

CPR and BS6701:2016+A1:2017

At a glance...



What is CPR?

The 'Construction Products Regulation' aims to break down technical barriers and provide a common technical language to assess the performance of construction products and to harmonise the rules for marketing these products.

Four Key Concepts of CPR:

- A system of harmonised technical specifications
- A framework of notified bodies
- A system of conformity assessment for each product family
- CE marking of products



Why is LS0H no longer enough?

Low-smoke, zero-halogen (LS0H) cables were designed to meet three IEC standards:

- IEC60332: Flame Spread
- IEC60754: Smoke Acidity
- IEC61034: Smoke Emission

The CPR applies additional criteria and testing procedures to promote a more **harmonised standard to describe a cable's reaction to fire.**

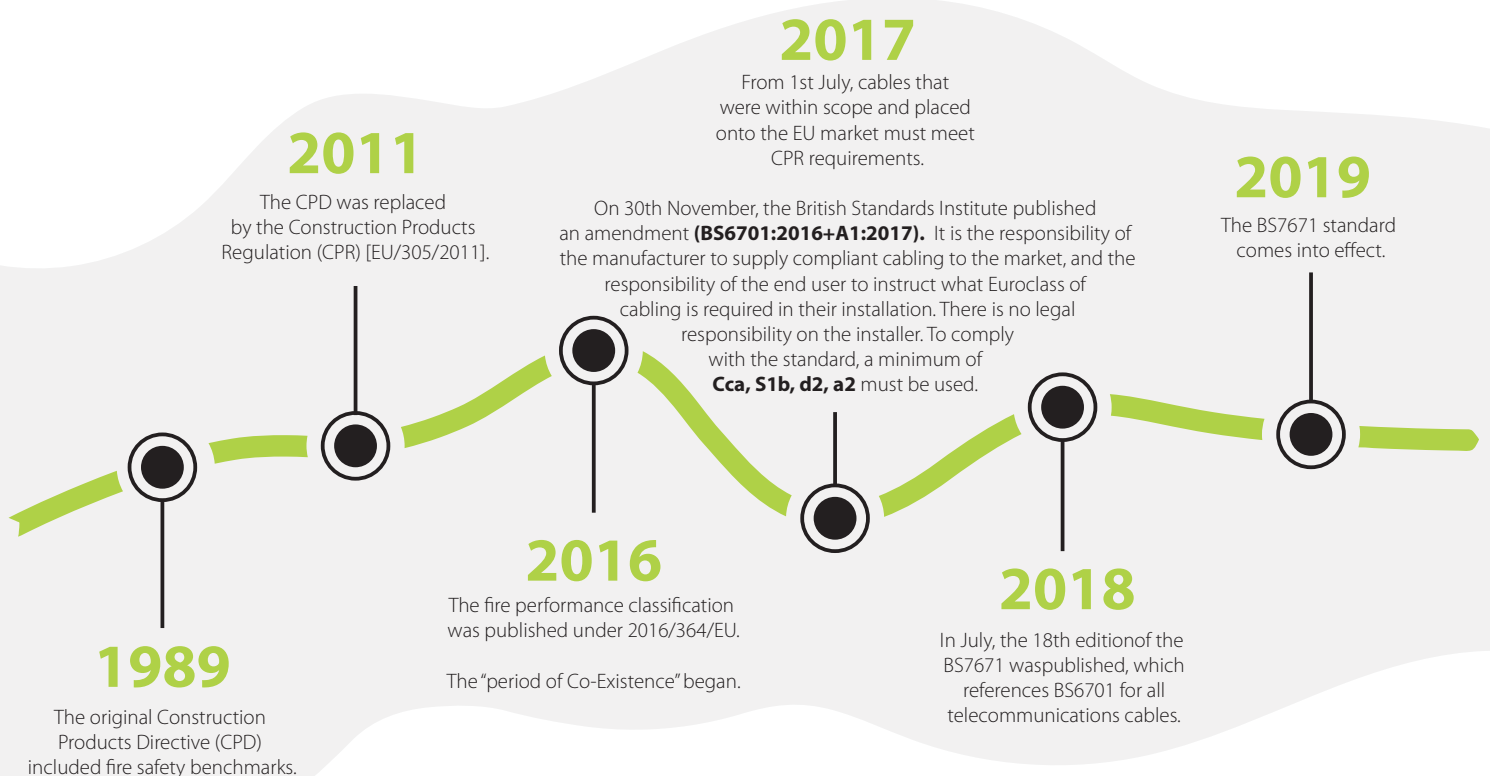
BS6701

Standards Compliance

Most data cabling tender specifications stipulate the requirement for a 'Standards Compliant' system to be supplied.

In the UK, to achieve this you must specify compliance with **BS6701:2016+A1:2017**, which states:

"For new installations and the refurbishment or extension of existing installations within the external fire barrier of the building, installation cables which are subject to the CPR shall as a minimum meet the requirements of Euroclass Cca, s1b, d2, a2."

