openreach

Fire Resistant Products For Use In All Internal Installations

To Ensure Compliance to BS7671 Regulations

About this document ...

Author

The author of this document may be contacted at:

Louis Cawston
Technical Solutions Engineer
 (BOI)
Post Point Polaris House
Adastral Park
Martlesham Heath
Ipswich
SUFFLK
IP5 3RE

Telephone: +447435663120
Fax:
Email: louis.2.cawston@openreach.co.uk

Content approval

This is the Issue 4 of this document.
The information contained in this document was approved on 01-Apr-2020
by Kieran Sheahan, Access Components Copper & NGA Specialist

Version History

Version No.	Date	Author	Comments
Issue 4	01-Apr-2020	Louis Cawston	Updated section 4 – 'cable installation' to include BFT process
Issue 3	18-Mar-2020	Louis Cawston	Updated
Issue 2	18-Oct-2019	Louis Cawston	Author/Approver update
Issue 1	17-Sep-2018	Chief Engineer Documentation Team	(DC) Chief Engineer Documentation Team

Table of Content

1 *Executive Summary:*

This AEC is to advise on suitable products to be used to comply with Fire Safety Regulation BS7671. This is to ensure Openreach is compliant and gives detail of how we can support all internal cable runs so they do not fail in the event of a fire. Applies to Openreach people and Contractors engaged in the installation and maintenance of all internal cables and trunking.

2 *Status:*

- Safety
- Working Practice
- New Component
- Quality Standard

3 *Scope:*

In scope; all involved with internal cabling in UK and NI.

Note: Guidance does not include fixtures e.g. NTE's and Box Conns, just the internal wiring run to make sure it will not collapse during a fire causing a possible obstruction therefore a hazard for escaping. Plastic wall plugs must not be used in these routes for cabling support as they will melt in the event of a fire.

4 *Detail:*

The current fire regulation (BS7671 3rd amendment) states that since 2015 all of our cables should be supported so they will not fail and cause a premature collapse in the event of fire, along all potential escape routes to any fire exit.

This changes as of January 2019 to BS7671 18th Edition. This new addition states that all cabling inside a building or structure shall be supported by a fire resistant fixing that complies with BS5839-1, this applies in all internal areas, all of the time, not just affecting fire exits.

Specification of our Cable

As a result of the requirements of BS 6701:2017 being placed within the IET Wiring Regulations
(BS 7671:2018, a standard with a special legal standing within UK law), it has become necessary to review our various cable types, and the application within which they are used, to determine the required fire classification.

In advance of a customer demanding an enhanced performance in respect of droplets, BT have decided that we will adopt the following additional classification for C_{ca}; Smoke – s1b, Flaming droplets – d1, Acidic emissions – a2. The minimum requirement for C_{ca} within BS 6701 is s1d, d2, a2.

Cable Installation

When carrying out internal cabling without trunking or cable ties, our approved metal cleats must be used, these are available in black and white, see table for details. Note; The current 10mm metal staples used on 4 wire and 8 wire are already compliant using the existing staple gun.

Item code	Description
096 364	Fire proof cleat 4.5mm – Black
096 365	Fire proof cleat 7mm – Black
096 366	Fire proof cleat 11mm – Black
096 363	Fire proof cleat 14mm – Black
093 560	Fire proof cleat 4.5mm – White
093 561	Fire proof cleat 7mm – White
093 562	Fire proof cleat 11mm – White
096 347	Fire proof cleat 14mm – White

When installing cable ties, our BS7671 approved stainless steel cable ties must be used and the loose ends cut using the approved tensioning cutter gun. When installing BFT, do not use the hand tensioner or cut the cable tie as this will risk damaging the tubes. Instead, hand tension the cable ties and

wrap the excess away safely. Note: Not all stainless steel is compliant, only 316 stainless steel is compliant to the regulation BS 5839-1 specification.

When working on cable runs supported by plastic/nylon cable ties, these must be replaced or double cable tied with the stainless steel compliant version so the cables are supported.

