Understanding CPR
At a glance...

UKCA CE

What is CPR?
The Construction Products Regulation (CPR) provides a common technical language to assess the performance of construction products in the EU. It lays down harmonised specifications to assess how a cable reacts to firethrough a universal classification structure, known as Euroclasses.

Four Key Components of CPR:
- Reaction to Fire Performance
- UKCA and/or CE Marking
- Declaration of Performance (DoP)
- Obligations for Manufacturers

Why is LS0H no longer enough?
Low-smoke, zero-halogen (LS0H) cables were designed to meet three IEC standards:
i. IEC60332: Flame Spread
ii. IEC60754: Smoke Acidity
iii. 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."

1989
The original Construction Products Directive (CPD) included fire safety benchmarks.

2011
The CPD was replaced by the Construction Products Regulation (CPR) [EU/305/2011].

2016
The period of "Co-Existance" began.

2017
1st July 2017: The CPR became a legal requirement. Cables that were within scope and placed onto the EUmarket needed to meet CPR requirements. Products in the market prior to 1st July 2017 and not CE-marked could be sold and installed without breaching CPR, however anything placed in the market after this date must adhere to the regulation.

30th November 2017: The **BS6701:2016+A1:2017** amendment was published to assist the market in the specification of Euroclasses.

2021
The government made legislation in March 2019 which came into effect on 1 January 2021 to make arrangements for the regulation of construction products after EU Exit.

2025
Until 30 June 2025, in Great Britain, both the UK mark and the CE mark will be recognised. Construction products supplied to the GB market from this date must bear the UKCA marking.

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

- **Aca** No contribution to fire
- **B1ca** Very low contribution to fire
- **B2ca** Low contribution to fire
- **Cca** Reduced contribution to fire
- **Dca** Improved contribution to fire
- **Eca** Basic flame retardance
- **Fca** Non flame retardance

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
B1	EN 50399 Heat release Flame spread EN 50575 Flame propagation	Smoke production* (s1a, s1b, s2, s3) EN50399/EN61034-2 Acidity (a1, a2, a3) EN60754 Flaming droplets (d0, d1, d2) EN 50399	
B2			
C			
D			3 Initial type testing by 3rd party laboratory FPC by manufacturer
E	EN 50575 Flame propagation		
F			4 Initial type testing and FPC by manufacturer

Class Cca, S1b, d2, a2
- Fire performance class
- Application to cables
- Smoke rating
- Droplets rating
- Acidity rating

Are all cable types required to comply?
Any cable which is deemed to be permanent once installed is within the scope of CPR, covering power, data and communications cables. In the case of data and communications cables, copper, fibre, coax, and multi-conductor cables are covered, with the exception of patch leads.

Seven Euroclasses

	Additional Requirements							
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	*	

Fire retardance: HIGH ← LOW

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

* No Requirement

A closer look at CPR Euroclasses

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

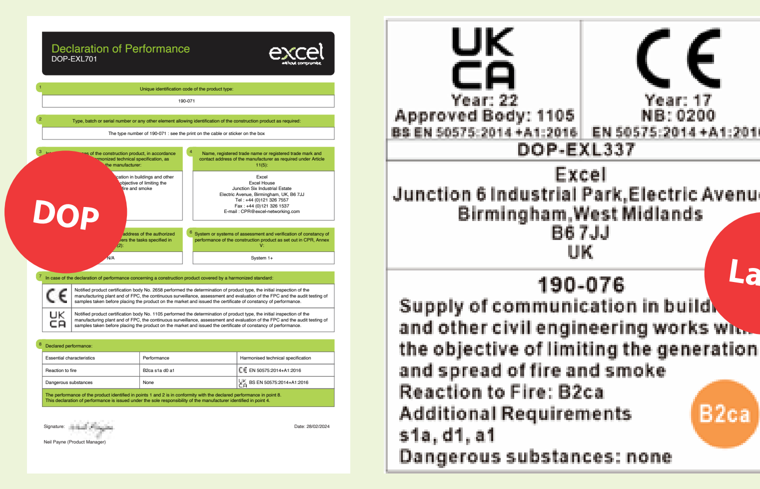
a1: conductivity <2.5 µSmm-1, pH > 4.3
a2: conductivity <105 µSmm-1, pH > 4.3
a3: not meeting a2 or no performance

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.

We advise to always check with a country's local regulations. Details of how to find this information is available in the Excel Encyclopaedia.

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.



Both the CE and UKCA markings can be placed on a product so long as the relevant (EU or GB respectively) rules are met, neither prevents the other being clearly seen and the requirements of both GB and EU legislation are met.

The table below illustrates the accepted markings for the GB market:

Type of good	Accepted marking or combination of markings*
Supplying goods (which are not qualifying Northern Ireland goods) to the market in Great Britain	
Construction product being supplied to the GB market until 30 June 2025	UKCA or CE or CE & UK(NI)
Construction product supplied to the GB market from 30 June 2025	UKCA

Excel's Euroclass Compliance

	B2ca	Cca	Dca	Eca
CAT 8			✓	
CAT 7_A	✓		✓	
CAT 6_A	✓		✓	
CAT 6	✓		✓	
CAT 5e	✓		✓	
Loose Tube Fibre	✓		✓	✓
Loose Tube CST Fibre	✓	✓		✓
Loose Tube SWA Fibre				✓
Tight Buffered Fibre	✓	✓		

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

Find out more about Understanding CPR on the Excel website, in the Excel Encyclopaedia or in our dedicated CPR Pocket Guide.

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.*