

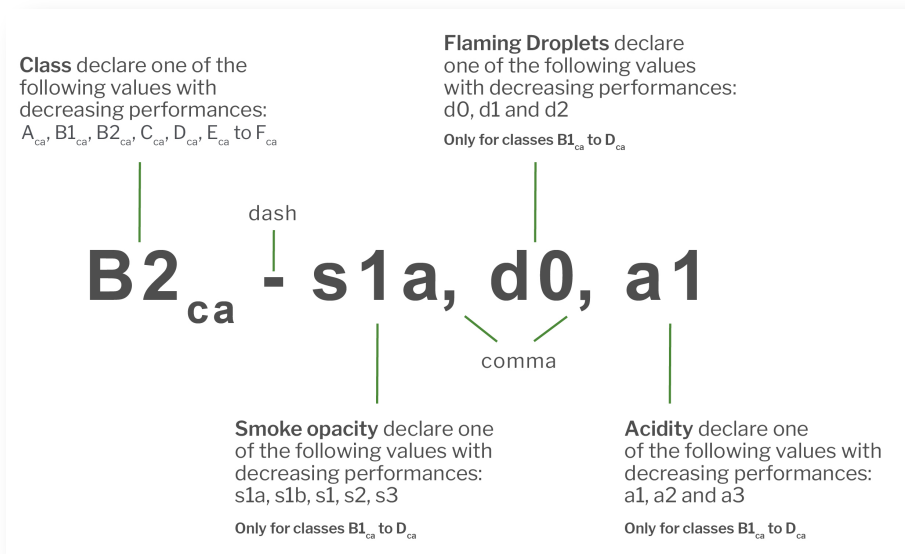


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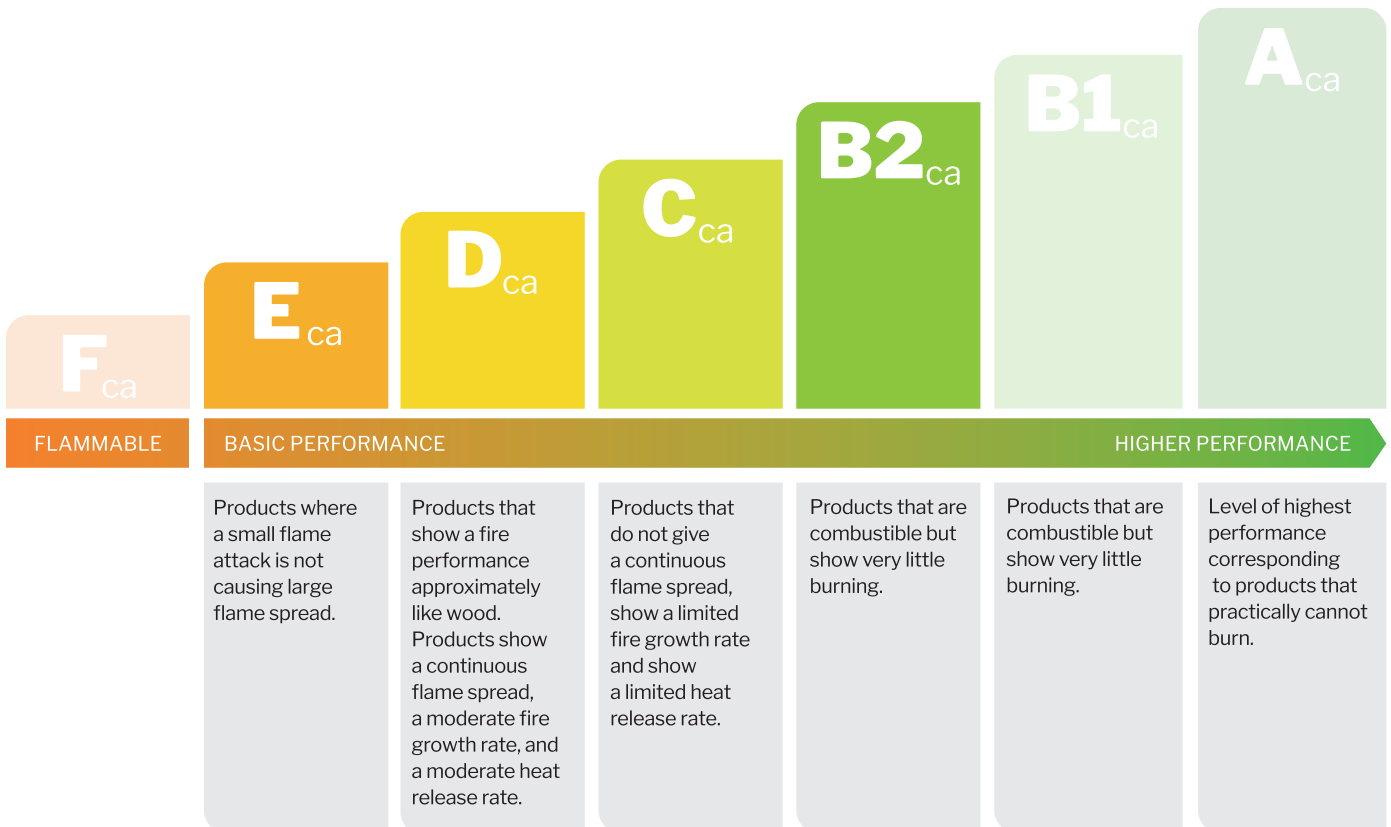
Understanding CPR Cable Classes and certification