Item Code	Description
096383	Metal Cable Ties Size 1 (200 x 4.6mm)
096384	Metal Cable Ties Size 2 (360 x 4.6mm)
096385	Metal Cable Ties Size 3 (520 x 4.6mm)
096382	Tensioning Cutter Gun

Suspended ceilings and Cable Trays

All installations above suspended ceilings must be secured using an approved fire resistant fixing and must not be left loose on top of the tiles.

On horizontal metal cable trays with side walls plastic cable ties can be used, as in the event of a fire the plastic will melt however the cables will not drop. On vertical runs, stainless steel ties must be used.

Trunking Installation

All cables inside trunking need to be secured with a fire resistant fixing. This includes new installations as well as any pre-existing circuits/cables that are being worked on, the full installation route must be brought up to current regulations.

D Clips

The initial approved item is the D clip, existing stock is to be used up first and future supply will be the FireFly Clip; see below.

The D clip is secured using a wall dog screw (096386) without the use of a wall plug.

The D clip is installed inside the trunking, a 5mm pilot hole is drilled through the trunking and the wall dog screw is used to secure the D clip. The D clip is then bent inward to secure the cables. These clips must be installed every 300mm on a horizontal run and every 400mm on a vertical run. D clips can also be used to secure cables outside of trunking if needed.
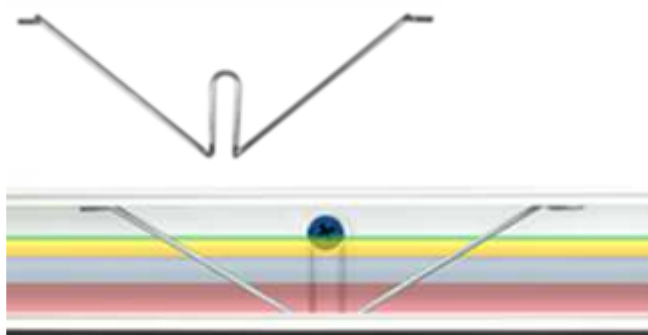
Item Code	Description
096379	Safe D clips size 1 (D30)
096380	Safe D clips size 2 (D40)
096381	Safe D clips size 3 (D50)
096386	Wall Dog Screws

FireFly Clip

The new first choice fixing for trunking is now the FireFly Clip. These are installed inside the trunking and secured by drilling a 5mm hole through the

trunking and fitting a Wall dog screw with an M5 washer (i/c 096597). These clips must be installed every 300mm on a horizontal run and every 400mm on a vertical run. FireFly clips can also be used to secure cables outside of trunking if required.

096596	Firefly Clip for 16x16 Trunking
096502	Firefly Clip for 25x16 Trunking
096503	Firefly Clip for 25x25 Trunking
096504	Firefly Clip for 40x16 Trunking
096505	Firefly Clip for 50x25 Trunking
096506	Firefly Clip for 50x50 Trunking
096507	Firefly Clip for 75x75 Trunking
096508	Firefly Clip for 100x100 Trunk
096597	Wall Dog Screw With M5 Washer for FF Clips

Fire Stopping

All cable holes which pass through floors and fire compartment walls must be fully fire stopped to prevent the passage of fire, smoke and hot gases. All cable holes must be temporarily fire stopped after every task or at the end of each working day if cabling operations are yet to be completed. At the completion of cabling operations cable holes must be permanently fire stopped and entirely sealed. These measures will:

Prevent the spread of fire, smoke and hot gases by containing it in the area of origin.

Maintain the integrity of escape routes from a building.

A cartridge type fire stopping compound is applied in the same way as silicone sealant on the outside of the building. This fire stopping compound is

made of a particular intumescent material which helps prevent the spread of smoke in the event of a fire.

Item Code	Description
211597	Fire stopping compound No 1 (cartridge form)
211774	Fire stopping compound No 2 (putty form)

The fire stopping requirements of each individual site will need to be understood before any drilling is carried out, this includes all non-domestic premises (e.g. hotels, MDUs) which will have fire risk assessment documentation.

Cable Holes under 25mm

All cables holes created whilst working on site must be fire stopped using the approved sealant.

Cable Holes over 25mm

Openreach does not carry out any drilling above 25mm, this is classed as core drilling, which an engineer will be specifically trained for.

