

- ✓ The Construction Product Regulation (known as CPR) establishes the basic requirements and the essential characteristics that **all products developed to be permanently incorporated inside industrial and sales buildings and other civil engineering works** (hospitals, offices, libraries, cinemas, metros), have to satisfy for the scope of application.
- ✓ **“Construction product (CP)** means any product or kit which is produced and placed on 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 construction works with the respect to the basic requirements for construction works” (art. 2, point 1 of Regulation UE 305/2011).
- ✓ The incorporation have to be permanent, that means it have to last as long as the whole life of construction work.
- ✓ This applies to all construction products (fixtures, floorings, etc.) and consequently to any type of **electrical cables, without constraints as regard intended uses (supply of electricity or communication), rated voltage or type of conductor, aimed to be used as CP (annex IV of regulation)**. At moment, **the fire-resistant cables** are not covered by CPR and a specific standard have to be yet issued.
- ✓ The Regulation is applicable since **1st of July 2016** in all member states of EU, and it will become mandatory since **1st of July 2017** .

The Regulation lays down the conditions for **first placing** or making available on the market of CP.



Objectives : “the removing of technical barriers to trade in the field of construction products in order to enhance their free movement in the internal market”, by reducing the risks due to their use for people and property in case of fire.



Means : “the laying down of specific harmonised standards for the assessing of performances of CP in case of fire” that will have to be mandatorily adopted and applied by all member states of EU.



Responsibility : “all economic operators that are involved through the chain of production and distribution”, then from manufacturer to installer, through distributor and the designer of electric plant.

CABLE REQUIREMENTS

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The Annex I of Regulation requires that “construction works as a whole and in their separate parts must be fit for their intended use, taking into account in particular the health and safety of persons involved throughout the life cycle of works”. In particular, the following requirements will have to be ensured :

✓ SAFETY IN CASE OF FIRE

[requirement No. 2 of Annex]



“The construction works, as a whole and in their separate parts, must be designed and built in such a way that in the event of an outbreak of fire :

- a) the generation and spread of fire and smoke within the construction works are limited ;
- b) the spread of fire to neighbouring construction works is limited ;
- c) the safety of rescue teams is taken in considerations.”

The above means that the cables have not to spread the fire and to release opaque fumes and acid gases.

✓ HYGIENE, HEALTH, ENVIRONMENT

[requirement No. 3 of Annex]



“The construction works, as a whole and in their separate parts, must be designed and built in such way that they will, throughout their life, not be a threat to the hygiene or health and safety of workers, occupants or neighbours, nor have an exceedingly high impact, over their entire life cycle, on the environmental quality or on the climate.”

The above, in the case of cable, is guaranteed by means the compliance with requirements of RoHS Directive (2011/65/UE and subsequent updates) and REACH Regulation (1907/2006/CE) with relevant SVHC list.

✓ SUSTAINABLE USE OF NATURAL RESOURCES

[requirement No. 7 of Annex]



“The construction works, as a whole and in their separate parts, must be designed, built and demolished in such a way that the use of natural resources is sustainable and in particular ensure the following :

- a) reuse or recyclability of construction works, their materials and parts after demolition ;
- b) durability of construction works ;
- c) use of environmentally compatible raw and secondary materials in the construction works.”

The above is ensured by producing partially or totally recyclable cables, manufactured by using raw materials and processes with low environmental impact.

