³ / s	85,947.71	2,583.03	3,611.04	11,135.16	38561
38562	6 - 9 m ³ / s	11,941.10	3,128.08	4,247.40	12,551.33	38562
	(The actual rate should be : \$119,411.00 for Item 38562A)					
38563	9 - 12 m ³ / s	13,926.16	3,891.16	5,138.29	14,533.95	38563
	(The actual rate should be : \$139,261.60 for Item 38563A)					
38564	12 - 15 m ³ / s	16,845.38	4,578.06	6,091.77	16,329.49	38564
	(The actual rate should be : \$168,453.80 for Item 38564A)					
	Thermo ventilator					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ceiling mounted thermo ventilator c/w PTC heater, fan motors shall have minimum 2-step air flow rate changeover and c/w a remote controller of on/ off, 'Hi/ Lo speed operation, adjustable air direction, timer, filters, including all supporting framework and all necessary accessories : -					
	Each					
38565	Minimum air flow rate 175 m ³ / hr	2,405.17	79.21	99.75	403.29	38565

Item						Item
	AIR HANDLING & TREATMENT EQUIPMENT (CONT'D)					
	Portable type air-conditioner					
	Portable type air-conditioner using refrigerant R410A, fan motors shall have 'minimum 2-step air flow rate changeover and c/w a remote controller of on/ off, 'Hi/ Lo' speed operation, timer, filters, casters : -					
	Cooling capacity : -					
	<i>Each</i>					
38566	Up to 3.0 kW	1,560.73	31.35	39.21	114.29	38566
38567	3.0 to 4.4 kW	1,938.00	31.35	39.21	114.29	38567
	WATER TANK AND ACCESSORIES					
	Water tank					
	Sheet metal water tank (feed & expansion) c/w ball valve, vent, overflow, drain and mild steel support, anti-rust painting & accessories of effective water capacity : -					
	<i>Each</i>					
38568	Up to 250 litres	10,600.47	143.36	251.31	1,017.84	38568
38569	250 litres - 350 litres	11,675.39	178.70	288.93	1,147.56	38569
38570	350 litres - 500 litres	15,375.65	214.38	324.69	1,269.13	38570
	Reinforced fiberglass water tank (feed & expansion) c/w ball valve, vent, overflow, drain and mild steel support, painting & accessories of effective water capacity : -					
	<i>Each</i>					
38571	Up to 250 litres	6,536.01	199.24	322.08	1,141.45	38571
38572	250 litres - 350 litres	11,400.28	248.36	370.28	1,286.93	38572
38573	350 litres - 500 litres	11,989.29	297.94	416.12	1,423.25	38573
	Water level controller : -					
	<i>Each</i>					
38574	Three water level controller for water tank for pump control and alarm c/w probes, contacts, wiring and electrical connection to pump control panel and accessories	1,956.36	79.54	143.10	238.27	38574

Item						Item
	WATER TANK AND ACCESSORIES (CONT'D)					
	Chilled water differential pressure by-pass valve system					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38575	<i>Each</i> Chilled water differential pressure by-pass valve system c/w 80 dia. ball valve comprise of modulating actuator with signal output & pressure controller	15,637.82	203.82	304.29	1,251.76	38575
	PUMP & ACCESSORIES					
	Centrifugal fresh water pump for non-portable application, horizontal split casing type, c/w motor, drain and vent, starters and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38576	<i>Each</i> Up to 2.5 kW	26,583.43	120.85	163.09	886.79	38576
38577	2.5 - 5 kW	28,929.04	124.89	167.23	941.89	38577
38578	5 - 10 kW	52,124.05	130.90	173.46	1,024.54	38578
38579	10 - 15 kW	60,134.28	138.94	181.76	1,134.75	38579
38580	15 - 20 kW	68,168.13	147.08	189.29	1,322.28	38580
38581	20 - 30 kW	76,638.26	155.32	198.19	1,450.99	38581
	Centrifugal salt water pump, horizontal split casing type, c/w motor, drain and vent, starters and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38582	<i>Each</i> Up to 2.5 kW	46,130.08	120.85	163.09	886.79	38582
38583	2.5 - 5 kW	47,693.81	124.89	167.23	941.89	38583
38584	5 - 10 kW	61,753.74	130.90	173.46	1,024.54	38584
38585	10 - 15 kW	72,403.65	138.94	181.76	1,134.75	38585
38586	15 - 20 kW	80,509.38	147.08	189.29	1,322.28	38586
38587	20 - 30 kW	89,012.99	155.32	198.19	1,450.99	38587
38588	30 - 50 kW	98,651.03	163.58	205.95	1,580.73	38588

Item					Item	
	PUMP & ACCESSORIES (CONT'D)					
	Fresh water pump for portable application, vertical multi-stage centrifugal type, c/w motor, drain and vent, starters and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38589	Up to 2.5 kW	34,759.90	120.85	163.09	886.79	38589
38590	2.5 - 5 kW	41,590.70	124.89	167.23	941.89	38590
38591	5 - 10 kW	75,553.46	130.90	173.46	1,024.54	38591
38592	10 - 15 kW	10,276.74	138.94	181.76	1,134.75	38592
	(The actual rate should be : \$102,767.40 for Item 38592A)					
38593	15 - 20 kW	12,328.18	147.08	189.29	1,322.28	38593
	(The actual rate should be : \$123,281.80 for Item 38593A)					
38594	20 - 30 kW	19,117.10	155.32	198.19	1,450.99	38594
	(The actual rate should be : \$191,171.00 for Item 38594A)					
	Fresh water pump for non-portable application, vertical spindle type centrifugal type, multi-stage configuration (if required), c/w motor, drain and vent, starters and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38595	Up to 2.5 kW	21,381.32	120.85	163.09	886.79	38595
38596	2.5 - 5 kW	31,513.32	124.89	167.23	941.89	38596
38597	5 - 10 kW	40,977.63	130.90	173.46	1,024.54	38597
38598	10 - 15 kW	49,336.34	138.94	181.76	1,134.75	38598
38599	15 - 20 kW	57,695.07	147.08	189.29	1,322.28	38599
38600	20 - 30 kW	74,412.47	155.32	198.19	1,450.99	38600
	Waste water pump c/w motor, drain and vent, starters and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38601	Up to 2.5 kW	32,838.35	120.85	163.09	886.79	38601
38602	2.5 - 5 kW	34,402.09	124.89	167.23	941.89	38602
38603	5 - 10 kW	61,798.38	130.90	173.46	1,024.54	38603
38604	10 - 15 kW	71,847.69	138.94	181.76	1,134.75	38604
38605	15 - 20 kW	81,486.99	147.08	189.29	1,322.28	38605

Item					Item	
	PUMP & ACCESSORIES (CONT'D)					
	Water booster pump set (1 duty and 1 standby) c/w motor as a composite unit, strainer, drain and vent, starters, local control panel, membrane pressure vessel, sensors, pressure switches, valve and all necessary accessories :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38606	<i>Each</i> Up to 2.5 kW	79,931.33	435.59	635.57	1,760.11	38606
38607	2.5 - 5 kW (The actual rate should be : \$119,542.00 for Item 38607A)	11,954.20	455.83	676.01	1,936.59	38607
38608	5 - 10 kW (The actual rate should be : \$151,020.00 for Item 38608A)	15,102.00	486.17	736.67	2,201.30	38608
38609	10 - 15 kW (The actual rate should be : \$170,687.40 for Item 38609A)	17,068.74	526.61	817.57	2,554.26	38609
38610	15 - 20 kW (The actual rate should be : \$183,051.60 for Item 38610A)	18,305.16	565.23	896.60	2,907.58	38610
	Flush water pump c/w motor, drain and vent, starters and local control panel :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38611	<i>Each</i> Up to 2.5 kW	32,838.35	120.85	163.09	886.79	38611
38612	2.5 - 5 kW	34,402.09	124.89	167.23	941.89	38612
38613	5 - 10 kW	61,798.38	130.90	173.46	1,024.54	38613
38614	10 - 15 kW	71,847.69	138.94	181.76	1,134.75	38614
38615	15 - 20 kW	81,486.99	147.08	189.29	1,322.28	38615
	Centrifugal hot water pump, horizontal split casing type, c/w motor, starters and local control panel :-					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38616	<i>Each</i> Up to 2.5 kW	65,879.43	120.85	163.09	886.79	38616
38617	2.5 - 5 kW	67,327.32	124.89	167.23	941.89	38617
38618	5 - 10 kW (The actual rate should be : \$111,477.50 for Item 38618A)	11,147.75	130.90	173.46	1,024.54	38618
38619	10 - 15 kW (The actual rate should be : \$129,672.80 for Item 38619A)	12,967.28	138.94	181.76	1,134.75	38619
38620	15 - 20 kW (The actual rate should be : \$147,389.50 for Item 38620A)	14,738.95	147.08	189.29	1,322.28	38620

Item					Item	
	PUMP & ACCESSORIES (CONT'D)					
	Submersible type sewage pump (max. 10 m discharge head) up to 5 m water depth, handling sewage containing solid particles up to 50 mm diameter, non-cocking, c/w electric motor, guide pole, starters and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38621	<i>Each</i> Up to 1 kW	16,350.94	155.49	207.80	882.12	38621
38622	1 - 2 kW	19,131.91	155.49	207.80	882.12	38622
38623	2 - 3 kW	25,446.31	155.49	207.80	882.12	38623
38624	3 - 4 kW	25,613.52	155.49	207.80	882.12	38624
38625	4 - 5 kW	41,318.40	155.49	207.80	882.12	38625
	Sewage transfer pump sets (max. 10 m discharge head); handling sewage containing solid particles up to 50 mm diameter; direct driven by motors; water seal connection; vents; drain; priming plug; associated pipeworks and associated pipeworks and anti-vibration mountings; adjacent emergency stops; all necessary components and accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38626	<i>Each</i> Up to 1 kW	37,938.34	155.49	207.80	882.12	38626
38627	1 - 2 kW	39,901.51	155.49	207.80	882.12	38627
38628	2 - 3 kW	50,200.28	155.49	207.80	882.12	38628
38629	3 - 4 kW	52,225.68	155.49	207.80	882.12	38629
38630	4 - 5 kW	52,397.57	155.49	207.80	882.12	38630
	Sump pump, vertical centrifugal type, c/w submersible electric motor, pump control & H/L alarm, guide bars, cable supports & lifting chains, factory built-in suspension devices and discharge elbow for wet sump installation and cast iron/ steel base for dry sump installation, starter and local control panel : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38631	<i>Each</i> Up to 2.5 kW	40,294.56	120.85	163.09	886.79	38631
38632	2.5 - 5 kW	41,100.44	124.89	167.23	941.89	38632
38633	5 - 10 kW	51,720.43	130.90	173.46	1,024.54	38633
38634	10 - 15 kW	57,342.73	138.94	181.76	1,134.75	38634
38635	15 - 20 kW	76,237.15	147.08	189.29	1,322.28	38635
38636	20 - 30 kW	10,063.42	155.32	198.19	1,450.99	38636
	(The actual rate should be : \$100,634.20 for Item 38636A)					

Item					Item	
	PUMP & ACCESSORIES (CONT'D)					
	End suction pump for portable application, centrifugal type, multi-stage configuration (if required), c/w anti-vibration mounting, flexible joints, drain, vent, motor, starter and local control panel and local wiring : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38637	Up to 2.5 kW	26,941.25	120.85	163.09	886.79	38637
38638	2.5 - 5 kW	44,370.66	124.89	167.23	941.89	38638
38639	5 - 10 kW	49,665.03	130.90	173.46	1,024.54	38639
38640	10 - 15 kW	53,249.23	138.94	181.76	1,134.75	38640
38641	15 - 20 kW	57,986.99	147.08	189.29	1,322.28	38641
38642	20 - 30 kW	67,462.55	155.32	198.19	1,450.99	38642
	End suction pump for non-portable application, multi-stage configuration (if required), c/w anti-vibration mounting, flexible joints , drain, vent, motor, starter and local control panel and local wiring : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38643	Up to 2.5 kW	26,786.14	120.85	163.09	886.79	38643
38644	2.5 - 5 kW	42,396.59	124.89	167.23	941.89	38644
38645	5 - 10 kW	46,248.39	130.90	173.46	1,024.54	38645
38646	10 - 15 kW	50,381.13	138.94	181.76	1,134.75	38646
38647	15 - 20 kW	54,139.32	147.08	189.29	1,322.28	38647
38648	20 - 30 kW	61,655.67	155.32	198.19	1,450.99	38648

Item					Item	
	PUMP & ACCESSORIES (CONT'D)					
	<p>Cooling tower c/w induced or forced draught fans, glass reinforced plastics (GRP) casing, open distribution pans or troughs fitted with coarse mesh grids, filled sheets with film-type vacuum-formed PVC c/w louvres and drift eliminators, metal parts with stainless steel to SS316 or the better equivalent, inlet/ outlet water gate valve, drain, strainer, starter panel and local control panel, plus all related necessary accessories with nominal heat rejection capacity : -</p>					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38649	<i>Each</i> 22 - 45 kW	12,852.53	428.72	558.43	1,309.18	38649
38650	45 - 69 kW	13,901.16	489.40	617.66	1,466.41	38650
38651	69 - 100 kW	16,376.67	549.15	677.49	1,593.68	38651
38652	100 - 150 kW	19,829.18	611.34	740.66	1,780.94	38652
38653	150 - 200 kW	24,460.95	672.10	801.89	1,931.11	38653
38654	200 - 300 kW	31,245.96	738.79	869.60	2,088.41	38654
38655	300 - 350 kW	43,789.60	800.92	933.31	2,219.38	38655
38656	350 - 450 kW	50,426.59	861.12	993.70	2,392.06	38656
	Condensate drain sump pump : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38657	<i>Each</i> Condensate drain sump pump c/w electrical connection	2,833.27	84.61	106.88	444.15	38657
	FANS & VENTILATION SYSTEM					
	Dark room cowl : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38658	<i>Each</i> Dark room cowl for 230 mm diameter.	1,822.79	21.04	27.97	60.43	38658
	S.S. vent washer system c/w pump, exhaust blower, exhaust air duct, inspection door : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38659	<i>Each</i> 2 m x 1.53 m x 0.683 m	93,847.58	543.44	685.98	2,337.79	38659

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Fan chamber c/w access panels for fans of diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38660	Up to 300 mm	2,564.59	17.32	23.05	45.45	38660
38661	300 - 380 mm	3,090.46	17.94	24.49	49.79	38661
38662	380 - 500 mm	3,592.29	18.74	25.92	54.07	38662
38663	500 - 610 mm	4,916.91	19.39	27.35	58.36	38663
38664	610 - 800 mm	6,439.19	20.02	32.17	62.67	38664
	Acoustic fan chamber c/w access panels for fans of diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38665	Up to 300 mm	4,093.48	24.52	30.43	67.73	38665
38666	300 - 380 mm	5,069.17	25.31	31.89	72.20	38666
38667	380 - 500 mm	6,308.85	25.97	33.29	76.51	38667
38668	500 - 610 mm	7,957.36	26.66	34.63	80.86	38668
38669	610 - 800 mm	9,896.90	27.45	39.62	85.19	38669
	Axial-flow fan, aerofoil type c/w local control panel					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Motor speed up to 1000 r.p.m., fan diameter : -					
38670	Up to 300 mm	5,119.35	47.56	60.13	182.11	38670
38671	300 - 380 mm	5,745.50	51.60	64.13	197.33	38671
38672	380 - 500 mm	7,633.69	55.60	68.15	212.52	38672
38673	500 - 610 mm	8,859.05	59.48	72.15	227.58	38673
38674	610 - 800 mm	11,981.64	63.48	76.16	242.78	38674

Item								Item
	FANS & VENTILATION SYSTEM (CONT'D)							
	Axial-flow fan, aerofoil type c/w local control panel (Cont'd)							
	Motor speed up to 1000 - 1500 r.p.m., fan diameter : -							
	<i>Each</i>							
38675	Up to 300 mm	5,340.53	47.56	60.13	182.11			38675
38676	300 - 380 mm	7,287.08	51.60	64.13	197.33			38676
38677	380 - 500 mm	8,120.53	55.60	68.15	212.52			38677
38678	500 - 610 mm	9,372.90	59.48	72.15	227.58			38678
38679	610 - 800 mm	12,395.10	63.48	76.16	242.78			38679
	Air conducting fan, c/w fan mounting plate, remote controller and all necessary accessories.							
	Nominal supply air rate at medium speed : -							
	<i>Each</i>							
38680	Up to 0.375 m ³ /s	6,719.38	246.52	345.11	532.44			38680
38681	0.375 - 0.583 m ³ /s	9,428.80	295.80	443.68	640.89			38681
	Air swing fan, c/w fan mounting plate, remote controller and all necessary accessories.							
	Nominal supply air rate at medium speed : -							
	<i>Each</i>							
38682	Up to 0.0583 m ³ /s	7,803.16	246.52	345.11	591.59			38682
38683	0.0583 - 0.1041 m ³ /s	8,778.54	295.80	443.68	709.90			38683

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Bifurcated fan : -					
	<i>Each</i>					
38684	Bifurcated fan type, minimum air volume flow rate at 820 l/s and static pressure at 20 Pa	6,660.39	54.65	66.31	209.12	38684
	Centrifugal fan, backward/ forward bladed type c/w motor, drive belt and pulley, casing, access panel, metal enclosure, air plenum, starters and local control panel.					
	Fan diameter : -					
	<i>Each</i>					
38685	Up to 300 mm	6,075.55	80.08	121.69	357.71	38685
38686	300 - 380 mm	8,460.11	91.07	127.00	388.01	38686
38687	380 - 500 mm	12,626.17	97.30	140.35	408.72	38687
38688	500 - 610 mm	19,536.77	108.02	148.03	426.44	38688
38689	610 - 800 mm	32,327.13	120.36	155.87	444.15	38689
	Roof extraction fan c/w motor, centrifugal/ mixed flow blower, casing, cowl, base, back -draught damper, bird entry preventer guard, control switch and starter.					
	Motor speed up to 900 r.p.m. (50-100 Pa), flow rate : -					
	<i>Each</i>					
38690	Up to 0.5 m ³ /s	4,818.84	88.02	130.40	373.39	38690
38691	0.5 - 1 m ³ /s	5,738.16	99.54	135.98	406.13	38691
38692	1 - 1.5 m ³ /s	6,248.74	105.87	149.28	427.05	38692

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Roof extraction fan c/w motor, centrifugal/ mixed flow blower, casing, cowl, base, back -draught damper, bird entry preventer guard, control switch and starter. (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Motor speed up to 1400 r.p.m. (75-125 Pa), flow rate : -					
	<i>Each</i>					
38693	Up to 1 m ³ / s	6,233.05	99.54	135.98	406.13	38693
38694	1 - 1.5 m ³ / s	8,000.79	105.87	149.28	427.05	38694
38695	1.5 - 2 m ³ / s	12,316.37	118.15	158.70	448.64	38695
38696	2 - 4 m ³ / s	18,500.21	135.02	176.73	486.00	38696
	In line belt-driven fan c/w stator vanes, motors, drivers, guards, casing, starters and local control panel of fan diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38697	Up to 200 mm diameter (Motor speed up to 900 r.p.m.)	5,382.69	53.47	68.93	231.51	38697
38698	200 - 300 mm diameter (Motor speed up to 900 r.p.m.)	9,142.65	55.81	72.87	237.21	38698
38699	300 - 450 mm diameter (Motor speed up to 900 r.p.m.)	11,013.59	58.15	76.82	244.65	38699
38700	Up to 200 mm diameter (Motor speed 900 - 1500 r.p.m.)	5,680.24	53.47	68.93	231.51	38700
38701	200 - 300 mm diameter (Motor speed 900 - 1500 r.p.m.)	9,772.55	55.81	72.87	237.21	38701
38702	300 - 450 mm diameter (Motor speed 900 - 1500 r.p.m.)	11,965.05	58.15	76.82	244.65	38702

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Propeller fan c/w galvanized iron casing with acoustic lining. Air flow rate based on static pressure 50 Pa : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38703	Up to 0.3 m ³ /s	4,423.93	83.09	126.47	371.28	38703
38704	0.3 - 0.6 m ³ /s	4,619.21	94.61	132.01	403.24	38704
38705	0.6 - 0.8 m ³ /s	5,113.15	101.14	145.87	424.79	38705
38706	0.8 - 1.0 m ³ /s	5,308.11	112.28	153.85	443.20	38706
38707	1.0 - 1.2 m ³ /s	5,993.84	125.09	161.99	461.57	38707
38708	1.2 - 1.8 m ³ /s	8,050.99	163.49	186.45	516.66	38708
38709	1.8 - 2.4 m ³ /s	10,108.20	201.91	210.91	571.77	38709
38710	2.4 - 2.6 m ³ /s	10,793.90	214.70	219.06	590.13	38710
38711	2.6 - 3.2 m ³ /s	12,851.08	243.52	253.12	645.24	38711
38712	3.2 - 3.8 m ³ /s	14,908.24	267.97	291.54	700.34	38712
38713	3.8 - 4.4 m ³ /s	16,965.40	292.42	329.96	755.46	38713
38714	4.4 - 5.0 m ³ /s	19,022.58	316.92	368.36	810.59	38714
38715	5.0 - 5.6 m ³ /s	21,079.75	341.33	406.78	865.72	38715
38716	5.6 - 6.2 m ³ /s	23,136.93	365.79	445.19	920.83	38716
38717	6.2 - 6.8 m ³ /s	25,194.10	390.26	483.58	975.95	38717
38718	6.8 - 7.0 m ³ /s	25,879.81	398.42	496.40	994.34	38718
	Direct-drive inline duct fan c/w acoustic casing and local control panel, fan diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38719	Up to 100 mm (Motor speed up to 3000 r.p.m.)	2,663.52	176.51	219.37	501.95	38719
38720	100 - 200 mm (Motor speed up to 3000 r.p.m.)	7,453.79	203.77	246.92	536.54	38720
38721	200 - 250 mm (Motor speed up to 3000 r.p.m.)	10,911.30	217.27	260.53	553.84	38721
38722	250 - 280 mm (Motor speed up to 3000 r.p.m.)	13,473.18	230.86	274.33	571.16	38722
38723	280 - 315 mm (Motor speed up to 3000 r.p.m.)	15,094.64	244.48	287.94	605.73	38723
38724	315 - 400 mm (Motor speed up to 3000 r.p.m.)	21,894.89	258.08	301.72	623.04	38724

Item						Item
FANS & VENTILATION SYSTEM (CONT'D)						
PVC direct-drive inline duct fan c/w acoustic casing and local control panel, fan diameter : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38725	<i>Each</i> 200 mm	17,710.55	203.77	246.92	536.54	38725
Flameproof in-line fan : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38726	<i>Each</i> Flameproof in-line fan, 880 r.p.m., fan diameter up to 330 mm	11,098.69	255.24	298.38	616.14	38726
Exhaust fan c/w automatic motorized weather-proof louvre, propeller type, fan diameter : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38727	<i>Each</i> 150 mm	1,750.44	27.47	34.42	55.03	38727
38728	230 mm	2,664.19	30.25	37.23	61.84	38728
38729	300 mm	3,328.06	33.04	39.84	68.81	38729
Aluminium acoustic box c/w propeller fan : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38730	<i>Each</i> Aluminium acoustic box c/w 250 mm diameter propeller fan of duty (0.17 m ³ /s, 40 Pa) and air grilles. Nominal size 450 x 450 x 700 mm	4,733.68	229.32	276.38	608.96	38730

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Blower fan, in-line silent centrifugal type, impeller diameter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38731	Up to 100 mm	1,317.54	53.47	68.93	231.51	38731
38732	100 - 200 mm	2,635.08	55.81	72.87	237.21	38732
38733	200 - 300 mm	3,952.62	58.15	76.82	244.65	38733
	Motor starter c/w push buttons, relays, circuit protective device : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38734	Up to 2.2 kW rating	590.60	11.11	14.95	56.41	38734
38735	2.2 - 5.5 kW rating	627.30	12.63	18.55	63.48	38735
38736	5.5 - 11 kW rating	3,113.08	14.84	22.33	70.57	38736
38737	11 - 15 kW rating	4,849.66	18.45	26.05	81.76	38737
	Contactor : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38738	30 A SP & N	251.44	9.61	12.67	38.44	38738
38739	60 A SP & N	503.10	14.90	18.44	66.03	38739
38740	100 A SP & N	826.07	20.74	26.44	74.34	38740
38741	30 A TP & N	288.46	10.88	14.19	45.54	38741
38742	60 A TP & N	918.06	17.32	22.41	71.97	38742
38743	100 A TP & N	1,194.14	22.71	29.46	92.30	38743

Item					Item	
	FANS & VENTILATION SYSTEM (CONT'D)					
	Time switch c/w overriding switch : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38744	24-hour dial	677.79	6.25	9.38	23.45	38744
38745	7-day clock	1,091.40	6.25	9.38	23.45	38745
38746	with 3-minute delay	489.32	6.25	9.38	23.45	38746
	Soft motor starter : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38747	Up to 2.2 kW rating	12,221.33	29.64	37.20	113.31	38747
38748	2.2 - 5.5 kW rating	14,252.90	37.23	44.94	127.51	38748
38749	5.5 - 12 kW rating	15,714.22	44.38	52.08	141.70	38749
38750	12 - 22 kW rating	16,937.08	52.14	59.83	155.77	38750
38751	22 - 37 kW rating	22,873.00	59.28	67.09	169.96	38751
	Grease filter type kitchen exhaust hood					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Exhaust hood of 316 stainless steel sheet 1.2 mm thick with hair line finish c/w minimum 38 mm stainless steel angle iron frame and supports, 50 mm thick grease filters, filter washing facilities, flushed fluorescent lighting with heat resistant wired glass diffusers and accessories with height up to and including 1.2 m, with the hood bottom perimeter to reference dimension.					
	Hood undersurface area of : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38752	Up to 3 m ²	26,637.89	322.52	511.80	1,709.86	38752
38753	3 - 4 m ²	33,385.45	486.97	658.82	2,128.07	38753
38754	4 - 5 m ²	40,557.34	597.60	785.17	2,413.51	38754
38755	5 - 6 m ²	48,332.29	753.16	880.18	2,468.72	38755

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
FANS & VENTILATION SYSTEM (CONT'D)						
Grease filter type kitchen exhaust hood (Cont'd)						
	Washable grease filter : -					
	<i>Each</i>					
38756	500 x 500 x 50 mm thick	651.12	6.69	10.60	20.68	38756
	Cleaning tank : -					
	<i>Each</i>					
38757	Stainless steel cleaning tank	7,458.64	33.98	42.94	132.53	38757
	<i>Per litre</i>					
38758	Cleaning detergent	91.46	-	-	-	38758
Water scrubbing type exhaust hood of 316 stainless steel sheet 1.2 mm thick with hair line finish c/w minimum 38 mm stainless steel angle iron frame and support, grease filters filter washing facilities, rotary baffles, inspection door, water recirculation system, control panel, flushed fluorescent lighting with heat resistant wired glass diffusers and accessories (with height up to and including 1.2 m, with the hood bottom perimeter as reference dimension), jet spray nozzles.						
	Hood undersurface area of : -					
	<i>Each</i>					
38759	Up to 4 m ²	81,618.97	528.35	718.47	2,261.29	38759
38760	4 - 5 m ²	15,539.61	653.04	851.68	2,563.62	38760
	(The actual rate should be : \$155,396.10 for Item 38760A)					
38761	5 - 6 m ²	16,850.89	823.59	1,012.45	2,835.27	38761
	(The actual rate should be : \$168,508.90 for Item 38761A)					
38762	Add to last item for each additional square metre or part thereof	13,348.01	147.61	160.78	287.01	38762
	Vehicle exhaust hose and hose reel : -					
	<i>Per set</i>					
38763	Vehicle exhaust hose reel c/w nozzle, hose clip, 10 m exhaust hose of 50 mm diameter c/w control panel and all necessary accessories	60,629.46	219.27	324.30	797.06	38763
38764	50 mm diameter. exhaust hose 10 m long	8,074.20	24.85	41.98	73.30	38764

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A	B	C	D	
		\$	\$	\$	\$	
FANS & VENTILATION SYSTEM (CONT'D)						
Water scrubbing type exhaust hood of 316 stainless steel sheet 1.2 mm thick with hair line finish c/w minimum 38 mm stainless steel angle iron frame and support, grease filters filter washing facilities, rotary baffles, inspection door, water recirculation system, control panel, flushed fluorescent lighting with heat resistant wired glass diffusers and accessories (with height up to and including 1.2 m, with the hood bottom perimeter as reference dimension), jet spray nozzles. (Cont'd)						
Sundries : -						
<i>Each</i>						
38765	Acoustic enclosure for housing centrifugal fan	4,393.97	82.22	103.71	247.76	38765
38766	Silencer of 304 stainless steel construction c/w corrosion resistant flanges 300 mm (diameter) x 1200 mm (long)	7,795.67	23.93	43.44	128.29	38766
Acoustic louver						
<i>Per cubic metre</i>						
38767	Acoustic insulation silencer, stainless steel 316 c/w corrosion resistant	1,346.25	17.94	26.44	60.14	38767
Acoustic enclosure for heat pump : -						
<i>Each</i>						
38768	50 - 100 kW	62,694.74	342.82	565.96	1,916.06	38768
38769	100 - 150 kW	86,233.01	410.85	697.78	2,086.53	38769
38770	150 - 200 kW	10,665.35	486.97	953.99	2,529.60	38770
(The actual rate should be : \$106,653.50 for Item 38770A)						
38771	200 - 300 kW	12,585.47	587.02	1,096.94	2,657.58	38771
(The actual rate should be : \$125,854.70 for Item 38771A)						
High pressure cleansing unit : -						
<i>Per set</i>						
38772	Wall mounted unit flow rate 15.7 l/ min at 175 bar pressure	28,846.82	121.05	146.41	389.61	38772
Full package 2 pump unit at 400 kPa working pressure : -						
<i>Per set</i>						
38773	Up to 0.5 kW	7,244.62	66.81	94.41	312.20	38773
38774	0.5 - 2 kW	14,252.14	88.78	104.99	354.71	38774
38775	2 - 5 kW	26,324.10	96.45	111.21	368.93	38775

Item					Item	
	ENERGY SAVING CONTROL SYSTEM					
	Energy savings control system for mechanical ventilation integrated with natural ventilation : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38789	Wind speed sensor	16,475.18	84.20	109.97	306.48	38789
38790	Wind direction sensor	19,264.34	84.57	110.18	309.04	38790
38791	Wind speed and direction controller c/w power cables, control cables, contactors metal enclosure and all necessary accessories	8,475.39	243.32	365.48	922.37	38791
	VARIABLE SPEED MOTOR DRIVE					
	Variable speed motor drive of rating : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
38792	Up to 5 kW	16,453.68	17.85	23.24	68.01	38792
38793	5 - 10 kW	19,537.03	23.93	31.97	91.72	38793
38794	10 - 15 kW	22,428.86	30.04	40.66	115.42	38794
38795	15 - 20 kW	25,017.62	36.33	48.24	137.50	38795
38796	20 - 30 kW	45,792.31	40.23	54.60	158.28	38796
38797	30 - 40 kW	50,909.47	48.51	65.64	176.02	38797
38798	40 - 50 kW	58,366.74	54.93	70.51	192.30	38798
38799	50 - 60 kW	66,882.52	60.23	74.92	196.67	38799
	METAL WORKS IN ASSOCIATED WITH AIR-CONDITIONING INSTALLATION					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
38800	Elevated or overhauling platform for A/ C equipment c/w metal work, railing, cat ladder, painting as per Structural Engineer's recommended detail (to be measured on platform surface area)	4,068.23	67.86	95.81	229.20	38800
	<i>Each</i>					
38801	Surveyor's certificate for steel service platform for maintenance of A/ C equipment	10,902.58	-	-	-	38801

Item					Item	
	STEAM AND HOT WATER SYSTEM					
	Steam plant and equipment c/w steam boiler, combustion chamber, automatic burner with controls, blow-down valve, all necessary valves, tanks, thermometer, steam pressure gauge, boiler feed pump with controls, water level gauge glass, water level control, local control panel and protection, drip tray, cleaning tools, chemical dosing equipment, draught gauge, meters, quartz clock and condensate/ feed tank : -					
	<i>Each</i>					
38802	Water heating capacity 401 - 500 kg/ hr (The actual rate should be : \$988,670.30 for Item 38802A)	98,867.03	7,369.92	8,470.86	18,861.23	38802
	Air-water heat pump (zero ODP refrigerant) c/w motor, compressor, condenser, evaporator coil, centrifugal blower, automatic safety controls within common cabinet, refrigerant receiver, moisture indicator, sight glass, thermal expansion valve, filter drier, heat exchanger, lockout relay, fan motor, thermal overload protector, time delay, phase monitor, hour meter and control panel : -					
	<i>Each</i>					
38803	Water heating capacity 8 - 14 kW (The actual rate should be : \$121,232.90 for Item 38804A)	65,946.48	496.09	595.54	2,530.52	38803
38804	Water heating capacity 14 - 28 kW (The actual rate should be : \$121,232.90 for Item 38804A)	12,123.29	748.49	877.23	4,310.79	38804
38805	Water heating capacity 28 - 44 kW (The actual rate should be : \$268,831.00 for Item 38805A)	26,883.10	1,039.67	1,158.63	6,021.39	38805
38806	Water heating capacity 44 - 68 kW (The actual rate should be : \$332,388.20 for Item 38806A)	33,238.82	1,410.62	2,204.49	7,718.22	38806
38807	Water heating capacity 68 - 100 kW (The actual rate should be : \$399,562.60 for Item 38807A)	39,956.26	1,801.89	3,346.30	9,469.35	38807
38808	Water heating capacity 100 - 150 kW (The actual rate should be : \$489,840.20 for Item 38808A)	48,984.02	2,844.53	4,244.14	11,419.37	38808

Item					Item	
	STEAM AND HOT WATER SYSTEM (CONT'D)					
	Air-cooled packaged heat pump (zero ODP refrigerant) for external mounting c/w evaporators, condensers, fans, compressors, motors, water circulation pumps, pressure relief valves, expansion tanks, starters, refrigerant, expansion tank, buffer tank, noise equipment, copper tube with pre-corrosion resisting treated copper fins, filter driers, water strainer, capacity controller, liquid receivers, starters, weather-proof cabinet, emergency stop button, all necessary safety and operational control and accessories, local control panel connected to electricity supply point, proper mounting and support including I-beams and concrete plinth, flexible pipe connection, chilled water pipework for connection					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Heat pump capacity : -					
	<i>Each</i>					
38809	8 - 14 kW (The actual rate should be : \$125,525.10 for Item 38809A)	12,552.51	745.63	953.55	3,350.87	38809
38810	14 - 28 kW (The actual rate should be : \$175,916.30 for Item 38810A)	17,591.63	919.32	1,175.06	3,604.91	38810
38811	28 - 44 kW (The actual rate should be : \$250,145.60 for Item 38811A)	25,014.56	1,262.41	1,531.95	3,850.93	38811
38812	44 - 68 kW (The actual rate should be : \$327,284.50 for Item 38812A)	32,728.45	1,493.48	2,221.83	6,200.31	38812
38813	68 - 100 kW (The actual rate should be : \$503,242.00 for Item 38813A)	50,324.20	2,002.50	2,999.36	8,048.44	38813
38814	100 - 150 kW (The actual rate should be : \$691,779.30 for Item 38814A)	69,177.93	2,482.85	3,693.94	8,549.83	38814
38815	150 - 200 kW (The actual rate should be : \$844,524.70 for Item 38815A)	84,452.47	3,103.84	4,430.49	10,386.87	38815
38816	200 - 300 kW (The actual rate should be : \$1,032,092.00 for Item 38816A)	10,320.92	3,292.88	4,816.31	11,542.13	38816
	PRESSURE VESSELS					
	Pressure vessel complete with all necessary accessories in accordance with the manufacturer's recommendations : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per Set</i>					
38817	Pressure vessel, vertical type, of 10 bar working pressure and Up to 60 litres capacity	3,607.39	143.14	161.25	504.53	38817
38818	Ditto but 60 to 200 litres capacity	5,656.98	202.22	236.64	700.02	38818
38819	Ditto but 200 to 300 litres capacity	8,083.52	271.95	327.29	1,188.70	38819
38820	Ditto but 300 to 500 litres capacity	10,313.27	355.86	437.82	1,261.41	38820
38821	Ditto but 500 to 750 litres capacity	22,587.23	445.98	540.87	1,513.67	38821
38822	Ditto but 750 to 1,000 litres capacity	27,213.09	536.09	643.93	1,765.94	38822

