Construction Products Regulations & CE Marking - April 2018

Introduction

This document aims to provide the most up-to-date information about the introduction of the Construction Products Regulations (CPR) and associated CE marking. This document will change during the introduction of the regulation. You can fine the latest documentation here: www.panduit.com/CPR

Executive summary

- Copper & Fibre horizontal cables sold in Europe are subject to the Construction Products Regulations (CPR)
- The CPR covers product made or imported into the European Union that is used in construction works
- Each cable will have a EuroClass which defines flame propagation as well as heat release, smoke production, flaming droplets and acidity per EN 50399, EN 60332-1, EN 61034 and EN 50267
- Testing must be performed by an approved notified body and a Classification Report is provided to the manufacturer.
- The Regulation also specifies how conformity with CE marking will appear on the drum or box denoting that the cable is subject, and complies with, the regulation or directive.
- The CE mark must NOT be printed on the cable however the EuroClass may be printed on the cable.
- Each product must have a Declaration of Performance (DoP) readily available to the user.
- The earliest that a product may be CE marked is **1 July 2016**. From **1 July 2017,** all cables put on the market are subject to the CPR and the cable box or drum MUST have a CE mark. Cables that are placed on the market before 1 July 2017 may still be sold, even if they do not have a CE mark on the drum or box. This means that stock held at Panduit's warehouse, distributors' facilities, or any other storage point, that was manufactured before 1 July 2017 may be sold without a CE mark.
- The CPR does NOT apply to cable assemblies – e.g. a patch cord, switch cord, zone cord, etc. In other words, if it has a termination on one or both ends, it is not covered.

Construction Products Regulations (CPR) – EU No 305/2011

To quote the European Commission, "The Construction Products Regulation (CPR) lays down harmonized rules for the marketing of construction products in the EU", and this came into force 1 July 2013. Where it is of interest and relevant to Panduit's products is in the reaction to fire of copper and fibre cables.

Since the publication of the CPR in 2011 work has been carried out to harmonize the various national standards around Europe into one. The result is the publication of *EN 50575:2014 Power, control and communications cables – Cables for general applications in construction works subject to reaction to fire requirements*. In line with the CPR, which covers all construction Products, EN 50575:2014 details EuroClasses from A_{ca} to F_{ca} (the subscript "ca" after the letter of class means *cable*).

EuroClasses

The EuroClasses range from the highest performing A_{ca} to the lowest F_{ca}. (for ease of reading, and typing, this document, the subscript "ca" is dropped from here onwards). Class A does not burn. It is not technically possible to make a copper or fibre communications cable to meet EuroClass A as it would need to be a mineral sheathed cable and would then not have the electrical and/or mechanical performance. The lowest EuroClass F means that it has failed to meet EuroClass E performance. Class B is further split into B1 & B2. EuroClasses B1, B2, C & D are further tested to classify the Smoke production (s) per EN50399/EN61034-2, Flaming droplets (d) per EN50399 and acidity (a) per EN50267-2-3 and EN60754-2. Smoke will be classified from s1 to s3, flaming droplets from d0 to d2 and acidity from a1 to a3. So for EuroClass B1 to D a full designation will look like, for example, EuroClass **B2ca-s1,d1,a1**. The burn testing and emission measurements are specified in EN 13501-6 Fire classification of construction products and building elements — Part 6: Classification using data from reaction to fire tests on electric cables. The testing of the cables is carried out by Notified Bodies. Notified Bodies are organizations that are approved to carry out testing which is administered under the NANDO (New Approach Notified and Designated Organisations) Information System. http://ec.europa.eu/growth/tools-databases/nando/index.cfm. The earliest that Notified Bodies will be approved to issue EuroClasses of communication cables was **1 July 2016**.

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	Euroclass (ca)	Classification criteria	Additional criteria	Attestation of conformity system
"Non combustible" (e.g. unsheathed mineral insulated	**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**
"Low-Fire-Hazard" *cables (various levels)*	**B1**	**EN 50399 Heat release Flame spread** **EN 60332-1-2 Flame propagation**	**Smoke production (s1a, s1b, s2, s3) EN50399/EN61034-2** **Acidity (a1, a2, a3) EN50267-2-3 /EN60754-2** **Flaming droplets (d0, d1, d2) EN50399**	
	B2			
	C			
	D			**3- initial type-testing by 3rd party laboratory -FPC by manufacturer**
« Standard » cables	**E**	**EN 60332-1-2 Flame propagation**		
No performance determined	**F**			**4- initial type-testing and FPC by manufacturer**

Additional Criteria

- **s1** = Total Smoke Production (TSP) ≤ 50 m2 and Smoke Product Rate (SPR) maximum ≤ 0.25 m2/s
- **s1** = Total Smoke Production (TSP) ≤ 50 m2 and Smoke Production Rate (SPR) maximum ≤ 0.25 m2/s
- **s1a** = **s1** and transmission value according to EN 61034-2 ≥ 80 %
- **s1b** = **s1** and transmission value according to EN 61034-2 ≥ 60 % < 80 %
- **s2** = TSP ≤ 400 m2 and maximum SPR ≤ 1.5 m2/s
- **s3** = neither s1 nor s2
- **d0** = no flaming droplets/particles
- **d1** = no flaming droplets/particles for longer than 10 seconds
- **d2** = neither d0 nor d1
- **a1** = electrical conductivity < 2.5 µS/mm and pH value > 4.3
- **a2** = electrical conductivity < 10 µS/mm and pH value > 4.3
- **a3** = neither a1 nor a2. No data = no performance determined