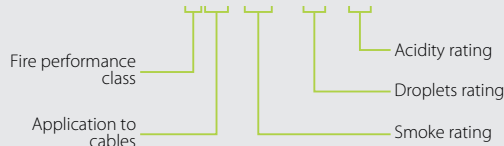


Minimum **BS6701:A1 - 2017**
UK Threshold

	Euroclass (ca)	Classification Criteria	Additional Criteria	Attestation of conformity system
	A	EN ISO 1716 Gross heat of combustion		1+ Initial type-testing and continuous surveillance with audit testing of samples by 3rd party certification body factory production control (FPC) by manufacturer
B1ca Very low contribution to fire	B1	EN 50399 Heat release Flame spread	Smoke production* (s1a, s1b, s2, s3) EN50399/EN61034-2	
B2ca Low contribution to fire	B2		Acidity (a1, a2, a3) EN60754	
Cca Reduced contribution to fire	C	EN 50575 Flame propagation	Flaming droplets (d0, d1, d2) EN 50399	3 Initial type testing by 3rd party laboratory FPC by manufacturer
Dca Improved contribution to fire	D			
Eca Basic flame retardance	E	EN 50575 Flame propagation		4 Initial type testing and FPC by manufacturer
Fca Non flame retardance	F			



Class Cca, S1b, d2, a2



Are all cable types required to comply?

- The CPR applies to all permanently installed cables within a building; communication, power and control cables in fixed installations.
- There is no distinction between copper and fibre, or shielded and unshielded cables.
- The only exception is patch leads, which are not within scope of CPR.

Additional Requirements

Seven Euroclasses

Flames		Aca	B1ca	B2ca	Cca	Dca	Eca	Fca
Heat		Aca	B1ca	B2ca	Cca	Dca	Eca	Fca
Smoke	s			s1a	s1b	s2	*	
Droplets	d			d1	d1	d2	*	
Acidity	a			a1	a1	a2	*	

The categorisation elements will be specified to form a complete Euroclass reference.

* No Requirement

Fire retardance

HIGH

LOW



A closer look at CPR Euroclasses

Fca	Undetermined reaction	B2ca	Low reaction
Eca	Basic reaction	B1ca	Very low reaction
Dca	Improved reaction	Aca	No reaction
Cca	Reduced reaction		

- A CPR-Compliant cable must belong to 1 of 7 Euroclass categories.
- Each category relates precisely to the way it performed under the appropriate testing.
- Each Euroclass Aca – Fca determines an individual cable's reaction to fire.

A closer look at the additional classifications

Smoke Production

1a	
1b	
1	
2	
3	

Flaming Droplets

0	
1	
2	

Acidity

1	
2	
3	

s1a: >80% light transmittance
s1b: >60% light transmittance
s1: </ 50 m2
s2: </ 400 m2
s3: not meeting s2 or no performance

d0: no droplets after 20 minutes
d1: no droplets persisting longer than 10 seconds within 20 minutes
d2: not meeting d1 or no performance

a1: conductivity <2.5 μSmm-1, pH > 4.3
a2: conductivity <105 μSmm-1, pH > 4.3
a3: not meeting a2 or no performance

So, which CPR Euroclass should you choose?

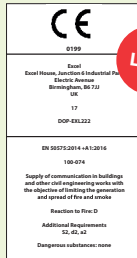
Different Member States require different CPR classification levels for various applications. Each Member State may implement the standard in line with their regional requirements. For example, hospitals require a B2ca rating in some countries, but only a Cca rating in others.

To achieve standards compliance in the UK, it is important to choose a cable with a CPR Euroclass of **a minimum of Cca, s1b, d2, a2** - as stipulated in **BS6701:2016+A1:2017**. This applies to any new installations or the refurbishment and/or extension of existing installations within the external fire barrier of the building.

We advise to always check with a country's local regulations.

Our Commitment to you...

The regulation defines a clear process and requirements for proof of compliance to a specific Euroclass. When purchasing products in scope of CPR it is advisable to request suppliers to provide confirmation of compliance by means of a DOP or to demonstrate that the product was placed on the market prior to July 2017. Inability to meet either of these requests should cause alarm and we would recommend a 'proceed with caution' approach.



Label

Sheath Print

Excel's Euroclass Compliance

	B2ca	Cca	Dca	Eca
CAT 7 _A	✓		✓	
CAT 6 _A	✓	✓	✓	
CAT 6	✓		✓	
CAT 5e	✓		✓	
Loose Tube Fibre		✓	✓	
Loose Tube CST Fibre		✓		✓
Loose Tube SWA Fibre				✓
Tight Buffered Fibre		✓		



Find out more in our CPR Pocket Guide and our Excel Encyclopaedia V4!
Go to section 2!



YouTube

Excel Explains... CPR

Our series of "Excel Explains" webinars has been designed to provide important technology updates in bite size sessions and are based on frequently asked questions received by our Technical Team. The first series focused on the Construction Products Regulation, covering various topics in more detail.

Take a look:-
<https://www.excel-networking.com/excel-explains-cpr>

Are you up to speed on CPR?

excel
without compromise.

If you have any questions about CPR, contact our specialist team at cpr@excel-networking.com.
For sales enquiries, please contact our team at sales@excel-networking.com or call 0121 326 7557.