Item					Item	
	SUNDRIES					
	Solar hot water storage tank c/w insulation complying BS5500 c/w all necessary accessories : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38823	<i>Each</i> Up to 100 litres	4,208.47	65.04	126.65	289.16	38823
38824	100 - 200 litres	4,589.89	69.45	130.70	303.56	38824
38825	200 - 300 litres	5,241.01	75.35	139.67	318.73	38825
38826	300 - 400 litres	9,703.75	79.01	146.55	334.49	38826
38827	400 - 500 litres	13,982.98	81.27	153.77	351.31	38827
	Pyranometer : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38828	<i>Each</i> Pyranometer complying ISO 9060 c/w all functional accessories	2,995.15	65.13	123.77	249.85	38828
	Stainless steel plate type heat exchanger of heat transfer capacity : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
38829	<i>Each</i> Up to 25 kW	14,864.01	271.02	364.63	1,355.89	38829
38830	25 - 50 kW	43,770.32	296.65	371.24	1,491.46	38830
38831	50 - 100 kW	86,057.86	325.42	403.66	1,640.65	38831
38832	100 - 200 kW	10,437.55	362.40	444.89	1,804.84	38832
	(The actual rate should be : \$104,375.50 for Item 38832A)					
38833	200 - 300 kW	13,458.89	389.06	489.11	1,987.57	38833
	(The actual rate should be : \$134,588.90 for Item 38833A)					

Item					Item	
	SUNDRIES (CONT'D)					
	Solar collector panel complying BS EN 12975 with minimum efficiency 65% at 30K temperature difference between average fluid temperature and ambient air temperature with solar irradiation = 800W/ m2 : -					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per set</i>					
38834	Up to 1 m ²	4,988.08	176.98	256.76	700.49	38834
38835	1 m ² - 2 m ²	7,266.25	213.39	303.66	835.32	38835
38836	2 m ² - 3 m ²	11,691.19	237.29	345.17	935.29	38836
38837	3 m ² - 4 m ²	16,207.71	265.86	386.29	1,036.29	38837
38838	4 m ² - 5 m ²	20,478.20	294.67	435.23	1,166.66	38838
38839	5 m ² - 6 m ²	24,760.89	333.02	485.37	1,316.40	38839
38840	6 m ² - 7 m ²	29,255.32	369.46	539.56	1,472.49	38840
	Labour to disconnect all existing air-conditioning and ventilation installation for an area inside a building, take down and clearing the entire air-conditioning and ventilation installation inside the area (area shall be measured net on the gross floor area of the building covered by the air-conditioning services installation)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per square metre</i>					
38841	For area up to 100 m ²	-	39.12	-	-	38841
38842	For area 100 - 500 m ²	-	37.93	-	-	38842
38843	For area above 500 m ²	-	35.41	-	-	38843

Item			Item
	MISCELLANEOUS		
	Buildings Energy Efficiency Ordinance (BEEO) Submission		
		Rate	
		A \$	
	All heating, ventilation and air-conditioning installations, unless otherwise specified, in a prescribed building should be assessed in accordance with the energy efficient requirements, for the premises in accordance with the requirements as specified in the latest edition of Code of Practice for Energy Efficiency of Building Services Installation (Building Energy Code or BEC in abbreviation), preparation and completion of the installation summaries and worksheets including but not limited to Form EE-AC, AC-G1, AC-G2(1), AC-G2(2), AC-G3(1), AC-G3(2), AC-G3(3), AC-D1 and AC-EQ1 as required by the BEEO and to coordinate with the Registered Energy Assessor for submission.		
	<i>Each</i>		
38844	Water cooled/ Air cooled chillers	6,179.74	38844
38845	Ventilation fans	308.99	38845
38846	Air handling units/ Computer room air conditioning units	926.97	38846
38847	Split type air conditioning units	185.39	38847
38848	Window-split type air conditioners	308.99	38848
38849	Packaged air conditioners	370.79	38849
38850	Reheat coil air conditioners	401.66	38850
38851	Variable refrigerant volume (VRV) system	617.97	38851
38852	Fan coil units	463.50	38852
38853	Room coolers	61.79	38853
38854	Cold room air conditioning unit	61.79	38854
38855	Air cooled roof top units	617.97	38855
38856	Fresh air pre-conditioners/ Fresh air pretreating units	370.79	38856
38857	Air purifier units/ sterilizers	61.79	38857
38858	Air pressure stabilizers	61.79	38858
38859	Variable air volume equipment (VAV/ CAV)	61.79	38859
38860	Dehumidifiers/ humidifiers	61.79	38860
38861	Electro-static precipitators	308.99	38861
38862	Thermo ventilators	154.50	38862
38863	Water pumps	154.50	38863
38864	Cooling towers	463.50	38864
38865	Grease filter type kitchen exhaust hood/ Water scrubbing type exhaust hood	617.97	38865

Section 39

HEATING, VENTILATION AND AIR-CONDITIONING - ELECTRICAL

POWER SUPPLY, CONTROL AND MONITORING SYSTEM

Item					Item	
	CONTROL PANELS					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Lead-lag control/ control panel for pumps : - <i>Each</i>					
39001	Lead-lag pump control c/w all necessary lead-lags relays, selectors, indicating lamps, wirings, including panel or in addition to the local control panels of the pumps (for control of 1 to 2 items)	2,954.57	106.66	185.48	424.16	39001
	Interlocking control/ control panel for air handling and treatment equipment : - <i>Each</i>					
39002	Interlocking control between two equipment / groups of equipment, e.g. an AHU/ a group of up to 4 nos. of fans/ damper actuator (ON/ OFF function is treated as one item) c/w relay, timer, indicating lamps, wirings and all necessary accessories including panel or in addition to the control panels	2,872.19	103.71	180.12	409.59	39002
	Supervisory/control panel for Air-Conditioning system : - <i>Each</i>					
39003	Supervisory panel of sheet metal box and stainless steel metal front plate c/w push buttons, indicating lamps, relays (or electrical control), selectors, electrical wiring and all necessary functional and operational component for the complete unit monitoring and controlling of 1 set of equipment.	4,537.31	187.33	325.51	736.65	39003
39004	Every additional set of equipment incorporating with supervisory panel as described in item 39003	3,779.56	20.44	21.20	150.99	39004
39005	Repeater/ Indicating panel of sheet metal box and stainless steel metal front plate c/w indicating lamps, relays, buzzer, mute button, lamp test button, electrical wiring and all necessary functional and operational component for the complete unit monitoring of a set of equipment/ a set of fan (up to 4 nos.)/ water detection system/ high or low temperature alarm system	3,543.45	187.33	325.51	736.65	39005
39006	Every additional set of equipment/ set of fan/ water detection system/ high or low temperature alarm system incorporating with repeater/ indicating panel as described in item 39005	1,476.45	20.44	21.20	150.99	39006
	Interface control for monitoring and/or controlling of equipment <i>Each</i>					
39007	Interface control c/w control module, relay, cabling and all necessary accessories for monitoring and/or controlling of 1 set of equipment	2,295.55	19.50	20.91	103.09	39007
	Control panel for solar collector control system : - <i>Each</i>					
39008	Solar collector control panel with solar hot water system controller, including the control of circulation pump, solar hot water storage tank, level switch, safety device & all necessary accessories	2,633.65	132.49	246.13	444.19	39008

Item					Item	
	SENSORS & METERS					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Meters : -					
	<i>Each</i>					
39009	Hour run meter (all rating)	916.04	6.95	11.80	28.14	39009
39010	Energy meter for chilled water	7,586.96	44.84	47.56	89.89	39010
39011	Sea water flow counter	4,686.64	28.84	32.30	72.96	39011
39012	Sea water direct reading flow meter (all size)	13,118.05	44.84	47.56	89.89	39012
39013	Thermometers for chilled water	451.06	11.24	17.64	42.99	39013
39014	Digital temperature indicator	454.26	12.97	19.38	50.62	39014
39015	Digital temperature meter c/w interfacing unit suitable for computer download in Excel or CSV format	10,148.58	13.63	15.82	31.99	39015
	Sensors & Detectors : -					
	<i>Each</i>					
39016	Movement detector, combined infrared and ultrasonic detection type c/w necessary accessories and connection to the alarm panel	864.38	44.08	45.78	106.05	39016
39017	High temperature detector c/w control panel, indicating lights, alarm / buzzer and served with automatic "duty / standby" changeover switch	11,437.58	13.63	15.82	31.99	39017
39018	Duct type carbon dioxide (CO ₂) sensor c/w associated DDC controller, control wiring and associated accessories	6,328.64	15.44	17.33	36.04	39018
39019	Duct type carbon monoxide (CO) sensor c/w associated DDC controller, control wiring and associated accessories	6,328.64	15.44	17.33	36.04	39019
39020	Room type carbon dioxide (CO ₂) sensor c/w DDC controller, LCD display, control wiring and associated accessories	6,328.64	15.44	17.33	36.04	39020
39021	Room type carbon monoxide (CO) sensor c/w DDC controller, LCD display, control wiring and associated accessories	6,328.64	15.44	17.33	36.04	39021
39022	Temperature sensors	774.82	9.81	12.20	65.96	39022
39023	Humidity sensors	2,256.99	9.81	12.20	65.96	39023
39024	Absolute humidity (dew point) sensors	2,310.27	9.81	12.20	65.96	39024
39025	Combined type humidity and temperature sensors	2,351.96	9.81	12.20	65.96	39025
39026	Differential pressure sensors	2,335.03	9.81	12.20	65.96	39026
39027	Probe type duct mounted smoke detector & indicator (tripping power supply is connected to F.S. panel), access panel, including modification of existing duct work and air-conditioner's control panel	1,998.39	83.98	87.96	310.23	39027
39028	Air velocity sensors	2,865.95	9.81	12.20	65.96	39028
39029	Contamination sensors	2,862.04	9.81	12.20	65.96	39029
39030	Flow sensors	709.63	9.81	12.20	65.96	39030
39031	Occupancy sensor	898.55	9.81	12.20	65.96	39031
39032	Carbon monoxide monitor/alarm sensors	577.96	9.64	12.15	61.40	39032
39033	Nitrogen dioxide sensors	1,716.13	9.64	12.15	61.40	39033
39034	Carbon dioxide (CO ₂) sensor of non dispersive technology with sensing range of 0 to 2000 ppm, accuracy within 5%. Duct / wall mounted	2,420.85	9.64	12.15	61.40	39034

Item					Item	
CENTRAL CONTROL AND MONITORING SYSTEM (CCMS)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Each</i>					
39035	CCMS operator workstation c/w mouse and keyboard, LCD monitor A3 ink/laser printer capable of handling continuous paper, UPS capable of backup for 1 hour of operation for the PC, monitor and printer and 16-bit/full duplex audio system c/w speakers and all necessary accessories	26,409.38	36.33	48.92	153.45	39035
39036	Uninterrupted power supply capable for 1 hour operation for the PC	13,183.98	18.25	24.53	77.18	39036
39037	Portable operator terminal hardware c/w weight of less than 2 kg, run on rechargeable battery, capable of retrieving and storing information to and from CCMS server and DDC controllers and Input method can be keyboard, touch screen, track point and/or mouse.	19,470.68	6.05	9.91	15.50	39037
39038	DDC controller hardware c/w RAM and the clock shall be provided with power backup of 72 hours instant recharged capacitor or 12-hour trickle recharged batteries, universal inputs and universal outputs.	5,152.82	36.33	48.92	153.45	39038
39039	Unitary controller hardware with processor speed at least 10 MHz and minimum of 512 Kbytes RAM	6,477.86	12.29	18.45	31.03	39039
39040	Gateway/interfaces hardware c/w processor speed at least 16.7 MHz and minimum of 2 Mbytes RAM. The gateway, which also acts as a general purpose controller, shall have the same analog/digital input and output points.	7,342.49	12.29	18.45	31.44	39040
39041	CCMS central database repository shall reside in the CCMS server. The database server shall use client/server technology and comply with Microsoft Open Database Connectivity (ODBC) latest version and support ISO/IEC 9075-9	1,290.16	-	-	31.03	39041
39042	ACMV sub-system controllers for temperature/humidity/pressure controllers with plug-in proportional type with integrated circuits controllers shall be available with either 0 to 20V DC / 4 to 20 mA proportional output, two-position output, or any combination.	11,721.10	18.25	24.53	77.18	39042
39043	Programmable DDC for VAV Box	1,320.28	7.22	8.87	59.33	39043
SUNDRIES						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	IAQ testing/assessment and report as described in Part D of A/C G.S. :-					
	<i>Per point</i>					
39044	Carbon dioxide	368.30	-	-	-	39044
39045	Carbon monoxide	365.68	-	-	-	39045
39046	Respirable suspended particulate	543.34	-	-	-	39046
39047	Nitrogen dioxide	363.78	-	-	-	39047
39048	Ozone	1,846.98	-	-	-	39048
39049	Formaldehyde	365.92	-	-	-	39049
39050	Total volatile organic compound	550.48	-	-	-	39050
39051	Radon	360.07	-	-	-	39051
39052	Airborne bacteria	541.22	-	-	-	39052
39053	Room temperature	181.98	-	-	-	39053
39054	Relative humidity	181.50	-	-	-	39054
39055	Air movement	184.86	-	-	-	39055
39056	Mould	541.22	-	-	-	39056

Item					Item
	SUNDRIES (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Cables :-				
	<i>Per linear metre</i>				
39057	Low capacitance cable	19.38	3.41	4.16	11.25
39058	Shield twist pair cable	24.15	3.41	4.16	11.25
39059	Multi-mode 62.5/125 fiber optic cable	73.84	3.41	4.16	11.25

Section 40

FIRE SERVICES

SECTION 40

FIRE SERVICES

SPECIAL CONDITIONS

Measurement of power supply	SC40.01	<p>All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting System and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution Systems and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.</p> <p>For the avoidance of doubt, all items for pump sets in this section shall only apply to the works executed for the Fire Services Installation by the Approved Suppliers of Materials and Specialist Contractors for Public Works : Fire Service Installation.</p>
Measurement of excavations, ducts, chases, holes and other subsidiary work	SC40.02	<p>All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All pipe ducts, concrete thrust blocks and anchor blocks, chases in, and holes through existing walls, ceilings and similar for pipes, etc., (but not mortices or holes for brackets) except specifically stated, shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork, Section 12 - Roadwork and Cable Duct, Section 13 - Plumbing and Drainage or other applicable Work Sections of this Schedule.</p>
Measurement of pipework	SC40.03	<p>Unless otherwise stated, pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.</p> <p>Branch pipes of 32 mm diameter from tee-off for and including sprinkler points and dry pendant sprinkler points shall be grouped together and measured in numbers of sprinkler points. The rates for which shall include the associated pipework and sprinkler points and dry pendant sprinkler points.</p>
Measurement of fire alarm indicating/ control panel	SC40.04	<p>The interconnecting cables and the cable containment for the fire alarm indicating/ control panel shall be measured separately.</p>
Measurement of heat resistant cables and low smoke zero halogen cables	SC40.05	<p>Cables for the equipment, control/ indicating panels, fire alarm points, etc. have been allowed in the rates under this Section. No measurement shall be made for cables except for heat resistant cables where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Heat resistant cables and low smoke zero halogen cables shall be measured the net length as fixed in linear metres.</p>

SPECIAL CONDITIONS (CONT'D)

**Measurement
of temporary
supply****SC40.06**

Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.

For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.

No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.

Rates generally**SC40.07**

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, hangers, supports, brackets, spring compensated and seismic restraints and isolating components and the like.
- (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.

SPECIAL CONDITIONS (CONT'D)

**Rates generally
(Cont'd)****SC40.07
(Cont'd)**

- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (l) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (m) Submitting all relevant documentation to Fire Services Department and obtaining necessary approval.
- (n) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (o) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (p) Provision of manufacturer's guarantee.

**Rates for
pipework****SC40.08**

The rates for pipework shall further include for :-

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Provision of wall plates, ceiling plates, floor plates, high tensile holding down bolts, tapered washers and the like for casting into the reinforced concrete corbels.
- (g) All jointing including provision of flexible connections and/ or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.
- (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings.
- (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required.
- (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tapes where required.

SPECIAL CONDITIONS (CONT'D)

Rates for in-line pipework equipment	SC40.09	<p>The rates for in-line pipework equipment (e.g. valves, mechanical flow meters, gauges, strainers and the like) shall further include for : -</p> <p>(a) Cutting and jointing to pipes and fittings.</p> <p>(b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.</p>
Rates for fire alarm call points, fire alarm bell points, visual fire alarm, smoke detector points, heat detector points, interface control points and interface monitor points	SC40.10	<p>The rates for fire alarm call points, fire alarm bell points, visual fire alarm points, smoke detector points, heat detector points, interface control point and interface monitor point shall further include for fire alarm push buttons, fire alarm bells, visual fire alarm, smoke detectors, heat detectors, re-programming work (including modification of user interface) of existing addressable fire control/ indication panel and all necessary accessories for connection to the fire alarm control/ indication panel or the fire alarm system. The cables and cable containment shall be measured separately and paid for at appropriate rates under this Section and Sections 28 to 30.</p>
Rates for sprinkler points and dry pendant sprinkler points	SC40.11	<p>The rates for sprinkler points and dry pendant sprinkler points shall further include for sprinkler heads, arm pipes and all necessary accessories. The range pipes, distribution pipe, draining/ re-fill the sprinkler system and tee-off from existing sprinkler system shall be measured separately and paid for at appropriate rates under this Section.</p>
Rates for control/ indicating panels	SC40.12	<p>Control/ indicating panel shall be measured on the basis of complete unit monitoring and controlling the number of zones/ points as specified. The rates for control/ indicating panels shall further include for all necessary relays, indicating lamps, push button package and selector switches. The cables and cable containment to external equipment or existing panel shall be measured separately and paid for at appropriate rates under Sections 27 to 30.</p>
Rates for equipment	SC40.13	<p>The rates for equipment shall further include for : -</p> <p>(a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like.</p> <p>(b) Supporting frames.</p> <p>(c) Connections including flexible joints between pipework and equipment.</p> <p>(d) Flexible connections and anti-vibration connections between pipework and equipment.</p> <p>(e) All necessary operational and control accessories (e.g. valves, gauges, mechanical flow meters, indicating lamps and the like) forming part of the equipment, connection and termination.</p>

SPECIAL CONDITIONS (CONT'D)

Rates for equipment (Cont'd)	SC40.13 (Cont'd)	<ul style="list-style-type: none"> (f) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing and water supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties. (g) Anti-vibration mountings for machinery, equipment and apparatus of all kinds and the like to be supplied and installed by the Contractor. (h) Anti-vibration materials and sound insulating materials in equipment, apparatus of all kinds and machinery bases. (i) Motor starters (if motors in the equipment require motor starters). (j) Earth/ equipotential bonding as specified.
Rates for heat resistant cables and low smoke zero halogen cables	SC40.14	<p>The rates for heat resistant cables and low smoke zero halogen cables shall further include for : -</p> <ul style="list-style-type: none"> (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment. (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like. (c) Making cable-joints. (d) Determining circuits, lacing into circuit groups and provision of draw wires, draw cables and the like as required. (e) All necessary fixings complete with accessories and fittings as required. (f) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.
Rates for "Take down and clear away" or "Take down and set aside for re-use"	SC40.15	<p>The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with fire services installation shall further include for : -</p> <ul style="list-style-type: none"> (a) All in-line fittings including brackets, supports, hangers and the like. (b) Cutting into existing pipework and the like in position. (c) Plugging off remaining ends with plugs or caps as required. (d) Preparing remaining ends of pipework and building services works (if any) to receive connections with new work if required. (e) In the case of equipment and the like, taking down all associated pipework and/ or building services works. (f) Making good all works disturbed.

SPECIAL CONDITIONS (CONT'D)

**Particular
Specification**

SC40.16

The Particular Specification for fire services installation can be found in the Contract.

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	AUTOMATIC/ MANUAL FIRE ALARM SYSTEM					
	Automatic/ manual fire alarm points c/w re-programming work of existing addressable fire control panel, if necessary, and all necessary mounting accessories and connected to the fire alarm control panel					
	<i>Each</i>					
40001	Fire alarm call point with break glass type alarm push c/w metal hammer and chains	481.91	17.46	18.71	92.26	40001
40002	Weatherproof type fire alarm call point with break glass type alarm push c/w metal hammer and chains	650.60	17.46	18.71	92.26	40002
40003	Fire alarm call point with break glass type alarm push c/w metal hammer and chains, addressable type	999.98	28.06	50.74	128.45	40003
40004	Weatherproof type fire alarm call point with break glass type alarm push c/w metal hammer and chains, addressable type	1,093.74	28.06	50.74	128.45	40004
40005	Fire alarm bell point; 150 - 250 mm diameter	750.52	17.46	18.71	92.26	40005
40006	Weatherproof type fire alarm bell point; 150 - 250 mm diameter	1,010.83	17.46	18.71	92.26	40006
40007	Fire alarm call point with break glass type alarm push c/w protective cover, addressable type	3,606.17	28.06	50.74	128.45	40007
40008	Intrinsically safe alarm siren, all voltage, completed with necessary accessories	2,942.29	58.62	68.58	245.65	40008
40009	Smoke detector point, ionization type	682.23	24.94	27.43	92.26	40009
40010	Smoke detector point c/w remote indicator, ionization type	1,086.38	62.35	67.34	270.60	40010
40011	Smoke detector point; addressable type, ionization type	1,422.23	34.93	36.17	128.45	40011
40012	Smoke detector point, optical type	682.23	17.46	18.71	92.26	40012
40013	Smoke detector point c/w remote indicator, optical type	1,086.38	62.35	67.34	270.60	40013
40014	Smoke detector point; addressable type, optical type	1,447.49	28.06	50.74	128.45	40014
40015	Heat detector point; fixed temperature type, Class A2	642.47	17.46	18.71	92.26	40015
40016	Heat detector point; fixed temperature type, Class BR or CR	642.47	17.46	18.71	92.26	40016
40017	Heat detector point; fixed temperature type, Class CS, DS, ES, FS or GS	642.47	17.46	18.71	92.26	40017
40018	Heat detector point; fixed temperature type; addressable type, Class A2	1,412.01	28.06	50.74	128.45	40018
40019	Heat detector point: fixed temperature type, addressable type, Class BR or CR	1,412.01	28.06	50.74	128.45	40019
40020	Heat detector point; fixed temperature type; addressable type, Class CS, DS, ES, FS or GS	1,412.01	28.06	50.74	128.45	40020
40021	Heat detector point c/w remote indicator, Class A2	1,037.75	62.35	67.34	270.60	40021
40022	Heat detector point c/w remote indicator, Class BR or CR	1,037.75	62.35	67.34	270.60	40022
40023	Heat detector point c/w remote indicator, Class CS, DS, ES, FS or GS	1,037.75	62.35	67.34	270.60	40023
40024	Heat detector point; rate of rise temperature type, Class A2	690.85	17.46	18.71	92.26	40024
40025	Heat detector point; rate of rise temperature type, Class BR or CR	690.85	17.46	18.71	92.26	40025
40026	Heat detector point; rate of rise temperature type, CS, DS, ES, FS or GS	690.85	17.46	18.71	92.26	40026
40027	Heat detector point; rate of rise temperature type; addressable type, Class A2	1,412.01	28.06	50.74	128.45	40027
40028	Heat detector point; rate of rise temperature type; addressable type, Class BR or CR	1,412.01	28.06	50.74	128.45	40028
40029	Heat detector point; rate of rise temperature type; addressable type, CS, DS, ES, FS or GS	1,412.01	28.06	50.74	128.45	40029
40030	Heat detector point; combined rate of rise and fixed temperature type, Class A2	914.75	17.46	18.71	92.26	40030
40031	Heat detector point; combined rate of rise and fixed temperature type, Class BR or CR	914.75	17.46	18.71	92.26	40031
40032	Heat detector point; combined rate of rise and fixed temperature type, CS, DS, ES, FS or GS	914.75	17.46	18.71	92.26	40032

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	AUTOMATIC/ MANUAL FIRE ALARM SYSTEM (CONT'D)					
	Automatic/ manual fire alarm points c/w re-programming work of existing addressable fire control panel, if necessary, and all necessary mounting accessories and connected to the fire alarm control panel (cont'd)					
	<i>Each</i>					
40033	Heat detector point; combined rate of rise and temp. type; addressable type, Class A2	1,533.55	28.06	50.74	128.45	40033
40034	Heat detector point; combined rate of rise and temp. type; addressable type, Class BR or CR	1,533.55	28.06	50.74	128.45	40034
40035	Heat detector point; combined rate of rise and temp. type; addressable type, Class CS, DS, ES, FS, or GS	1,533.55	28.06	50.74	128.45	40035
40036	Intrinsically safe heat detector point, Class A2	1,796.79	24.94	27.43	137.18	40036
40037	Intrinsically safe heat detector point, Class BR or CR	1,876.25	24.94	27.43	137.18	40037
40038	Intrinsically safe heat detector point, Class CS, DS, ES, FS, or GS	1,876.25	24.94	27.43	137.18	40038
40039	Intrinsically safe smoke detector point	2,202.54	24.94	27.43	137.18	40039
40040	Multi-sensor detector with 2 sensing elements (i.e. optical + heat)	3,167.26	17.46	18.71	92.26	40040
40041	Multi-sensor detector with 2 sensing elements (i.e. optical + CO)	3,946.07	17.46	18.71	92.26	40041
40042	Multi-sensor detector with 3 sensing elements (optical + heat + CO)	4,214.28	17.46	18.71	92.26	40042
40043	Multi-sensor detector with 4 sensing elements (dual optical + heat + CO)	4,745.38	17.46	18.71	92.26	40043
40044	Probe unit	2,877.95	17.46	18.71	92.26	40044
40045	Interface control point c/w control module, relay and all necessary accessories	1,156.83	17.46	18.71	92.26	40045
40046	Remote indicator for smoke/ heat detector c/w interconnecting wiring and conduits	336.36	42.39	48.64	173.34	40046
40047	Weatherproof remote indicator for smoke/ heat detector c/w interconnecting wiring and conduits	597.17	42.39	48.64	173.34	40047
40048	End of line tester	234.00	22.42	24.94	102.27	40048
40049	Visual fire alarm point	1,034.00	58.62	68.58	245.65	40049
40050	Weatherproof type visual fire alarm point	1,249.99	58.62	68.58	245.65	40050
40051	Additional contactor/ relay/ electronic components in the fire alarm panel for shut down air-conditioning/ ventilation equipment	493.48	23.70	26.18	102.27	40051
40052	Intrinsically safe LED Beacon, all voltage, completed with necessary accessories	3,282.20	58.62	68.58	245.65	40052
40053	Safety barrier (limiting current supply to explosion proof smoke/heat detector)	5,815.55	42.39	48.64	173.34	40053
40054	Interface monitor/ control/ relay point c/w addressable monitor module and all necessary accessories	3,651.31	17.46	18.71	92.26	40054
	<i>Per lot</i>					
40055	Provide direct link to the Fire Control Centre of Fire Services Department including all terminating equipment at each end of the link and the first year rental charge	9,758.00	-	-	-	40055

Item					Item	
AUTOMATIC/ MANUAL FIRE ALARM SYSTEM (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Nickel-metal hydride battery c/w charger and metal box housing of the following capacity : -						
<i>Each</i>						
40056	n.e. 10 ampere hour	1,330.62	21.20	23.70	140.92	40056
40057	10 - 20 ampere hour	1,774.19	21.20	23.70	140.92	40057
40058	20 - 30 ampere hour	2,217.73	21.20	23.70	140.92	40058
40059	30 - 40 ampere hour	3,548.36	22.42	24.94	150.89	40059
40060	40 - 50 ampere hour	5,322.55	22.42	24.94	150.89	40060
40061	50 - 60 ampere hour	6,209.62	22.42	24.94	150.89	40061
40062	60 - 70 ampere hour	7,096.68	22.42	24.94	150.89	40062
40063	70 - 80 ampere hour	7,983.75	22.42	24.94	150.89	40063
40064	80 - 90 ampere hour	8,870.82	22.42	24.94	150.89	40064
40065	90 - 100 ampere hour	9,757.88	22.42	24.94	150.89	40065
Nickel-metal hydride battery of the following capacity : -						
<i>Each</i>						
40066	n.e. 10 ampere hour	405.48	21.20	23.70	140.92	40066
40067	10 - 20 ampere hour	657.10	21.20	23.70	140.92	40067
40068	20 - 30 ampere hour	908.71	21.20	23.70	140.92	40068
40069	30 - 40 ampere hour	1,171.10	22.42	24.94	150.89	40069
40070	40 - 50 ampere hour	1,422.72	22.42	24.94	150.89	40070
40071	50 - 60 ampere hour	1,674.33	22.42	24.94	150.89	40071
40072	60 - 70 ampere hour	1,925.94	22.42	24.94	150.89	40072
40073	70 - 80 ampere hour	2,177.56	22.42	24.94	150.89	40073
40074	80 - 90 ampere hour	2,429.16	22.42	24.94	150.89	40074
40075	90 - 100 ampere hour	2,680.78	22.42	24.94	150.89	40075
Fire alarm control/ indicating panel c/w contacts/ auxiliary contacts for shut down of A/ C & ventilation equipment, connection of fire link/ lift homing and all necessary accessories (including design for the fire alarm control system, training & providing all passwords) : -						
<i>Each</i>						
40076	Panel of 4 zones or less	6,653.18	58.62	62.35	334.21	40076
40077	Ditto 5 - 8 zones	8,870.91	62.35	66.07	351.67	40077
40078	Ditto 9 - 12 zones	11,913.61	66.07	69.83	374.11	40078
40079	Ditto 13 - 18 zones	22,177.24	69.83	73.57	390.32	40079
40080	Add to last item for each additional 4 zones or part thereof	2,644.49	3.98	7.10	17.46	40080

Item					Item
	AUTOMATIC/ MANUAL FIRE ALARM SYSTEM (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Intelligent addressable type fire alarm control/ indicating panel c/w contacts/ auxiliary contacts for shut down of A/ C & ventilation equipment, connection of fire link/ lift homing and all necessary accessories (including design for the fire alarm control system, training & providing all passwords) : -				
	<i>Each</i>				
40081	Panel of 50 points or less	22,177.24	56.10	59.88	329.21 40081
40082	Ditto 51 - 100 points	26,612.70	67.34	76.08	389.06 40082
40083	Ditto 101 - 150 points	31,048.14	89.78	98.51	495.06 40083
40084	Ditto 151 - 200 points	35,483.60	101.01	110.99	557.41 40084
40085	Add to last item for each additional 50 points or part thereof	9,670.65	7.48	8.72	38.65 40085
40086	System printer	2,674.77	6.24	7.48	56.10 40086
	Equipment/ components c/w all necessary accessories : -				
	<i>Per set</i>				
40087	Workstation of the intelligent addressable type automatic / manual fire alarm system designed for multi-user, multi-tasking point monitoring and control c/w CPU and mother board, disk drives/ streamer/ DVD writer drive, interface connection parts, keyboard, I/O card, mouse, cables, standard application software, software programmes for fire alarm system installation with unlimited usage licences	11,619.79	3,489.33	3,489.33	13,375.75 40087
	(The actual rate should be : \$116,197.90 for Item 40087A)				
	<i>Each</i>				
40088	LCD video display unit for the workstation of the intelligent addressable type automatic / manual fire alarm system, active screen size 350mm diagonally measured, colour display, minimum of 1024 x 768 pixels resolutions with tilt/ swivel base	2,213.99	11.21	13.22	30.54 40088
40089	Ditto active screen size 380 mm	2,315.82	11.21	13.22	30.54 40089
40090	Ditto active screen size 430 mm	2,751.54	11.21	13.22	30.54 40090
40091	Ditto active screen size 480 mm	3,102.00	11.21	13.22	30.54 40091

Item					Item	
	SPRINKLER SYSTEM					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Sprinkler Point : -					
	<i>Each</i>					
40092	Sprinkler head (quartzoid bulb type), 68°C / 93°C c/w cover plate/ protective guard (where applicable), arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	256.27	29.92	33.69	98.51	40092
40093	Sprinkler head (quartzoid bulb type), 68°C / 93°C for false ceiling, flush pattern, pendant type/ concealed pendant type c/w adjustable chromium plated metal ceiling masking plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	443.70	29.92	33.69	99.76	40093
40094	Sprinkler head (fast response type) c/w cover plate/ protective guard (where applicable), arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	297.28	29.92	33.69	98.51	40094
40095	Sprinkler head (fast response type) for false ceiling, flush pattern, pendant type/ concealed pendant type c/w adjustable chromium plated metal ceiling masking plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	493.09	29.92	33.69	99.76	40095
40096	Sprinkler head, dry pendent type (quartzoid bulb type) c/w cover plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	894.15	28.67	31.18	92.26	40096
40097	Sprinkler head (quartzoid bulb type), quick response and vandal type suitable for cell of prison, c/w cover plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe (where applicable) and all necessary accessories (the fusible element assembly consistently breaks away when connected to 18.15 kg weight dropped 0.153 m)	496.01	28.67	31.18	103.50	40097
40098	Institutional style quick response flush pendent sprinkler c/w escutcheon plate and lock ring, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	1,038.07	28.67	31.18	103.50	40098
40099	Institutional style quick response flush sidewall sprinkler c/w escutcheon plate and lock ring, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	1,152.52	28.67	31.18	103.50	40099
40100	Cabinet for spare sprinkler	1,334.48	7.48	8.72	13.72	40100
40101	Sprinkler head guard	266.90	8.72	9.98	14.97	40101
40102	Sprinkler cover plate	24.25	8.72	9.98	14.97	40102
	Draining and refilling the sprinkler system : -					
	<i>Each sprinkler system</i>					
40103	Drain and refill the sprinkler system with all necessary accessories for AA&I works controlled by the main control valve set. The formal process in suspension of the FS system shall be included	3,558.65	-	-	-	40103
40104	Drain and refill the sprinkler system with all necessary accessories for AA&I works controlled by the subsidiary control valve set. The formal process in suspension of the FS system shall be included.	3,558.65	-	-	-	40104