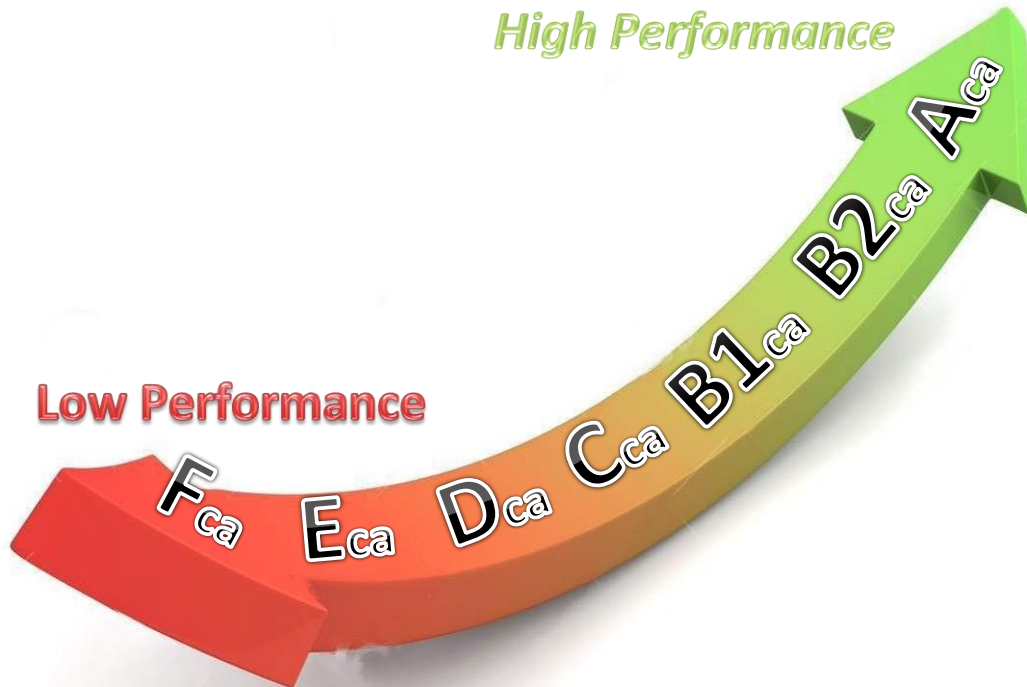


CLASSES OF PERFORMANCE

ADDITIONAL PARAMETERS

The cables are classified accordingly to seven main 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), on the ground of their decreasing performances. Each class requires minimum thresholds for the heat release and the fire spreading.

The European Authorities have also introduced the three following additional parameters :



S

Smoke opacity

[s1 - s1a - s1b - s2 - s3]



d

Flaming droplets

[d0 - d1 - d2]



a

Gases and smoke acidity

[a1 - a2 - a3]

Example of performance classification

B2ca - s1b, d0, a1



TASKS FOR THE MANUFACTURER

TASKS FOR THE MANUFACTURER

The Regulation introduces for manufacturer the following tasks :

✓ **DRAWING UP OF DECLARATION OF PERFORMANCE DoP**

The manufacturer, on the ground of Certificate of Constancy of Performance or Classification Assessment (for the lower classes) issued by a notified Certification Body, have to draw up the own Declaration of Performance (DoP) by including all information required by Annex III of Regulation.

Example

DECLARATION OF PERFORMANCE : DoP No. 0003
Accordingly to Annex III of UE regulation No. 305/2011

CE

- Unique identification code of product-type : H05Z1Z1-F / 05Z1Z1-F 300/500 V_{ic}
- Intended uses : ordinary duty halogen-free thermoplastic insulation and sheathed cables, that are suggested for locations where a low level of smoke emission and corrosive gases are required in case of fire or burning. They are intended for use in domestic premises and offices, including damp premises, and for power supply of household appliances.
- Manufacturer : SALCAVI S.p.A. Via dell'Industria,1 47867 Talamello (RN) - ITALY
Tel. 0541 921101, Fax 0541 921494, email : info@salcavi.com
- AVCP system : 3
- Authorized representative : not applicable
- Harmonized standard : EN 50575:2014 + A1:2016
- Notified product certification body : No. 0987 - LAPI Laboratorio Prevenzioni Incendi S.p.A
- Class of performance :

reaction to fire Eca
test method CEI EN 60332-1-2:2006
classification method EN 13501-6:2014
dangerous substances none

All products listed at point 1 comply with all performances described at point 8. This declaration is issued in compliance with UE regulation No. 305/2011, on the sole responsibility of manufacturer that is stated at point 3.

Signed on behalf of manufacturer :
Giancarlo Fininelli
Technical Manager
Talamello 06/04/2017

DoP downloadable at following address : www.salcavi.com

This declaration will have to be kept available from manufacturer for at least 10 years, and it will have to be shown on request of competent national authority.

✓ **CE MARKING AND LABELLING**

The CE marking shall be affixed visibly, legibly, indeleibly to the cable surface, or to package, or to a label attached to it or any combination of previous options. The legal requirement of CE marking involves even the obligation to supply the information concerning the CP that have to be placed on label (attached to reel, bundle or any other kind of package).