1. What are The Performance Classes?



Europe, within the framework of the Construction Products Regulation of 2011 (CPR) created new fire protection categories for cables¹ demanding a reassessment of fire Safety in buildings. Cables are classified in **7 classes** according to their **flame spread** and **heat release**.

¹See EC Decision on 27th October 2006 later adopted in the EN13501-6



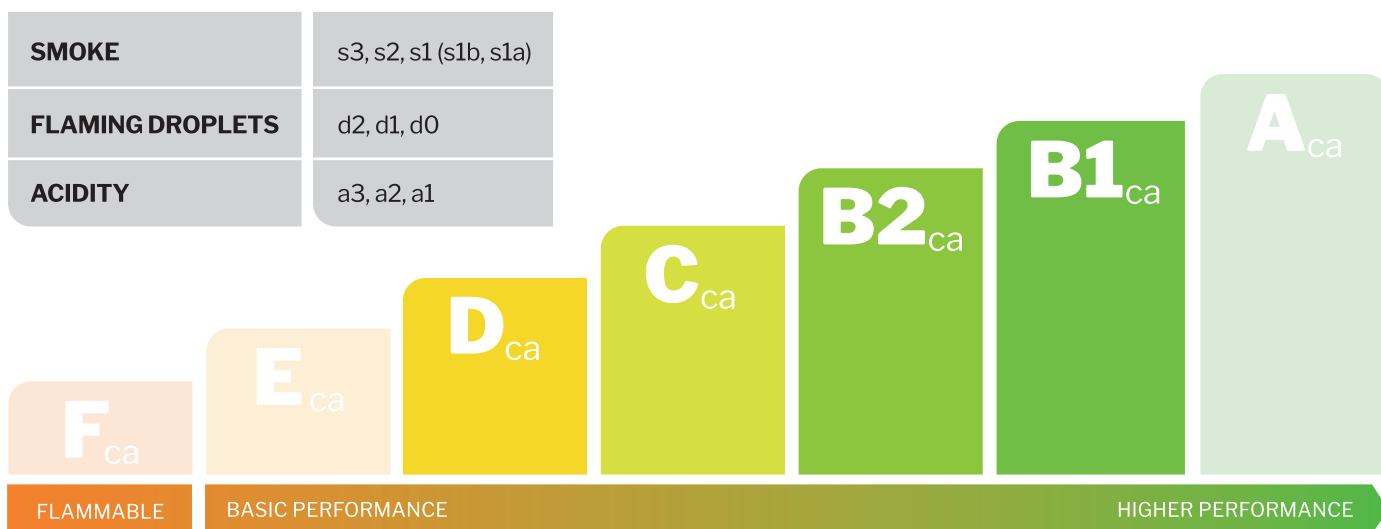
At present time national regulations have been established across Europe specifying CPR Classes between E_{ca} and B2_{ca}. The industry is accordingly supplying products with this range of performance.