Item	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item	
	A \$	B \$	C \$	D \$		
SPRINKLER SYSTEM (CONT'D)						
Sprinkler Point c/w 32 mm diameter sprinkler pipe connected from branch tee to sprinkler head :-						
<i>Each</i>						
40105	Sprinkler head (quartzoid bulb type), 68°C / 93°C c/w cover plate/ protective guard (where applicable), arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	812.31	43.09	46.57	240.37	40105
40106	Sprinkler head (quartzoid bulb type), 68°C / 93°C for false ceiling, flush pattern, pendant type/ concealed pendant type, c/w adjustable chromium plated metal ceiling masking plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	999.75	43.09	46.57	241.73	40106
40107	Sprinkler head (fast response type) c/w cover plate/ protective guard (where applicable), arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	853.32	43.09	46.57	240.37	40107
40108	Sprinkler head (fast response type) for false ceiling, flush pattern, pendant type/ concealed pendant type c/w adjustable chromium plated metal ceiling masking plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	1,049.12	43.09	46.57	241.73	40108
40109	Sprinkler head, dry pendent type (quartzoid bulb type) c/w cover plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	1,450.21	40.50	44.76	233.18	40109
40110	Sprinkler head (quartzoid bulb type), quick response and vandal type suitable for cell of prison, c/w cover plate, arm pipe, modification and connection to the existing distribution pipe/ range pipe (where applicable) and all necessary accessories (the fusible element assembly consistently breaks away when connected to 18.15 kg weight dropped 0.153 m)	1,052.06	42.06	45.04	244.36	40110
40111	Institutional style quick response flush pendent sprinkler c/w escutcheon plate and lock ring, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	1,594.12	42.06	45.04	244.36	40111
40112	Institutional style quick response flush sidewall sprinkler c/w escutcheon plate and lock ring, arm pipe, modification and connection to the existing distribution pipe/ range pipe if necessary and all necessary accessories	1,708.57	42.06	45.04	244.36	40112
Sprinkler control valve set or subsidiary valve set c/w control wiring, all necessary accessories including valves, alarm valves, pressure gauges, pressure switch, water motor alarm gong retardation chamber, flow switch, security devices with warning labels and serial number, tamper-proof electric switch to indicate valve operational mode including remote indication valve operational on F.S. control panel, etc. :-						
<i>Per set</i>						
40113	100 mm diameter	13,344.93	280.59	317.98	937.74	40113
40114	150 mm diameter	17,793.25	300.53	339.18	1,064.93	40114
40115	Subsidiary stop valve	4,448.32	39.92	46.15	76.08	40115
Pre-action valve package c/w control wiring, swing check valve, gate valve, proper size drain top, flow control valve, pressure gauges, alarm gong, detection control panel with 72 hrs standby period, and all necessary accessories including remote indication on F.S. control panel :-						
T1 type						
<i>Each</i>						
40116	Valve package for pipe of 80 mm diameter	22,884.43	293.04	329.21	1,134.67	40116
40117	Ditto 100 mm diameter	25,912.03	314.25	350.41	1,302.30	40117
40118	Ditto 150 mm diameter	32,215.53	334.21	369.11	1,473.58	40118

Item					Item	
	SPRINKLER SYSTEM (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	T2 type					
	<i>Each</i>					
40119	Valve package for pipe of 80 mm diameter	22,460.63	293.04	329.21	1,134.67	40119
40120	Ditto 100 mm diameter	26,259.48	314.25	350.41	1,302.30	40120
40121	Ditto 150 mm diameter	31,922.89	334.21	369.11	1,473.58	40121
	Detection control for pre-action system : -					
	<i>Each</i>					
40122	Detection control panel for pre-action system c/w timer, valve trim box, solenoid valve, pressure switches, charger and nickel cadmium battery, alarm bell and all necessary accessories	7,117.29	63.60	68.58	389.06	40122
40123	Manual emergency push button station c/w cables, conduits (surface or concealed type) and all necessary accessories including connection to the detection control panel	739.45	63.60	68.58	389.06	40123
	Re-cycling pre-action valve package c/w control wiring, swing check valve, gate valve, proper size drain top flow control valve, pressure gauges, alarm gong and all necessary accessories including remote indication on F.S. control panel : -					
	<i>Each</i>					
40124	Valve package for pipe of 80 mm diameter	32,526.80	344.16	387.83	1,219.56	40124
40125	Ditto 100 mm diameter	37,863.95	370.36	412.76	1,359.23	40125
	Detection control for re-cycling pre-action system : -					
	<i>Each</i>					
40126	Detection control panel for re-cycling pre-action c/w timer, valve trim box, solenoid valve, pressure switches, charger and nickel cadmium battery for 72 hrs standby period, alarm bell and all necessary accessories	17,364.76	81.05	86.04	465.14	40126
40127	Heat detector for re-cycling pre-action system c/w low smoke fire resisting cables and all necessary accessories and connected to re-cycling pre-action detection panel	6,973.84	92.26	107.23	357.89	40127
40128	Manual emergency push button station c/w cables, conduits (surface or concealed type) and all necessary accessories including connection to the detection control panel	864.98	77.33	92.26	289.30	40128
	Dry pipe system c/w air compressor unit, air maintenance device, air supply copper pipes, pressure relief valve for air supply pipework, dryer or freezer for air supply system, restrictor for air supply system, alarm valve, shut off valves, clush valve mounting brackets, vibration eliminator to maintain system air pressure of 3.5 bar in 3 minutes, and testing facilities including quick-acting test valve : -					
	<i>Each</i>					
40129	System for protected area n.e. 50 m ²	10,355.20	194.53	205.48	738.23	40129
40130	System for protected area 50 m ² - 100 m ²	16,655.89	198.26	209.51	744.44	40130

Item					Item
SPRINKLER SYSTEM (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Sprinkler inlet : -				
	<i>Each</i>				
40131	Fire services sprinkler inlet	2,224.15	63.60	67.34	140.92
	Warning sign : -				
	<i>Each</i>				
40132	Warning sign for subsidiary stop valve (FS circular 4/2010)	580.90	8.72	9.98	14.97
HYDRANT/ HOSE REEL SYSTEM					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	<i>Each</i>				
40133	30 m long hose reel c/w all necessary pipework and fittings including connection to the existing hose reel system (pipe within 3 m from existing pipe and up to 32 mm diameter shall be included, extra length measured separately)	2,224.15	82.30	88.55	456.42
40134	Metal box for hose reel nozzle c/w glass front panel	355.86	9.71	10.36	17.46
40135	Drain and refill the hydrant/ hose reel system for execution of work for wet system	3,323.17	-	-	-
40136	Hydrant outlet (single) c/w all necessary fitting including connection to the existing hydrant system (pipe work measured separately)	1,779.33	63.60	66.07	230.70
40137	Pedestal type cast iron, round head external street hydrant outlet c/w all necessary fitting including connection to the existing hydrant system (pipe work measured separately)	415.38	132.19	164.61	518.76
40138	Fire Services inlet twin type	2,076.99	63.60	66.07	139.68
40139	Parity valve (all sizes)	2,492.38	43.64	51.13	81.05
40140	Street hydrant outlet (single) c/w all necessary fitting including connection to existing hydrant system (pipework measured separately)	1,571.95	79.80	86.04	365.37
40141	Ditto (twin outlet)	1,769.69	86.04	92.26	441.42
40142	Metal identification plate for F.S. inlet leather & lock for F.S. inlet	92.66	8.72	9.98	17.46
40143	Direct reading flowmeter	11,361.25	48.64	49.89	96.02
40144	Pressure reducing valve set	1,439.36	43.64	51.13	81.05
40145	Carry out test on water pressure and flow at pedestal street hydrant installed by others using calibrated equipment.	3,772.18	-	-	-

Item					Item	
PIPE WORK AND PUMPS						
Galvanized steel pipes c/w all necessary accessories for fire services system : -						
<i>Per linear metre</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
40146	25 mm diameter	166.17	3.45	4.07	44.88	40146
40147	32 mm diameter	207.71	4.00	4.42	47.40	40147
40148	40 mm diameter	232.62	4.20	4.86	51.13	40148
40149	50 mm diameter	290.77	4.79	5.32	59.88	40149
40150	65 mm diameter	332.31	5.38	6.12	67.34	40150
40151	80 mm diameter	456.94	6.24	7.48	76.08	40151
40152	100 mm diameter	540.02	7.39	7.77	98.51	40152
40153	150 mm diameter	747.73	11.22	12.46	129.69	40153
40154	200 mm diameter	1,246.18	13.72	16.22	158.39	40154
Ductile steel pipe c/w all necessary accessories for fire services system : -						
<i>Per linear metre</i>						
40155	150 mm diameter	1,055.62	8.37	9.13	102.27	40155
40156	200 mm diameter	1,995.64	9.98	11.22	128.45	40156
40157	250 mm diameter	2,935.65	12.46	13.72	135.92	40157
Underground ductile steel pipe c/w all necessary accessories for fire services system : -						
<i>Per linear metre</i>						
40158	150 mm diameter	1,435.52	6.41	6.83	82.30	40158
40159	200 mm diameter	1,921.31	7.83	8.25	101.01	40159
40160	250 mm diameter	2,407.09	9.37	9.97	120.96	40160

Item					Item	
	PIPE WORK AND PUMPS (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Tee off from Existing pipework : -					
	<i>Each</i>					
40161	32 mm diameter	222.93	-	-	123.46	40161
40162	40 mm diameter	245.83	-	-	138.44	40162
40163	50 mm diameter	298.20	-	-	150.89	40163
40164	65 mm diameter	371.58	-	-	200.79	40164
40165	80 mm diameter	430.02	-	-	241.92	40165
40166	100 mm diameter	590.98	-	-	340.44	40166
40167	150 mm diameter	947.82	-	-	446.43	40167
40168	200 mm diameter	1,465.35	-	-	779.41	40168
40169	250 mm diameter	2,147.34	-	-	963.92	40169
	Gate valve c/w padlock (where applicable) and all necessary accessories : -					
	<i>Each</i>					
40170	25 mm diameter	186.99	26.17	31.47	42.39	40170
40171	32 mm diameter	235.47	26.68	32.01	47.40	40171
40172	40 mm diameter	283.97	27.37	32.56	51.13	40172
40173	50 mm diameter	344.44	28.67	33.69	54.86	40173
40174	65 mm diameter	1,076.77	29.92	34.93	57.38	40174
40175	80 mm diameter	1,239.46	32.43	37.40	61.10	40175
40176	100 mm diameter	1,682.42	34.93	39.92	67.34	40176
40177	150 mm diameter	2,622.31	46.15	58.62	91.03	40177
40178	200 mm diameter	4,511.59	57.38	66.07	114.74	40178
40179	250 mm diameter	6,799.13	67.34	73.57	133.43	40179
40180	150 mm underground G.I. flange gate valve for street hydrant: -	7,188.95	46.15	58.62	91.03	40180

Item					Item	
	PIPE WORK AND PUMPS (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Gate valve for sprinkler system c/w tamper-proof electric switch to indicate valve operational mode including remote indication on F.S. control panel : -					
	<i>Each</i>					
40181	32 mm diameter	926.57	43.58	49.84	142.17	40181
40182	40 mm diameter	985.68	44.23	50.35	144.65	40182
40183	50 mm diameter	1,076.42	45.31	51.47	149.63	40183
40184	65 mm diameter	2,054.91	47.40	53.63	153.39	40184
40185	80 mm diameter	2,381.83	48.64	54.86	155.88	40185
40186	100 mm diameter	2,795.70	51.13	57.38	160.86	40186
40187	150 mm diameter	4,297.24	62.35	69.83	185.79	40187
40188	200 mm diameter	6,012.50	73.57	82.30	208.25	40188
	Globe valve : -					
	<i>Each</i>					
40189	25 mm diameter	193.77	24.94	29.92	42.39	40189
40190	32 mm diameter	261.37	29.92	35.74	47.40	40190
40191	40 mm diameter	365.48	30.60	36.26	51.13	40191
40192	50 mm diameter	520.12	31.73	37.48	54.86	40192
40193	65 mm diameter	1,261.16	32.43	38.24	59.88	40193
40194	80 mm diameter	1,605.70	33.12	38.97	63.60	40194
40195	100 mm diameter	1,961.05	38.50	44.21	79.80	40195
40196	150 mm diameter	4,088.13	49.81	57.08	104.74	40196
40197	200 mm diameter	6,911.57	61.43	70.29	129.69	40197
40198	250 mm diameter	9,474.90	70.44	77.65	150.89	40198

Item					Item	
	PIPE WORK AND PUMPS (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Globe valve for sprinkler system c/w tamper-proof electric switch to indicate valve operational mode including remote indication on F.S. control panel : -					
	<i>Each</i>					
40199	32 mm diameter	919.68	43.58	49.84	142.17	40199
40200	40 mm diameter	989.83	44.23	50.36	144.65	40200
40201	50 mm diameter	1,141.83	45.31	51.47	149.63	40201
40202	65 mm diameter	2,220.66	47.40	53.63	153.39	40202
40203	80 mm diameter	2,495.92	48.64	54.86	155.88	40203
40204	100 mm diameter	3,073.87	51.13	57.38	160.86	40204
40205	150 mm diameter	5,039.04	62.35	69.83	185.79	40205
40206	200 mm diameter	7,714.89	73.57	82.30	208.25	40206
40207	250 mm diameter	10,291.66	78.56	91.03	229.45	40207
	Non return valve : -					
	<i>Each</i>					
40208	32 mm diameter	289.01	26.68	32.01	47.40	40208
40209	40 mm diameter	357.63	27.37	32.54	51.13	40209
40210	50 mm diameter	500.47	28.67	33.69	54.86	40210
40211	65 mm diameter	892.41	29.92	34.93	57.38	40211
40212	80 mm diameter	1,435.04	32.43	37.40	61.10	40212
40213	100 mm diameter	1,682.42	34.93	39.92	67.34	40213
40214	150 mm diameter	2,888.89	46.15	52.38	91.03	40214
40215	200 mm diameter	4,882.59	58.62	66.07	114.74	40215
40216	250 mm diameter	7,380.82	67.34	73.57	133.43	40216

Item					Item
	PIPE WORK AND PUMPS (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Y-type strainer : -				
	<i>Each</i>				
40217	32 mm diameter	381.91	27.02	32.71	47.40 40217
40218	40 mm diameter	474.45	27.55	33.13	51.13 40218
40219	50 mm diameter	714.84	28.67	34.93	54.86 40219
40220	65 mm diameter	772.77	29.92	36.17	57.38 40220
40221	80 mm diameter	986.42	32.43	38.65	61.10 40221
40222	100 mm diameter	1,345.14	34.93	41.14	67.34 40222
40223	150 mm diameter	2,802.68	46.15	54.86	91.03 40223
40224	200 mm diameter	4,260.26	58.62	68.58	114.74 40224
40225	250 mm diameter	7,180.71	67.34	77.33	133.43 40225
	Sluice valve, wedge type c/w spindle cap : -				
	<i>Each</i>				
40226	150 mm diameter	2,947.77	47.40	54.86	93.52 40226
40227	200 mm diameter	4,635.14	58.62	68.58	117.21 40227
40228	250 mm diameter	7,169.84	68.58	77.33	134.67 40228
	Puddle flange tank connector : -				
	<i>Each</i>				
40229	100 mm diameter	940.57	38.65	44.88	72.33 40229
40230	150 mm diameter	1,080.54	51.13	58.62	98.51 40230
40231	200 mm diameter	1,416.66	63.60	73.57	124.71 40231
40232	250 mm diameter	1,906.04	73.57	82.30	144.65 40232

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
PIPE WORK AND PUMPS (CONT'D)						
	Sundries : -					
	<i>Each</i>					
40233	Vortex inhibitor (all sizes)	5,862.87	38.65	44.88	72.33	40233
40234	Non-ferrous filter (all sizes)	2,426.43	36.17	42.39	63.60	40234
40235	Air relief valve (all sizes)	175.41	27.43	33.69	42.39	40235
40236	Anti-pollution valve (all sizes)	984.02	32.43	38.65	56.10	40236
40237	Pressure gauge (all sizes)	326.73	27.43	33.69	42.39	40237
40238	Oil dumped gauge for sprinkler system	551.11	28.67	34.93	46.15	40238
40239	Electric alarm pressure switch c/w conduits (surface or concealed type), trunkings, cables for connection to the fire alarm control/ indication panel and control equipment and all accessories	2,022.19	97.28	105.99	310.50	40239
40240	Water alarm flow switch c/w conduits (surface or concealed type), trunkings, cables for connection to the fire alarm control/ indication panel and control equipment and all accessories	1,014.01	103.50	114.74	350.41	40240
40241	Subsidiary monitor stop valve set per zone c/w limit switch, conduits (surface or concealed type), trunkings, cables for connection to the fire control indication panel and all accessories	3,386.39	110.99	119.72	339.18	40241
	Centrifugal pump, horizontal split case type c/w drain and vent, orifice plates, electrical wirings, connected to a power supply switch, control wirings & associated conduit/ trunking, connected to and including control panel in the same room and installed on a concrete plinth : -					
	<i>Each</i>					
40242	Up to 5 kW	77,740.24	167.09	192.04	920.31	40242
40243	5 - 10 kW	11,229.15	175.84	200.79	957.71	40243
	(The actual rate should be : \$112,291.50 for Item 40243A)					
40244	10 - 15 kW	11,229.15	184.56	209.51	991.35	40244
	(The actual rate should be : \$112,291.50 for Item 40244A)					
40245	15 - 20 kW	12,314.36	192.04	216.99	1,018.82	40245
	(The actual rate should be : \$123,143.60 for Item 40245A)					
40246	20 - 25 kW	13,675.67	200.79	225.71	1,057.48	40246
	(The actual rate should be : \$136,756.70 for Item 40246A)					
40247	25 - 30 kW	17,071.61	209.51	234.45	1,079.90	40247
	(The actual rate should be : \$170,716.10 for Item 40247A)					
40248	Add to last item for each additional 5 kW or part thereof	43,189.03	8.32	8.70	32.43	40248

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	PIPE WORK AND PUMPS (CONT'D)					
	Centrifugal pump, end-suction type c/w drain and vent, orifice plates, electrical wirings, connected to a power supply switch, control wirings & associated conduit/ trunking, connected to and including control panel in the same room and installed on a concrete plinth : -					
	<i>Each</i>					
40249	Up to 5 kW	69,102.44	167.09	192.04	920.31	40249
40250	5 - 10 kW	95,015.87	175.84	200.79	957.71	40250
40251	10 - 15 kW	10,365.37	184.56	209.51	991.35	40251
	(The actual rate should be : \$103,653.70 for Item 40251A)					
40252	15 - 20 kW	12,849.59	192.04	216.99	1,018.82	40252
	(The actual rate should be : \$128,495.90 for Item 40252A)					
40253	20 - 25 kW	14,372.40	200.79	225.71	1,057.48	40253
	(The actual rate should be : \$143,724.00 for Item 40253A)					
40254	25 - 30 kW	16,003.26	209.51	234.45	1,079.90	40254
	(The actual rate should be : \$160,032.60 for Item 40254A)					
40255	Add to last item for each additional 5 kW or part thereof	35,483.60	8.32	8.70	32.43	40255
	Centrifugal Jockey Pump, c/w drain and vent, orifice plates, electrical wirings, connected to a power supply switch, control wirings & associated conduit/ trunking, connected to and including control panel in the same room and installed on a concrete plinth : -					
	<i>Each</i>					
40256	Up to 5 kW	77,740.24	167.09	192.04	920.31	40256
40257	5 - 10 kW	95,015.87	175.84	200.79	957.71	40257
40258	Add to last item for each additional 5 kW or part thereof	43,189.03	8.32	8.70	32.43	40258
	Sundries : -					
	<i>Each</i>					
40259	Remote supervisory/ start stop control panel for pump c/w all necessary accessories	16,615.89	58.62	62.35	356.65	40259
40260	High/ low level switch c/w conduits (surface or concealed type), trunking, sensing device, interconnection wiring and cables from water tank to indication and control panel for indication and control functions and all necessary for proper functioning of fire services system	4,984.77	67.34	77.33	290.56	40260
40261	Sprinkler proving pipe and all necessary accessories	7,061.74	36.17	39.92	67.34	40261
40262	Strap for valves, hydrants & FS / Sprinkler inlets	173.60	8.72	9.98	14.97	40262
40263	Pad lock	130.21	8.72	9.98	14.97	40263
40264	Electro thermal link	770.93	8.72	9.98	14.97	40264

Item					Item
	PIPE WORK AND PUMPS (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Expansion joint c/w all necessary accessories for fire services system : -				
	<i>Each</i>				
40265	32 mm diameter	1,204.03	30.51	37.49	52.38 40265
40266	40 mm diameter	1,432.34	31.20	38.15	56.10 40266
40267	50 mm diameter	1,910.15	32.43	39.92	61.10 40267
40268	65 mm diameter	2,131.71	33.69	41.14	63.60 40268
40269	80 mm diameter	2,353.23	36.17	43.64	68.58 40269
40270	100 mm diameter	3,138.88	38.65	44.88	72.33 40270
40271	150 mm diameter	5,128.41	48.64	56.10	88.55 40271
40272	200 mm diameter	7,117.95	58.62	66.07	101.01 40272
	Foot valve, globe type : -				
	<i>Each</i>				
40273	50 mm diameter	1,672.37	52.30	235.32	156.88 40273
40274	65 mm diameter	2,787.27	65.37	392.20	261.47 40274
40275	80 mm diameter	3,344.72	78.44	392.20	261.47 40275
40276	100 mm diameter	3,921.33	91.52	522.93	366.05 40276
40277	125 mm diameter	5,327.36	104.58	588.30	418.35 40277
40278	150 mm diameter	6,733.38	130.73	653.67	522.93 40278
40279	200 mm diameter	11,380.23	183.03	784.40	653.67 40279
40280	250 mm diameter	17,203.07	261.47	915.13	784.40 40280
40281	300 mm diameter	23,025.92	392.20	1,045.87	915.13 40281
	Pump control and indication panel of FS System completed with motor starter for fire service / street hydrant / sprinkler pump motor completed with push buttons, relays, circuit protective and metering device, electrical wiring connected to supply point, etc for total : -				
	<i>Each</i>				
40282	up to 5kW	9,294.25	56.10	59.88	329.21 40282
40283	5 - 10kW	13,941.38	56.10	59.88	329.21 40283
40284	10 - 15kW	18,588.50	56.10	59.88	329.21 40284
40285	15 - 20kW	23,235.63	56.10	59.88	329.21 40285
40286	20 - 25kW	27,882.75	56.10	59.88	329.21 40286
40287	25 - 30kW	37,177.00	56.10	59.88	329.21 40287

Item					Item								
FIRE RESISTANT CABLES													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Supply and fix</th> <th style="width: 25%;">Take down and clear away</th> <th style="width: 25%;">Take down and set aside for re-use</th> <th style="width: 25%;">Fix only</th> </tr> <tr> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> </tr> </thead> </table>						Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	A \$	B \$	C \$	D \$
Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only										
A \$	B \$	C \$	D \$										
(Note : The following Items 40288 to 40305 inclusive will only be paid for if ordered by the Maintenance Surveyor in writing)													
BS 6387 Category B heat resistant cables c/w all necessary accessories : -													
<i>Per linear metre</i>													
40288	1.5 mm ² 1-core	25.54	1.29	1.67	4.97	40288							
40289	2.5 mm ² 1-core	29.13	1.29	1.67	4.97	40289							
40290	1.5 mm ² 7-core	169.35	6.24	7.48	23.70	40290							
40291	2.5 mm ² 7-core	198.85	7.48	8.72	27.43	40291							
40292	1.5 mm ² 12-core	225.95	6.24	7.48	23.70	40292							
40293	2.5 mm ² 12-core	262.46	7.48	8.72	27.43	40293							
40294	1.5 mm ² 19-core	308.43	7.14	7.41	26.18	40294							
40295	2.5 mm ² 19-core	411.67	7.48	8.72	29.92	40295							
40296	1.5 mm ² 27-core	424.16	7.48	8.72	29.92	40296							
40297	2.5 mm ² 27-core	500.86	8.72	9.98	32.43	40297							
40298	1.5 mm ² 7-core PVC/ SWA/ PVC	617.89	6.24	7.48	23.70	40298							
40299	2.5 mm ² 7-core PVC/ SWA/ PVC	703.79	7.48	8.72	27.43	40299							
40300	1.5 mm ² 12-core PVC/ SWA/ PVC	830.67	6.24	7.48	23.70	40300							
40301	2.5 mm ² 12-core PVC/ SWA/ PVC	863.94	7.48	8.72	28.67	40301							
40302	1.5 mm ² 19-core PVC/ SWA/ PVC	1,038.72	6.24	7.48	26.18	40302							
40303	2.5 mm ² 19-core PVC/ SWA/ PVC	1,143.37	7.48	8.72	29.92	40303							
40304	1.5 mm ² 27-core PVC/ SWA/ PVC	1,177.03	7.48	8.72	29.92	40304							
40305	2.5 mm ² 27-core PVC/ SWA/ PVC	1,279.06	8.72	9.98	32.43	40305							

Item					Item	
	FIRE RESISTANT CABLES (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	(Note : The following Items 40306 to 40321 inclusive will only be paid for if ordered by the Maintenance Surveyor in writing)					
	BS 6387 Category CWZ heat resistant cables c/w all necessary accessories : -					
	<i>Per linear metre</i>					
40306	10 mm ² 1-core	80.80	1.97	2.36	6.24	40306
40307	16 mm ² 1-core	106.77	1.97	2.36	6.24	40307
40308	25 mm ² 1-core	133.46	2.49	3.01	8.72	40308
40309	35 mm ² 1-core	308.75	2.49	3.01	9.98	40309
40310	50 mm ² 1-core	357.65	3.03	3.67	11.22	40310
40311	70 mm ² 1-core	428.01	3.30	3.94	11.22	40311
40312	95 mm ² 1-core	510.90	3.73	4.97	14.97	40312
40313	120 mm ² 1-core	603.54	4.97	6.24	17.46	40313
40314	10 mm ² 4-core PVC/ SWA/ PVC	323.14	12.46	14.97	46.15	40314
40315	16 mm ² 4-core PVC/ SWA/ PVC	361.17	12.46	14.97	47.40	40315
40316	25 mm ² 4-core PVC/ SWA/ PVC	528.39	13.72	16.22	48.64	40316
40317	35 mm ² 4-core PVC/ SWA/ PVC	593.00	13.72	16.22	49.89	40317
40318	50 mm ² 4-core PVC/ SWA/ PVC	722.44	14.97	17.46	51.13	40318
40319	70 mm ² 4-core PVC/ SWA/ PVC	916.15	14.97	17.46	54.86	40319
40320	95 mm ² 4-core PVC/ SWA/ PVC	1,064.98	16.22	19.96	61.10	40320
40321	120 mm ² 4-core PVC/ SWA/ PVC	1,259.33	17.46	21.20	68.58	40321

Item					Item
	FIRE RESISTANT CABLES (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	(Note : The following Items 40322 to 40377 inclusive will only be paid for if ordered by the Maintenance Surveyor in writing)				
	Low smoke zero halogen type fire resistant cable complying with BS6387 CWZ, BS EN 50200, BE EN 61034-1, BE EN 50267-2 and BS 7629-1/ BS 7846 c/w all necessary accessories : -				
	<i>Per linear metre</i>				
40322	10 mm ² 1-core	81.55	1.97	2.36	6.24
40323	16 mm ² 1-core	107.21	1.97	2.36	6.24
40324	25 mm ² 1-core	134.33	2.49	3.01	8.72
40325	35 mm ² 1-core	311.21	2.49	3.01	9.98
40326	50 mm ² 1-core	359.49	3.03	3.67	11.22
40327	70 mm ² 1-core	430.09	3.30	3.94	11.22
40328	95 mm ² 1-core	514.24	3.73	4.97	14.97
40329	120 mm ² 1-core	608.00	4.97	6.24	17.46
40330	10 mm ² 4-core	326.57	12.46	14.97	46.15
40331	16 mm ² 4-core	365.20	12.46	14.97	47.40
40332	25 mm ² 4-core	535.33	13.72	16.22	48.64
40333	35 mm ² 4-core	599.25	13.72	16.22	49.89
40334	50 mm ² 4-core	728.30	14.97	17.46	51.13
40335	70 mm ² 4-core	926.23	14.97	17.46	54.86
40336	95 mm ² 4-core	1,076.98	16.22	19.96	61.10
40337	120 mm ² 4-core	1,273.18	17.46	21.20	68.58

Item					Item
	GAS TOTAL FLOODING SYSTEM				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	FM-200 gas cylinder c/w discharge valve with safety device, check valve, manifolds, pressure gauge, low pressure switch, dip tubes, liquid level indicator, mounting brackets, nameplate, signal wiring and all necessary accessories (including design and calculation for the gas total flooding system, include FM200 gas first charging) :-				
	<i>Each</i>				
40338	Up to 27 kg	24,800.57	116.45	131.45	826.12 40338
40339	27 - 40 kg	29,702.59	135.92	150.89	980.14 40339
40340	40 - 50 kg	35,007.24	150.89	165.85	1,098.62 40340
40341	50 - 70 kg	46,121.80	165.85	180.81	1,223.33 40341
40342	70 - 100 kg	61,769.42	180.81	195.78	1,343.03 40342
40343	100 - 140 kg	82,023.06	195.78	210.75	1,472.72 40343
40344	140 - 180 kg	10,338.99	210.75	225.71	1,593.68 40344
	(The actual rate should be : \$103,389.90 for Item 40344A)				
40345	Each additional 10 kg or part thereof 140-180kg	5,743.87	11.70	12.54	88.54 40345
40346	Discharge nozzle	532.77	15.61	16.39	36.17 40346
	FM-200 system control and indicating panel c/w control wiring, signal wiring with main fire alarm control panel, coincidence unit, electronic components, battery/ charger and all necessary accessories (including design and calculation for the gas total flooding system) :-				
	<i>Each</i>				
40347	Panel of 2 zones	8,497.72	54.86	57.38	326.72 40347
40348	Panel of 4 zones	14,237.01	56.10	58.62	337.94 40348
40349	Panel of 8 zones	19,252.35	58.62	62.35	354.14 40349
40350	System odouriser	1,852.00	24.94	31.18	104.74 40350
	Novec-1230 gas cylinder c/w discharge valve with safety device, check valve, manifolds, pressure gauge, low pressure switch, dip tubes, liquid level indicator, mounting brackets, nameplate, signal wiring and all necessary accessories (including design and calculation for the gas total flooding system, include Novec-1230 gas first charging) :-				
	<i>Each</i>				
40351	Up to 27 kg	21,470.00	107.48	121.32	762.48 40351
40352	27 - 40 kg	25,713.71	125.45	139.27	904.63 40352
40353	40 - 50 kg	30,305.97	139.27	153.07	1,013.97 40353
40354	50 - 70 kg	39,927.91	153.07	166.89	1,129.08 40354
40355	70 - 100 kg	53,474.14	166.89	180.70	1,239.56 40355
40356	100 - 140 kg	71,007.83	180.70	194.50	1,359.26 40356
40357	140 - 180 kg	89,505.22	194.50	208.32	1,470.89 40357
40358	Each additional 10 kg or part thereof 140-180kg	4,972.51	10.80	11.57	81.72 40358
40359	Discharge nozzle	461.23	14.40	15.12	33.38 40359

Item					Item	
GAS TOTAL FLOODING SYSTEM (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Novec-1230 system control and indicating panel c/w control wiring, signal wiring with main fire alarm control panel, coincidence unit, electronic components, battery/ charger and all necessary accessories (including design and calculation for the gas total flooding system) :-					
	<i>Each</i>					
40360	Panel of 2 zones	7,356.52	50.64	52.95	301.55	40360
40361	Panel of 4 zones	12,325.05	51.78	54.10	311.90	40361
40362	Panel of 8 zones	16,666.87	54.10	57.55	326.86	40362
40363	System odouriser	1,603.30	23.02	28.77	96.67	40363
	Heavy galvanized steel pipework to BS EN 10255 but welded and fittings to BS EN 10241 c/w all necessary accessories (including design and calculation for the gas total flooding system) :-					
	<i>Per linear metre</i>					
40364	20 mm diameter	117.40	4.44	4.76	73.57	40364
40365	25 mm diameter	141.87	5.11	5.24	79.80	40365
40366	32 mm diameter	167.52	5.86	6.01	84.82	40366
40367	40 mm diameter	182.98	6.41	6.47	92.26	40367
	Mild steel pipework to BS EN 10216-1 and BS EN 10217-1 and fittings to BS EN 10241 c/w all necessary accessories (including design and calculation for the gas total flooding system) :-					
	<i>Per linear metre</i>					
40368	50 mm diameter	335.60	8.43	9.16	125.95	40368
40369	65 mm diameter	406.81	9.98	11.22	145.91	40369
40370	80 mm diameter	494.92	11.22	12.46	160.86	40370
40371	100 mm diameter	638.52	12.46	13.72	204.51	40371
	Mild steel pipework to BS EN 10216-1 and BS EN 10217-1 and fittings to BS EN 1759-1 c/w all necessary accessories (including design and calculation for the gas total flooding system) :-					
	<i>Per linear metre</i>					
40372	150 mm diameter	906.69	22.42	23.70	271.86	40372

Item					Item	
GAS TOTAL FLOODING SYSTEM (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Equipment/ components for FM-200 system c/w all necessary accessories and connected to control/ indication panel :-						
<i>Each</i>						
40373	Gas release actuator	2,044.24	89.78	108.49	375.35	40373
40374	Lock off/ indication panel	3,078.94	53.63	57.38	213.25	40374
40375	Gas discharge flashing light	482.92	43.64	48.64	178.33	40375
40376	Manual release pull unit	649.83	58.62	68.58	253.14	40376
40377	Yodalarm	1,098.04	58.62	68.58	253.14	40377
40378	Abort unit	930.37	58.62	68.58	253.14	40378
40379	Compartment protected by FM-200 system warning notice	203.95	3.56	4.23	22.42	40379
40380	Smoke detector point compatible with panel	796.24	58.62	68.58	253.14	40380
40381	Auto/ manual key switch unit with housing	1,212.96	58.62	68.58	263.11	40381
40382	Warning light for evacuation and gas discharge	681.55	58.62	68.58	253.14	40382
40383	Agent release module for parallel wiring of agent initiators c/w all necessary accessories	664.49	58.62	68.58	253.14	40383
Equipment/ components for Novec-1230 system c/w all necessary accessories and connected to control/ indication panel :-						
<i>Each</i>						
40384	Gas release actuator	3,706.98	141.28	170.73	590.63	40384
40385	Lock off/ indication panel	4,520.80	84.39	90.28	335.56	40385
40386	Gas discharge flashing light	1,018.21	68.67	76.53	280.61	40386
40387	Manual release pull unit	914.51	92.24	107.92	398.33	40387
40388	Yodalarm	1,545.30	92.24	107.92	398.33	40388
40389	Abort unit	1,309.32	92.24	107.92	398.33	40389
40390	Compartment protected by Novec-1230 system warning notice	287.03	5.60	6.69	35.29	40390
40391	Smoke detector point compatible with panel	1,120.56	92.24	107.92	398.33	40391
40392	Auto/ manual key switch unit with housing	2,945.49	92.24	107.92	414.10	40392
40393	Warning light for evacuation and gas discharge	1,425.62	92.24	107.92	398.33	40393
40394	Agent release module for parallel wiring of agent initiators c/w all necessary accessories	1,831.35	92.24	107.92	398.33	40394
Sundries :-						
<i>Per kg</i>						
40395	Charge/ recharge/ refilling FM-200 gas into cylinder including all necessary works and delivery	577.36	-	-	-	40395
40396	Charge/ recharge/ refilling Novec-1230 gas into cylinder including all necessary works and delivery	759.97	-	-	-	40396

