

Cables and Construction Products Regulation (CPR) - EU 305/11

The CPR Regulation concerns all manufactured products for permanent installation in buildings and civil engineering locations (for example: homes, industrial and commercial buildings, offices, hospitals, schools, subways, etc.).

For cables, the European Commission has decided to consider, within the characteristics considered relevant to the safety of buildings (7 basic requirements), the reaction and fire resistance in case of fire.

All cables permanently installed in structures, whether they are for the transport of energy or data transmission, any voltage level and with any type of metal conductor or fiber optic cable, must be classified according to the Euro classes of its installation environment.

The cables are classified into 7 classes of reaction to fire: A_{ca}, B1_{ca}, B2_{ca}, C_{ca}, D_{ca}, E_{ca}, F_{ca} identified by the subscript "ca" (cable) in function of their level of performance.

In addition to this main classification, the European authorities have also regulated the use of the following additional parameters

- s = smoke density. Vary from s1 to s3
- d = flaming droplets/particles. Vary from d0 to d2.
- a = acidity of combustion gases. Vary from a1 to a3

Main class		Additional class	AVCP-System
A _{ca}	Heat release (EN ISO 1716)		1+
B1 _{ca}	Heat release and fire propagation (EN 50399)	Smoke Density s1-s3 (EN 50399, EN 61034-2)	
B2 _{ca}		Flaming droplets d0-d2 (EN 50399)	
C _{ca}	Flame propagation (EN 60332-1-2)	Acidity of gases a1-a3 (EN 60754-2)	3
D _{ca}			
E _{ca}	Flame propagation (EN 60332-1-2)		4
F _{ca}			



s1, s2, s3
S (smoke)



d0, d1, d2
D (droplets)



a1, a2, a3
A (acidity)

SMOKE OPACITY

- s1: Little production and slow propagation of smoke
- s1a: S1 with visibility over 80% (UNE-EN 61034-2)
- s1b: S1 with visibility over 60% and below 80% (UNE-EN 61034-2)
- s2: Intermediate values of production and propagation of smoke
- s3: Neither s1 or s2

FALL OF DROPLETS DURING COMBUSTION

- d0: No fall of droplets of flamed particles (UNE-EN 50399)
- d1: Fall of droplets and flamed particles that persist for less than 10 seconds (UNE-EN 50399)
- d2: Neither d0 or d1

SMOKE ACIDITY

- a1: Low acidity (UNE-EN 60754-2 conductivity <2,5ns/mm pH> 4.3)
- a2: Intermediate values of acid (UNE-EN 60754-2 conductivity <10ns/mm pH> 4.3)
- a3: Neither a1 or a2

Assignment of conformity system

Depending on the main class of a product, a specific conformity procedure (AVPC) must be applied by the manufacturer.

The systems 1+, 3 and 4 have been assigned for cable products. Depending on the system, different tasks are required from the manufacturer and the notified body.

These tasks include production control and sample testing by the manufacturer, as well as an evaluation of the product performance, ongoing monitoring and product audits by the notified body.

ENVIROMENT	LEVEL OF RISK	CLASS reference
Airports, railway stations, marine stations, subways all or underground parts, road tunnels more than 500 meters and railway above 1000m.	HIGH	B2ca – s1a,d1,a1
Health facilities that provide long-term hospitality and/or residence and /or day-care, nursing homes for the elderly with more than 25 beds; health facilities that provide diagnostic examinations and laboratory services. Show rooms and entertainment facilities in general and sports centers, gyms both public and private. Hotels, guest houses, motels, hotel-villages, tourist residences, student residences, resorts, accommodation in farms, youth hostels, mountain refuges, bed & breakfast, dormitories, houses for holidays with more than 25 beds. Outdoor tourist accommodation structures (i.e. camping, resorts) Capacity accommodation with more than 400 people. Schools of any grade and type, colleges, academies with over 100 people; nurseries with over 30 people. Rooms used for expositions and/or wholesale and retail sales, fairs and fairgrounds. Companies and offices with over 300 people; libraries and archives, museums, galleries, exhibitions and shows. Buildings intended for civil use, with fire height greater than 24 m.	MEDIUM	Cca
Other activities: buildings for civil use, with fire-fighting height of less than 24 m, waiting rooms, bars, restaurants, medical offices.	LOW (bunch laying)	Cca – s3,d1,a3
Other activities: installations not covered in the buildings above and where there is risk of fire and danger to people and property.	LOW (single laying)	Eca

Declaration of performance (DoP)

The Declaration of Performance (DoP) outlines the performance of the product's most important properties.

The properties are assessed and described in a uniform European way.

This allows people to compare products, no matter where they were manufactured.

The DoP also includes information about the product's application, manufacturer, and whether any third party was involved in production control.

The product is therefore only approved for CE marking after it has been tested and has a valid DoP, allowing the manufacturer to guarantee that the product meets the specified standard.

CE marking


CE marking is mandatory if the products are to be placed on the European market.


Depending on the compliance system, different requirements apply for the content of the labelling.

As a general rule for cables, the marking has to be displayed on the product, the packaging, the labelling or a combination of thereof.

The marking must be clearly visible, easily legible and indelibly fixed on the cable reel.

Below is an example of a label taken from standard EN 50575, for the cables responsive to system class Cca 1+ and a DoP:

 XXXX ITALCOND SRL Via Erideo Marinucci, 42/44 62019 RECANATI (MC) ITALY 17 (must be issue by the manufacturer) EN 50575:2014 (must be issue 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 reaction to fire Cca-S1,d1,a1 Dangerous substances: none	← CE marking consisting of "CE" symbol ← identification number of the certification body ← name and address of the manufacturer of trademark ← last two digits of the year in which the marking was affixed ← DoP reference number ← number of European standard applied as reference in OJEU ← unique identification code of type of product ← intended use of the product as laid down in the European Standard applied ← class of performance
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 Italian Conductors, Wires & Cables

DECLARATION OF PERFORMANCE
No. ITC001

- 1- Unique identification code of the product-type: F1 PVC
- 2- Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11: **SVV (2X0,80mm-24X0,80mm)**
- 3- Intended use or uses of the construction product:
Supply, control and communication in buildings and other civil engineering works with the objective of limiting the generation and spread of fire and smoke
- 4- Manufacturer:
*ITALCOND S.r.l., Via E. Marinucci 42/44, 62019 Recanati, Italy; Tel. +39 0717501692
Fax. +39 0717503017 Email: info@italcond.it*
- 5- AVCP System: **System 1+**
- 6- Harmonized standard: **EN50575:2014+A1:2016**
- 7- Declared performance

Essential characteristics	Performance	Performance Harmonized technical specification
Reaction to fire	Cca - S2,d0,a3	EN 50575:2014+A1:2016
Dangerous substances	NPD	

8- Notified Body: **Nr.0987**

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:
Paolo Antonio Gensale
General Manager

Place and date of issue
Recanati, 04/07/2017

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