If utilizing pre-existing cable hole over 25mm cannot be sealed correctly, the owner of the building must be informed and will then need to take responsibility for the fire stopping procedure. The landowner will then be required to sign the 'permissions to carry out work' **Formwise** and a photo of this will need to be taken as evidence. The landowner can text FIRE to 81192 if more information on the agreement is required. This only applies for pre-existing cable holes, not holes drilled by Openreach.

If asked by a customer to deal with fire stopping on a pre-existing hole, the engineer's line manager will use the purchase order process at the cost of the land owner, using the approved contractors within the LPCB Redbook. See Part 1 Section 1:1.

If unable to effectively fire stop a hole that we have created using the approved sealant, the engineer's line manager will use the purchase order process at the cost of Openreach, using the approved contractors within the LPCB Redbook. See Part 1 Section 1:1.

A1024 Process

For reporting complex retrospective work, where internal cabling has been found not to meet the current fire regulations explained within this briefing, an A1024 can be raised explaining the detail of work required, exact location and address. Note; this process is for complex work only, when fire stopping or adequately supporting our cables will take 60 minutes or less, the work must be carried out by the engineer on site.

Input options for A1024

1. Select:
— Copper & Safety and input the exchange area

2. The defect category is:
— Safety /Fire resistant cabling

3. Select appropriate defect code from:
— Internal cable supported by plastic supports e.g. plastic cleats, plastic conduit/trunking, plastic cable ties.
— Internal cable attached to unsuitable surface/hanging loose
— Internal cable not supported in vertical cable trays
— No fire stop on internal cable installed when cable enters walls or floors

4. Select the appropriate remedy code.

Accurate address details and specific notes regarding the defect will need to be added. Once submitted, this will be progressed for a permanent solution.

5 *Training:*

Training will be rolled out as appropriate and ISIS (EPT/CJT/D022) will be updated.

6 *Quality Standards:*

Yes, recommended part of FPQ checks.

7 *Accreditation:*

Recommended to be included in accreditation, quality standards and any auditing with DL and contractors.

8 *Quality Checks and Independent Audit:*

Recommended to be included in accreditation, quality standards and any auditing with DL and contractors.

9 *Planning Policy:*

Planning Policy has been considered and changes are not required.

10 *Contract Impact::*

- For information only.

11 *Reference Documentation:*

11.1 ISIS:

EPT/CJT/D022

11.2 Quality:

Recommended for inclusion where appropriate.

11.3 Accreditation Documents:

Potential for inclusion.

11.4 FPQ:

Yes. Add to FPQ as part of checks.

11.5 Supply Chain:

New Stores items have been added to EASC

Item Code	Description
096364	Fire proof cleat 4.5mm – Black
096365	Fire proof cleat 7mm – Black
096366	Fire proof cleat 11mm – Black
096363	Fire proof cleat 14mm – Black
093560	Fire proof cleat 4.5mm - White
093561	Fire proof cleat 7mm - White
093562	Fire proof cleat 11mm - White
096347	Fire proof cleat 14mm - White
096383	Metal Cable Ties Size 1 (200 x 4.6mm)
096384	Metal Cable Ties Size 2 (360 x 4.6mm)
096385	Metal Cable Ties Size 3 (520 x 4.6mm)
096382	Stainless Steel Tensioning Cutter Gun (SSTCG)
096379	Safe D clips size 1 (D30)

096380	Safe D clips size 2 (D40)
096381	Safe D clips size 3 (D50)
096596	Firefly clip for 16x16 Trunking
096502	Firefly Clip for 25x16 Trunking
096503	Firefly Clip for 25x25 Trunking
096504	Firefly Clip for 40x16 Trunking
096505	Firefly Clip for 50x25 Trunking
096506	Firefly Clip for 50x50 Trunking
096507	Firefly Clip for 75x75 Trunking
096508	Firefly Clip for 100x100 Trunking
096597	Wall Dog Screw with M5 Washer for FF Clips
096386	Wall Dog Screws (32mm)
211597	Fire stopping compound No 1 (cartridge form)
211774	Fire stopping compound No 2 (putty form)

11.6   Communications:

Toolbox Talk & AEC

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