2. Additional Classifications

In the CPR framework, three additional classification levels have been established regarding:

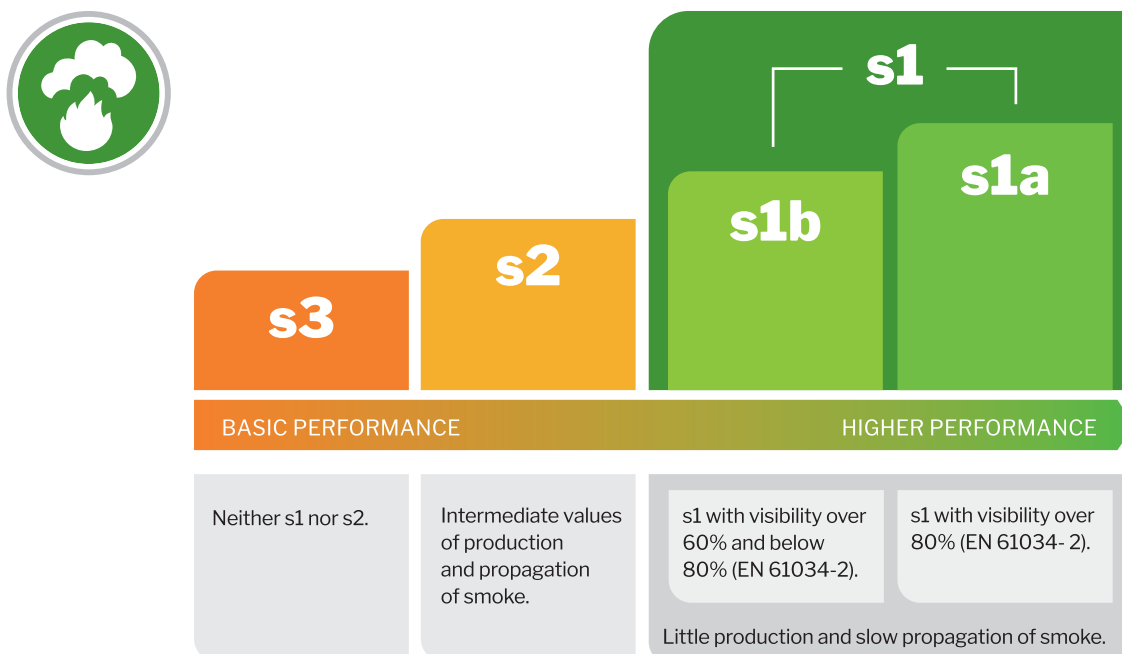
- The amount of **smoke** produced
- The flaming **droplets** released by the cable during combustion
- The **acidity** of the smoke

The additional classifications are only applied to cables ranging from B1_{ca} to D_{ca}