Example

In case of claim attach this label

SALCAVI SPA		CE
R41066	Qta MT: 100	
OPR number: 20171788-9		
Cavo H05Z1Z1-F 03 X0,75 Nero 0 Bob.LE1 40		
P110 D6,50 R022 - An. BI/Ma/Ne		
001 LR01S 06/04/2017		
EN 50575:2014		
Lotto: CAV 1701105656 NC= QC [X]		
Cert. body: 0987 Year: 17		
SALCAVI S.p.A.-Via Fiume, 9		
47867 - Talamello (RN) - IT		
DoP: 0003 Perf. Class: E _{ca}		

Ordinary duty halogen-free thermoplastic insulation and sheathed cables, that are suggested for locations where a low level of smoke emission and corrosive gases are required in case of fire or burning. They are intended for use in domestic premises and offices, including damp premises, and for power supply of household appliances

- the CE marking
- the identification number of notified body
- the name and the registered address of manufacturer
- the last two digit of year in which it was first affixed
- the number of DoP
- the unique identification code of product-type
- the intended use as laid down in the harmonized technical specification
- the class of performance

TASKS FOR THE MANUFACTURER



✓ ASSESMENT AND VERIFICATION OF CONSTANCY OF PERFORMANCE (AVCP) SYSTEM

The manufacturer has the obligation to establish a suitable system for the verification of constancy of performance declared for each product. In particular, the classes between A_{ca} and C_{ca} require a stricter assessment (System 1+) with an initial inspection and a continuous surveillance of Factory Production Control (FPC) and a continuous surveillance of product, while the classes D_{ca} and E_{ca} require the initial type testing of product by notified body (System 3) and the FPC. The class F_{ca} requires only the self-declaration of manufacturer based on an initial type testing (ITT).

CLASS	AVCP SYSTEMS	TASKS FOR THE MANUFACTURER	TASKS FOR THE NOTIFIED CERTIFICATION BODY
A _{ca}	1+	Factory Production Control (FPC)	- Samples for ITT taken in factory
B2 _{ca}			- Initial Type Testing (ITT)
B1 _{ca}			- Initial inspection of FPC
C _{ca}			- Surveillance of FPC
D _{ca}	3		- Audit testing of samples taken before placing the product on market
E _{ca}			- Initial Type Testing (ITT)
F _{ca}	4	- Factory Production Control (FPC) - Initial Type Testing (ITT)	/




ITT = Initial Type Testing , FPC = Factory Production Control

EXCEPTIONS

The following type of cables are exempted from CPR requirements :

- cables with applications intended other than those covered by CPR regulation (for which, however, the manufacturer can continue to issue the CE declaration) ;
- cables used outside the European Union ;
- the fire-resistant cables, for which a specific standard have to be yet issued.

At following You will find a table with correlation between the classification of construction cables and the more representative installation environments :

PERFORMANCE CLASS	MAIN CLASS	ADDITIONAL PARAMETERS			ENVIRONMENT	LEVEL OF RISK
		Reaction to fire	smoke	droplets		
B2ca-s1a, d1, a1	B2ca	s1a	d1	a1	 <p>Airports, railway stations, subway stations. Road galleries of more 500 m in length and railways galleries of more than 100 m in length Health facilities providing hospital care, rest homes for senior with over 25 beds ; health facilities providing specialist care services, including rehabilitation services</p>	HIGH
Cca - s1b, d1, a1	Cca	s1b	d1	a1	 <p>Places of entertainment, installations and sportive centres, public or private gyms. Hotels, guest houses, motels,, tourist-residences, holiday villages, agritourism lodges, youth hostels, mountain lodges, bed & breakfasts, dormitories, holiday homes, with over 25 beds. Schools of every order and degree, colleges, academies with over 100 students ; Kindergartens with over 30 children. Exhibitions and/or wholesale and retail outlets, fairs and trade fair areas. Companies and offices with more than 300 employees ; libraries and archives, museums, galleries, exhibitions Buildings intended for civil use, with a fire height greater than 24 m</p>	MEDIUM
Dca -s3, d2, a3	Dca	s3	d2	a3	 <p>Buildings intended for civil use, with a fire height lower than 24 m, waiting rooms, cafes, restaurants, medical offices</p>	LOW (bundle of cables)
Eca	Eca	n.a.	n.a.	n.a.	Installations not included in the above mentioned buildings and wherever there is no risk of fire or danger for people and / or properties	LOW (single cable)

