

**General Specification for Fire Service Installation**  
**in Government Buildings of the Hong Kong Special Administrative Region**  
**2017 Edition (Incorporating Corrigendum No. GSFS01-2017)**

The General Specification for Fire Service Installation in Government Buildings of the Hong Kong Special Administrative Region 2017 Edition (hereinafter referred to as “General Specification for Fire Service Installation 2017 edition”) is reviewed from time to time to ensure that requirements stipulated in the document are clear, concise and in pace with technological advancements.

Corrigendum No. GSFS01-2017 is issued to incorporate updates and revisions to the General Specification for Fire Service Installation 2017 edition which are highlighted in the ensuing summary of major changes.

Electronic version of the General Specification for Fire Service Installation 2017 edition incorporating Corrigendum No. GSFS01-2017 can be viewed on the ArchSD Internet website.

After an introductory period of 3 months, the General Specification for Fire Service Installation 2017 edition (incorporating Corrigendum No. GSFS01-2017) shall apply to all tenders to be invited on or after 1 April 2018.

**MAJOR CHANGES IN THE CORRIGENDUM (NO. GSFS01-2017) OF THE**  
**GENERAL SPECIFICATION FOR FIRE SERVICE INSTALLATION**  
**IN GOVERNMENT BUILDINGS OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION**  
**2017 EDITION**

Old Ref. No.	New Ref. No.	Major Changes
<b>SECTION B9 – ELECTRICAL INSTALLATION</b>		
B9.9 1 <sup>st</sup> paragraph	B9.9 1 <sup>st</sup> paragraph	To delete standards for fire resistant cables or fire test methods and adopt FSD’s minimum fire resisting cable requirements. To specify clear acceptance criteria for low smoke zero halogen requirements.
B9.9 2 <sup>nd</sup> paragraph	B9.9 2 <sup>nd</sup> paragraph	To change the text “Or products having equivalent performance to all the above standards, and approved by LPCB, BASEC.....regulatory body and the Supervising Officer.” as “Fire resistant cables shall be listed under LPCB, BASEC....regulatory body as approved by the Supervising Officer.”.
B9.9 3 <sup>rd</sup> paragraph	N.A.	To delete the 3 <sup>rd</sup> paragraph “For application in different parts...BS EN 50172: 2004, etc.”.
B9.9 4 <sup>th</sup> paragraph	B9.9 3 <sup>rd</sup> paragraph	To delete the IEC standard so as to match the FSD’s requirements as stipulated in FSD Circular Letter No. 2/2017.
B9.11 1 <sup>st</sup> paragraph	B9.11 1 <sup>st</sup> paragraph	To change the text “Where wiring in concealed conduit is one of the acceptable methods for the installations outside plant room, it shall be used as the preferred installation method. Armoured cable shall only be used outside plant room where the use of concealed conduit is not acceptable or feasible.” as “Generally, concealed steel conduit shall be used for wiring outside plant room. In case the use of concealed steel conduit is not practicable, armoured fire resistant cable shall be used.”.
B9.11 2 <sup>nd</sup> paragraph	B9.11 2 <sup>nd</sup> paragraph	To change the text “Where special cable standards and.....” as “Where other cable standards and...”.
Table 3	Table 3	To delete the item for “Places of public entertainment”.
B9.11(a)	B9.11(a)	To change the text “...in cable trays...” as “...on cable trays...”. To change the text “....inside fire resistant plant rooms/enclosures of approved FRR.....” as “...inside plant room/switch room/fire control centre of approved fire resistance rating.....”.