Item					Item								
ASPIRATING SMOKE DETECTION SYSTEM													
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Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only										
A \$	B \$	C \$	D \$										
Aspirating smoke detection system c/w sensor, air filter, sampling, fan(s), controls, wiring, control panel and all necessary accessories for a fully functional aspirating smoke detection system : -													
<i>Each</i>													
40397	For up to 50m sampling pipework	37,891.57	651.66	688.34	2,473.02	40397							
40398	For 50m - 100m sampling pipework	49,195.67	846.06	893.69	3,210.77	40398							
40399	For 100m - 200m sampling pipework	74,007.40	1,272.76	1,344.43	4,830.14	40399							
<i>Each</i>													
40400	Remote display c/w wall mounting enclosure	13,758.15	11.21	13.22	30.54	40400							
PORTABLE EQUIPMENT													
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Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only										
A \$	B \$	C \$	D \$										
Portable equipment c/w mounting framework, bracket and all necessary accessories : -													
<i>Each</i>													
40401	2 kg or below dry powder fire extinguisher	452.28	13.72	14.97	81.05	40401							
40402	2 - 4 kg dry powder fire extinguisher	528.51	13.72	14.97	81.05	40402							
40403	4 - 5 kg dry powder fire extinguisher	661.89	13.72	14.97	81.05	40403							
40404	5 - 9 kg dry powder fire extinguisher	757.16	13.72	14.97	84.82	40404							
40405	4.5 litres water type fire extinguisher	372.48	13.72	14.97	81.05	40405							
40406	9 litres water type fire extinguisher	415.38	13.72	14.97	84.82	40406							
40407	2 kg or below CO ₂ type fire extinguisher	265.71	13.72	14.97	81.05	40407							
40408	2 - 4 kg CO ₂ type fire extinguisher	399.21	13.72	14.97	81.05	40408							
40409	4 - 5 kg CO ₂ type fire extinguisher	599.48	13.72	14.97	81.05	40409							
40410	5 - 9 kg CO ₂ type fire extinguisher	1,200.25	13.72	14.97	84.82	40410							
40411	4.5 litres foam type fire extinguisher	404.18	13.72	14.97	81.05	40411							
40412	9 litres foam type fire extinguisher	413.05	13.72	14.97	84.82	40412							
40413	9 litres CO ₂ type water fire extinguisher	767.47	13.72	14.97	84.82	40413							
Refilling of portable fire extinguisher : -													
<i>Per kg</i>													
40414	CO ₂ refill	57.44	-	-	-	40414							

Item					Item	
PORTABLE EQUIPMENT (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	<i>Per litres</i>					
40415	Water refill	41.17	-	-	-	40415
40416	Foam refill	41.17	-	-	-	40416
	Sundries : -					
	<i>Each</i>					
40417	Sand bucket	242.39	3.45	3.51	4.97	40417
40418	Fire blanket, heavy type	382.63	6.24	7.48	16.22	40418
AUTOMATIC FIXED SPRAYER UNITS						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	HCFC-124 automatic type fixed sprayer unit and all necessary accessories : -					
	<i>Each</i>					
40419	Up to 5.7 kg	-	107.23	119.72	473.87	40419
40420	5.7 - 7.2 kg	-	110.99	122.20	492.57	40420
40421	7.2 - 10.7 kg	-	114.74	125.95	516.27	40421
40422	10.7 - 13.8 kg	-	117.21	129.69	536.21	40422
40423	13.8 - 15.3 kg	-	120.96	132.19	558.67	40423
40424	15.3 - 19.5 kg	-	124.71	135.92	578.61	40424
	NAFS-III automatic type fixed sprayer unit and all necessary accessories : -					
	<i>Each</i>					
40425	Up to 4 kg	-	108.49	123.46	483.84	40425
40426	4 - 9 kg	-	115.98	130.93	539.95	40426
40427	9 - 16 kg	-	164.61	188.28	749.45	40427

Item					Item	
AUTOMATIC FIXED SPRAYER UNITS (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	FM-200 automatic/ manual discharge fire extinguisher, wall/ ceiling mounted type c/w FM-200 warning plate and all necessary accessories : -					
	<i>Each</i>					
40428	Up to 3 kg	12,536.09	287.62	321.09	522.93	40428
40429	3 - 6 kg	14,625.44	313.76	345.45	588.30	40429
40430	6 - 9 kg	18,804.12	339.90	373.15	627.52	40430
40431	9 - 12 kg	22,982.82	366.05	404.99	679.82	40431
40432	12 - 15 kg	27,161.51	392.20	428.60	732.10	40432
40433	15 - 18 kg	31,340.21	418.35	455.97	784.40	40433
40434	18 - 21 kg	35,518.91	444.50	483.33	836.70	40434
40435	21 - 24 kg	39,697.60	470.65	510.71	888.98	40435
40436	24 - 27 kg	43,876.30	496.78	538.07	941.28	40436
40437	27 - 30 kg	48,054.99	522.93	565.45	993.58	40437
	Novec-1230 automatic/ manual discharge fire extinguisher, wall/ ceiling mounted type c/w Novec-1230 warning plate and all necessary accessories : -					
	<i>Each</i>					
40438	Up to 10 kg	27,736.09	593.23	637.48	1,109.92	40438
40439	10 - 20 kg	38,764.56	631.50	687.46	1,186.47	40439
40440	20 - 30 kg	49,793.04	669.77	727.53	1,263.00	40440
40441	30 - 40 kg	51,980.19	708.06	767.59	1,339.56	40441
40442	40 - 50 kg	58,669.07	746.33	807.67	1,416.10	40442
AUDIO/ VISUAL ADVISORY SYSTEM						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Design, supply and install audio/ visual fire alarm equipment; electrical and control points c/w cables, conduit (surface or concealed in partitions and ceiling) and all necessary accessories and connected to the audio/ visual fire alarm control panel : -					
	<i>Each</i>					
40443	Loudspeakers; surface/ concealed mounted c/w metal enclosure	1,002.94	63.60	74.84	273.10	40443
40444	Flashing light directional sign boxes; single side; overall size up to 500 mm x 150 mm x 200 mm (H); comprising metal sign box, perspex backing and front sheeting, flashing unit, battery and charger, electrical gear and all necessary accessories; ceiling mounted	1,691.49	63.60	74.84	273.10	40444
40445	Ditto but double side	2,003.34	63.60	74.84	273.10	40445

Item						
	AUDIO/ VISUAL ADVISORY SYSTEM (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Audio-visual fire alarm control/ indicating panel c/w pre-amplifier and amplifier, automatic long play recorder, cassette tape, repeater, random access message module, master controller, multiplex alarm system, system/ auxiliary power supply, connection of fire link and all necessary accessories : -					
	<i>Each</i>					
40446	Panel of 4 zones or less	38,972.53	56.10	59.88	435.21	40446
40447	Ditto 5 - 8 zones	52,978.67	63.60	69.83	473.87	40447
40448	Ditto 9 - 12 zones	63,420.58	69.83	76.08	511.28	40448
40449	Ditto 13 - 18 zones	71,762.51	76.08	83.55	541.17	40449
40450	Add to last item for each additional 4 zones or part thereof	4,944.35	6.24	6.24	32.43	40450
	DISCONNECTION OF EXISTING FIRE SERVICES INSTALLATION					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Supply labour to disconnect all existing fire services installation for an area, take down and clear away entire fire services installation inside the area (area shall be measured net on the gross floor area of the building covered by the fire services installation) : -					
	<i>Per square metre</i>					
40451	Area with sprinkler (up to 100 m ²)	-	19.96	-	-	40451
40452	Area with sprinkler (100 - 500 m ²)	-	18.71	-	-	40452
40453	Area with sprinkler (above 500 m ²)	-	17.46	-	-	40453
40454	Area without sprinkler (up to 100 m ²)	-	8.72	-	-	40454
40455	Area without sprinkler (100 - 500 m ²)	-	7.48	-	-	40455
40456	Area without sprinkler (above 500 m ²)	-	6.99	-	-	40456
	Supply labour to disconnect the existing fire services installation, take down and clear away entire fire services installation					
	<i>Each</i>					
40457	9 kg NAFS III type fire extinguisher	-	13.72	-	-	40457

Section 41

LIQUEFIED PETROLEUM GAS

SECTION 41

LIQUEFIED PETROLEUM GAS

SPECIAL CONDITIONS

Measurement of excavations, chases, holes and other subsidiary work	SC41.01	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All chases in, and holes through existing walls, ceilings, etc. for tubing and pipes, (but not mortices or holes for brackets) shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork or other applicable Work Sections of this Schedule.
Measurement of pipework	SC41.02	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.
Measurement of pressure test of existing pipework	SC41.03	Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests have been allowed in the rates under this Section. No measurement will be made for testing and commissioning except for pressure test of existing pipework where specifically ordered by the Maintenance Surveyor in writing.
Measurement of temporary supply	SC41.04	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as pipework, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>

SPECIAL CONDITIONS

Rates generally

SC41.05

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, brackets, hangers, supports and the like.
- (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests, except pressure test of existing pipework. (Note : - Pressure test of existing pipework shall be measured separately if ordered by the Maintenance Surveyor in writing)
- (l) Provision of all necessary testing instrument of approved type for testing and commissioning.
- (m) Provision of mock-up work as specified.
- (n) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (o) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (p) Provision of manufacturer's guarantee.

SPECIAL CONDITIONS

**Rates for
pipework**

SC41.06

The rates for pipework shall further include for : -

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Wall, floor and ceiling plates.
- (g) All jointing including provision of flexible connections and/or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.
- (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings.
- (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required.
- (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tape where required.

**Rates for in-line
pipework equipment**

SC41.07

The rates for in-line pipework equipment (e.g. valves, flow meters, gauges and the like) shall further include for : -

- (a) Cutting and jointing to pipes and fittings.
- (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.

SPECIAL CONDITIONS**Rates for equipment****SC41.08**

The rates for equipment shall further included for : -

- (a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, strainers, instrumentation and the like.
- (b) Provision of all associated components.
- (c) All necessary operational and control accessories forming part of the equipment.
- (d) Final connection and terminations to electrical supply, control, monitoring, interfacing and water supply and/or gas supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties.
- (e) Earth/equipotential bonding.

Rates for pressure test of existing pipework**SC41.09**

The rates for pressure test of existing pipework (including associated in-line pipework fittings and in-line pipework equipment and the like) shall include for : -

- (a) De-gasing and cleaning of pipeline by any means necessary before carrying out any test.
- (b) All preparation work including temporary sealing ends of pipes and connections.
- (c) Provision of all necessary testing instrument of approved type for pressure test.
- (d) Provision of test record.
- (e) Submission of Surveyor Certificate as specified.
- (f) Making good all works disturbed.
- (g) Purging into service.

SPECIAL CONDITIONS

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC41.10

The rates for "Take down and clear away" or "Take down and set aside for re-use" existing items in connection with liquefied petroleum gas installation shall further include for : -

- (a) Taking down all associated pipework and building services works (if any).
- (b) All in-line fittings including brackets, supports, hangers and the like.
- (c) Cutting into existing pipework in position.
- (d) De-gasing of existing pipework (including associated in-line fittings and the like) as required.
- (e) Plugging off remaining ends with plugs or caps as required.
- (f) Preparing remaining ends of pipework and building services works (if any) to receive connections with new work if required.
- (g) Making good all works disturbed.

Particular Specification

SC41.11

The Particular Specification for liquefied petroleum gas installation can be found in the Contract.

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	LIQUEFIED PETROLEUM GAS (LPG) INSTALLATION					
	Cylinder storage system including the initial supply of 50 kg LPG cylinder of LP gas, changeover valve c/w indicator, flexible hose c/w adaptor, pigtailed, pressure gauge, manifold valve with or without check valve, safety devices and necessary pipeworks inside LP gas store : -					
	<i>Per set</i>					
41001	1 - 4 cylinders	16,013.92	94.55	105.32	1,350.09	41001
41002	5 - 8 cylinders	17,726.52	107.72	120.90	1,506.90	41002
41003	9 - 12 cylinders	18,851.94	123.28	136.45	1,638.55	41003
41004	13 - 16 cylinders	24,465.71	137.65	153.19	1,774.99	41004
41005	17 - 20 cylinders	38,922.72	150.81	166.36	1,910.24	41005
	Above ground bulk LPG storage vessel c/w saddle, pressure relief valve, shut off valve, emergency valve, liquid level device, contents and pressure gauges, manhole, vent pipes, filling and drain connections, and other associated accessories, for water capacity : -					
	<i>Each</i>					
41006	Up to 2000 litres	52,335.50	6,092.18	6,593.67	19,366.90	41006
41007	2000 - 4000 litres	18,394.33	6,396.17	6,959.92	39,781.10	41007
	(The actual rate should be : \$183,943.30 for Item 41007A)					
41008	4000 - 5000 litres	30,532.09	6,499.13	7,127.49	40,827.18	41008
	(The actual rate should be : \$305,320.90 for Item 41008A)					
41009	5000 - 7000 litres	43,745.24	6,625.99	7,314.20	42,921.74	41009
	(The actual rate should be : \$437,452.40 for Item 41009A)					
41010	7000 - 9000 litres	76,773.40	7,098.75	7,849.22	43,967.83	41010
	(The actual rate should be : \$767,734.00 for Item 41010A)					
	Underground bulk LPG storage vessel c/w saddle, pressure relief valve, shut off valve, emergency valve, liquid level device, contents and pressure gauges, manhole, vent pipes, securing facilities against flotation, fittings made accessible above ground level, coating, cathodic protection if necessary, filling and drain connections, and other associated accessories, for water capacity : -					
	<i>Each</i>					
41011	Up to 2000 litres	50,043.50	6,300.44	6,803.13	19,889.94	41011
41012	2000 - 4000 litres	16,681.17	6,605.65	7,169.38	40,827.18	41012
	(The actual rate should be : \$166,811.70 for Item 41012A)					
41013	4000 - 5000 litres	27,801.93	6,708.58	7,335.73	41,874.46	41013
	(The actual rate should be : \$278,019.30 for Item 41013A)					
41014	5000 - 7000 litres	38,922.72	6,835.43	7,523.65	43,967.83	41014
	(The actual rate should be : \$389,227.20 for Item 41014A)					
41015	7000 - 9000 litres	66,724.65	7,308.21	8,058.66	45,015.10	41015
	(The actual rate should be : \$667,246.50 for Item 41015A)					

Item					Item
	LIQUEFIED PETROLEUM GAS (LPG) INSTALLATION (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	LPG isolating valve, globe type or ball type or gate type, including adaptors and flange as required : -				
	<i>Each</i>				
41049	15 mm diameter	271.97	30.44	36.82	104.13 41049
41050	20 mm diameter	330.16	31.06	37.55	156.80 41050
41051	25 mm diameter	388.31	31.80	38.28	209.45 41051
41052	32 mm diameter	469.75	32.52	38.91	262.11 41052
41053	40 mm diameter	562.85	33.27	39.64	293.24 41053
41054	50 mm diameter	679.22	34.61	41.11	313.59 41054
41055	80 mm diameter	1,028.30	38.91	43.05	628.37 41055
	LPG cast steel isolating valve, globe type or ball type or gate type, stainless steel stem including adaptors and flange as required : -				
	<i>Each</i>				
41056	65 mm diameter	1,476.59	36.53	43.05	523.05 41056
41057	80 mm diameter	2,020.62	38.83	45.06	628.37 41057
41058	100 mm diameter	3,893.46	41.63	47.67	732.50 41058
41059	150 mm diameter	9,932.79	55.44	63.27	837.82 41059
	LPG cast steel quick-action shut-off valve, fail safe, lever operated globe type or ball type, stainless stem including adaptors and flange as required : -				
	<i>Each</i>				
41060	15 mm diameter	829.16	31.58	38.42	104.13 41060
41061	20 mm diameter	947.51	32.21	39.19	156.80 41061
41062	25 mm diameter	1,066.00	32.95	39.93	209.45 41062
41063	32 mm diameter	1,480.59	33.73	40.57	262.11 41063
41064	40 mm diameter	1,753.00	34.49	41.31	293.24 41064
41065	50 mm diameter	2,131.98	35.87	42.82	313.59 41065
41066	65 mm diameter	4,500.99	37.91	44.91	523.05 41066
41067	80 mm diameter	5,356.36	40.21	46.99	628.37 41067
41068	100 mm diameter	7,811.19	43.10	49.79	732.50 41068
41069	150 mm diameter	16,515.27	57.38	66.12	837.82 41069

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
LIQUEFIED PETROLEUM GAS (LPG) INSTALLATION (CONT'D)						
	LPG Chinese cooking range c/w burners, air blowers, gas cock, operational and safety controls, splash plate, water faucet, water pot, flame failure device, automatic gas controller with solenoid valves, refractory brick lined combustion chamber, removable stainless steel plate for spice pots, flue pipes, tail pots and all necessary accessories :-					
	<i>Each</i>					
41080	1 x 300 to 600 mm diameter wok	88,966.22	258.54	347.11	1,898.28	41080
41081	2 x 300 to 600 mm diameter wok	20,017.41	289.64	482.36	3,113.10	41081
	(The actual rate should be : \$200,174.10 for Item 41081A)					
41082	1 x 800 mm diameter build-in wok	13,344.93	290.85	361.45	1,916.22	41082
	(The actual rate should be : \$133,449.30 for Item 41082A)					
41083	2 x 800 mm diameter build-in wok	31,138.17	335.14	536.22	3,275.88	41083
	(The actual rate should be : \$311,381.70 for Item 41083A)					
	Pressure test of existing LPG pipework :- (Note : The following four items will only be paid for if ordered by the Maintenance Surveyor in writing)					
	<i>Per pipeline</i>					
41084	15 - 25 mm	4,056.50	-	-	-	41084
41085	25 - 50 mm	4,391.85	-	-	-	41085
41086	50 - 80 mm	5,094.96	-	-	-	41086
41087	80 - 200 mm	6,120.94	-	-	-	41087
	Sundries :-					
	<i>Each</i>					
41088	Stainless steel box 1.5 mm thick, glass-fronted; size 230 mm x 250 mm x 250 mm	1,112.08	12.35	12.76	51.47	41088
41089	LPG vaporizer, indirect heated type, flameproof/ explosion proof c/w necessary accessories, valves, rubber hose, etc. for vaporizing capacity 100 kg/ hr	66,724.65	203.46	208.26	8,374.64	41089
	LPG water heater c/w internal water tank, operational controls, safety features, control panel, flame failure device and all necessary accessories :-					
	Capacity :-					
	<i>Each</i>					
41090	200 to 300 Litres	38,922.72	231.02	269.32	4,447.66	41090
	(The actual rate should be : \$389,227.20 for Item 41090A)					
41091	300 to 450 Litres	50,043.50	231.02	269.32	6,391.40	41091
	(The actual rate should be : \$500,435.00 for Item 41091A)					

Section 42

TOWN GAS

SECTION 42

TOWN GAS

SPECIAL CONDITIONS

Measurement of excavations, chases, holes and other subsidiary work	SC42.01	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All chases in, and holes through existing walls, ceilings, etc. for tubing and pipes, (but not mortices or holes for brackets) shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork or other applicable Work Sections of this Schedule.
Measurement of pipework	SC42.02	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.
Measurement of pressure test of existing pipework	SC42.03	Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests have been allowed in the rates under this Section. No measurement will be made for testing and commissioning except for pressure test of existing pipework where specifically ordered by the Maintenance Surveyor in writing.
Measurement of temporary supply	SC42.04	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as pipework, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>

SPECIAL CONDITIONS

Rates generally

SC42.05

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, brackets, hangers, supports and the like.
- (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests, except pressure test of existing pipework. (Note : - Pressure test of existing pipework shall be measured separately if ordered by the Maintenance Surveyor in writing)
- (l) Provision of all necessary testing instrument of approved type for testing and commissioning.
- (m) Provision of mock-up work as specified.
- (n) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (o) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (p) Provision of manufacturer's guarantee.

SPECIAL CONDITIONS

**Rates for
pipework**

SC42.06

The rates for pipework shall further include for : -

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Wall, floor and ceiling plates.
- (g) All jointing including provision of flexible connections and/or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.
- (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings.
- (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required.
- (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tape where required.

**Rates for
in-line
pipework
equipment**

SC42.07

The rates for in-line pipework equipment (e.g. valves, flow meters, gauges and the like) shall further include for : -

- (a) Cutting and jointing to pipes and fittings.
- (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.

SPECIAL CONDITIONS

Rates for pressure test of existing pipework

SC42.08

The rates for pressure test of existing pipework (including associated in-line fittings and in-line pipework equipment and the like) shall include for : -

- (a) De-gasing and cleaning of pipeline by any means necessary before carrying out any test.
- (b) All preparation work including temporary sealing ends of pipes and connections.
- (c) Provision of all necessary testing instrument of approved type for pressure test.
- (d) Provision of test record.
- (e) Submission of Surveyor Certificate as specified.
- (f) Making good all works disturbed.
- (g) Purging into service.

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC42.09

The rates for "Take down and clear away" or "Take down and set aside for re-use" existing items in connection with town gas installation shall further include for : -

- (a) Taking down all associated pipeworks and building services works (if any).
- (b) All in-line fittings including brackets, supports, hangers and the like.
- (c) Cutting into existing pipework in position.
- (d) De-gasing of existing pipework (including associated in-line fittings and the like) as required.
- (e) Plugging off remaining ends with plugs or caps as required.
- (f) Preparing remaining ends of pipeworks and building services works (if any) to receive connections with new work if required.
- (g) Making good all works disturbed.

Particular Specification

SC42.10

The Particular Specification for town gas installation can be found in the Contract.

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
TOWN GAS INSTALLATION						
Galvanized mild steel gas pipe to BS EN 10255 or ISO 65, c/w all necessary accessories : -						
<i>Per linear metre</i>						
42001	15 mm diameter	463.61	7.11	8.48	98.15	42001
42002	20 mm diameter	509.95	7.84	9.22	116.10	42002
42003	25 mm diameter	556.31	8.05	9.31	128.06	42003
42004	32 mm diameter	602.69	9.82	10.67	152.02	42004
42005	40 mm diameter	643.89	11.30	12.24	177.15	42005
42006	50 mm diameter	695.41	13.07	14.00	208.26	42006
42007	65 mm diameter	825.84	15.40	16.84	246.55	42007
42008	80 mm diameter	1,011.29	19.16	20.19	300.42	42008
42009	100 mm diameter	1,233.70	22.89	23.94	372.23	42009
42010	150 mm diameter	1,921.82	42.15	45.18	588.88	42010
Underground galvanized mild steel gas pipe to BS EN 10216-1, BS EN 10217-1 or ANSI/ API Spec 5L or ASTM A53/ A53M-10, c/w all necessary accessories : -						
<i>Per linear metre</i>						
42011	20 mm diameter	543.96	8.48	8.99	140.03	42011
42012	25 mm diameter	593.41	8.68	9.31	155.59	42012
42013	32 mm diameter	642.87	9.82	11.01	178.33	42013
42014	40 mm diameter	686.83	11.50	12.76	209.45	42014
42015	50 mm diameter	741.78	13.07	14.33	256.13	42015
42016	65 mm diameter	880.87	16.20	17.47	299.24	42016
42017	80 mm diameter	1,078.70	19.55	20.80	335.14	42017
42018	100 mm diameter	1,315.94	21.96	24.06	442.86	42018
42019	150 mm diameter	2,049.93	36.31	39.12	621.18	42019
Bronze isolating valve, globe type or gate type or ball type, including adaptors and flanges as required : -						
<i>Each</i>						
42020	15 mm diameter	287.52	30.44	36.82	104.13	42020
42021	20 mm diameter	349.03	31.06	37.55	156.80	42021
42022	25 mm diameter	410.52	31.80	38.28	209.45	42022
42023	32 mm diameter	496.65	32.52	38.91	262.11	42023
42024	40 mm diameter	595.06	33.27	39.64	293.24	42024
42025	50 mm diameter	718.07	34.61	41.11	313.59	42025
42026	80 mm diameter	1,087.12	38.91	44.88	628.37	42026

Item					Item	
TOWN GAS INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Cast steel isolating valve, globe type or gate type or ball type, stainless steel stem including adaptors and flanges as required :-						
<i>Each</i>						
42027	65 mm diameter	3,150.07	36.53	43.05	523.05	42027
42028	80 mm diameter	3,833.42	38.83	45.06	628.37	42028
42029	100 mm diameter	5,246.90	41.63	47.67	732.50	42029
42030	150 mm diameter	12,297.74	55.44	63.27	837.82	42030
Bronze quick action shut-off valves, lever-operated ball type or globe type, including adaptors and flanges as required :-						
<i>Each</i>						
42031	20 mm diameter	289.48	31.06	37.55	156.80	42031
42032	25 mm diameter	410.52	31.80	38.28	209.45	42032
42033	32 mm diameter	514.47	32.52	38.91	262.11	42033
42034	40 mm diameter	653.37	33.27	39.64	293.24	42034
42035	50 mm diameter	877.40	34.61	41.11	313.59	42035
Cast steel quick action shut-off valves, lever-operated ball type or globe type, stainless steel stem including adaptors and flanges as required :-						
<i>Each</i>						
42036	65 mm diameter	4,044.96	36.53	43.05	523.05	42036
42037	80 mm diameter	4,390.05	38.83	45.06	628.37	42037
42038	100 mm diameter	6,160.94	41.63	47.67	732.50	42038
42039	150 mm diameter	15,065.22	55.44	63.27	837.82	42039
Town gas outlet point c/w cocks, including adaptors and flanges as required :-						
<i>Each</i>						
42040	20 mm diameter	419.96	32.11	41.00	50.27	42040
42041	25 mm diameter	429.22	32.84	41.74	52.66	42041

Item					Item	
TOWN GAS INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Gas cock : -					
	<i>Each</i>					
42042	2-way flexible tube cock	694.23	40.89	50.10	63.43	42042
42043	2-way bench cock, laboratory type 15 mm diameter	722.73	40.89	50.10	63.43	42043
	Sundries : -					
	<i>Each</i>					
42044	Stainless steel box 1.5 mm thick, glass-fronted; size 230 mm x 250 mm x 250 mm	711.70	12.35	12.76	51.47	42044
	Pressure test of existing town gas pipeworks : - (Note : The following four items will only be paid for if ordered by the Maintenance Surveyor in writing)					
	<i>Per pipeline</i>					
42045	15 - 25 mm	4,056.50	-	-	-	42045
42046	25 - 50 mm	4,391.85	-	-	-	42046
42047	50 - 80 mm	5,094.96	-	-	-	42047
42048	80 - 200 mm	6,120.94	-	-	-	42048

Section 43

MEDICAL GASES

SECTION 43

MEDICAL GASES

SPECIAL CONDITIONS

Measurement of excavations, chases, holes and other subsidiary work	SC43.01	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All chases in, and holes through existing walls, ceilings, etc. for tubing and pipes, (but not mortices or holes for brackets) shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork or other applicable Work Sections of this Schedule.
Measurement of power supply	SC43.02	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting Systems and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution Systems and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.
Measurement of pipework	SC43.03	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.
Measurement of indicating/control panel	SC43.04	The indicating/control panel shall be assumed to be located on the same floor as the medical gas pipeline installation. When this panel is located on other floor, the interconnecting cables and the conduit facilities shall be measured separately from the control panel to the junction box on that floor for which the gas points of that floor are grouped for connection to the control panel. In such case, the junction box shall be assumed to be located as near as possible to the control panel.
Measurement of tests on existing medical gases system	SC43.05	Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests have been allowed in the rates under this Section. No measurement will be made for testing and commissioning except for tests on existing medical gases system where specifically ordered by the Maintenance Surveyor in writing.

SPECIAL CONDITIONS

**Measurement
of temporary
supply**

SC43.06

Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as pipework, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.

For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.

No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.

Rates generally

SC43.07

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, brackets, hangers, supports and the like.
- (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC43.07
(Cont'd)**

- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests, except tests on existing medical gases system. (Note : - Tests on existing medical gases system shall be measured separately if ordered by the Maintenance Surveyor in writing)
- (l) Provision of all necessary power, labour and testing instrument of approved type for testing and commissioning.
- (m) Provision of mock-up work as specified.
- (n) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (o) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (p) Provision of manufacturer's guarantee.

**Rates for
pipework**

SC43.08

The rates for pipework shall further include for : -

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Wall, floor and ceiling plates.
- (g) All jointing including provision of flexible connections and/or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.

SPECIAL CONDITIONS

Rates for pipework (Cont'd)	SC43.08 (Cont'd)	<ul style="list-style-type: none"> (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings. (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required. (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tape where required.
Rates for in-line pipework equipment	SC43.09	<p>The rates for in-line pipework equipment (e.g. valves, flow meters, gauges and the like) shall further include for : -</p> <ul style="list-style-type: none"> (a) Cutting and jointing to pipes and fittings. (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.
Rates for indicating/control panels	SC43.10	<p>Indicating/control panel shall be measured on the basis of complete unit monitoring and controlling the number of zones as specified. Rates for indicating/control panels shall further include for all necessary control wiring, electronic components, relays, contacts, indicating lamp, push button package, selector switches, interconnecting cable and associated conduit/trunking between the equipment and the indicating/control panel and/or for connecting to existing indicating/control panel as required.</p>
Rates for equipment	SC43.11	<p>The rate for equipment shall further include for : -</p> <ul style="list-style-type: none"> (a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, strainers, instrumentation and the like. (b) Provision of all associated components. (c) Final connection and terminations to gas supply including all necessary pipework, valves, gauges and necessary accessories required for energizing the equipment to properly operate at specified duties. (d) Earth/equipotential bonding.

SPECIAL CONDITIONS

Rates for tests on existing medical gases system

SC43.12

The rates for tests on existing medical gases system shall include for : -

- (a) Cleaning of pipeline by any means necessary before carrying out any tests.
- (b) All preparation work including temporary sealing ends of pipes and connections.
- (c) Provision of all necessary testing instrument and material of approved type for the tests.
- (d) Provision of test record.
- (e) Making good all works disturbed.

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC43.13

The rates for "Take down and clear away" or "Take down and set aside for re-use" existing items in connection with medical gases installation shall further include for : -

- (a) Taking down all associated pipework and building services works (if any).
- (b) All in-line fittings including brackets, supports, hangers and the like.
- (c) Cutting into existing pipework in position.
- (d) De-gasing of existing pipework (including associated in-line fittings and the like) as required.
- (e) Plugging off remaining ends with plugs or caps as required.
- (f) Preparing remaining ends of pipework and building services works (if any) to receive connections with new work if required.
- (g) Making good all works disturbed.

SPECIAL CONDITIONS

Rates for rental charges for gas regulators, cylinders and other accessories

SC43.14

The rates for rental charges for gas regulators, cylinders and other accessories shall include for : -

- (a) Mobilization and demobilization of gas regulators, cylinders and other accessories.
- (b) Maintenance and repair.
- (c) Installation in position including all necessary connection to the system.
- (d) Contractor's profit, establishment and overheads.
- (e) Licence fees, patent rights and royalties where applicable.

Rates for charges for gas filling

SC43.15

The rates for charges for gas filling shall include for : -

- (a) Filling up empty cylinders with gas by any means necessary.
- (b) Disconnecting before filling of gas and reconnecting to the system after completion of gas filling.

Particular Specification

SC43.16

The Particular Specification for medical gases installation can be found in the Contract.