Documentation

From the classification testing carried out on the Panduit cables, Panduit will publish a *Declaration of Performance* (DoP). ***(Sample 1).*** The DoP will be available in the documents tab of the product's web page. The DoP will have a unique Panduit reference number allowing it to be searched for easily. The drum or box of cable will have a label ***(Sample 2)*** of specified format with the CE mark on it, details of the product and reference to the DoP. This means that any interested party may have access to the DoP at any time by looking at the product's web page or searching with the DoP reference number on the Panduit website.

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DECLARATION OF PERFORMANCE
No. PAN-DOP-CK001

1. Unique identification code of the product-type: **F1-CK001**
2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4): ***PUL6C04***
3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification, as foreseen by the manufacturer: ***Supply of electricity in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke***
4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5): ***Panduit Europe Ltd. West World, Westgate, London, W5 1UD, United Kingdom Tel. +44 208 601 7200 Email: techsupportemea@panduit.com***
5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2): ***As above***
6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V.: ***System 3***
7. In case of the declaration of performance concerning a construction product covered by a harmonised standard: ***Notified product certification body No. 2652 performed the determination of product type and of FPC***
8. Declared performance

Essential characteristics	Performance	Harmonised technical specification
Reaction to fire	E_{ca}	EN50575:2014+A1:2016
Dangerous substances	None	

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8.

This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

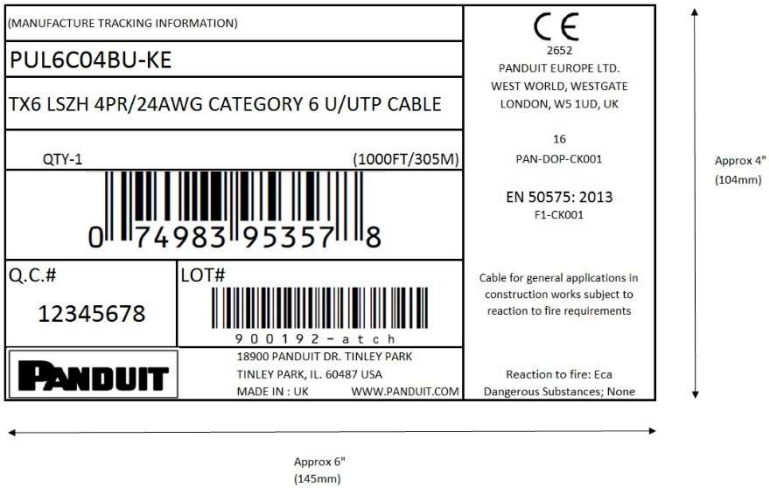
Signed for and on behalf of the manufacturer by:

Ralph J. Lolies, SVP/Managing Director EMEA, Panduit Europe Ltd

United Kingdom, 23rd November 2016 "signature"

SAMPLE

Sample 1



Sample 2

Construction Products Regulations & CE Marking – April 2018

Which products are affected?

Copper and Fibre cable.

Amongst the definitions at the beginning of the CPR are: 'construction product' means any product or kit which is produced and placed on the market for incorporation in a permanent manner in construction works or parts thereof and the performance of which has an effect on the performance of the construction works with respect to the basic requirements for construction works. 'Construction works' means buildings and civil engineering works.

The interpretation of this is that it applies to cables that are permanent/form part of the construction. Cords or assemblies are not covered by the CPR (this includes, for example: solid core cords that are used to make switch links, QuickNet assemblies, etc. as they are designed to be connected when needed and not primarily designed to form part of the construction works) and therefore will not have a CE mark on the packaging or product relating to this regulation. The plugs, jacks and assemblies that form the cords do not form part of the CPR and therefore do not have an applicable test of fire performance standard. However, assemblies or cords that are manufactured using cables that do have a EuroClass will have this information added to the Specification Sheet to allow interested parties (designers, consultants, installers, owners, etc.) to use the information for the overall building assessment. For communication cables, the range of applicable EuroClasses are B2ca through Fca.

Which EuroClass should be used?

The EuroClass requirement can vary depending on the country, building type, or customer requirement. Panduit's recommendation is to work with both the appropriate governing body and customer to ensure you are installing the proper EuroClass.

Many multinational corporations are trying to standardize on a given requirement that can work in any country within the European Union, meaning the cable a customer may need can also be more stringent than the actual requirement.

What does Panduit offer?

Panduit offers a wide range of EuroClass cables. Within the Dca, Cca, and B2ca, we guarantee the minimal levels of additional criteria as shown below:

- B2ca-s1a, d1, a1
- Cca-s1b, d1, a1
- Dca-s2, d2, a1

Some cables may offer higher additional criteria than the guarantee. Please refer to the product specification sheets for exact information.

DISCLAIMER: *The information provided in this Technology Brief is provided for the reader's convenience. The information is provided "as is" and without warranty of accuracy. Please consult source documents to ensure compliance with applicable regulations and marking requirements.*