B9.11(c)	B9.11(c)	To change the text "...underground cable ducts and reinforced concrete cable trenches..." as "...underground cable ducts or concrete cable trenches...".
B9.11(d)	B9.11(d)	To change the text "...embedded in the soil or soil ground to a depth of at least 300mm;" as "...embedded in the soil to a depth of at least 300mm;".
B9.11(e)	B9.11(e)	To change the text "...fire resistant ducts and not mixing with other services (e.g. switchgear, etc.) and with fire resisting rating of cable ducts not less..." as "...fire resistant ducts/enclosures which are not used by other services and with a fire resistance rating not less...".
B9.11 4 <sup>th</sup> paragraph	B9.11 4 <sup>th</sup> paragraph	To change the text "And the cables in the alternative acceptable methods (a), (b), (c), (d) and (e) shall comply with the following: -" as "Cables installed using any one of the alternative methods (a), (b), (c), (d) and (e) shall also comply with the following: -".
B9.11(ii)	B9.11(ii)	To change the text "For power cables connecting...shall be fire resistant cables;" as "Power cables connecting...shall be fire resistant cables and fully segregated from the general distribution system;".
B9.11(iii)	N/A	To delete the whole clause B9.11(iii).
B9.11(iv)	B9.11(iii)	To renumber the clause. To change the text "For power cables to...the cables shall be fire resistant cable;" as "Cables to...shall be fire resistant cables;".
B9.11(v)	B9.11(iv)	To renumber the clause. To change the text "For cables to...the cables shall withstand 815°C for at least 30 minutes;" as "Cables to...shall be fire resistant cables;".
B9.11(vi)	B9.11(v)	To renumber the clause. To change the text "For power cables from essential power supply switchboards to all kinds of pumps in the Installations including...the cables shall be fire resistant cable" as "Power cables from essential power supply switchboards to all kinds of pumps in the Installations as defined in clause A1.3.1 including...shall be fire resistant cable".
B9.11(vii)	B9.11(vi)	To renumber the clause. To quote the cross reference to the Electrical General Specification that the text "...the cables shall be PVC insulated cables complying....., or approved products having equivalent performance and function." is revised as "...the cables running inside concealed steel conduits shall comply with Clause C2.1.2 or C2.1.3 of the Electrical General Specification while those not running inside concealed steel conduits shall comply with Clause C3.2 of the Electrical General Specification.".

**ARCHITECTURAL SERVICES DEPARTMENT**  
**BUILDING SERVICES BRANCH**  
  
**GENERAL SPECIFICATION FOR**  
**FIRE SERVICE INSTALLATION**  
**IN GOVERNMENT BUILDINGS OF**  
**THE HONG KONG SPECIAL ADMINISTRATIVE REGION**  
  
**2017 EDITION**

**Corrigendum No. GSFS01-2017**  
**(Effective from 1 April 2018)**

The following clauses are amended in the above edition of General Specification for Fire Service Installation.

**Clauses**

**AMENDMENTS TO SECTION B9 OF PART B – FIRE SERVICE**  
**INSTALLATION**

**B9.9 FIRE RESISTANT CABLES**

Unless otherwise specified or approved by the Supervising Officer, fire resistant cables used for the Installations shall be in full compliance with the requirements of relevant Clauses and Appendix of the FSDCoP, relevant FSD's Circular Letters and amendments. Fire resistant cables shall also be of low smoke zero halogen type complying with the following standards unless they comply with BS 7629-1: 2015, BS 7846: 2015 or BS EN 60702-1: 2002+A1: 2015:

- (a) BS EN 61034-1: 2005+A1: 2014; and
- (b) BS EN 60754-1: 2014 (with less than 0.5% halogen acid content) or BS EN 60754-2: 2014 (with pH level for the gases evolved not less than 4.3).

Fire resistant cables shall be listed under LPCB, BASEC (British Approvals Service for Electrical Cables) or similar widely recognised independent regulatory body as approved by the Supervising Officer.

Where mineral insulated copper cables are specified, the cables shall comply with BS EN 60702-1: 2002+A1: 2015.

### **B9.11 CABLES AND WIRING USED FOR FIRE SERVICE INSTALLATION**

The FS Contractor shall use fire resistant cables complying with Clause B9.9 for all installations listed in Table 3 below for different parts of the Installations or cables having equivalent or better performance to the approval of the Supervising Officer. Generally, concealed steel conduit shall be used for wiring outside plant room. In case the use of concealed steel conduit is not practicable, armoured fire resistant cable shall be used. The cable support shall be non-combustible and that the overall wiring and circuit integrity shall not be reduced below that afforded by any of the cables it supported. The fire resistant integrity of any cable support shall also be not less than that equivalent to the cables it supported.

Table 3 indicates the minimum requirements only. Where other cable standards and requirements are specified for any part of the Installations and/or required by the FSD, the most stringent standards and requirements shall be followed.

**Table 3 : Installations to use Fire Resistant Cables**

<b>Type of Fire Service Installation or location, where specified</b>	<b>System/Equipment requiring the use of Fire Resistant Cables</b>	<b>Remark</b>
Audio/visual advisory system	The power supply/signalling cables to speakers and flashing directional signs from control panel/console and AV equipment.	
Automatic fixed installations using water	The power supply cable from main/sub-main switchboards to electric motor of pumps including transfer and intermediate pumps.	
Automatic fixed installations other than water	The power supply cable from main control panels to fire extinguishing agent actuating devices.	
Emergency generator/ Main backup power source	All outgoing power supply cables from emergency generators and other main backup power sources to main switchboards and to main essential power supply boards.	