Item					Item
	MEDICAL GASES INSTALLATION				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Medical gas pipework c/w all necessary accessories				
	Degreased pipework of solid drawn, seamless, phosphorous de-oxidized, non-arsenical copper to BS EN 1412, Grade CW024A in metric and BS EN 13348 to suit HTM 02-01's requirement : -				
	<i>Per linear metre</i>				
43001	12 mm diameter	353.02	11.04	12.07	201.11 43001
43002	15 mm diameter	384.53	12.07	13.42	210.68 43002
43003	22 mm diameter	435.02	14.31	15.22	227.06 43003
43004	28 mm diameter	495.34	15.68	17.02	244.53 43004
43005	35 mm diameter	615.12	17.02	18.32	257.43 43005
43006	42 mm diameter	749.16	18.63	19.98	298.20 43006
43007	54 mm diameter	882.82	19.98	21.59	337.96 43007
43008	76 mm diameter	1,303.35	25.35	26.98	398.51 43008
43009	108 mm diameter	1,713.20	30.72	33.71	498.41 43009
43010	159 mm diameter	2,596.60	41.29	44.24	657.31 43010
	Underground medical gas pipework c/w galvanized iron pipe of suitable size enclosing the underground medical gas pipe and all necessary accessories				
	Degreased pipework of solid drawn, seamless, phosphorous de-oxidized, non-arsenical copper to BS EN 1412, Grade CW024A in metric and BS EN 13348 to suit HTM 02-01's requirement : -				
	<i>Per linear metre</i>				
43011	12 mm diameter	512.72	21.78	23.39	252.51 43011
43012	15 mm diameter	531.85	23.11	24.76	265.49 43012
43013	22 mm diameter	642.04	26.68	28.05	336.48 43013
43014	28 mm diameter	724.20	29.24	31.14	377.35 43014
43015	35 mm diameter	910.94	32.23	33.71	413.56 43015
43016	42 mm diameter	1,031.46	35.17	37.41	434.64 43016
43017	54 mm diameter	1,192.45	39.05	41.29	500.21 43017
43018	76 mm diameter	1,806.75	50.74	53.71	613.25 43018
43019	108 mm diameter	2,298.66	72.93	76.40	768.47 43019
43020	159 mm diameter	3,186.37	92.51	97.25	1,030.47 43020

Item					Item	
MEDICAL GASES INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Medical vacuum terminal unit to HTM 02-01 and BS EN ISO 9170-1 accepting probes to BS 5682 : -						
<i>Each</i>						
43038	Wall mounted type	2,100.57	45.70	47.48	323.97	43038
43039	Bedhead rail type	2,142.47	45.70	47.48	323.97	43039
43040	Bench top type	2,100.57	45.70	47.48	323.97	43040
43041	V-shape mounting bracket for medical vacuum pot	406.33	27.75	32.54	51.49	43041
Medical air terminal unit to HTM 02-01 and BS EN ISO 9170-1 accepting probes to BS 5682 : -						
<i>Each</i>						
43042	Wall mounted type	2,103.88	45.70	47.48	323.97	43042
43043	Bedhead rail type	2,145.06	45.70	47.48	323.97	43043
43044	Bench top type	2,103.88	45.70	47.48	323.97	43044
Surgical air terminal unit to HTM 02-01 and BS EN ISO 9170-1 accepting probes to BS 5682 : -						
<i>Each</i>						
43045	Wall mounted type	2,103.88	45.70	47.48	323.97	43045
43046	Bedhead rail type	2,142.47	45.70	47.48	323.97	43046
43047	Bench top type	2,103.88	45.70	47.48	323.97	43047
Emergency valve cabinet : -						
<i>Each</i>						
43048	Wall mounted type	20,107.32	310.61	474.19	2,019.31	43048
43049	Bedhead rail type	50,572.02	474.19	603.58	2,449.96	43049
43050	Bench top type	20,709.04	310.61	474.19	2,061.67	43050
Medical gas plug-off unit for oxygen : -						
<i>Each</i>						
43051	Restrictor valve type	3,628.54	73.60	75.21	335.86	43051
43052	Air flow switch type	3,311.51	73.60	75.21	144.17	43052
43053	Solenoid valve type	2,926.12	73.60	75.21	284.99	43053

Item					Item	
MEDICAL GASES INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Medical gas plug-off unit for medical vacuum : -						
<i>Each</i>						
43054	Restrictor valve type	3,653.87	73.60	75.21	335.86	43054
43055	Air flow switch type	3,332.04	73.60	75.21	144.17	43055
43056	Solenoid valve type	2,652.39	73.60	75.21	284.99	43056
Medical gas plug-off unit for nitrous oxide : -						
<i>Each</i>						
43057	Restrictor valve type	3,653.87	73.60	75.21	335.86	43057
43058	Air flow switch type	3,332.04	73.60	75.21	144.17	43058
43059	Solenoid valve type	2,652.39	73.60	75.21	284.99	43059
Medical gas plug-off unit for medical air : -						
<i>Each</i>						
43060	Restrictor valve type	3,653.87	73.60	75.21	335.86	43060
43061	Air flow switch type	3,332.04	73.60	75.21	144.17	43061
43062	Solenoid valve type	2,652.39	73.60	75.21	284.99	43062
Medical gas plug-off unit for surgical air : -						
<i>Each</i>						
43063	Restrictor valve type	3,653.87	73.60	75.21	335.86	43063
43064	Air flow switch type	3,332.04	73.60	75.21	144.17	43064
43065	Solenoid valve type	2,652.39	73.60	75.21	284.99	43065

Item					Item	
	MEDICAL GASES INSTALLATION (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Complete manifold control system comprising monitoring panel, pressure control assembly and relief valve assembly, indicator panel, high pressure and discharge pressure gauges, warning, control wirings and alarm pressure switches, signs and notices, automatic changeover control to provide a continuous supply of gas from two banks of cylinders : -					
	<i>Each</i>					
43066	Oxygen (The actual rate should be : \$154,958.90 for Item 43066A)	15,495.89	833.84	1,019.06	7,389.30	43066
43067	Nitrous oxide (The actual rate should be : \$154,958.90 for Item 43067A)	15,495.89	833.84	1,019.06	7,389.30	43067
43068	Medical air (The actual rate should be : \$154,958.90 for Item 43068A)	15,495.89	833.84	1,019.06	7,389.30	43068
43069	Surgical air (The actual rate should be : \$154,958.90 for Item 43069A)	15,495.89	833.84	1,019.06	7,389.30	43069
	Pipework header with copper pig tails for connections to cylinders at manifold : -					
	<i>Each</i>					
43070	Medical oxygen	19,416.86	208.78	222.32	1,121.68	43070
43071	Medical nitrous oxide	19,416.86	208.78	222.32	1,121.68	43071
43072	Medical compressed air	19,416.86	208.78	222.32	1,121.68	43072
43073	Surgical air	19,416.86	208.78	222.32	1,121.68	43073
	Sundries : -					
	<i>Each</i>					
43074	Mild steel contoured brackets for cylinders with retaining brass chains	5,909.58	45.70	51.14	328.47	43074
43075	Area alarm panel constantly monitoring local gas pressure for medical oxygen, nitrous oxide, medical vacuum, medical air, surgical air, c/w all necessary accessories	22,347.39	176.68	198.57	1,489.54	43075
43076	Central alarm panel constantly monitoring the complete medical gas services installed via fully integrated multiplexed system and capable to be linked with repeated panels, c/w all necessary accessories	75,201.50	368.96	457.93	2,598.08	43076
43077	Repeated panel linked to central alarm panel, c/w all necessary accessories	64,203.46	284.79	368.59	1,997.43	43077
43078	Glass panel for emergency valve cabinet	761.08	36.06	39.34	222.45	43078

Item					Item	
MEDICAL GASES INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Pressure relief valve c/w chained labels : -						
<i>Each</i>						
43079	12 mm diameter	1,630.60	68.76	82.04	95.15	43079
43080	15 mm diameter	2,322.06	69.78	83.35	116.02	43080
43081	22 mm diameter	2,774.29	70.93	85.54	123.60	43081
43082	28 mm diameter	3,439.62	72.22	87.54	132.59	43082
43083	35 mm diameter	3,847.90	73.19	89.82	133.35	43083
43084	42 mm diameter	5,393.93	75.37	93.29	141.77	43084
43085	54 mm diameter	7,710.37	79.29	96.43	152.76	43085
43086	76 mm diameter	12,434.33	85.61	101.02	165.84	43086
Three way valves c/w chained labels : -						
<i>Each</i>						
43087	12 mm diameter	922.66	68.76	82.04	95.15	43087
43088	15 mm diameter	1,244.93	69.78	83.35	116.02	43088
43089	22 mm diameter	1,649.07	70.93	85.54	123.60	43089
43090	28 mm diameter	2,099.80	72.22	87.54	132.59	43090
43091	35 mm diameter	2,602.46	73.19	89.82	133.35	43091
43092	42 mm diameter	3,815.74	75.37	93.29	141.77	43092
43093	54 mm diameter	6,101.48	79.29	96.43	152.76	43093
43094	76 mm diameter	8,536.07	85.61	101.02	165.84	43094
Bacterial filter c/w differential pressure gauge capable of removing 99.9% of particles of 5 micron size and over when tested by sodium flame to BS 3928 Connecting pipe diameter : -						
<i>Each</i>						
43095	28 mm diameter	24,820.39	48.73	50.60	116.81	43095
43096	35 mm diameter	28,048.84	56.23	57.89	126.83	43096
43097	42 mm diameter	31,167.52	59.91	61.87	136.44	43097
43098	54 mm diameter	34,540.96	67.52	69.66	157.86	43098
43099	76 mm diameter	41,570.25	84.51	86.92	192.98	43099
43100	108 mm diameter	48,739.41	111.86	113.84	246.55	43100
43101	159 mm diameter	59,746.55	154.79	156.72	328.75	43101

Item					Item	
MEDICAL GASES INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Non-return valve c/w chained labels : -						
<i>Each</i>						
43102	12 mm diameter	644.87	68.76	82.75	93.04	43102
43103	15 mm diameter	708.18	69.78	85.18	111.55	43103
43104	22 mm diameter	984.32	70.93	89.74	119.57	43104
43105	28 mm diameter	1,294.35	72.22	94.84	128.68	43105
43106	35 mm diameter	1,493.68	73.19	99.18	130.98	43106
43107	42 mm diameter	1,800.30	75.37	102.66	139.72	43107
43108	54 mm diameter	2,842.75	79.29	109.29	153.26	43108
43109	76 mm diameter	3,178.28	85.61	145.88	173.93	43109
43110	108 mm diameter	4,792.62	93.43	173.76	201.78	43110
43111	159 mm diameter	5,994.22	124.16	210.37	270.10	43111
Valve, terminal unit, pressure gauge and vacuum gauge : -						
<i>Each</i>						
43112	Tee-piece and isolation valve for pressure switch c/w chained labels	1,076.33	70.00	105.21	136.00	43112
43113	Pendent type terminal unit	3,151.82	37.64	41.01	251.98	43113
43114	Pressure gauge c/w isolating ball valve & pipe fittings	1,542.85	58.95	73.51	282.08	43114
43115	Vacuum gauge c/w isolating ball valve & pipe fittings	1,567.21	58.95	73.51	282.08	43115
Flexible hose : -						
<i>Per linear metre</i>						
43116	Flexible hose for O.T. pendent terminal unit	2,925.58	36.65	49.02	195.00	43116
Pressure transducer : -						
<i>Each</i>						
43117	Pressure transducer c/w pressure switch	3,672.76	66.76	67.65	159.27	43117
Earthing system : -						
<i>Per item</i>						
43118	Earthing system for medical gases pipeline	5,764.95	-	-	-	43118

Item					Item	
	MEDICAL GASES INSTALLATION (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Pressure regulating valve (O ₂) c/w chained labels : -					
	<i>Each</i>					
43119	15 mm diameter	5,571.05	68.13	69.31	132.29	43119
43120	22 mm diameter	7,119.79	77.77	84.30	146.36	43120
43121	28 mm diameter	8,436.37	85.42	95.21	159.80	43121
43122	35 mm diameter	10,239.09	106.51	107.67	188.42	43122
43123	42 mm diameter	11,605.62	113.95	117.14	206.15	43123
	Pressure regulating valve (N ₂ O) c/w chained labels : -					
	<i>Each</i>					
43124	15 mm diameter	5,561.88	68.13	69.31	132.29	43124
43125	22 mm diameter	7,119.08	77.77	84.30	146.36	43125
43126	28 mm diameter	8,442.02	85.42	95.21	159.80	43126
43127	35 mm diameter	10,248.91	106.51	110.06	188.42	43127
	Pressure regulating valve (medical air, surgical air) c/w chained labels : -					
	<i>Each</i>					
43128	15 mm diameter	5,571.05	68.13	69.31	132.29	43128
43129	22 mm diameter	7,119.79	77.77	84.30	146.36	43129
43130	28 mm diameter	8,436.37	85.42	95.21	159.80	43130
43131	35 mm diameter	10,239.09	106.51	110.06	188.42	43131
43132	42 mm diameter	11,605.62	113.95	117.14	206.15	43132
	Pressure reducing valve					
	<i>Each</i>					
43133	Duplex medical gas pressure reducing valve set	26,110.02	211.43	218.78	392.32	43133
	Oxygen concentration monitoring system					
	<i>Per item</i>					
43134	Oxygen concentration monitoring system c/w monitoring alarm panel, built-in integral pump with minimum oxygen flow rate at 0.05 l/ min., facilities for DDC/ CCMS and continuous digital reading of oxygen concentration (0.1% - 99%) to unit HTM 02-01	20,120.29	371.42	464.36	2,276.45	43134
	(The actual rate should be : \$201,202.90 for Item 43134A)					

Item					Item	
	MEDICAL VACUUM SYSTEM					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Packaged duplex medical vacuum set, F.A. aspirated at 500 mm Hg c/w air-cooled rotary sliding/ low speed reciprocating vacuum pump and vibration isolators, plant capacity : -					
	<i>Each</i>					
43135	Up to 150 litres/ min. (The actual rate should be : \$140,938.50 for Item 43135A)	14,093.85	365.94	454.19	1,943.86	43135
43136	150 - 300 litres/ min. (The actual rate should be : \$201,061.50 for Item 43136A)	20,106.15	376.96	468.63	1,987.29	43136
43137	300 - 500 litres/ min. (The actual rate should be : \$261,125.00 for Item 43137A)	26,112.50	385.97	478.04	2,086.44	43137
43138	500 - 750 litres/ min. (The actual rate should be : \$382,409.60 for Item 43138A)	38,240.96	404.38	494.25	2,245.11	43138
43139	750 - 1000 litres/ min. (The actual rate should be : \$482,310.00 for Item 43139A)	48,231.00	424.39	516.04	2,404.57	43139
43140	1000 - 1250 litres/ min. (The actual rate should be : \$549,924.40 for Item 43140A)	54,992.44	442.81	534.83	2,566.21	43140
43141	1250 - 1500 litres/ min. (The actual rate should be : \$628,819.90 for Item 43141A)	62,881.99	461.39	551.21	2,725.05	43141
43142	1500 - 1750 litres/ min. (The actual rate should be : \$699,960.10 for Item 43142A)	69,996.01	479.90	571.96	2,885.56	43142
43143	1750 - 2000 litres/ min. (The actual rate should be : \$777,817.30 for Item 43143A)	77,781.73	498.08	590.58	3,047.29	43143
	Vacuum discharge system : -					
	<i>Each</i>					
43144	Vacuum discharge system with exhaust pipe and silencer assembly for each pump, design to meet noise criteria better than 76 NC	12,009.18	169.07	187.90	736.51	43144
	Sanitary trap : -					
	<i>Each</i>					
43145	Sanitary trap assembly with transparent bowl fitted with sight level tube for each pump	6,630.05	54.79	63.92	224.10	43145

Item					Item	
	MEDICAL VACUUM SYSTEM (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Horizontal vacuum reservoir to BS EN 286-1 c/w vacuum gauge with petcock, drainage trap, inlet isolating and non-return valve, water capacity : -					
	<i>Each</i>					
43146	Up to 1500 litres	80,849.83	726.51	820.80	3,669.29	43146
43147	1500 - 2000 litres	10,456.09	820.80	909.03	3,931.89	43147
	(The actual rate should be : \$104,560.90 for Item 43147A)					
43148	2000 - 2500 litres	12,750.85	909.03	1,085.46	4,287.19	43148
	(The actual rate should be : \$127,508.50 for Item 43148A)					
43149	2500 - 3000 litres	15,011.50	1,003.13	1,182.01	4,580.95	43149
	(The actual rate should be : \$150,115.00 for Item 43149A)					
43150	3000 - 3500 litres	17,031.25	1,085.46	1,266.35	4,896.96	43150
	(The actual rate should be : \$170,312.50 for Item 43150A)					
43151	3500 - 4000 litres	19,024.42	1,182.01	1,363.02	5,192.49	43151
	(The actual rate should be : \$190,244.20 for Item 43151A)					
43152	4000 - 4500 litres	21,195.81	1,266.35	1,447.71	5,489.07	43152
	(The actual rate should be : \$211,958.10 for Item 43152A)					
43153	4500 - 5000 litres	23,186.85	1,363.02	1,549.44	5,784.28	43153
	(The actual rate should be : \$231,868.50 for Item 43153A)					
43154	5000 - 5500 litres	25,211.74	1,447.71	1,629.67	6,080.01	43154
	(The actual rate should be : \$252,117.40 for Item 43154A)					
43155	5500 - 6000 litres	27,391.39	1,549.44	1,732.74	6,379.56	43155
	(The actual rate should be : \$273,913.90 for Item 43155A)					
	Duplex medical vacuum set c/w the following : -					
	<i>Each</i>					
43156	Vacuum drain tanks; including all associated accessories	6,393.62	219.19	236.03	1,013.03	43156
43157	Pipeline vacuum gauges including isolating valves	1,836.05	67.43	80.60	142.62	43157
43158	Vacuum pressure switches including isolating valves	2,132.47	67.43	80.60	142.62	43158
43159	Medical vacuum plant control panel; c/w all associated accessories and power cables and conduits connections to adjacent isolating switch	62,676.78	463.31	611.44	4,593.95	43159

Item	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item	
	A \$	B \$	C \$	D \$		
MEDICAL AIR SYSTEM						
Triplex medical compressed air plant c/w the following : -						
<i>Each</i>						
43160	Air intake filters (3 sets)	24,704.60	171.67	185.96	435.22	43160
43161	Air intake silencers (3 sets)	21,258.77	171.67	185.96	456.89	43161
43162	Air compressors; up to 250 litres/ min. (3 sets)	11,496.93	916.66	1,204.48	4,354.03	43162
	(The actual rate should be : \$114,969.30 for Item 43162A)					
43163	Ditto; 250 - 500 litres/ min. (3 sets)	14,852.48	1,017.94	1,262.21	4,766.66	43163
	(The actual rate should be : \$148,524.80 for Item 43163A)					
43164	Ditto; 500 - 750 litres/ min. (3 sets)	18,972.72	1,064.62	1,309.84	5,157.96	43164
	(The actual rate should be : \$189,727.20 for Item 43164A)					
43165	Ditto; 750 - 1000 litres/ min. (3 sets)	22,622.17	1,111.10	1,367.12	5,510.06	43165
	(The actual rate should be : \$226,221.70 for Item 43165A)					
43166	Ditto; 1000 - 1250 litres/ min. (3 sets)	26,736.96	1,153.80	1,419.44	5,923.13	43166
	(The actual rate should be : \$267,369.60 for Item 43166A)					
43167	Ditto; 1250 - 1500 litres/ min. (3 sets)	31,453.72	1,200.15	1,465.93	6,247.41	43167
	(The actual rate should be : \$314,537.20 for Item 43167A)					
43168	Air-cooled after coolers (3 sets)	49,055.11	916.66	1,204.48	4,490.71	43168
43169	Air receiver; c/w all associated accessories; up to 250 litres/ min. (2 sets)	84,630.45	604.87	750.34	2,628.64	43169
43170	Ditto; 250 - 500 litres/ min. (2 sets)	10,882.15	638.09	789.11	2,973.22	43170
	(The actual rate should be : \$108,821.50 for Item 43170A)					
43171	Ditto; 500 - 750 litres/ min. (2 sets)	13,135.26	667.95	824.49	3,245.01	43171
	(The actual rate should be : \$131,352.60 for Item 43171A)					
43172	Ditto; 750 - 1000 litres/ min. (2 sets)	15,522.75	697.04	857.79	3,516.50	43172
	(The actual rate should be : \$155,227.50 for Item 43172A)					
43173	Ditto; 1000 - 1250 litres/ min. (2 sets)	18,281.54	723.46	889.60	3,900.24	43173
	(The actual rate should be : \$182,815.40 for Item 43173A)					
43174	Ditto; 1250 - 1500 litres/ min. (2 sets)	21,214.83	754.57	920.09	4,284.03	43174
	(The actual rate should be : \$212,148.30 for Item 43174A)					
43175	Water separators (2 sets)	12,523.99	117.96	125.83	260.42	43175
43176	Oil filter (2 sets)	20,670.64	117.96	125.83	260.42	43176
43177	Twin column desiccant air dryers; heatless reactivated including all associated accessories (2 Sets)	26,203.04	604.87	750.34	2,795.41	43177
	(The actual rate should be : \$262,030.40 for Item 43177A)					
43178	Dust filter (2 sets)	25,267.65	117.96	125.83	252.81	43178
43179	Header c/w dew point alarm probe	30,525.33	277.64	323.12	1,027.63	43179
43180	Duplex regulating stations	10,463.05	295.44	320.45	895.57	43180
43181	Active carbon filter (2 sets)	21,046.16	117.96	125.83	260.42	43181
43182	Bacteria filter c/w sterilizable glass trap and stop valves (2 sets)	58,897.28	149.66	163.82	302.02	43182
43183	Pressure switch	502.93	46.08	46.91	80.41	43183
43184	Emergency compressed air manifold; including all associated accessories	24,642.93	226.59	280.16	2,468.02	43184
43185	Medical compressed air plant control panel; c/w all associated accessories, and power cables and conduits connections to adjacent isolating switch (isolating switch measured separately)	87,712.52	459.41	606.13	4,408.63	43185

Item					Item
	SURGICAL AIR SYSTEM				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Duplex surgical compressed air plant c/w the following : -				
	<i>Each</i>				
43186	Air intake filters (2 sets)	16,419.05	117.96	125.83	260.42 43186
43187	Air intake silencers (2 sets)	14,303.85	117.96	125.83	304.98 43187
43188	Air compressors; up to 250 litres/ min. (2 sets)	77,066.41	604.87	750.34	2,855.98 43188
43189	Ditto; 250 - 500 litres/ min. (2 sets)	99,626.65	638.09	789.11	3,122.71 43189
43190	Ditto; 500 - 750 litres/ min. (2 sets)	12,558.46	667.95	824.49	3,364.45 43190
	(The actual rate should be : \$125,584.60 for Item 43190A)				
43191	Ditto; 750 - 1000 litres/ min. (2 sets)	15,079.44	697.04	857.79	3,516.50 43191
	(The actual rate should be : \$150,794.40 for Item 43191A)				
43192	Ditto; 1000 - 1250 litres/ min. (2 sets)	17,790.93	723.46	889.60	3,847.01 43192
	(The actual rate should be : \$177,909.30 for Item 43192A)				
43193	Ditto; 1250 - 1500 litres/ min. (2 sets)	21,292.00	754.57	920.09	4,088.45 43193
	(The actual rate should be : \$212,920.00 for Item 43193A)				
43194	Air-cooled after coolers	16,274.02	308.06	382.41	1,417.05 43194
43195	Air receiver; c/w all associated accessories; up to 250 litres/ min. (2 sets)	84,630.45	604.87	750.34	2,628.64 43195
43196	Ditto; 250 - 500 litres/ min. (2 sets)	10,882.15	638.09	789.11	2,972.28 43196
	(The actual rate should be : \$108,821.50 for Item 43196A)				
43197	Ditto; 500 - 750 litres/ min. (2 sets)	13,135.26	667.95	824.49	3,245.01 43197
	(The actual rate should be : \$131,352.60 for Item 43197A)				
43198	Ditto; 750 - 1000 litres/ min. (2 sets)	15,522.75	697.04	857.79	3,516.50 43198
	(The actual rate should be : \$155,227.50 for Item 43198A)				
43199	Ditto; 1000 - 1250 litres/ min. (2 sets)	18,281.54	723.46	889.60	3,900.24 43199
	(The actual rate should be : \$182,815.40 for Item 43199A)				
43200	Ditto; 1250 - 1500 litres/ min. (2 sets)	21,214.83	754.57	920.09	4,284.03 43200
	(The actual rate should be : \$212,148.30 for Item 43200A)				
43201	Water separators	7,560.86	56.78	62.52	144.84 43201
43202	Oil filter	12,066.85	56.78	62.52	144.84 43202
43203	Twin column desiccant air dryers; heatless reactivated including all associated accessories (2 Sets)	23,521.62	604.87	750.34	2,794.44 43203
	(The actual rate should be : \$235,216.20 for Item 43203A)				
43204	Dust filter	12,749.07	56.78	62.52	144.84 43204
43205	Header c/w dew point alarm probe	30,377.88	277.64	323.12	1,027.63 43205
43206	Duplex regulating stations	11,248.99	258.63	285.55	895.57 43206
43207	Active carbon filter	13,170.84	56.78	62.52	144.84 43207
43208	Bacteria filter c/w sterilizable glass trap and stop valves	29,145.39	74.23	79.00	151.58 43208
43209	Pressure switch	534.95	40.14	45.11	80.41 43209
43210	Emergency surgical air manifold; including all associated accessories	24,525.17	226.59	280.16	2,468.02 43210
43211	Surgical air plant control panel; c/w all associated accessories, and power cables and conduits connections to adjacent isolating switch (isolating switch measured separately)	84,108.41	464.58	606.90	4,328.86 43211

Item					Item	
	ACTIVE ANAESTHETIC GAS SCAVENGING SYSTEM					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Degreased pipework of solid drawn, seamless, phosphorous de-oxidized, non-arsenical copper to BS EN 1412, Grade CW024A in metric and BS EN 13348 to suit HTM 02-01's requirement and fitting to BS EN ISO 7396-2, BS EN ISO 9170-2, CEN/TC prEN 737 and HTM 02-01:-					
	<i>Per linear metre</i>					
43212	28 mm diameter (SP)	522.70	15.70	16.88	271.74	43212
43213	32 mm diameter (SP)	592.51	16.88	18.22	291.26	43213
	Supply and installation of the following Active Anaesthetic Gas Scavenging System, c/w all associated accessories to form on operable systems to BS EN ISO 7396-2, BS EN ISO 9170-2, BS EN 60601-2-13, BS EN ISO 8835-2, 4 and 5CEN/TC prEN 737 and HTM 02-01 :-					
	Approved Active Anaesthetic Gas Scavenging System complete with the following :-					
	<i>Each</i>					
43214	AGSS terminal outlets	3,311.86	46.75	48.90	331.21	43214
43215	Duplex exhaustor units (power device) (1350 litres/ min.) (The actual rate should be : \$107,596.60 for Item 43215A)	10,759.66	754.57	920.09	3,787.00	43215
43216	Plant isolator and control panel	35,113.80	459.50	606.36	4,182.14	43216
43217	Remote on-off flow failure starter unit	17,725.79	241.71	250.34	1,027.08	43217
43218	Flow failure switching unit	11,902.89	176.38	185.70	828.93	43218
43219	Excess vacuum relief regulating valve assembly	8,734.39	111.00	118.42	418.24	43219
43220	Receiver with air break device and connecting hoses	27,288.08	638.56	714.84	1,381.38	43220
	TESTS ON EXISTING MEDICAL GASES SYSTEM					
	(Note : The following Items 43221 to 43249 inclusive will only be paid for if ordered by the Maintenance Surveyor in writing)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Test on existing Active Anaesthetic Gas Scavenging System :-					
	<i>Each</i>					
43221	Power device and warning system test	2,751.83	-	-	-	43221
43222	Receiving system test	2,751.83	-	-	-	43222
43223	Performance test	5,409.45	-	-	-	43223

Item					Item
	TESTS ON EXISTING MEDICAL GASES SYSTEM (CONT'D)				
	(Note : The following Items 43221 to 43249 inclusive will only be paid for if ordered by the Maintenance Surveyor in writing) (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	On-site functional test of existing terminal units and nist connector : -				
	<i>Each</i>				
43224	Oxygen gas terminal unit	4,920.34	-	-	-
43225	Medical air terminal unit	4,920.34	-	-	-
43226	Nitrous oxide terminal unit	4,920.34	-	-	-
43227	Surgical air terminal unit	4,920.34	-	-	-
	On-site identification tests on existing piped medical gas samples : -				
	<i>Each</i>				
43228	Oxygen gas sample	5,249.64	-	-	-
43229	Medical air gas sample	5,249.64	-	-	-
43230	Nitrous oxide gas sample	5,249.64	-	-	-
43231	Surgical air gas sample	5,249.64	-	-	-
	On-site purity/ quality tests on existing piped medical gas samples : -				
	<i>Each</i>				
43232	Oxygen gas sample :Dragger tube tests on contents of O ₂ , H ₂ O (moisture), CO, CO ₂ , oil	5,611.53	-	-	-
43233	Medical air gas sample : Dragger tube tests on contents of O ₂ , H ₂ O (moisture), CO, CO ₂ , oil	5,611.53	-	-	-
43234	Nitrous oxide gas sample : Dragger tube tests on contents of O ₂ , H ₂ O (moisture), CO, CO ₂ , oil, N ₂ O	5,611.53	-	-	-
43235	Surgical air gas sample : Dragger tube tests on contents of O ₂ , H ₂ O (moisture), CO, CO ₂ , oil	5,611.53	-	-	-
	On-site particulate tests on existing piped medical gas samples : -				
	<i>Each</i>				
43236	Oxygen gas sample	5,567.76	-	-	-
43237	Medical air gas sample	5,567.76	-	-	-
43238	Nitrous oxide gas sample	5,567.76	-	-	-
43239	Surgical air gas sample	5,567.76	-	-	-

Item					Item
TESTS ON EXISTING MEDICAL GASES SYSTEM (CONT'D)					
(Note : The following Items 43221 to 43249 inclusive will only be paid for if ordered by the Maintenance Surveyor in writing) (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
On-site cross connection tests on existing piped medical gas pipeline systems : -					
<i>Per lot</i>					
43240	Oxygen gas system	5,036.79	-	-	-
43241	Medical air system	5,036.79	-	-	-
43242	Nitrous oxide system	5,036.79	-	-	-
43243	Surgical air system	5,036.79	-	-	-
43244	Vacuum system	5,036.79	-	-	-
On-site performance tests on existing piped medical gas pipeline systems : -					
<i>Per lot</i>					
43245	Oxygen gas system	5,767.18	-	-	-
43246	Medical air system	5,767.18	-	-	-
43247	Nitrous oxide system	5,767.18	-	-	-
43248	Surgical air system	5,767.18	-	-	-
43249	Vacuum system	5,767.18	-	-	-
MISCELLANEOUS					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
Provision of medical gas regulators, medical cylinders and other accessories in anticipation of Medical Gas Interruption					
Rental charges for gas regulators, cylinders and other accessories for : -					
<i>Per month</i>					
43250	Oxygen	3,548.12	-	-	-
43251	Nitrous oxide	3,548.12	-	-	-
43252	Medical air	3,548.12	-	-	-
43253	Surgical air	3,548.12	-	-	-

Item					Item
	MISCELLANEOUS (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Charges for gas filling for R-size cylinder supply in :-				
	<i>Each</i>				
43254	Oxygen	1,451.26	-	-	-
43255	Nitrous oxide	11,990.38	-	-	-
43256	Medical compressed air	1,150.96	-	-	-
43257	Surgical air	11,990.38	-	-	-
	Sundries :-				
	<i>Each</i>				
43258	Portable suction unit and accessories for backing up type piped medical vacuum	52,743.54	-	-	-
43259	Baseplate for mounting terminal unit on bedhead trunking	258.30	29.66	35.21	52.67

Section 44

CATERING EQUIPMENT

SECTION 44

CATERING EQUIPMENT

SPECIAL CONDITIONS

**Measurement
of power supply**

SC44.01

All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting Systems and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution Systems and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.

For the avoidance of doubt, all items for kitchen furniture in this Section shall only apply to the works executed by the Approved Suppliers of materials and Specialist Contractors for Public Works : Catering Equipment Installation.

**Measurement
of water supply,
waste disposal
and gas supply**

SC44.02

All works of water supply, waste disposal and gas supply up to the respective termination points for the equipment shall be measured separately and paid for at the appropriate rates under applicable Work Sections of this Schedule.

**Measurement
of temporary
supply**

SC44.03

Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as pipework, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.

For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.

No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.

SPECIAL CONDITIONS**Rates generally****SC44.04**

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including drilling of the background and provision of all fixings, nails, bolts, nuts, washers, holes, screws, plugs, shotfired pins and the like.
- (g) Assembling and jointing together with the component parts of composite units and providing any necessary jointing materials.
- (h) All brackets and methods of supports.
- (i) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (j) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (k) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (l) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (m) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC44.04
(Cont'd)**

- (n) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (o) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (p) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (q) Provision of manufacturer's guarantee.

**Rates for kitchen
equipment**

SC44.05

The rates for kitchen equipment shall further include for : -

- (a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like.
- (b) Provision of all associated components.
- (c) All necessary operational and control accessories forming part of the equipment.
- (d) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing, water supply, gas supply and waste disposal including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties.
- (e) Motor starters (if motors in the equipment require motor starters).
- (f) Earth/equipotential bonding.

SPECIAL CONDITIONS**Rates for kitchen furniture****SC44.06**

The rates for kitchen furniture shall further include for : -

- (a) All framing and components to ensure the rigidity and stability of the finished work.
- (b) All accessories necessary for the work.
- (c) Forming holes for pipes, water taps, building services installations, sink and the like if required.
- (d) All necessary ironmongery including door hinges, pull handles and the like.

Rates for "Take down and clear away" or "Take down and set aside for re-use"**SC44.07**

The rates for "Take down and clear away" or "Take down and set aside for re-use" existing kitchen equipment shall further include for : -

- (a) Taking down all associated plumbing works and building services works.
- (b) Plugging off remaining ends with plugs or caps as required.
- (c) Preparing remaining ends of plumbing works and building services works to receive connections with new work if required.
- (d) Making good all works disturbed.

Particular Specification**SC44.08**

The Particular Specification for catering equipment can be found in the Contract.

Item	CATERING EQUIPMENT	Item
	CATERING EQUIPMENT	
	Kitchen equipment	
	Chinese cooking range suitable for 300 to 600 mm Chinese wok c/w burners, air blowers, gas cock, operational and safety controls, splash plate, water faucet, water pot, flame failure device, automatic gas controller with solenoid valves, refractory brick lined combustion chamber, removable stainless steel plate for spice pots, flue pipes, tail pots and all necessary accessories : -	
	<i>Each</i>	
44001	Single stove	23,707.57 258.54 347.11 1,898.28 44001
44002	Double stove	38,926.14 289.64 482.36 3,113.10 44002
	Induction type Chinese cooking range suitable for 300 to 600 mm Chinese wok c/w induction device, operational and safety control, splash plate, water faucet, water pot, removable stainless steel plate for spice pots, tail pots and all necessary accessories : -	
	<i>Each</i>	
44003	Single stove	58,307.81 211.10 283.40 1,549.93 44003
44004	Double stove	11,292.75 236.49 393.85 2,541.89 44004
	(The actual rate should be : \$112,927.50 for Item 44004A)	
	Chinese cooking steamer c/w burners, air blowers, gas cock, 3 steam trays per steamer unit, rice pans, operational and safety controls, water faucet, flame failure device, automatic gas controller with solenoid valves, flue pipe, dim sum plates, dim sum tray stand, steamer funnel and all necessary accessories : -	
	<i>Each</i>	
44005	Single unit	25,235.93 248.96 343.51 2,031.13 44005
44006	Double unit	40,992.70 298.03 392.58 2,148.40 44006
	Gas fire range c/w oven fitted with cooking shelves, hangers and base plate, rings, griddle top, burners, flame failure device, control taps, splash back, thermostat, thermal insulation, adjustable legs and all necessary accessories : -	
	<i>Each</i>	
44007	Heavy duty type	37,187.27 217.83 258.54 848.60 44007
	Gas burners c/w griddle top, burners, flame failure device and all necessary accessories : -	
	<i>Each</i>	
44008	Single burner town gas hot plate	12,563.10 22.74 33.52 90.98 44008
44009	Double burner town gas hot plate	16,750.80 28.71 39.49 104.13 44009

Item					Item
	CATERING EQUIPMENT (CONT'D)				
	Kitchen equipment (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Gas stock pot stoves c/w burners, gas cock, flame failure device, automatic gas controller with solenoid valves, gratings, drip tray, oil pan and all necessary accessories : -				
	<i>Each</i>				
44010	Single burner	7,035.01	116.10	140.03	456.01 44010
44011	Double burner	10,086.50	137.65	172.36	612.81 44011
	Induction type stock pot stoves c/w induction device, gratings, drip tray, oil pan and all necessary accessories : -				
	<i>Each</i>				
44012	Single stove	27,090.06	94.81	114.33	372.34 44012
44013	Double stove	77,793.66	112.39	140.74	500.35 44013
	Town gas rice cooker c/w extra rice cooker bowl and cover, rubber hose connection and automatic flame keeping : -				
	Capacity : -				
	<i>Each</i>				
44014	2 - 5 litres	3,213.81	22.74	34.70	94.55 44014
44015	5 - 9 litres	3,603.37	34.70	40.68	126.88 44015
	Upright refrigerator with doors, control panel, compressors cabinet, condensing unit, door hardware and latches, thermal insulation, thermometer, internal lighting and all necessary accessories : -				
	<i>Each</i>				
44016	Up to 550 litres	16,759.32	89.90	115.32	179.83 44016
44017	550 - 1200 litres	22,808.36	146.58	169.06	196.43 44017
	Upright freezer with doors, control panel, compressors cabinet, condensing unit, door hardware and latches, thermal insulation, thermometer, internal lighting and all necessary accessories : -				
	<i>Each</i>				
44018	Up to 550 litres	18,561.01	90.89	115.32	180.80 44018
44019	550 - 1200 litres	24,806.04	143.65	169.06	195.44 44019

Item					Item	
CATERING EQUIPMENT (CONT'D)						
Kitchen equipment (Cont'd)						
<i>Each</i>						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Upright refrigerator/ freezer with doors, control panel, compressors cabinet, condensing unit, door hardware and latches, thermal insulation, thermometer, internal lighting and all necessary accessories : -						
<i>Each</i>						
44020	Up to 550 litres	22,853.81	88.93	112.39	179.83	44020
44021	550 - 1200 litres	23,373.20	144.64	165.14	195.44	44021
Dish washer c/w door, adjustable legs, built-in rinse booster, automatic fill, safety cut-out switch, liquid detergent dispenser, rinse line injector, booster pumps, signal lamps, instrument panel, drain pump, dish racks, cup racks and associated side tables : -						
<i>Each</i>						
44022	Dish washer, capacity up to 28 litres	30,190.39	184.70	218.90	627.41	44022
Sterilizing sink for milk bottles free standing, with sink cover and internal basket complete with all accessories : -						
<i>Each</i>						
44023	Sterilizing sink, up to 8 litres heating capacity	7,552.48	55.73	60.58	115.32	44023
Electric water boiler, continuous supply type c/w internal water tank, heater, thermostat, water level indicator, ball valve, access to maintenance door, indicating light, switch and faucet : -						
<i>Each</i>						
44024	Up to 32 litres, 3 kW	6,369.86	137.80	161.25	419.25	44024
44025	32 - 65 litres, 9 kW	10,311.49	174.95	198.39	453.45	44025
Electric insect killer; wall mounted type : -						
<i>Each</i>						
44026	100W	2,386.01	43.97	49.86	121.17	44026
44027	200W	2,678.18	49.86	55.73	170.04	44027