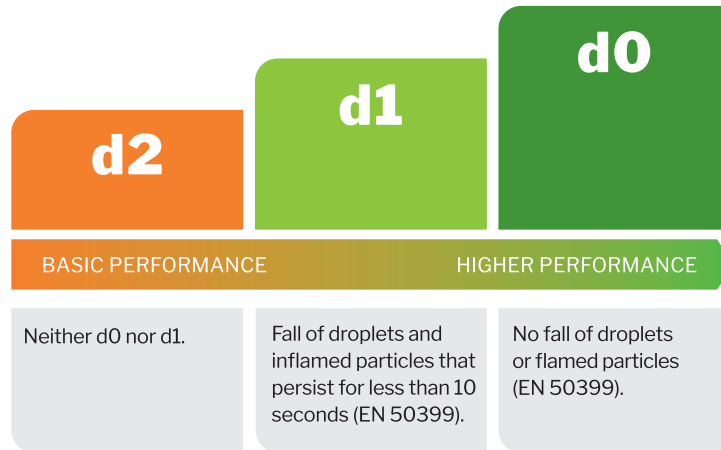
a) Smoke Opacity

The Smoke Opacity classification ranges from s1 to s3, regarding the amount of smoke produced. s3 indicates the lowest visibility. Additional classifications s1a or s1b stand for visibilities respectively of more than 80% or 60%.



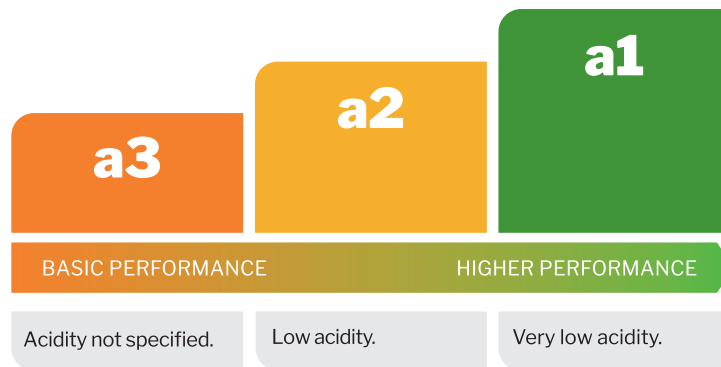
b) Flaming Droplets

The Flaming Droplets classification ranging from d0, indicating virtually no flaming droplets, to d2, indicating long and persistent flaming droplets.



c) Acidity

Acidity, ranging from a1, attributed to Low Fire-Hazard cables*, up to a3, for standard cables.



*Definition of Low Fire-Hazard: cables with low flame propagation and heat release (Classes B2_{ca} and C_{ca}), low smoke (classification s1 and above) and low emissions (classification a1).

2. Product Certification

Within the terms of the EU-product certification, the certification of reliable products from class E_{ca} onwards, is carried out by **Notified Bodies**. These are testing and/or certification institutes which are independent from manufacturers. Notified Bodies are designated by one single defined body that has been entitled by each European Member State and that already has been subjected to an authorization procedure.

To ensure that a manufacturer puts a CPR-compliant construction product on the market and continues to do so, he must under the CPR apply a rigorous quality process: this is the AVCP or Assessment and Verification of Constancy of Performance.

The CPR provides various systems. The better the performance (the higher the Class), the stricter the requirements for the manufacturer.

For cables 3 AVCP systems have been retained:

- Self assessment by the manufacturer
- System 3 uses a Notified Test Laboratory to assess the performance and applies:
 - initial testing and
 - classification only.
- System 1+ verifies also the constancy of performances. It uses a Notified Product Certification Body and applies - in addition to initial testing and classification:
 - factory audits (like ISO 9001 audit) and
 - continuous surveillance testing and certification

	GROWING SEVERITY						
AVPC	SYSTEM 4	SYSTEM 3		SYSTEM 1+			
Class	F _{ca}	E _{ca}	D _{ca}	C _{ca}	B2 _{ca}	B1 _{ca}	A _{ca}
Manufacturer	Internal Test	-		-			
3 rd Party Laboratory	-	Type Test		-			
3 rd Party Certification Body	-	-		Type test Regular plant auditing Continuous audit-testing of samples from production			



Europacable is the voice of all leading European wire and cable producers. Europacable members include the largest cable makers in the world, providing global technology leadership, as well as highly specialised small- and medium-sized businesses from across Europe.

All Europacable members are signatories of the Europacable Industry Charter.

Europacable is listed in the European Commission's transparency register under 453103789-92.

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