<b>Type of Fire Service Installation or location, where specified</b>	<b>System/Equipment requiring the use of Fire Resistant Cables</b>	<b>Remark</b>
General emergency lighting except those for cinemas, theatres and scheduled premises	The power supply cable from main switchboards, sub-main boards, central battery supply or other power sources to emergency lighting fittings except for self-contained emergency lighting fittings.	
General emergency lighting for cinemas, theatres and other scheduled premises	The power supply cable from main switchboards, sub-main boards, central battery supply or other power sources to emergency lighting fittings.	
Exit sign	Same as general emergency lighting.	
Fire alarm system	The power supply/signalling cables to manual call points, alarm bells, visual alarm signal units and other field devices from fire alarm control and indication panels.	
Fire detection system	The power supply/signalling cables to audio/visual alarm/detection devices from fire alarm control and indication panels.	
Fire hydrant/hose reel system	The power supply cable from main/sub-main switchboards to electric motor of fixed fire pumps and intermediate booster pumps.	
Fireman's lift	The power supply cable from main/sub-main switchboards to traction motors/car lighting/power circuit of lift.	
Fixed foam system	The power supply cable from main/sub-main switchboards to electric motor of pumps.	

<b>Type of Fire Service Installation or location, where specified</b>	<b>System/Equipment requiring the use of Fire Resistant Cables</b>	<b>Remark</b>
Pressurisation of staircases system	The power supply cable from main/sub-main switchboards to electric motor of fans and the Control cable.	
Ring main system with fixed pumps	The power supply cable from main/sub-main switchboards to electric motor of pumps	
Sprinkler system	The power supply cable from main/sub-main switchboards to electric motor of pumps.	
Pre-action Recycling Sprinkler system	Heat detector circuit cables from and to the control panel.	Also refers to Clause B3.23
Smoke extraction system	The power supply cable from main/sub-main switchboards to electric motor of fans and the Control Cable.	
Water spray system	The power supply cable from main/sub-main switchboards to electric motor of pumps.	
Street Fire Hydrant System	The power supply cable from main/sub-main switchboards to electric motor of pumps.	
Power circuits not covered in other items in this table and installed by the FS Contractor	Cables from main switchboards to control panels/soles of various Fire Service Installations.	Unless otherwise specified
Hazardous areas/ Dangerous goods stores	Cables/wirings within the compartment.	Depend on the hazard zone, 0,1,2. Also refers to Clause B9.13

Except for the hazardous areas, the following are acceptable methods alternative to the use of fire resistant cable for installation work listed at Table 3: -

- (a) Cables running in trunkings or on cable trays inside plant room/switch room/fire control centre of approved fire resistance rating where termination of cables at both ends are located;
- (b) Cables running inside concealed steel conduits embedded in concrete to a depth of at least 12mm;
- (c) Cables running inside underground cable ducts or concrete cable trenches of approved fire rating;
- (d) Cables embedded in the soil to a depth of at least 300 mm;
- (e) Cables running within fire resistant cable ducts/enclosures which are not used by other services and with a fire resistance rating not less than that of the corresponding building compartment.

Cables installed using any one of the alternative methods (a), (b), (c), (d) and (e) shall also comply with the following: -

- (i) Where cables run within cable ducts/conduits, they shall not be mixed with other services;
- (ii) Power cables connecting centrally supplied emergency luminaires shall be fire resistant cable and fully segregated from the general distribution system;
- (iii) Power cables to the fireman's lift, emergency generator installation, smoke extraction system, and pressurisation of staircases system shall be fire resistant cable;
- (iv) Cables to the detection units of pre-action recycling sprinkler system shall be fire resistant cables;
- (v) Power cables from essential power supply switchboards to all kinds of pumps in the Installations as defined in clause A1.3.1 including sprinkler pumps, fixed fire pumps, drencher pumps, street hydrant pumps, jockey pumps, intermediate booster pumps, foam pumps, ring main fixed pumps, transfer pumps etc. shall be fire resistant cable;



- (vi) For cases other than (ii) to (v) above, the cables running inside concealed steel conduits shall comply with Clause C2.1.2 or C2.1.3 of the Electrical General Specification while those not running inside concealed steel conduits shall comply with Clause C3.2 of the Electrical General Specification.