Item					Item	
CATERING EQUIPMENT (CONT'D)						
Kitchen equipment (Cont'd)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Fan-assisted balance flue, instantaneous gas water heater c/w temperature selector and flames failure device; with capacity of : -						
<i>Each</i>						
44028	8.8 litres/ min. at 25°C temperature rise	25,028.80	142.41	165.19	573.32	44028
44029	32 litres/ min. at 25°C temperature rise	50,057.62	184.31	215.45	742.07	44029
44030	32 litres/ min. at 25°C temperature rise (Condensing Type) (The actual rate should be : \$104,302.90 for Item 44030A)	10,430.29	213.05	248.96	856.97	44030
Open flue, instantaneous gas water heater c/w temperature selector and flames failure devices; with capacity of : -						
<i>Each</i>						
44031	10 litres/ min. at 25°C temperature rise	25,028.80	142.41	166.36	526.65	44031
44032	16 litres/ min. at 25°C temperature rise	50,057.62	142.41	166.36	564.94	44032
44033	32 litres/ min. at 25°C temperature rise	75,086.40	184.31	215.45	631.95	44033
44034	32 litres/ min. at 25°C temperature rise (Condensing Type) (The actual rate should be : \$104,302.90 for Item 44034A)	10,430.29	213.05	248.96	726.50	44034
Steam cabinet c/w burner, gas cock, steaming cabinet with removable wire shelves, flame failure device, automatic gas controller with solenoid valves, flue pipe, valves, lighting touch, inspection door, drain trough, flue pipe, sight glass and all necessary accessories : -						
<i>Each</i>						
44035	Gas steaming, three decks oven, approximate size 1200 mm x 1000 mm x 1500 mm high	48,402.01	223.82	258.54	964.68	44035
44036	Single door type steam cabinet, approximate size 850 mm (H) x 1100 mm (W) x 1870 mm (D)	30,807.19	205.87	235.77	888.09	44036
44037	3-door type steam cabinet, approximate size 1900 mm (H) x 950 mm (W) x 1100 mm (D)	40,059.07	223.82	258.54	964.68	44037
Electrical steam cabinet c/w heater, steaming cabinet with removable wire shelves, valves, lighting touch, inspection door, drain trough, sight glass and all necessary accessories : -						
<i>Each</i>						
44038	Electrical steaming, three decks oven, approximate size 1200 mm x 1000mm x 1500 mm high	40,610.93	182.75	211.10	787.68	44038
44039	Single door type steam cabinet, approximate size 850 mm (H) x 1100 mm (W) x 1870 mm (D)	28,795.71	168.09	192.52	725.12	44039
44040	3-door type steam cabinet, approximate size 1900 mm (H) x 950 mm (W) x 1100 mm (D)	33,610.95	182.75	211.10	787.68	44040

Item					Item	
	CATERING EQUIPMENT (CONT'D)					
	Kitchen equipment (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Gas kettle c/w burner : -					
	<i>Each</i>					
44041	Gas single steaming kettle range, 60 kW burner rating, approximate size 1000 x 1200 x 800 mm (H), c/w burner, gas cock, 3 trays with pans and covers, water faucet, flame failure devices, automatic gas controller with solenoid valves, flue pipe and all necessary accessories	30,774.73	198.70	227.41	855.78	44041
44042	Gas titling kettle, 150 litres, c/w burner, gas cock, operational controls, safety features, control panel, flame failure device and all necessary accessories	21,118.66	240.58	248.96	1,041.32	44042
	(The actual rate should be : \$211,186.60 for Item 44042A)					
	Bain Marie with hot cabinet c/w drainage tap to well, thermostat, push handle, rubber corner bumpers, castors, protective panel with temperature control, switch and power light, flexible coiled cable and all necessary accessories : -					
	<i>Each</i>					
44043	Approximate size 1200 x 650 x 900 mm high, 1.6 kW	13,488.28	209.45	239.36	817.49	44043
	Gas salamander broiler; range mounted, c/w broiling grid with grates, grid lock, valve controls and automatic lighting : -					
	<i>Each</i>					
44044	12 kW, 1200 x 500 x 950 mm approximate	21,084.58	162.79	190.29	708.57	44044
	Electric beverage bottle cooler; c/w cabinet, lids with hardware and locking device, thermal insulation, refrigeration system, evaporator coils, condenser, controls and all necessary accessories : -					
	<i>Each</i>					
44045	120 bottles of 200 ml size in vertical storage	18,893.34	98.72	116.30	208.15	44045
	Electric sterilizer c/w heating element fitted with safety device, water container with covered handle, dipping trays, grab-handle with hooks and stands : -					
	<i>Each</i>					
44046	2 kW approximate; up to 22.5 litres	8,673.39	69.38	81.12	233.56	44046

Item					Item	
	CATERING EQUIPMENT (CONT'D)					
	Kitchen equipment (Cont'd)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Sundries : -					
	Each					
44047	Cooker and oven with grille top	30,141.70	136.45	153.19	456.01	44047
44048	Deep fat fryer, 20 kW	25,272.29	134.87	155.39	447.57	44048
44049	Deep fat fryer c/w cooker	11,131.49	137.80	157.34	459.31	44049
	(The actual rate should be : \$111,314.90 for Item 44049A)					
44050	Grill, 7.5 kW/ hr.	30,774.73	167.10	188.61	690.94	44050
44051	Pastry oven, 10 kW	26,100.08	177.86	195.44	879.55	44051
44052	Commercial mincer, 430 x 210 x 380 mm high approximate	8,160.18	62.50	68.57	186.62	44052
44053	Flour mixer, 20 litres	11,350.61	124.14	144.95	376.70	44053
44054	Flour bin trolley	4,547.72	25.17	31.24	65.98	44054
44055	Potato peeler, 300 kg/ hr	19,769.85	104.15	128.46	258.63	44055
44056	Slicer, 615 x 480 x 450 mm high approximate	12,033.30	70.32	77.25	196.18	44056
44057	Automatic coffee machine c/w 2 litres removable water tank	6,622.40	4.78	5.99	17.97	44057
44058	Ice maker, 800 x 600 x 530 mm high approximate, 1.1 kW	37,738.01	92.84	115.32	301.01	44058
44059	Micro-wave oven, 1000W	2,249.67	4.35	6.94	19.10	44059
44060	Tea boiler, 45 litres	5,940.69	118.25	137.80	307.85	44060
44061	Mobile rice warmer, 650 x 650 x 850 mm high approximate	7,112.58	27.76	34.70	73.80	44061
44062	Mobile soup warmer, 650 x 650 x 850 mm high approximate	7,112.58	27.76	34.70	73.80	44062
44063	Mobile table, 1400 x 760 x 860 mm high approximate with two undershelves	5,604.30	25.17	31.24	65.98	44063
44064	Service counter c/w under-counter boiler, 1850 x 850 x 700 mm high approximate	16,069.06	145.61	167.10	510.14	44064
44065	Rubbish bin with lid, 30 to 40 litres	715.83	13.02	14.74	25.17	44065
44066	Wooden top table 1900 x 750 x 850 mm high	7,109.35	98.08	120.64	319.44	44066
	Kitchen furniture					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Stainless steel worktop tables, 850 mm high : -					
	Each					
44067	1500 x 750 mm	3,873.45	76.38	94.61	278.62	44067
44068	2000 x 750 mm	4,285.10	101.55	125.85	353.27	44068
44069	1500 x 900 mm	4,262.36	78.99	105.04	293.39	44069

Item					Item	
CATERING EQUIPMENT (CONT'D)						
Kitchen furniture (Cont'd)						
<i>Per linear metre</i>						
Stainless steel worktop with undershelf : -						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
44070	600 mm (W) x 850 mm (H) with 1-tier undershelf	3,944.72	62.50	87.67	244.78	44070
44071	600 mm (W) x 850 mm (H) with 2-tier undershelf	4,638.77	76.38	102.42	280.36	44071
44072	750 mm (W) x 850 mm (H) with 1-tier undershelf	4,156.06	62.50	87.67	238.70	44072
44073	750 mm (W) x 850 mm (H) with 2-tier undershelf	4,935.32	73.80	98.08	292.51	44073
Stainless steel worktop with sink, 850 mm high : -						
<i>Each</i>						
44074	1800 x 750 mm with single sink 500 x 500 x 400 mm deep	8,911.04	131.93	139.76	527.74	44074
44075	1800 x 750 mm with double sinks each 500 x 500 x 400 mm deep	11,832.68	144.95	153.62	571.14	44075
Stainless steel chopping tables with undershelf : -						
<i>Per linear metre</i>						
44076	600 mm (W) x 850 mm (H) with 1-tier undershelf	4,478.91	68.57	94.61	249.11	44076
44077	600 mm (W) x 850 mm (H) with 2-tier undershelf	5,789.74	82.47	107.64	283.83	44077
44078	750 mm (W) x 850 mm (H) with 1-tier undershelf	4,731.12	68.57	94.61	256.92	44078
44079	750 mm (W) x 850 mm (H) with 2-tier undershelf	6,127.18	87.67	107.64	293.39	44079
Open shelves : -						
<i>Per linear metre</i>						
44080	Open shelves, 3-tiers, 500 mm (D) x 1800 mm (H)	5,250.71	65.10	91.15	197.03	44080
Stainless steel worktop cabinet, 600 mm (D) x 850 mm (H) : -						
<i>Per linear metre</i>						
44081	Worktop cabinet with 1-tier intermediate adjustable shelf, hinged doors	7,095.04	102.42	126.72	327.24	44081
44082	Worktop cabinet with 1-tier intermediate adjustable shelf, hinged doors and 1-layer drawers	8,720.33	111.97	138.01	334.17	44082
44083	Worktop cabinet with stack of 3 drawers	9,884.11	118.93	143.20	357.62	44083

Item					Item												
CATERING EQUIPMENT (CONT'D)																	
Kitchen furniture (Cont'd)																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">Supply and fix</th> <th style="width: 10%;">Take down and clear away</th> <th style="width: 10%;">Take down and set aside for re-use</th> <th style="width: 10%;">Fix only</th> <th></th> </tr> <tr> <td></td> <th style="text-align: center;">A \$</th> <th style="text-align: center;">B \$</th> <th style="text-align: center;">C \$</th> <th style="text-align: center;">D \$</th> <td></td> </tr> </thead> </table>							Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			A \$	B \$	C \$	D \$	
	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only													
	A \$	B \$	C \$	D \$													
Stainless steel choptop cabinet, 600 mm (D) x 850 mm (H) : -																	
<i>Per linear metre</i>																	
44084	Choptop cabinet with 1-tier intermediate adjustable shelf, hinged doors	7,398.43	99.82	119.78	319.44	44084											
44085	Choptop cabinet with 1-tier intermediate adjustable shelf, hinged doors and 1-layer drawers	8,696.48	107.64	125.85	340.24	44085											
Stainless steel sink cabinet c/w hinged doors, sinks and grease traps : -																	
<i>Each</i>																	
44086	Single sink cabinet, 600 mm (D) x 850 mm (H) x 1300 mm (L) approximate	6,744.15	114.92	143.62	466.78	44086											
44087	Twin sink cabinet, 600 mm (D) x 850 mm (H) x 2000 mm (L) approximate	9,032.79	178.33	222.63	642.73	44087											
Stainless steel grease trap : -																	
<i>Each</i>																	
44088	Stainless steel grade 316 grease trap 300 x 300 x 500 mm (L), with moveable baffles to facilitate cleaning	1,363.42	11.97	13.16	47.89	44088											
Hanging cabinet : -																	
<i>Per linear metre</i>																	
44089	Hanging cabinet with 1-tier intermediate adjustable shelf, 400 mm (D) x 700 mm (H) with hinged doors	5,726.43	105.04	130.21	276.88	44089											
Cooking bench with 1-tier undershelf, 600 mm (D) x 600 mm (H) : -																	
<i>Per linear metre</i>																	
44090	Cooking bench with splash back 400 mm high	2,464.90	65.10	91.15	217.86	44090											
44091	Cooking bench with splash back 660 mm high	2,539.54	70.32	96.37	226.58	44091											
Stainless steel wall-mounted rack shelves : -																	
<i>Each</i>																	
44092	2000 x 350 x 1200 mm high	2,683.06	103.30	127.60	378.45	44092											
44093	Ordinary sink	3,364.77	95.47	118.05	321.17	44093											
44094	Hand basin	2,390.89	95.47	118.05	234.36	44094											

Item

Item

CATERING EQUIPMENT (CONT'D)

Kitchen furniture (Cont'd)

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
3,652.05	95.47	118.05	258.63

Per linear metre

44095

Enclosed base 800 x 600 mm high

44095

Section 45

SWIMMING POOL WATER TREATMENT INSTALLATION

SECTION 45

SWIMMING POOL WATER TREATMENT INSTALLATION

SPECIAL CONDITIONS

Measurement of power supply	SC45.01	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting System and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution System and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.
Measurement of water supply	SC45.02	All works of water supply up to the respective termination points for the equipment shall be measured separately and paid for at the appropriate rates under the applicable Work Sections of this Schedule.
Measurement of excavations, ducts, chases, holes and other subsidiary work	SC45.03	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All pipe ducts, concrete thrust blocks and anchor blocks, chases in, and holes through existing walls, ceilings and similar for pipes, etc., (but not mortices or holes for brackets) except specifically stated, shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork, Section 12 - Roadwork and Cable Duct and Section 13 - Plumbing and Drainage or other applicable Work Sections of this Schedule.
Measurement of pipework	SC45.04	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.
Measurement of insulation to pipework	SC45.05	Insulation to pipework shall be measured in linear metres for the diameter of the pipes to be insulated.
Measurement of heat resistant cables and low smoke zero halogen cables	SC45.06	<p>Cables for the equipment, control/indicating panels, fire alarm points, etc. have been allowed in the rates under this Section. No measurement shall be made for cables except for heat resistant cables where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Heat resistant cables and low smoke zero halogen cables shall be measured the net length as fixed in linear metres.</p>

SPECIAL CONDITIONS

**Measurement
of temporary
supply**

SC45.07

Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials, such as cables, fittings and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.

For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.

No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.

Rates generally

SC45.08

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, hangers, supports, brackets, spring compensated and seismic restraints and isolating components and the like.
- (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC45.08
(Cont'd)**

- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (l) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (m) Submitting all relevant documentation to Fire Services Department and Environmental Protection Department for obtaining necessary approval.
- (n) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (o) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (p) Provision of manufacturer's guarantee.
- (q) Attending fault and complaint during the Maintenance Period.
- (r) Meeting statutory requirements for disposal of waste materials.

**Rates for
pipework**

SC45.09

The rates for pipework shall further include for :-

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Provision of wall plates, ceiling plates, floor plates, high tensile holding down bolts, tapered washers and the like for casting into the reinforced concrete corbels.
- (g) All jointing including provision of flexible connections and/ or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.
- (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings.

SPECIAL CONDITIONS

Rates for pipework (Cont'd)	SC45.09 (Cont'd)	<ul style="list-style-type: none"> (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required. (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tapes where required.
Rates for in-line pipework equipment	SC45.10	<p>The rates for in-line pipework equipment (e.g. valves, flow meters, gauges, strainers and the like) shall further include for : -</p> <ul style="list-style-type: none"> (a) Cutting and jointing to pipes and fittings. (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.
Rates for equipment	SC45.11	<p>The rates for equipment shall further include for : -</p> <ul style="list-style-type: none"> (a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like. (b) Supporting frames. (c) Connections including flexible joints between pipework and equipment. (d) Flexible connections and anti-vibration connections between pipework and equipment. (e) All necessary operational and control accessories (e.g. valves, gauges, flow meters, indicating lamps and the like) forming part of the equipment, connection and termination. (f) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing and water supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties. (g) Anti-vibration mountings for plant, machinery and the like. (h) Anti-vibration materials and sound insulating materials in plant and machinery bases. (i) Motor starters (if motors in the equipment require motor starters). (j) Earth/ equipotential bonding as specified.

SPECIAL CONDITIONS

Rates for heat resistant cables and low smoke zero halogen cables

SC45.12

The rates for heat resistant cables and low smoke zero halogen cables shall further include for : -

- (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment.
- (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like.
- (c) Making cable-joints.
- (d) Determining circuits, lacing into circuit groups and provision of draw wires, draw cables and the like as required.
- (e) All necessary fixings complete with accessories and fittings as required.
- (f) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC45.13

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with swimming pool water treatment installation shall further include for : -

- (a) All in-line fittings including brackets, supports, hangers and the like.
- (b) Cutting into existing pipework and the like in position.
- (c) Plugging off remaining ends with plugs or caps as required.
- (d) Preparing remaining ends of pipework and building services works (if any) to receive connections with new work if required.
- (e) In the case of equipment and the like, taking down all associated pipework and/or building services works.
- (f) Making good all works disturbed.

Particular Specification

SC45.14

The Particular Specification for swimming pool water treatment installation can be found in the Contract.

Item					Item	
VALVES, PIPE WORKS AND ACCESSORIES						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Gate valves for sea water application 316 stainless steel :-						
<i>Each</i>						
45001	25 mm	723.63	39.30	22.98	28.25	45001
45002	32 mm	769.45	43.09	23.53	28.94	45002
45003	40 mm	845.49	46.31	24.09	29.43	45003
45004	50 mm	925.22	49.40	25.12	30.37	45004
45005	65 mm	1,026.47	51.53	25.61	31.35	45005
45006	80 mm	1,193.23	55.84	28.08	33.34	45006
45007	100 mm	1,653.59	58.01	29.53	34.85	45007
45008	150 mm	2,667.85	71.70	37.57	43.04	45008
45009	200 mm	4,666.99	82.72	45.02	50.53	45009
Gate valves for sea water application PVC :-						
<i>Each</i>						
45010	25 mm	362.71	39.30	22.98	28.25	45010
45011	32 mm	476.89	43.09	23.53	28.94	45011
45012	40 mm	734.60	46.31	24.09	29.43	45012
45013	50 mm	1,262.56	49.40	25.12	30.37	45013
45014	65 mm	2,508.24	51.53	25.61	31.35	45014
45015	80 mm	2,709.69	55.84	28.08	33.34	45015
45016	100 mm	3,991.94	58.01	29.53	34.85	45016
45017	150 mm	7,821.00	71.70	37.57	43.04	45017
45018	200 mm	11,019.25	82.72	45.02	50.53	45018
Globe valves for sea water application 316 stainless steel :-						
<i>Each</i>						
45019	25 mm	532.50	39.30	22.98	28.25	45019
45020	32 mm	642.60	43.09	23.53	28.94	45020
45021	40 mm	798.04	46.31	24.09	29.43	45021
45022	50 mm	963.26	49.40	25.12	30.37	45022
45023	65 mm	1,213.61	51.53	25.61	31.35	45023
45024	80 mm	1,446.78	55.84	28.08	33.35	45024
45025	100 mm	1,926.93	58.01	29.53	34.85	45025
45026	150 mm	3,895.82	71.70	37.57	43.04	45026
45027	200 mm	6,961.23	82.72	45.02	50.53	45027

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
VALVES, PIPE WORKS AND ACCESSORIES (CONT'D)						
Motorized valves for sea water application 316 stainless steel : -						
<i>Each</i>						
45028	40 mm	4,457.59	65.39	33.90	41.32	45028
45029	65 mm	4,938.62	71.10	36.10	44.13	45029
45030	80 mm	5,166.60	77.34	39.52	46.85	45030
45031	100 mm	6,670.66	80.43	41.43	48.94	45031
45032	150 mm	8,210.64	96.03	49.36	58.25	45032
45033	200 mm	12,209.06	100.73	52.09	59.92	45033
Butterfly valves : ductile iron body ; 316 stainless steel disc & shaft : -						
<i>Each</i>						
45034	25 mm	546.47	36.15	21.23	26.08	45034
45035	32 mm	723.28	39.58	21.73	26.70	45035
45036	40 mm	948.68	42.56	22.24	27.14	45036
45037	50 mm	1,243.49	45.40	23.19	28.05	45037
45038	65 mm	1,823.98	47.37	23.63	28.94	45038
45039	80 mm	1,929.24	51.34	25.92	30.78	45039
45040	100 mm	2,868.87	53.35	27.26	32.17	45040
45041	150 mm	3,508.10	65.90	34.69	39.72	45041
45042	200 mm	5,818.00	68.91	42.99	48.39	45042
Check valves for sea water application 316 stainless steel : -						
<i>Each</i>						
45043	25 mm	380.40	39.30	22.98	28.25	45043
45044	32 mm	425.31	43.09	23.53	28.94	45044
45045	40 mm	533.94	46.31	24.09	29.43	45045
45046	50 mm	662.45	49.40	25.12	30.37	45046
45047	65 mm	870.87	51.53	25.61	31.35	45047
45048	80 mm	1,021.83	55.84	28.08	33.35	45048
45049	100 mm	1,456.66	58.01	29.53	34.85	45049
45050	150 mm	2,539.31	71.70	37.57	43.04	45050
45051	200 mm	4,451.95	82.72	45.02	50.53	45051

Item					Item
	VALVES, PIPE WORKS AND ACCESSORIES (CONT'D)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	UPVC pipes and fittings : BS EN ISO 1452 ; solvent or flanged joints, and c/w all accessories				
	Pipework and fittings : -				
	<i>Per linear metre</i>				
45052	25 mm diameter	86.08	53.11	24.46	28.20 45052
45053	32 mm diameter	86.08	56.53	28.70	31.28 45053
45054	40 mm diameter	137.13	60.61	31.18	33.87 45054
45055	50 mm diameter	147.33	68.34	35.17	40.76 45055
45056	65 mm diameter	167.71	85.59	41.43	42.71 45056
45057	80 mm diameter	202.81	87.44	43.84	47.62 45057
45058	100 mm diameter	329.76	97.81	47.69	56.33 45058
45059	150 mm diameter	542.78	130.68	66.81	72.07 45059
45060	200 mm diameter	811.28	158.93	77.35	83.53 45060
45061	250 mm diameter	2,155.17	184.56	91.47	97.80 45061
45062	300 mm diameter	3,381.01	206.86	101.21	106.08 45062
	Bucket-type strainer c/w all accessories : -				
	<i>Each</i>				
45063	40 mm, bronze	2,041.27	42.57	21.88	26.51 45063
45064	50 mm, bronze	2,507.73	43.56	22.28	26.95 45064
45065	65 mm, cast iron	3,382.68	45.99	23.29	27.91 45065
45066	80 mm, cast iron	5,026.87	49.26	24.92	29.61 45066
45067	100 mm, cast iron	6,586.23	51.19	26.20	30.94 45067
45068	150 mm, cast iron	10,383.60	63.20	33.35	38.18 45068
45069	200 mm, cast iron	14,022.33	75.02	42.28	46.75 45069
	Sundries : -				
	<i>Each</i>				
45070	Pressure gauge with cock, c/w all accessories	159.53	13.05	4.94	7.11 45070
45071	Direct reading water flow meters c/w all accessories	9,015.22	79.21	39.47	41.90 45071

Item					Item	
	PUMPS					
	Centrifugal end suction type pumps					
	Pumps sets ; bronze/ cast iron casings and bronze impellers ; direct driven by motors ; water seal connection ; vents ; drain ; priming plug ; associated pipeworks and anti-vibration mountings ; adjacent emergency stops ; all necessary components and accessories : -					
	<i>Per set</i>					
45072	Up to 5 kW	14,679.43	112.50	150.82	640.36	45072
45073	5 - 10 kW	17,793.25	120.91	159.19	941.97	45073
45074	10 - 15 kW	22,241.55	128.06	167.57	1,043.70	45074
45075	15 - 20 kW	24,910.54	135.27	173.56	1,216.07	45075
45076	20 - 30 kW	30,248.51	142.43	181.95	1,333.37	45076
45077	30 - 50 kW	37,365.81	150.82	190.29	1,453.06	45077
	SAND FILTER TANKS					
	Sand filters : mild steel electrically welded shell with epoxy coating ; c/w supported nozzles, balance tanks ; nozzle plates and filtering media supports ; internal distribution and draw-off trough ; flanged inlets and outlets ; wash-in ; drain and air connections ; manholes ; necessary filtering media ; filter supporting feet ; backwash facilities and all necessary accessories : -					
	Equipment flow rate, capacity : -					
	<i>Each</i>					
45078	Up to 30 m ³ / hr	13,344.93	620.37	777.72	1,496.09	45078
45079	30 - 60 m ³ / hr	35,586.48	1,550.90	1,944.27	3,740.19	45079
45080	60 - 90 m ³ / hr	57,828.04	2,481.43	3,110.81	5,984.30	45080
45081	90 - 120 m ³ / hr	97,862.84	3,082.88	4,129.64	7,480.39	45081
45082	120 - 150 m ³ / hr	13,344.93	4,624.29	6,194.42	11,220.57	45082
	(The actual rate should be : \$133,449.30 for Item 45082A)					
45083	150 - 180 m ³ / hr	17,793.25	8,632.06	11,562.93	20,945.07	45083
	(The actual rate should be : \$177,932.50 for Item 45083A)					
	<i>Per cubic metre per hour</i>					
45084	Extra over Item 45083 for each additional flow rate in m ³ / hr of sand filter	2,949.70	20.39	27.53	83.79	45084

Item					Item	
	CARBON FILTER TANKS					
	Carbon filter tanks : mild steel electrically welded with epoxy coating c/w supported nozzles, nozzle plates : and filtering media supports ; internal distribution and draw-off trough ; flanged inlets and outlets ; wash-in ; drain and air connections ; manholes ; necessary filtering media ; maintenance platform; supports and all necessary accessories : -					
	Equipment volume : -					
	Each					
45085	Up to 2 m³	53,379.73	1,655.34	1,879.16	5,073.72	45085
45086	2 - 5 m³	88,966.22	2,423.75	3,275.92	10,008.58	45086
45087	5 - 10 m³	17,793.25	3,844.47	4,669.15	16,236.11	45087
	(The actual rate should be : \$177,932.50 for Item 45087A)					
45088	10 - 15 m³	31,138.17	4,776.88	6,069.54	21,210.48	45088
	(The actual rate should be : \$311,381.70 for Item 45088A)					
45089	15 - 20 m³	46,262.43	6,076.73	7,382.56	24,127.36	45089
	(The actual rate should be : \$462,624.30 for Item 45089A)					
45090	20 - 25 m³	62,276.35	6,488.49	7,728.48	27,072.97	45090
	(The actual rate should be : \$622,763.50 for Item 45090A)					
	OZONATORS					
	Ozonator : Vacuum operated type: full vacuum unit ; Duty and standby air dryers ; Ozone generator ; High tension transformers ; Cartridge filters ; Softeners ; Water trap pots ; Control panels (control panels measured separately); associated pipings; wirings and control ; maintenance platform ; supports ; compact construction cabinet; lockable doors and all necessary accessories : -					
	Capacity : -					
	Per set					
45091	Up to 50 g/ hr	22,241.55	2,264.55	2,999.46	8,601.01	45091
	(The actual rate should be : \$222,415.50 for Item 45091A)					
45092	50 - 100 g/ hr	33,807.16	3,060.50	3,533.26	11,674.70	45092
	(The actual rate should be : \$338,071.60 for Item 45092A)					
45093	100 - 150 g/ hr	35,586.48	3,296.29	4,083.89	12,529.28	45093
	(The actual rate should be : \$355,864.80 for Item 45093A)					
45094	150 - 200 g/ hr	42,703.78	3,581.16	4,525.51	14,772.29	45094
	(The actual rate should be : \$427,037.80 for Item 45094A)					
45095	200 - 250 g/ hr	46,707.27	4,348.38	5,305.92	17,546.74	45095
	(The actual rate should be : \$467,072.70 for Item 45095A)					
45096	250 - 300 g/ hr	60,497.03	4,986.34	5,940.26	18,604.79	45096
	(The actual rate should be : \$604,970.30 for Item 45096A)					

Item					Item	
	OZONATED WATER REACTION TANKS					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ozonated water reaction tank : mild steel electrically welded shell with epoxy coating ; c/w automatic air vents ; drains ; valves ; flow meters ; maintenance platform ; supports ; accessories and connections : -					
	Equipment volume : -					
	<i>Per cubic metre</i>					
45097	Up to 2 m ³	44,483.10	1,426.72	2,050.32	5,946.25	45097
45098	2 - 5 m ³	75,621.28	2,459.65	3,163.46	10,022.98	45098
45099	5 - 10 m ³	15,124.26	3,699.68	4,573.39	15,100.27	45099
	(The actual rate should be : \$151,242.60 for Item 45099A)					
45100	10 - 15 m ³	26,689.87	4,752.94	5,921.09	20,063.85	45100
	(The actual rate should be : \$266,898.70 for Item 45100A)					
45101	15 - 20 m ³	43,148.62	5,998.93	7,217.39	24,572.62	45101
	(The actual rate should be : \$431,486.20 for Item 45101A)					
45102	20 - 25 m ³	57,828.04	6,504.02	7,801.46	26,928.17	45102
	(The actual rate should be : \$578,280.40 for Item 45102A)					
	COMPRESSED AIR SUPPLY FOR BACKWASH SYSTEM					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Compressed air supply for backwash system : air compressors ; ancillary control accessories ; acoustic enclosure ; pipeworks and fittings ; all type of valves ; switches ; pressure gauges ; connections ; controls and interlocks ; control panel (control panel measured separately) ; supports ; all necessary accessories : -					
	Displacement rate : -					
	<i>Per system</i>					
45103	Up to 50 m ³ / hr	38,955.62	499.11	594.87	1,998.85	45103
45104	50 - 100 m ³ / hr	42,851.18	593.67	713.37	2,470.41	45104
45105	100 - 150 m ³ / hr	58,433.42	641.55	770.83	2,780.46	45105
45106	150 - 200 m ³ / hr	62,328.98	714.54	856.99	2,926.50	45106
45107	200 - 250 m ³ / hr	63,108.09	727.74	883.34	3,066.49	45107
45108	250 - 300 m ³ / hr	70,120.09	752.85	910.86	3,161.01	45108
45109	300 - 350 m ³ / hr	71,678.34	833.04	1,007.79	3,393.24	45109
45110	350 - 400 m ³ / hr	74,015.67	864.17	1,046.09	3,518.96	45110

Section 46

CRANE AND HOIST INSTALLATION

SECTION 46

CRANE AND HOIST INSTALLATION

SPECIAL CONDITIONS

Measurement of power supply	SC46.01	<p>All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting System and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution Systems and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.</p>
Measurement of temporary supply	SC46.02	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>
Rates generally	SC46.03	<p>The rates for all items shall generally include for : -</p> <ul style="list-style-type: none"> (a) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied. (b) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation. (c) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning. (d) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests. (e) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.

SPECIAL CONDITIONS

Rates generally (Cont'd)	SC46.03 (Cont'd)	<ul style="list-style-type: none"> (f) Submitting all relevant documentation to Electrical and Mechanical Services Department and Labour Department for obtaining necessary approval. (g) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required. (h) Provision of manufacturer's guarantee. (i) Attending fault and complaint during the Maintenance Period.
Rates for equipment	SC46.04	<p>The rates for equipment shall further include for : -</p> <ul style="list-style-type: none"> (a) All necessary assembly, erection, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, instrumentation and the like. (b) Supporting frames. (c) Provision of wall plates, ceiling plates, floor plates, high tensile holding down bolts, tapered washers and the like for casting into the reinforced concrete corbels. (d) All necessary operational and control accessories (e.g. gearboxes, brakes, safety facilities, indicating lamps, pendant control units and the like) forming part of the equipment, connection and termination. (e) Testing and examination of the equipment and associated lifting facilities by an approved independent surveyor. (f) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing and water supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties. (g) Anti-vibration materials and sound insulating materials in plant and machinery bases. (h) Motor starters (if motors in the equipment require motor starters). (i) Earth/ equipotential bonding as specified. (j) All necessary statutory submission to all relevant Authorities including employing competent examiners for testing and inspection of the equipment to satisfy the requirements of Labour Department. (k) Structural design and associated drawings for approval prior to manufacturing. The design shall be attested by a professional structural engineer licensed to practices in Hong Kong.
Particular Specification	SC46.05	The Particular Specification for crane and hoist can be found in the Contract.

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
	CRANE AND HOIST INSTALLATION					
	Jib crane					
	Free standing, electrically rotated high grade steel jib crane, minimum rotating speed of 0.5 rpm, up to 4m in height, 270 deg maximum slewing ark, and pre-lubricated, c/w round base plate reinforced with six knee braces, and c/w motor, gearbox, 2 limit switches, electric connection with crane; c/w electric motorized trolley, minimum moving speed of 5 m/ min, motor, gearbox, 2 limit switches, electric connection with trolley; c/w electrically operated hoist, minimum lifting speed of 2 m/ min, motor, gearbox, 2 limit switches, electric connection with hoist, necessary overload protective devices and alarms; and in span radius : -					
	<i>Per crane</i>					
46001	Up to 3 m x 1 ton (The actual rate should be : \$238,231.50 for Item 46001A)	23,823.15	9,367.67	9,654.51	34,109.74	46001
46002	Ditto x 1 - 2 ton (The actual rate should be : \$250,803.00 for Item 46002A)	25,080.30	9,604.75	9,904.66	34,734.52	46002
46003	Ditto x 3 - 5 ton (The actual rate should be : \$288,517.70 for Item 46003A)	28,851.77	10,249.17	10,584.45	36,390.09	46003
46004	4 m x 1 ton (The actual rate should be : \$261,488.80 for Item 46004A)	26,148.88	10,484.93	10,779.62	38,413.71	46004
46005	4 m x 1 - 2 ton (The actual rate should be : \$261,488.80 for Item 46005A)	26,148.88	10,484.93	10,779.62	38,413.71	46005
46006	4 m x 3 - 5 ton (The actual rate should be : \$336,918.30 for Item 46006A)	33,691.83	11,816.96	12,175.86	41,871.59	46006
	Free standing, manually rotated high grade steel jib crane, up to 4m in height, 270 deg maximum slewing ark, and pre-lubricated, c/w round base plate reinforced with six knee braces; c/w electric motorized trolley, minimum moving speed of 5m/ min, motor, gearbox, 2 limit switches, electric connection with trolley; c/w electrically operated hoist, minimum lifting speed of 2m/ min, motor, gearbox, 2 limit switches, electric connection with hoist, necessary overload protective devices and alarms; and in span radius : -					
	<i>Per crane</i>					
46007	Up to 3 m x 1 ton (The actual rate should be : \$202,402.40 for Item 46007A)	20,240.24	7,997.60	8,242.56	29,161.31	46007
46008	Ditto x 1 - 2 ton (The actual rate should be : \$202,402.40 for Item 46008A)	20,240.24	7,997.60	8,242.56	29,161.31	46008
46009	Ditto x 3 - 5 ton (The actual rate should be : \$250,803.00 for Item 46009A)	25,080.30	9,604.75	9,915.17	34,726.63	46009

Item					Item	
CRANE AND HOIST INSTALLATION (CONT'D)						
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Wall-mounted, manually rotated high grade steel jib crane, up to 6m in height, 180 deg maximum slewing ark, c/w steel top and bottom brackets, two bronze bushings, bronze thrust washers, and pre-lubricated; c/w electric motorized trolley, minimum moving speed of 5 m/ min, motor, gearbox, 2 limit switches, electric connection with trolley; c/w electrically operated hoist, minimum lifting speed of 2 m/ min, motor, gearbox, 2 limit switches, electric connection with hoist, necessary overload protective devices and alarms; and in span radius : -					
	<i>Per crane</i>					
46010	Up to 3 m x 1 ton (The actual rate should be : \$221,888.40 for Item 46010A)	22,188.84	10,124.72	10,376.23	38,589.24	46010
46011	Ditto x 2 ton (The actual rate should be : \$228,174.20 for Item 46011A)	22,817.42	10,287.15	10,545.16	39,059.46	46011
46012	4 m x 1 ton (The actual rate should be : \$247,031.50 for Item 46012A)	24,703.15	10,752.12	11,028.48	40,384.96	46012
46013	Ditto x 2 ton (The actual rate should be : \$259,603.10 for Item 46013A)	25,960.31	11,044.21	11,333.67	41,203.60	46013
	Fixed chain hoist					
	Electrically operated hoist with electric motorized trolley, minimum lifting speed of 2 m/ min, up to 6m in height; c/w motor, gearbox, 2 limit switches, electric connection with hoist, necessary overload protective devices and alarms; and in lifting capacity : -					
	<i>Per hoist</i>					
46014	Up to 1 ton	51,480.63	2,607.80	2,677.23	9,416.13	46014
46015	1 - 2 ton	51,480.63	2,607.80	2,677.23	9,416.13	46015
46016	2 - 3 ton	62,920.74	3,198.52	3,279.72	11,511.81	46016
46017	3 - 4 ton	62,920.74	3,198.52	3,279.72	11,511.81	46017
46018	4 - 5 ton	74,360.91	3,764.35	3,849.49	13,583.91	46018
	Manually operated hoist with manual trolley, up to 6 m in height; c/w gearbox, and in lifting capacity : -					
	<i>Per hoist</i>					
46019	Up to 1 ton	6,424.92	247.55	255.43	827.79	46019
46020	1 - 2 ton	8,273.84	297.33	306.51	995.46	46020
46021	2 - 3 ton	10,792.05	395.57	408.64	1,338.62	46021
46022	3 - 4 ton	14,260.52	497.72	514.75	1,675.24	46022

Item

Item

CRANE AND HOIST INSTALLATION (CONT'D)

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
A \$	B \$	C \$	D \$
12,878.21	2,607.80	2,678.55	9,408.27
21,898.48	2,607.80	2,678.55	9,408.27
30,627.76	2,607.80	2,678.55	9,408.27

Fixed winch

Electrically operated wire winch, minimum lifting speed of 10 m/ min, up to 6min height, in lifting capacity : -

Per winch

46023	Up to 300 kg	12,878.21	2,607.80	2,678.55	9,408.27	46023
46024	300 - 500 kg	21,898.48	2,607.80	2,678.55	9,408.27	46024
46025	500 kg - 1 ton	30,627.76	2,607.80	2,678.55	9,408.27	46025

Section 47

FUEL SUPPLY SYSTEM

SECTION 47

FUEL SUPPLY SYSTEM

SPECIAL CONDITIONS

Measurement of power supply	SC47.01	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting System and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution Systems and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.
Measurement of fuel supply	SC47.02	All works of fuel supply up to the respective termination points for the equipment shall be measured separately and paid for at the appropriate rates under the applicable Work Sections of this Schedule.
Measurement of excavations, ducts, chases, holes and other subsidiary work	SC47.03	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All pipe ducts, concrete thrust blocks and anchor blocks, chases in, and holes through existing walls, ceilings and similar for pipes, etc., (but not mortices or holes for brackets) except specifically stated, shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork, Section 12 - Roadwork and Cable Duct and Section 13 - Plumbing and Drainage or other applicable Work Sections of this Schedule.
Measurement of pipework	SC47.04	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.
Measurement of heat resistant cables and low smoke zero halogen cables	SC47.05	<p>Cables for the equipment, control/indicating panels, fire alarm points, etc. have been allowed in the rates under this Section. No measurement shall be made for cables except for heat resistant cables where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Heat resistant cables and low smoke zero halogen cables shall be measured the net length as fixed in linear metres.</p>
Measurement of temporary supply	SC47.06	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p>

SPECIAL CONDITIONS

Measurement of temporary supply (Cont'd)	SC47.06 (Cont'd)	No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.
Rates generally	SC47.07	<p>The rates for all items shall generally include for : -</p> <ul style="list-style-type: none"> (a) Colour band and colour identification work. (b) Lettering and engraving for identification, signs, labels in both English and Chinese. (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese. (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly. (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule. (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, hangers, supports, brackets, spring compensated and seismic restraints and isolating components and the like. (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints. (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied. (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation. (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning. (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests. (l) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC47.07
(Cont'd)**

- (m) Submitting all relevant documentation to Electrical and Mechanical Services Department and Fire Services Department for obtaining necessary approval.
- (n) Obtaining necessary approval from Environment Protection Department including submission of all relevant documentation.
- (o) Approved type test certificate issued by Fire Services Department for all equipment.
- (p) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (q) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (r) Provision of manufacturer's guarantee.
- (s) Attending fault and complaint during the Maintenance Period.
- (t) Meeting statutory requirements for disposal of waste materials.
- (u) All necessary statutory submissions to all relevant Authorities in respect of the complete fuel supply system.

**Rates for
pipework**

SC47.08

The rates for pipework shall further include for : -

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Provision of wall plates, ceiling plates, floor plates, high tensile holding down bolts, tapered washers and the like for casting into the reinforced concrete corbels.
- (g) All jointing including provision of flexible connections and/ or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.
- (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings.

SPECIAL CONDITIONS

**Rates for
pipework
(Cont'd)**

**SC47.08
(Cont'd)**

- (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required.
- (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tapes where required.

**Rates for
in-line
pipework
equipment**

SC47.09

The rates for in-line pipework equipment (e.g. valves, flow meters, gauges, strainers and the like) shall further include for : -

- (a) Cutting and jointing to pipes and fittings.
- (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.

**Rates for
equipment**

SC47.10

The rates for equipment shall further include for : -

- (a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like.
- (b) Daily services fuel tank complete with socket connections for filling, overflow, outlet, drain, return and vent including all necessary fittings, union couplings, strainers, valves and the like, content gauge units, oil drip trays and all necessary accessories.
- (c) Supporting frames.
- (d) Connections including flexible joints between pipework and equipment.
- (e) Flexible connections and anti-vibration connections between pipework and equipment.
- (f) All necessary operational and control accessories (e.g. valves, gauges, flow meters, indicating lamps and the like) forming part of the equipment, connection and termination.
- (g) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing, water supply and/or fuel supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties.
- (h) Anti-vibration mountings for plant, machinery and the like.
- (i) Anti-vibration materials and sound insulating materials in plant and machinery bases.
- (j) Pump starters.
- (k) Earth/equipotential bonding as specified.

SPECIAL CONDITIONS

Rates for heat resistant cables and low smoke zero halogen cables

SC47.11

The rates for heat resistant cables and low smoke zero halogen cables shall further include for : -

- (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment.
- (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like.
- (c) Making cable-joints.
- (d) Determining circuits, lacing into circuit groups and provision of draw wires, draw cables and the like as required.
- (e) All necessary fixings complete with accessories and fittings as required.
- (f) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.

Rates for fuel supply system

SC47.12

The rates of fuel supply system to plant and appliances shall consist of fuel storage facilities, fuel transfer facilities, associated pipework, electrical power, controls and accessories. The rates shall further include the bulk fuel storage tanks, fuel transfer pumps, fuel dispensers and vapour recovery system, if required.

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC47.13

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with fuel supply system shall further include for : -

- (a) All in-line fittings including brackets, supports, hangers and the like.
- (b) Cutting into existing pipework and the like in position.
- (c) Plugging off remaining ends with plugs or caps as required.
- (d) Preparing remaining ends of pipework and building services works (if any) to receive connections with new work if required.
- (e) In the case of equipment and the like, taking down all associated pipework and/or building services works.
- (f) Making good all works disturbed.

Particular Specification

SC47.14

The Particular Specification for fuel supply system can be found in the Contract.

Item					Item
	FUEL SUPPLY SYSTEM EQUIPMENT				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Daily services fuel tank in mild steel welded construction c/w stiffeners and support frames, with tapped socket connections on tank (c/w all necessary fittings and union couplings or plugged with brass screw cap if not in size) for filling pipe, overflow pipe, delivery pipe (with a quick closing valve), drain pipe (with a 20 mm gate valve), return pipe, vent pipe, and with a content gauge unit. oil drip tray, all accessories and for fuel				
	capacity : -				
	Per tank				
47001	Up to 250 litres	47,648.87	2,035.91	2,341.11	3,370.45 47001
47002	250 - 450 litres	50,031.32	2,035.91	2,341.11	3,370.45 47002
47003	450 - 500 litres	50,031.32	2,035.91	2,341.11	3,370.45 47003
47004	500 - 1000 litres	52,413.77	2,035.91	2,341.11	3,370.45 47004
47005	1000 - 2000 litres	59,561.10	2,035.91	2,341.11	3,370.45 47005
	Level switch capable of controlling on/ off operation of remote system to IEC 60079-0 Group II A, Temperature Class T1, suitable for Zone 1 hazardous area and installed inside fuel tank c/w a level sensor and a switch unit, controller, casing and all necessary electrical components and control wirings to BASEEFA certification : -				
	Per switch				
47006	Level switch	55,143.03	1,411.14	1,679.25	2,377.03 47006
	Fuel transfer pump, rotary and positive displacement type in high quality cast iron construction c/w high tensile steel shafts, flame proof coupling motors, valves, strainers, switches, composite pump control cubicles (measured separately), alarm, wiring works, overload protection and all necessary accessories : -				
	Per set				
47007	0.75 - 1 kW	59,561.10	1,716.35	1,924.59	2,840.23 47007
47008	1 - 2 kW	71,473.31	1,716.35	1,924.59	2,840.23 47008
47009	2 - 4 kW	83,385.54	1,716.35	1,924.59	2,840.23 47009
47010	4 - 6 kW	95,297.75	1,716.35	1,924.59	2,840.23 47010
47011	6 - 10 kW	10,721.00	1,716.35	1,924.59	2,840.23 47011
	(The actual rate should be : \$107,210.00 for Item 47011A)				
47012	Hand pump, semi-rotary double acting type c/w 25 mm diameter inlet and outlet pipes and 25 mm diameter flexible oil resistant pipe	1,786.82	245.37	283.66	412.92 47012

Item		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	Item
		A \$	B \$	C \$	D \$	
FUEL SUPPLY SYSTEM EQUIPMENT (CONT'D)						
Pipeworks						
Carbon steel pipes and fittings in heavy quality to ISO 65 c/w all necessary accessories :-						
<i>Per linear metre</i>						
47013	20 mm diameter	638.66	9.03	9.75	108.93	47013
47014	25 mm diameter	745.11	9.91	10.70	118.49	47014
47015	32 mm diameter	851.57	10.70	12.03	128.06	47015
47016	40 mm diameter	957.99	11.67	12.79	143.62	47016
47017	50 mm diameter	1,064.44	12.41	13.38	168.77	47017
Bronze gate valve, full way type c/w all necessary accessories :-						
<i>Per valve</i>						
47018	20 mm diameter	216.61	31.06	37.55	156.80	47018
47019	25 mm diameter	332.67	31.80	38.28	209.45	47019
47020	32 mm diameter	417.10	32.52	38.91	262.11	47020
47021	40 mm diameter	525.80	33.27	39.64	293.24	47021
47022	50 mm diameter	647.57	34.61	41.11	313.59	47022
Bronze globe valve, full way type c/w all necessary accessories :-						
<i>Per valve</i>						
47023	20 mm diameter	216.61	31.06	37.55	156.80	47023
47024	25 mm diameter	332.67	31.80	38.28	209.45	47024
47025	32 mm diameter	417.10	32.52	38.91	262.11	47025
47026	40 mm diameter	525.80	33.27	39.64	293.24	47026
47027	50 mm diameter	647.57	34.61	41.11	313.59	47027
Bronze T-port valve, full way type c/w handles and all necessary accessories :-						
<i>Per valve</i>						
47028	20 mm diameter	575.28	31.06	37.55	156.80	47028
47029	25 mm diameter	977.96	31.80	38.28	209.45	47029
47030	32 mm diameter	1,311.62	32.52	38.91	262.11	47030
47031	40 mm diameter	1,932.92	33.27	39.64	293.24	47031
47032	50 mm diameter	2,887.89	34.61	41.11	313.59	47032

Item					Item
	FUEL SUPPLY SYSTEM EQUIPMENT (CONT'D)				
	Pipeworks (Cont'd)				
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only
		A \$	B \$	C \$	D \$
	Bronze ball valve, full way type c/w all necessary accessories : -				
	<i>Per valve</i>				
47033	20 mm diameter	216.61	31.06	37.55	156.80 47033
47034	25 mm diameter	332.67	31.80	38.28	209.45 47034
47035	32 mm diameter	417.10	32.52	38.91	262.11 47035
47036	40 mm diameter	525.80	33.27	39.64	293.24 47036
47037	50 mm diameter	647.57	34.61	41.11	313.59 47037
	Bronze non-return drain valve, full way type c/w all necessary accessories : -				
	<i>Per valve</i>				
47038	20 mm diameter	291.67	31.06	37.55	156.80 47038
47039	25 mm diameter	403.27	31.80	38.28	209.45 47039
47040	32 mm diameter	529.26	32.52	38.91	262.11 47040
47041	40 mm diameter	627.06	33.27	39.64	293.24 47041
47042	50 mm diameter	788.14	34.61	41.11	313.59 47042
	Bronze strainer, double type c/w all necessary accessories : -				
	<i>Per strainer</i>				
47043	20 mm diameter	283.50	31.06	37.55	156.80 47043
47044	25 mm diameter	386.81	31.80	38.28	209.45 47044
47045	32 mm diameter	518.45	32.52	38.91	262.11 47045
47046	40 mm diameter	616.92	33.27	39.64	293.24 47046
47047	50 mm diameter	843.12	34.61	41.11	313.59 47047
	Control : -				
	<i>Per set</i>				
47048	Fuel supply control system c/w flameproof fuel transfer pump control panel and flameproof level monitoring control panel with certificate issued by BASEEFA, with EIMCSP and IP 65 enclosure to IEC 60529, protection type EEx d flameproof	15,440.06	596.08	683.42	1,297.43 47048
	(The actual rate should be : \$154,400.60 for Item 47048A)				
47049	Flameproof control panel for high level visible and audible alarm	33,085.83	596.08	683.42	1,297.43 47049
47050	Remote on/ off control panel for fuel transfer pump c/w all necessary accessories	22,057.21	596.08	683.42	1,297.43 47050

Section 48

CHIMNEY

SECTION 48

CHIMNEY

SPECIAL CONDITIONS

Measurement of flue pipe/ aluminium cladding	SC48.01	Flue pipe/ aluminium cladding shall be measured in linear metres.
Measurement of insulation to flue pipe	SC48.02	Insulation to flue pipe/ aluminium cladding shall be measured the diameter of the pipe in linear metres.
Measurement of temporary supply	SC48.03	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>
Rates generally	SC48.04	<p>The rate for all items shall generally include for : -</p> <ul style="list-style-type: none"> (a) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly. (b) All mild steel supports in outdoor environment. (c) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.

SPECIAL CONDITIONS

**Rates generally
(Cont'd)**

**SC48.04
(Cont'd)**

- (d) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, hangers, supports, brackets, spring compensated and seismic restraints and isolating components, expansion bellows, compensators and the like.
- (e) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (f) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (g) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (h) Attending fault and complaint during the Maintenance Period.
- (i) Meeting statutory requirements for disposal of waste materials.

**Rates for
equipment**

SC48.05

The rates for equipment shall further include for : -

- (a) Submission of wind load and structural design calculations.
- (b) Submission of calculations, shop drawings and other relevant information to Environmental Protection Department for approval in accordance with the Air Pollution Control Regulations.
- (c) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (d) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (e) All necessary statutory submission to all relevant Authorities including employing competent examiners for testing and inspection of the equipment to satisfy the requirements of Labour Department.
- (f) Structural design and associated drawings for approval prior to manufacturing. The design shall be attested by a professional structural engineer licensed to practices in Hong Kong.
- (g) Welds examined by means of non-destructive tests (NDT).
- (h) Meeting the design life of the chimney stack and supporting structures for at least 20 years.
- (i) Lightning protection facilities.
- (j) All welding carried out only by experienced welders with recognised certificates of proficiency.
- (k) Checking of verticality by optical tooling method using the alignment telescope or jig alignment telescope, jig transit and precise level.

SPECIAL CONDITIONS**Particular
Specification****SC48.06**

The Particular Specification for chimney installation can be found in the Contract.

Item

Item

CHIMNEY EQUIPMENT

Mild steel vertical flue pipe c/w mounting brackets; c/w 25 mm thick mineral wool insulation and 1.6 mm thick aluminium cladding to maintain flue gas at 150°C minimum; c/w protector against lightning to BS EN/IEC 62305; painted with two layers of dry films each of 2 mm thick pure silicon resin and heat resistant aluminium coating on the interior and exterior surfaces of chimney to EN 1993-3-2:2006 : -

	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
	A \$	B \$	C \$	D \$	
Up to 3m in height, and chimney size at : -					
Per chimney					
48001 50 mm diameter	751.28	267.14	-	-	48001
48002 80 mm diameter	973.89	356.21	-	-	48002
48003 100 mm diameter	1,066.62	356.21	-	-	48003
48004 125 mm diameter	1,205.74	356.21	-	-	48004
48005 150 mm diameter	1,484.01	356.21	-	-	48005
48006 200 mm diameter	2,318.76	445.25	-	-	48006
48007 250 mm diameter	2,597.02	445.25	-	-	48007
48008 300 mm diameter	2,875.26	712.40	-	-	48008
48009 350 mm diameter	3,710.04	712.40	-	-	48009
48010 400 mm diameter	5,565.06	935.04	-	-	48010
48011 450 mm diameter	6,028.82	935.04	-	-	48011

Item

Item

CHIMNEY EQUIPMENT (CONT'D)

Mild steel vertical flue pipe c/w mounting brackets; c/w 25 mm thick mineral wool insulation and 1.6 mm thick aluminium cladding to maintain flue gas at 150°C minimum; c/w protector against lightning to BS EN/IEC 62305:2011; painted with two layers of dry films each of 2 mm thick pure silicon resin and heat resistant aluminium coating on the interior and exterior surfaces of chimney to EN 1993-3-2:2006 :-

Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only			
A \$	B \$	C \$	D \$			
Add height of above items (with 25 mm thick mineral wool insulation) for each additional linear metre or part thereof :-						
<i>Per linear metre</i>						
48012	50 mm diameter	250.42	89.04	-	-	48012
48013	80 mm diameter	324.63	118.74	-	-	48013
48014	100 mm diameter	356.15	118.74	-	-	48014
48015	125 mm diameter	401.93	118.74	-	-	48015
48016	150 mm diameter	494.67	118.74	-	-	48016
48017	200 mm diameter	772.92	148.70	-	-	48017
48018	250 mm diameter	865.68	148.70	-	-	48018
48019	300 mm diameter	958.42	237.47	-	-	48019
48020	350 mm diameter	1,236.67	237.47	-	-	48020
48021	400 mm diameter	1,855.02	311.68	-	-	48021
48022	450 mm diameter	1,966.32	311.68	-	-	48022

Item

Item

CHIMNEY EQUIPMENT (CONT'D)

Mild steel vertical flue pipe c/w mounting brackets; c/w 50 mm thick mineral wool insulation and 1.6 mm thick aluminium cladding to maintain flue gas at 150°C minimum; c/w protector against lightning to BS EN/IEC 62305; painted with two layers of dry films each of 2 mm thick pure silicon resin and heat resistant aluminium coating on the interior and exterior surfaces of chimney to EN 1993-3-2:2006 : -

		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
Up to 3m in height, and chimney size at : -						
<i>Per chimney</i>						
48023	50 mm diameter	788.39	267.14	-	-	48023
48024	80 mm diameter	1,113.02	356.21	-	-	48024
48025	100 mm diameter	1,196.48	356.21	-	-	48025
48026	125 mm diameter	1,307.79	356.21	-	-	48026
48027	150 mm diameter	1,567.50	356.21	-	-	48027
48028	200 mm diameter	2,504.27	445.25	-	-	48028
48029	250 mm diameter	2,875.26	445.25	-	-	48029
48030	300 mm diameter	3,060.80	712.40	-	-	48030
48031	350 mm diameter	3,988.28	712.40	-	-	48031
48032	400 mm diameter	5,843.30	935.04	-	-	48032
48033	450 mm diameter	6,399.80	935.04	-	-	48033

Item

Item

CHIMNEY EQUIPMENT (CONT'D)

Mild steel vertical flue pipe c/w mounting brackets; c/w 50 mm thick mineral wool insulation and 1.6 mm thick aluminium cladding to maintain flue gas at 150°C minimum; c/w protector against lightning to BS EN/IEC 62305:2011; painted with two layers of dry films each of 2 mm thick pure silicon resin and heat resistant aluminium coating on the interior and exterior surfaces of chimney to EN 1993-3-2:2006 :-

Add height of above items (with 50 mm thick mineral wool insulation) for each additional linear metre or part thereof :-

Per linear metre

	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only		
	A \$	B \$	C \$	D \$		
48034	50 mm diameter	264.34	89.04	-	-	48034
48035	80 mm diameter	371.01	118.74	-	-	48035
48036	100 mm diameter	398.82	118.74	-	-	48036
48037	125 mm diameter	435.94	118.74	-	-	48037
48038	150 mm diameter	522.51	118.74	-	-	48038
48039	200 mm diameter	834.76	148.70	-	-	48039
48040	250 mm diameter	958.42	148.70	-	-	48040
48041	300 mm diameter	1,020.25	237.47	-	-	48041
48042	350 mm diameter	1,329.42	237.47	-	-	48042
48043	400 mm diameter	1,947.78	311.68	-	-	48043
48044	450 mm diameter	2,133.27	311.68	-	-	48044

Aluminium cladding 1.6 mm thick for chimney insulation c/w 50 mm insulation for chimney internal diameter at :-

Per linear metre

	Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only		
	A \$	B \$	C \$	D \$		
48045	100 mm diameter	163.14	9.65	10.32	25.58	48045
48046	125 mm diameter	182.23	13.64	14.93	29.07	48046
48047	150 mm diameter	206.31	16.53	17.97	32.56	48047
48048	200 mm diameter	238.78	18.63	19.83	37.20	48048
48049	250 mm diameter	290.67	22.84	24.72	46.50	48049
48050	300 mm diameter	349.95	27.82	30.56	56.96	48050
48051	350 mm diameter	387.29	30.97	34.01	63.95	48051
48052	400 mm diameter	424.65	33.52	36.84	69.75	48052
48053	450 mm diameter	470.59	38.06	41.47	77.89	48053

Item								Item
	CHIMNEY EQUIPMENT (CONT'D)							
	Stainless steel flue pipes and fitting c/w stainless steel of Grade 316 inner wall of minimum 0.6 mm thick and stainless steel of grade 304 outer wall of minimum 0.5 mm thick; c/w 30 mm thick mineral wool insulation between the walls; S.S. tubes and the insulation shall be factory fabricated in sections to ensure structured integrity and strength; c/w water/ gas tight flue section joints and drain points :-							
	Up to 3m in height, and chimney size at :-							
	<i>Per chimney</i>							
48054	80 mm diameter	1,298.52	267.14	-	-			48054
48055	100 mm diameter	1,391.26	356.21	-	-			48055
48056	125 mm diameter	1,523.06	356.21	-	-			48056
48057	150 mm diameter	1,840.37	356.21	-	-			48057
48058	200 mm diameter	2,348.05	356.21	-	-			48058
48059	250 mm diameter	3,236.52	445.25	-	-			48059
48060	300 mm diameter	3,617.27	445.25	-	-			48060
48061	350 mm diameter	4,823.05	712.40	-	-			48061
48062	400 mm diameter	6,726.87	712.40	-	-			48062
48063	500 mm diameter	7,298.03	935.04	-	-			48063
48064	600 mm diameter	8,376.86	935.04	-	-			48064
	Add height of above items (with 30 mm thick mineral wool insulation) for each additional linear metre or part thereof :-							
	<i>Per linear metre</i>							
48065	80 mm diameter	431.30	89.04	-	-			48065
48066	100 mm diameter	463.75	118.74	-	-			48066
48067	125 mm diameter	507.69	118.74	-	-			48067
48068	150 mm diameter	613.45	118.74	-	-			48068
48069	200 mm diameter	782.68	118.74	-	-			48069
48070	250 mm diameter	1,078.83	148.70	-	-			48070
48071	300 mm diameter	1,205.74	148.70	-	-			48071
48072	350 mm diameter	1,607.68	237.76	-	-			48072
48073	400 mm diameter	2,242.28	237.76	-	-			48073
48074	500 mm diameter	2,432.68	311.68	-	-			48074
48075	600 mm diameter	2,792.30	311.68	-	-			48075

Section 49

SEWAGE TREATMENT INSTALLATION

SECTION 49

SEWAGE TREATMENT INSTALLATION

SPECIAL CONDITIONS

Measurement of power supply	SC49.01	All works of electrical power supply up to power supply points (e.g. switchgear or isolator or spur unit and the like) for the equipment shall be measured separately and paid for at the appropriate rates under Section 27 - Lighting System and Fixtures, Section 28 - Small Power Distribution, Section 29 - Main Distribution Systems and Section 30 - Miscellaneous Electrical Installations or other applicable Work Sections of this Schedule.
Measurement of pumps	SC49.02	All pumps shall be measured separately and paid for at the appropriate rates under Section 38 - HVAC - Equipment or other applicable Work Sections of this Schedule.
Measurement of excavations, ducts, chases, holes and other subsidiary work	SC49.03	All trench excavation shall be measured separately and paid for at the appropriate rates under Section 03 - Excavation of this Schedule. All pipe ducts, concrete thrust blocks and anchor blocks, chases in, and holes through existing walls, ceilings and similar for pipes, etc., (but not mortices or holes for brackets) except specifically stated, shall be measured and paid for at the appropriate rates under Section 04 - Concrete Work, Section 05 - Brickwork and Blockwork, Section 12 - Roadwork and Cable Duct and Section 13 - Plumbing and Drainage or other applicable Work Sections of this Schedule.
Measurement of pipework	SC49.04	Pipework shall be measured in linear metres over all in-line fittings, short running lengths and branches.
Measurement of heat resistant cables and low smoke zero halogen cables	SC49.05	<p>Cables for the equipment, control/indicating panels, fire alarm points, etc. have been allowed in the rates under this Section. No measurement shall be made for cables except for heat resistant cables where specifically ordered by the Maintenance Surveyor in writing.</p> <p>Heat resistant cables and low smoke zero halogen cables shall be measured the net length as fixed in linear metres.</p>
Measurement of temporary supply	SC49.06	<p>Where a temporary supply is ordered by the Maintenance Surveyor, the provision of all articles, labour and accessory materials (nails, screws, rawplugs and similar) necessary for fixing shall be of temporary nature. For "use and waste" of all materials and accessories, etc., for a period of not exceeding four weeks from the date of certified completion, 50 per cent of the value of the appropriate "supply and fix" items after the adjustment of contract percentages will be paid. For a period exceeding four weeks and not exceeding eight weeks, 55 per cent will be paid and for each subsequent month a further addition of 5 per cent will be made.</p> <p>For a period of more than six months, the full rates, as for permanent works will be paid, and the materials will become the property of the Employer.</p> <p>No extra payment will be made for the removal of materials in connection with the temporary supply, but the cost of which shall have been included in the payment as aforementioned in the first paragraph hereof. The date of certified completion of a temporary supply shall be the date when the installation is first brought into service. The date when it ceases to be used shall be the date from which the Maintenance Surveyor instructs the dismantlement of the installation, or the date when the installation is no longer in use, whichever is earlier.</p>

SPECIAL CONDITIONS

Rates generally
SC49.07

The rates for all items shall generally include for : -

- (a) Colour band and colour identification work.
- (b) Lettering and engraving for identification, signs, labels in both English and Chinese.
- (c) Identification plates, signs, notice plates, discs and labels in both English and Chinese.
- (d) Priming or painting off site and proprietary finishes or surface treatment applied as part of the production process whether applied before or after fabrication and assembly.
- (e) All protective and finishing painting work, apart from additional painting work specifically ordered by the Maintenance Surveyor in writing which shall be measured separately and paid for at the appropriate rates under Section 15 - Painting of this Schedule.
- (f) Any kind of fixing method including provision of screws, nuts, bolts, shims, washers, clips, hangers, supports, brackets, spring compensated and seismic restraints and isolating components and the like.
- (g) Provision of expansion joints in service runs wherever they coincide with structural expansion joints.
- (h) Submission of catalogues, technical literature, data, calculations, test certificates and approval documentation covering the equipment and materials being supplied.
- (i) Preparing and submitting detail working drawings as required and all shop drawings for the fabrication and installation.
- (j) Attendance, as required, of the manufacturers' representative to assist in the installation and subsequent testing and commissioning.
- (k) Testing and commissioning including submission of Testing and Commissioning Certificates and Records of Tests.
- (l) Provision of all necessary power, fuel, labour and testing instrument of approved type for testing and commissioning.
- (m) Submitting all relevant documentation to Electrical and Mechanical Services Department and Environmental Protection Department for obtaining necessary approval.
- (n) Preparing and submitting operation and maintenance manuals and as-fitted drawings for items of works as required.
- (o) Provision of framed schematic diagrams c/w clear plastic front sheet and wooden back plate including fixing to wall.
- (p) Provision of manufacturer's guarantee.
- (q) Attending fault and complaint during the Maintenance Period.
- (r) Meeting statutory requirements for disposal of waste materials.

SPECIAL CONDITIONS

**Rates for
pipework**
SC49.08

The rates for pipework shall further include for : -

- (a) All short lengths, cutting and waste, and joints in the running length.
- (b) All pipework brackets, supports, hangers, guides, anchors and the like and alternative method of jointing and fixing as specified (if any).
- (c) All pipework fittings (e.g. bends, elbows, branches, reducers, tees, caps and the like) including connections, cutting and jointing pipes to fittings.
- (d) Screwed sockets, tappings, bosses and welding-necks welded to pipes or flanges including perforating the pipework or flanges.
- (e) Connections between pipework of different materials and differing grades of same material.
- (f) Provision of wall plates, ceiling plates, floor plates, high tensile holding down bolts, tapered washers and the like for casting into the reinforced concrete corbels.
- (g) All jointing including provision of flexible connections and / or necessary adaptors and connectors, welding consumable, jointing tapes, flanges, unions, gasket, bolts and nuts and the like where required.
- (h) Expansion loops and compensators including connections, cutting and jointing to pipes and fittings.
- (i) Provision of all sleeves for casting in or building in where pipes pass through slabs, walls or beams and caulking between pipe and sleeve where required.
- (j) Fixing in any position to floors, walls and ceilings including laying in trenches and fixing in chases, ducts, false ceilings and similar positions, and wrapping with protective tapes where required.

**Rates for in-line
pipework
equipment**
SC49.09

The rates for in-line pipework equipment (e.g. valves, flow meters, gauges, strainers and the like) shall further include for : -

- (a) Cutting and jointing to pipes and fittings.
- (b) Stripping down repacking glands and preparing spindles, as appropriate, prior to installation.

**Rates for
equipment**
SC49.10

The rates for equipment shall further include for : -

- (a) All necessary assembly, orientation, alignment, levelling and bolting down, together with the provision of shims and packing pieces, the clocking of couplings between drivers and rotating equipment, strainers, instrumentation and the like.
- (b) Conduction of all tests, adjustments and commissioning of the installed equipment.
- (c) Supporting frames.
- (d) Connections including flexible joints between pipework and equipment.
- (e) Flexible connections and anti-vibration connections between pipework and equipment.
- (f) All necessary operational and control accessories (e.g. valves, gauges, flow meters, indicating lamps and the like) forming part of the equipment, connection and termination.

SPECIAL CONDITIONS**Rates for equipment (Cont'd)****SC49.10 (Cont'd)**

- (g) Final connection and terminations to electrical supply, fire alarm, control, monitoring, interfacing and water supply including cables, wirings, conduits, trunkings, cable trays, fuses, control boxes, short lengths of pipework and necessary accessories required for energizing the equipment to properly operate at specified duties.
- (h) Anti-vibration mountings for plant, machinery and the like.
- (i) Anti-vibration materials and sound insulating materials in plant and machinery bases.
- (j) Motor starters (if motors in the equipment require motor starters).
- (k) Earth/ equipotential bonding as specified.
- (l) Acoustic enclosure.
- (m) Training to the employer's staff and maintenance parties.

Rates for package type membrane bio-reactor system**SC49.11**

The rates for package type membrane bio-reactor system shall further include for : -

- (a) The design, supply and installation of a package sewage treatment system with applying the membrane bio-reactor (MBR) technology.
- (b) Seeded process start-up for the establishment of the sewage treatment process.
- (c) Demonstrating that the standard of effluent complies with the requirements as specified in the discharge license. Sample analysis shall be carried out by a HOKLAS laboratory.
- (d) Field-test kit for the sewerage treatment package including portable pH meter, TDS meter, corrosion inhibitor ppm test kit and the like recommended by the specialist.
- (e) Collecting samples to carry out analysis of stabilization monitoring for 21 days.
- (f) Cat ladder, working and inspection platforms.
- (g) Submission of system design principle.
- (h) Tanking away service for waste sludge generated from the system during the Maintenance Period.
- (i) Odour control equipment.
- (j) All necessary sensing devices for on-line control/ monitoring to satisfy the requirement set out for obtaining the discharge licence and all necessary chemicals and consumables during the Maintenance Period.
- (k) Operation and maintenance service including sample tests, laboratory reports of influent and effluent water on monthly basis during the Maintenance Period.
- (l) All submission to relevant Authorities, including all payments for obtaining of relevant certificates/ licences.
- (m) Carrying out factory acceptance tests in the facilities of the specialist contractor prior to delivery of all equipment to site. The rate shall further include the transportation cost of the Employer's representative for witnessing the tests.

SPECIAL CONDITIONS

Rates for heat resistant cables and low smoke zero halogen cables

SC49.12

The rates for heat resistant cables and low smoke zero halogen cables shall further include for : -

- (a) Laying or fixing in different locations, such as drawing into underground pipe ducts, laying or drawing into trunkings, drawing into conduits, suspending from insulators or catenaries, wrapping around equipment.
- (b) In case of cables drawn into existing conduits, existing ducts or existing trunkings, removing and putting back existing covers, existing inspection lids and the like.
- (c) Making cable-joints.
- (d) Determining circuits, lacing into circuit groups and provision of draw wires, draw cables and the like as required.
- (e) All necessary fixings complete with accessories and fittings as required.
- (f) Provision of all sleeves for casting in or building in where cables pass through slabs, walls or beams and caulking between cable and sleeve where required.

Rates for "Take down and clear away" or "Take down and set aside for re-use"

SC49.13

The rates for "Take down and clear away" or " Take down and set aside for re-use" existing items in connection with sewage treatment installation shall further include for : -

- (a) All in-line fittings including brackets, supports, hangers and the like.
- (b) Cutting into existing pipework and the like in position.
- (c) Plugging off remaining ends with plugs or caps as required.
- (d) Preparing remaining ends of pipework and building services works (if any) to receive connections with new work if required.
- (e) In the case of equipment and the like, taking down all associated pipework and/ or building services works.
- (f) Making good all works disturbed.

Particular Specification

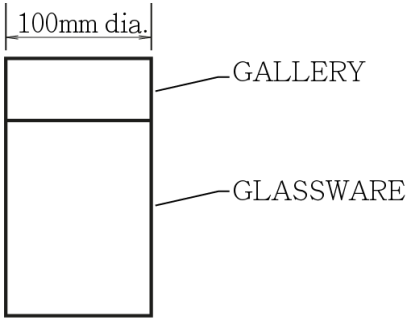
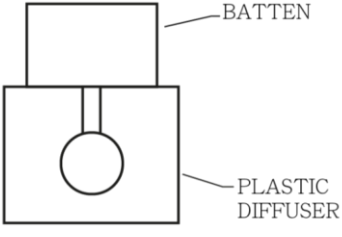

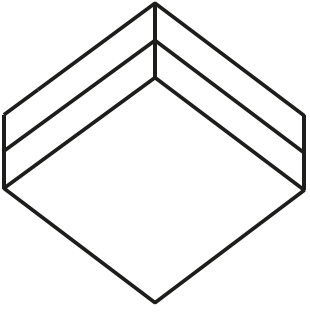
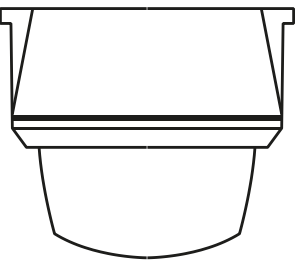
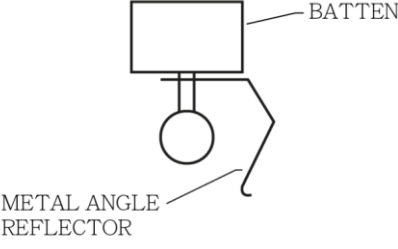
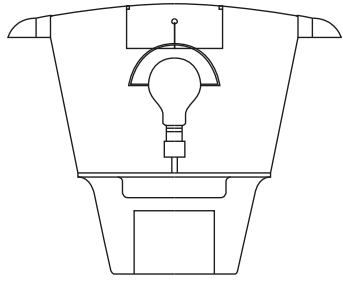
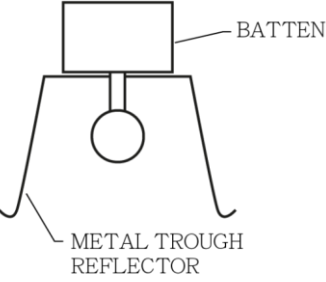
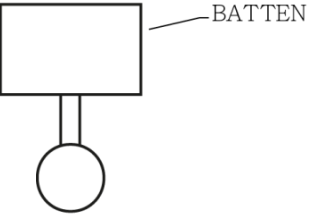
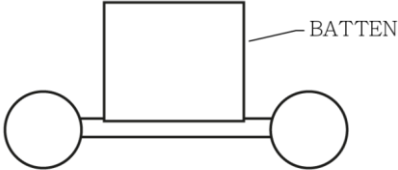
SC49.14

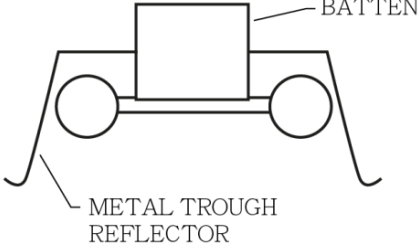
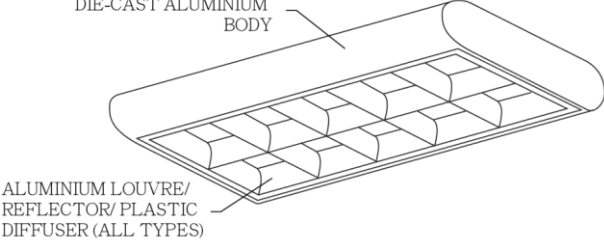
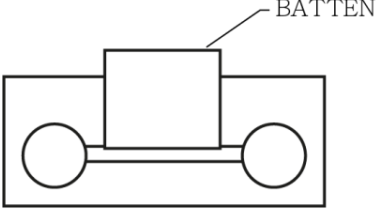
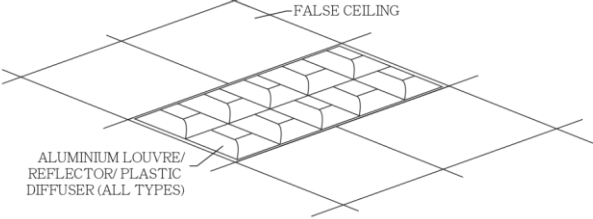
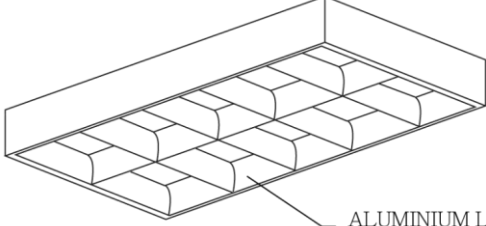
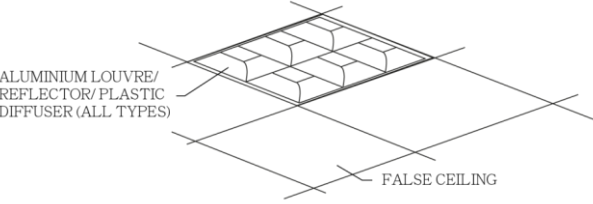
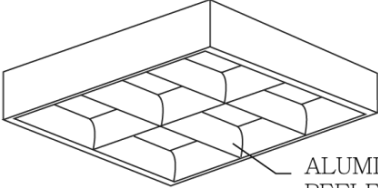
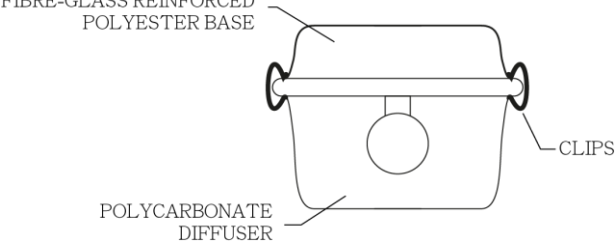
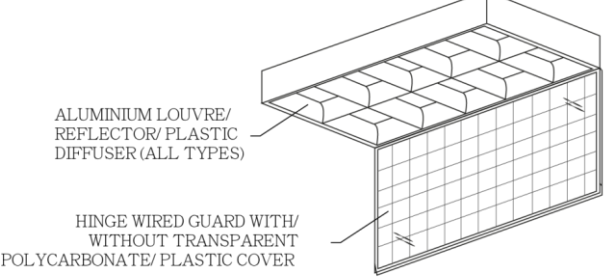
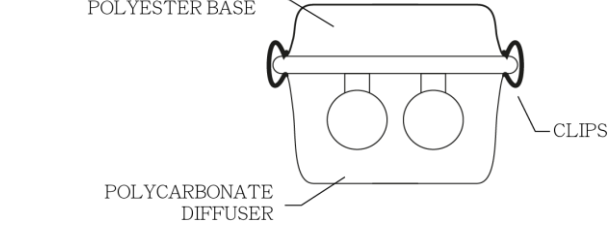
The Particular Specification for sewage treatment installation can be found in the Contract.

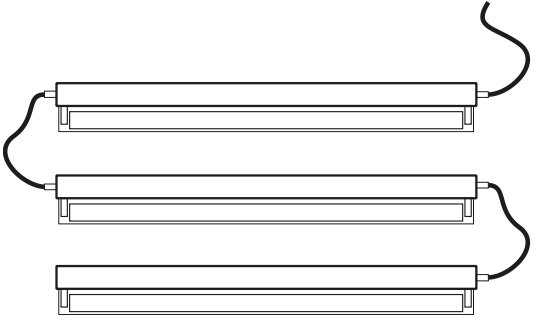
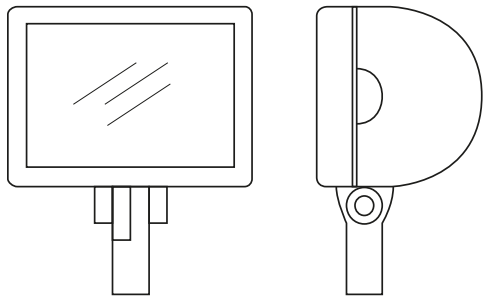
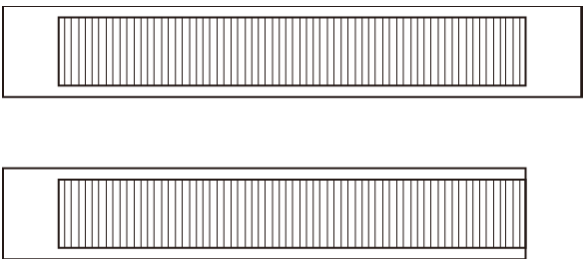
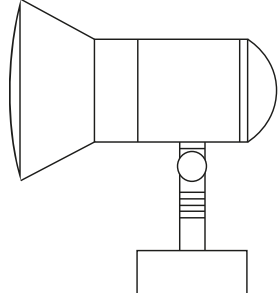
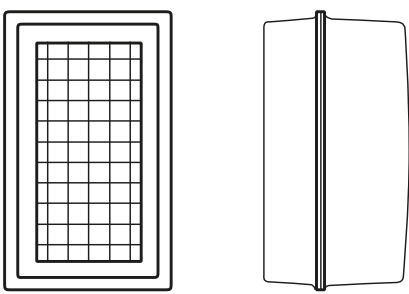
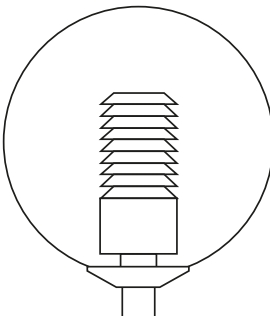
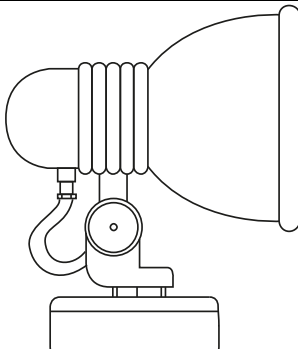
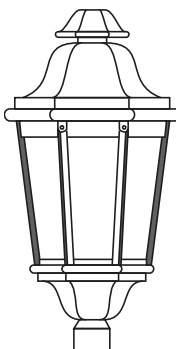
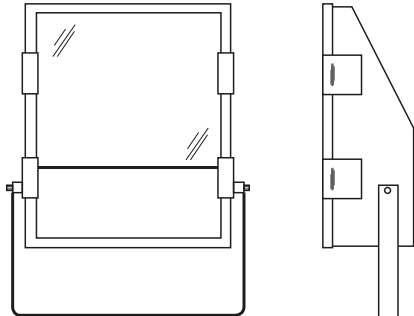
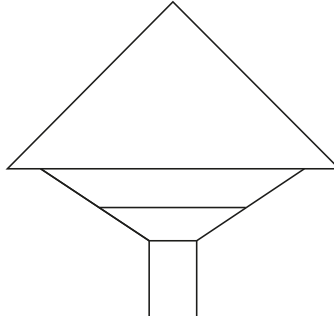
Item					Item	
	VALVES, PIPE WORKS AND ACCESSORIES					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Ultra violet sterilizer, close type c/w stainless steel 304 cabinet, chamber assembly, metallic wetted components, hour meter, all necessary controls/ monitoring systems and ultraviolet lamps rated at 7500 hours.					
	Ultra-violet dosage >60,000 uW second, flow rate : -					
	<i>Each</i>					
49001	Up to 3.6 m ³ / hr	11,726.18	105.10	140.37	6,193.84	49001
49002	3.6 - 7.2 m ³ / hr	23,452.32	105.10	140.37	6,193.84	49002
49003	7.2 - 10.8 m ³ / hr	35,178.50	105.10	140.37	6,193.84	49003
	Air Blower : - Max. 10m discharge head, airflow rate : -					
	<i>Each</i>					
49004	Up to 20 m ³ / hr	70,356.98	106.62	113.25	12,387.66	49004
49005	20 - 40 m ³ / hr	93,809.32	106.62	113.25	12,387.66	49005
49006	40 - 60 m ³ / hr	11,726.17	120.90	127.70	18,581.47	49006
	(The actual rate should be : \$117,261.70 for item 49006A)					
	Package type membrane module for membrane bio-reactor sewage treatment system : -					
	<i>Per square metre</i>					
49007	Membrane module	9,516.25	45.80	63.19	4,954.80	49007
	Motorized control valve : -					
	<i>Each</i>					
49008	Motorized wafer type control valve c/w protective coating, stainless steel disc and shaft EPDM seat, electric actuator	7,793.28	52.48	61.44	97.42	49008
	Cast iron gate valve c/w full bore clearway pattern to EN 1171:2015, solid wedge gates with minimum normal pressure rating of PN10; c/w stainless steel stem of Grade 316 : -					
	<i>Each</i>					
49009	50 mm diameter	1,162.33	31.33	38.36	59.28	49009
49010	65 mm diameter	1,328.17	33.02	40.12	62.07	49010
49011	80 mm diameter	1,566.86	34.79	42.35	66.35	49011
49012	100 mm diameter	2,136.73	40.06	47.91	73.40	49012
49013	150 mm diameter	3,844.66	53.03	62.49	95.95	49013

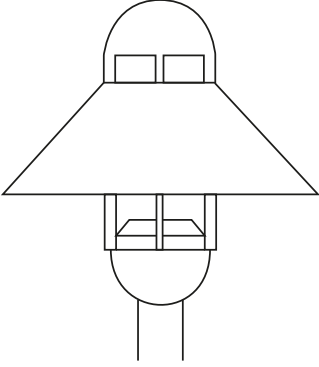
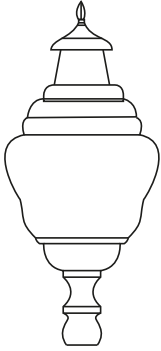
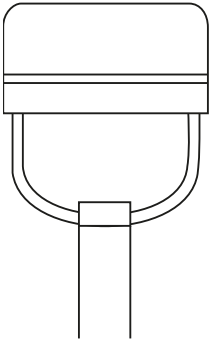
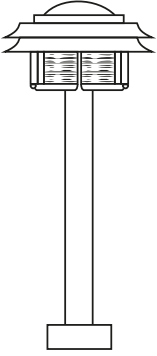
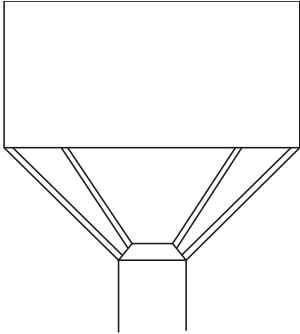
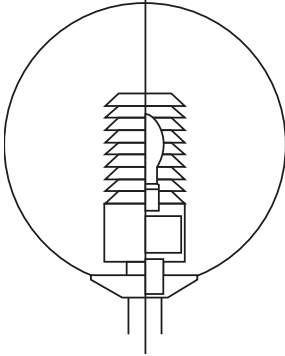
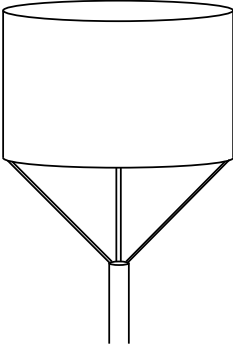
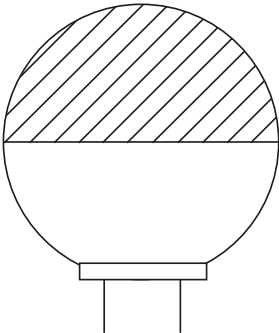
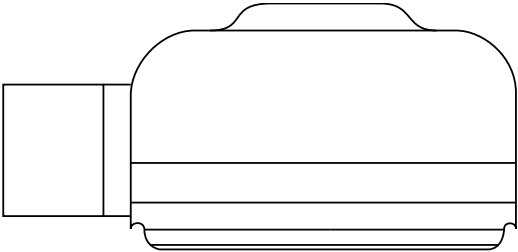
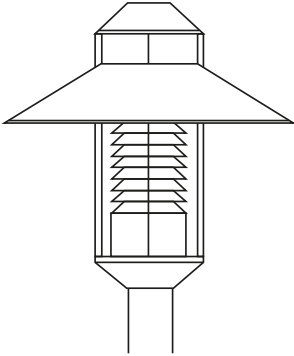
Item					Item	
	VALVES, PIPE WORKS AND ACCESSORIES (CONT'D)					
		Supply and fix	Take down and clear away	Take down and set aside for re-use	Fix only	
		A \$	B \$	C \$	D \$	
	Cast iron non-return valve to EN 12334:2001, in single door swing check pattern, c/w cast iron housing and gunmetal seat; c/w stainless steel stem of Grade 316 : -					
	<i>Each</i>					
49014	50 mm diameter	1,201.56	31.33	38.36	59.28	49014
49015	65 mm diameter	1,470.19	33.02	40.12	62.07	49015
49016	80 mm diameter	1,657.55	34.79	42.35	66.35	49016
49017	100 mm diameter	2,318.85	40.06	47.91	73.40	49017
49018	150 mm diameter	4,177.78	53.03	62.49	95.95	49018
	Ductile iron pipe, Class I to BS EN 598 c/w ductile iron fittings to BS EN 598 with all necessary accessories : -					
	<i>Per linear metre</i>					
49019	100 mm diameter	331.23	59.02	69.72	121.37	49019
49020	150 mm diameter	437.15	82.65	89.19	160.87	49020
49021	200 mm diameter	572.84	95.70	103.36	196.18	49021
	UPVC pipes and fittings : BS EN ISO 1452 ; solvent or flanged joints, and c/w all accessories : -					
	<i>Per linear metre</i>					
49022	80 mm diameter	200.32	54.24	58.93	108.66	49022
49023	100 mm diameter	241.28	59.01	69.71	121.37	49023
49024	150 mm diameter	399.71	82.65	89.19	160.87	49024
49025	200 mm diameter	627.84	95.70	103.36	196.18	49025

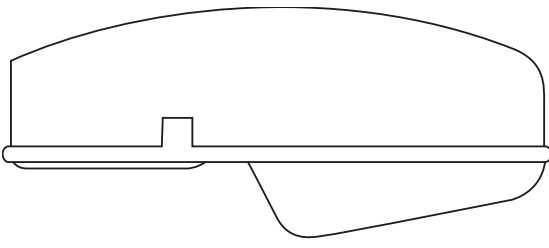
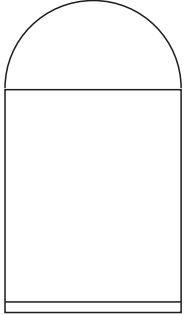
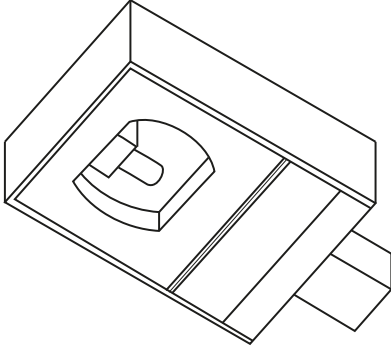
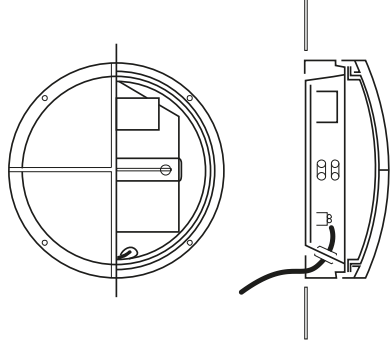
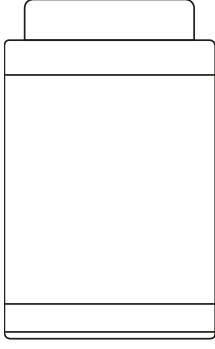
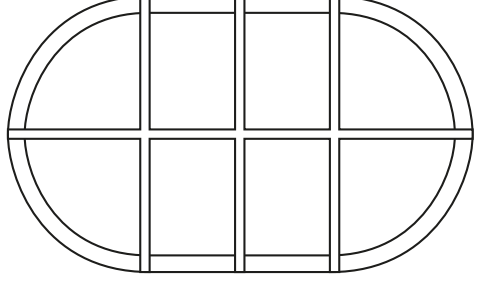
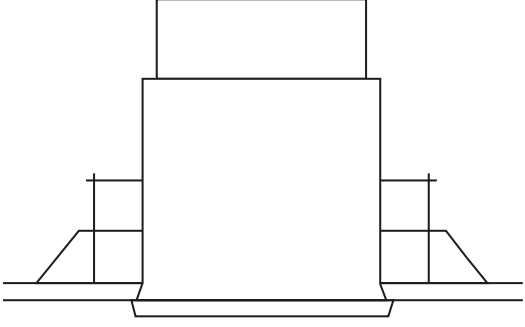
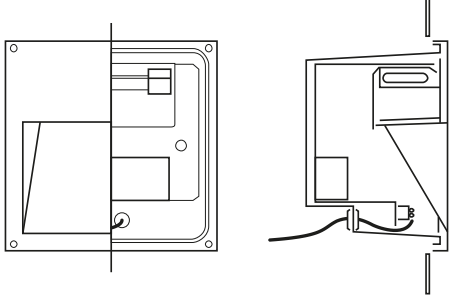
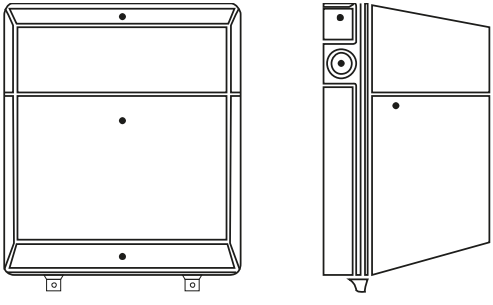
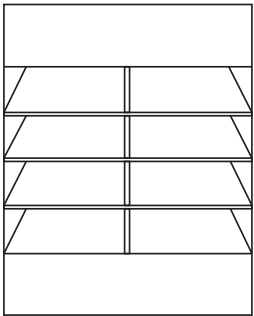
**ANNEX 'A' -
DRAWINGS FOR BUILDING SERVICES WORKS**

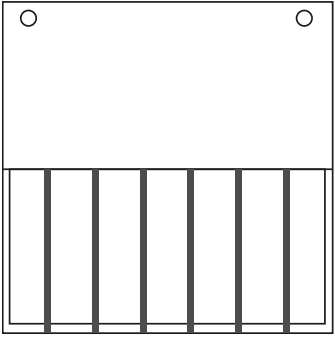

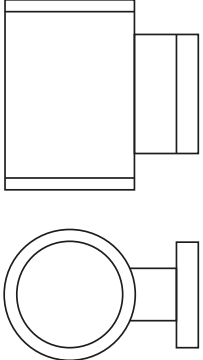
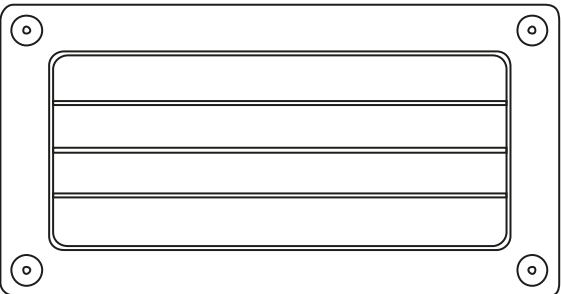
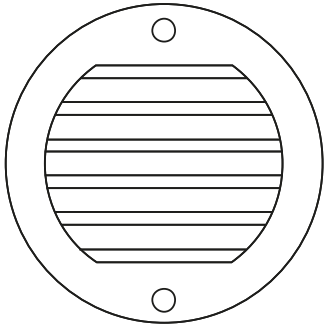
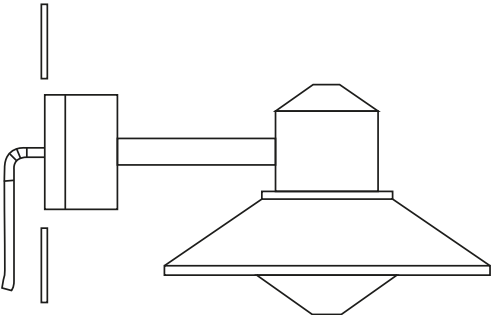
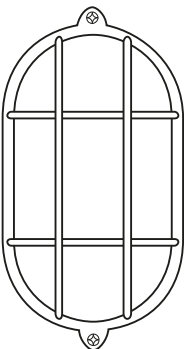
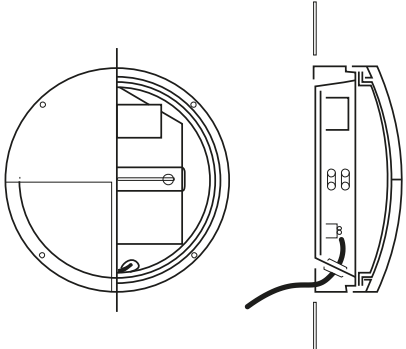
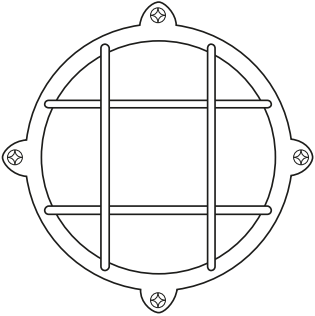
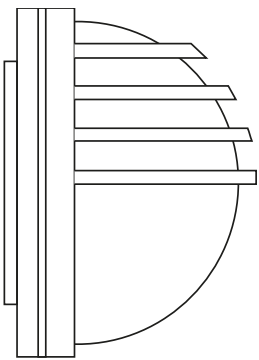
SFA No.	SHAPE	SFA No.	SHAPE
6	 <p>100mm dia.</p> <p>GALLERY</p> <p>GLASSWARE</p>	51	 <p>BATTEN</p> <p>PLASTIC DIFFUSER</p>
7	 <p>115mm dia.</p>	52	
35		56	 <p>BATTEN</p> <p>METAL ANGLE REFLECTOR</p>
46		58	 <p>BATTEN</p> <p>METAL TROUGH REFLECTOR</p>
50	 <p>BATTEN</p>	69	 <p>BATTEN</p>

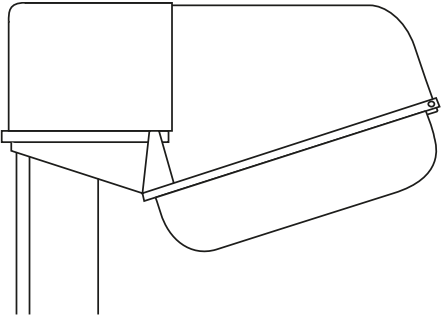
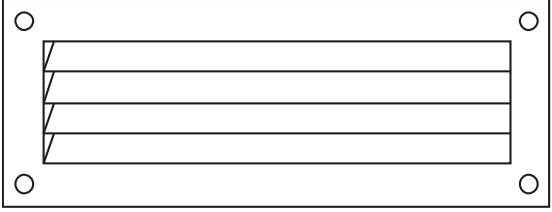
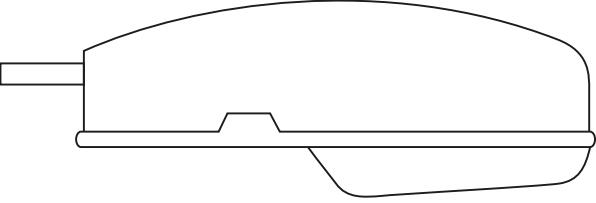
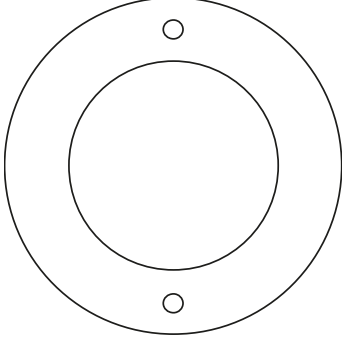
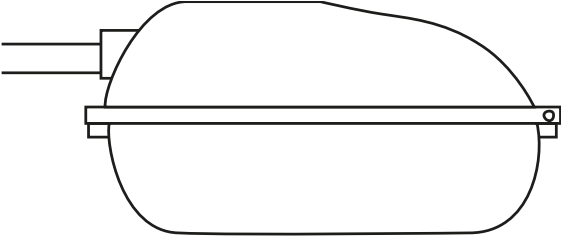
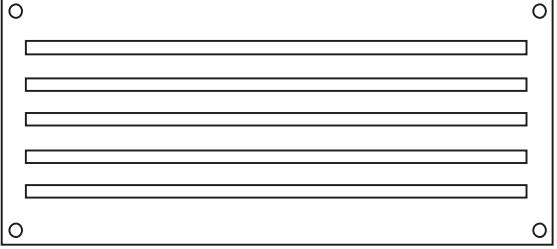
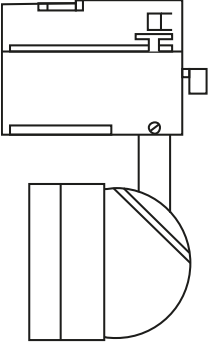
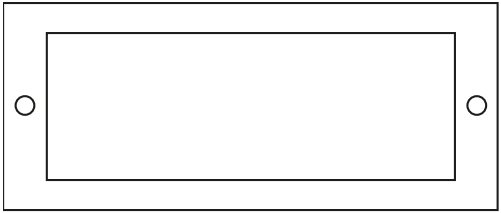
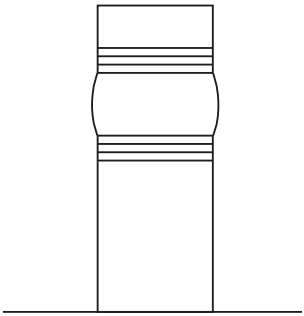
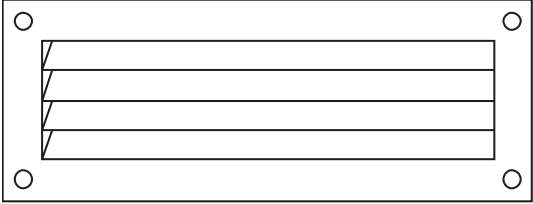
SFA No.	SHAPE	SFA No.	SHAPE
72	 <p>BATTEN</p> <p>METAL TROUGH REFLECTOR</p>	113	 <p>DIE-CAST ALUMINIUM BODY</p> <p>ALUMINIUM LOUVRE/ REFLECTOR/ PLASTIC DIFFUSER (ALL TYPES)</p>
74	 <p>BATTEN</p> <p>PLASTIC DIFFUSER</p>	114	 <p>FALSE CEILING</p> <p>ALUMINIUM LOUVRE/ REFLECTOR/ PLASTIC DIFFUSER (ALL TYPES)</p>
110	 <p>ALUMINIUM LOUVRE/ REFLECTOR/ PLASTIC DIFFUSER (ALL TYPES)</p>	115	 <p>ALUMINIUM LOUVRE/ REFLECTOR/ PLASTIC DIFFUSER (ALL TYPES)</p> <p>FALSE CEILING</p>
111	 <p>ALUMINIUM LOUVRE/ REFLECTOR/ PLASTIC DIFFUSER (ALL TYPES)</p>	116	 <p>FIBRE-GLASS REINFORCED POLYESTER BASE</p> <p>POLYCARBONATE DIFFUSER</p> <p>CLIPS</p>
112	 <p>ALUMINIUM LOUVRE/ REFLECTOR/ PLASTIC DIFFUSER (ALL TYPES)</p> <p>HINGE WIRED GUARD WITH/ WITHOUT TRANSPARENT POLYCARBONATE/ PLASTIC COVER</p>	117	 <p>FIBRE-GLASS REINFORCED POLYESTER BASE</p> <p>POLYCARBONATE DIFFUSER</p> <p>CLIPS</p>

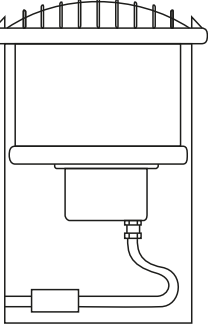
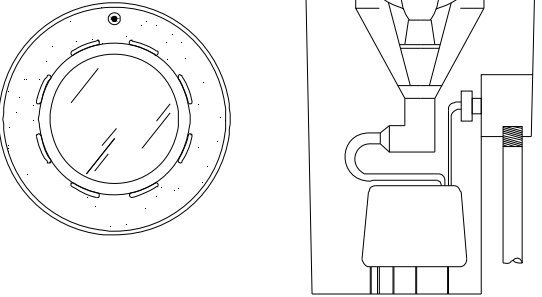
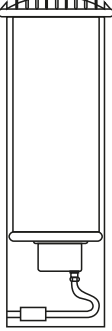
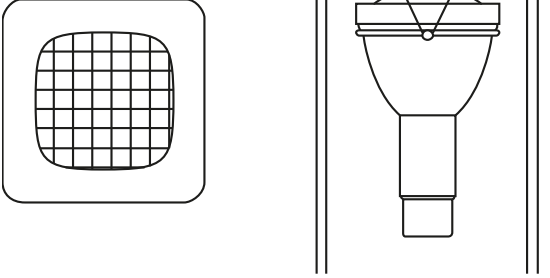
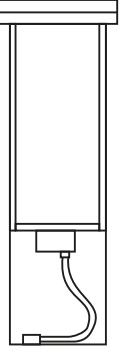
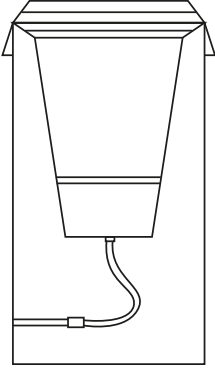
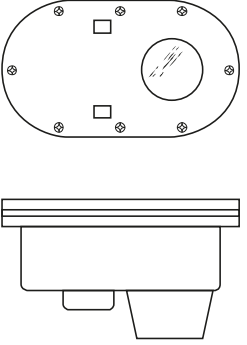
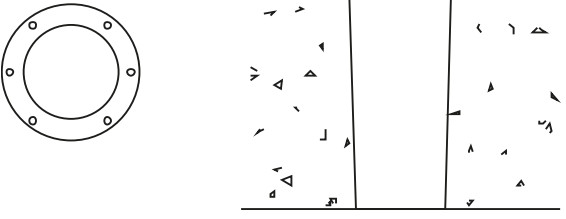
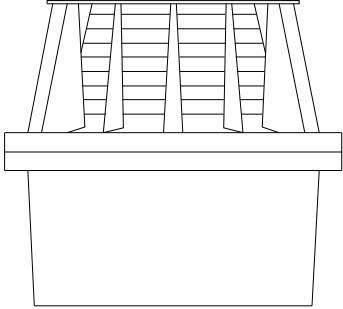

SFA No.	SHAPE	SFA No.	SHAPE
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201		207	
203		208	
204		209	
205		210	

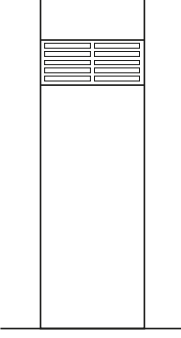
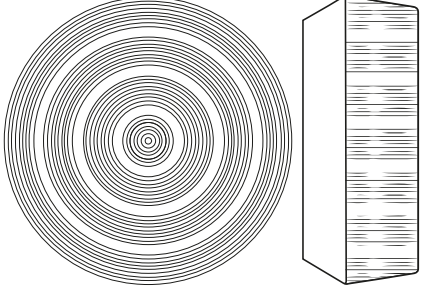
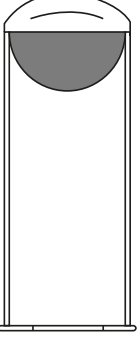
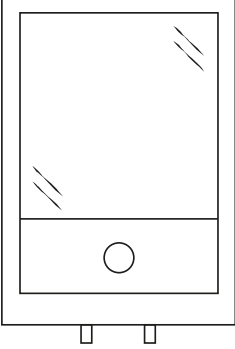
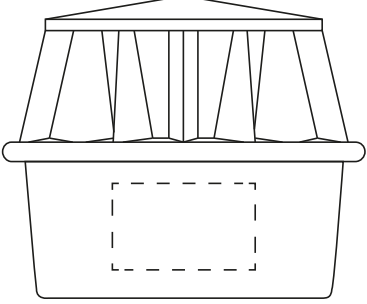

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SFA No.	SHAPE	SFA No.	SHAPE
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SFA No.	SHAPE	SFA No.	SHAPE
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245		250	

SFA No.	SHAPE	SFA No.	SHAPE
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253		258	
254		259	
255		260	

SFA No.	SHAPE	SFA No.	SHAPE
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262		267	
263			
264			
265	