

WHAT IS THE CPR REGULATION?

The CPR (*Construction Products Regulation*, Regulation (EU) No 305/2011) is the European regulation that sets harmonised conditions for placing construction products on the market, including electrical, control and communication cables, when they are installed **permanently in construction works** (residential buildings, hospitals, schools, airports, infrastructure, etc.). The regulation specifically governs the cable's **reaction to fire**: how it behaves in a fire in terms of flame spread, heat release, smoke generation and toxicity/corrosivity of emitted gases.

Excluded from the CPR are portable cables, industrial machinery cables and, in general, any cable that does not form part of the fixed installation of a building or infrastructure. **Fire-resistance** requirements (distinct from reaction to fire) are still under development at the harmonised-standard level.

TIMELINE AND MANUFACTURER OBLIGATIONS

CE marking for reaction to fire has been **mandatory since 1 July 2017** for cables covered by the harmonised standard EN 50575. From that date, any manufacturer placing cables intended for permanent installation in construction works on the EU market must:

- ✓ Classify the cable per EN 50575 and Delegated Regulation (EU) 2016/364 (Euroclasses)
- ✓ Issue a **Declaration of Performance (DoP)** for each cable reference
- ✓ Apply **CE marking** together with the Euroclass and, where applicable, the notified body number
- ✓ Keep the DoP available for at least **10 years** after manufacture
- ✓ Make the DoP publicly accessible (typically on the manufacturer's website)

EU 305/2011

EN 50575

CE Marking

DoP · 10 years

The industry reference body for interpreting the CPR as applied to cables is Europacable (the European association of cable manufacturers), whose technical guidance has been used as the basis for this document, together with the official regulation text on EUR-Lex.

EUROCLASS SYSTEM FOR CABLES

Delegated Regulation (EU) 2016/364 defines seven reaction-to-fire classes for cables, from the most demanding (Aca) to the least demanding (Fca), based on their actual fire behaviour as measured in standardised tests (EN ISO 1716, EN 50399 and EN 60332-1-2).

Class	Meaning / fire behaviour	Primary test method
Aca	Non-combustible material. The highest requirement; uncommon in cables with a polymeric sheath.	EN ISO 1716
B1ca	Very limited contribution to fire. Non-flame propagator up to 1.75 m; very low heat release.	EN 50399 + EN 60332-1-2
B2ca	Very limited contribution to fire. Non-flame propagator up to 1.50 m; low heat release. Level required in high-risk areas (escape routes, high-rise buildings).	EN 50399 + EN 60332-1-2
Cca	Limited contribution to fire. Non-flame propagator up to 2 m; reduced heat release. Typical level for residential and commercial buildings and broadcast infrastructure.	EN 50399 + EN 60332-1-2
Dca	Medium contribution to fire. Non-flame propagator; moderate heat release (improved relative to Eca).	EN 50399 + EN 60332-1-2
Eca	Acceptable behaviour when exposed to a small ignition source; the minimum class required under the CPR.	EN 60332-1-2
Fca	Performance not determined / not tested. Not suitable for permanent installation in construction works under the CPR.	—

ADDITIONAL CLASSIFICATIONS

Alongside the main Euroclass (for classes B1ca to Dca), the cable is assigned additional letters describing other fire-related risks. Within each criterion, the letters run from best to worst behaviour:

Smoke — s1a > s1b > s2 > s3	s1a: smoke transparency >80%. s1b: transparency between 60% and 80% (both within s1, low production and slow spread). s2: intermediate values. s3: no requirement. (UNE-EN 61034-2)
Flaming droplets/particles — d0 > d1 > d2	d0: no flaming droplets or particles for the full test duration (1200 s). d1: may occur, but for no more than 10 s in total during the test. d2: occur for more than 10 s. (UNE-EN 50399)
Acidity/corrosivity — a1 > a2 > a3	a1: conductivity <2.5 µS/mm and pH>4.3. a2: conductivity <10 µS/mm and pH>4.3. a3: meets neither a1 nor a2. (UNE-EN 60754-2)

Full designation example: **Cca-s1b,d1,a1** — limited contribution to fire (Cca), moderate smoke (s1b), produces limited flaming droplets (d1), low-acidity gases (a1).

CPR COMPLIANCE IN PERCON CABLES

Percon was one of the first manufacturers in its sector to classify its catalogue under the CPR, ahead of mandatory marking taking effect in 2017. Today, Percon classifies and CE-marks, in line with the CPR, the **vast majority of its catalogue** intended for permanent installation in construction works: coaxial cable, data cable (LAN/UTP/STP), fibre-optic cable and multiconductor cable, primarily in their halogen-free (LSZH) sheath versions for broadcast infrastructure, data centres and telecommunications rooms.

Coaxial cable (broadcast / CATV)	References with LSZH sheath, classified and CE-marked under the CPR
Data cable (LAN, Cat. 5e–8)	References with halogen-free sheath, classified and CE-marked under the CPR
Fibre-optic cable	References with LSZH sheath, classified and CE-marked under the CPR
Multiconductor / signal cable	Classified under the CPR when the reference is intended for fixed installation in construction works

The assigned Euroclass (Cca, Dca, Eca, or another) varies by product family and specific reference — there is no single class that applies to the entire catalogue. The exact classification for each reference is set out only in its individual **Declaration of Performance (DoP)**, the binding reference document that Percon makes available to the customer; this document does not replace it.

HOW TO VERIFY A CABLE'S COMPLIANCE

- ✓ Check the **CE marking** and Euroclass printed on the cable itself or its packaging
- ✓ Request the **Declaration of Performance (DoP)** for the specific reference from the manufacturer
- ✓ For classes B1ca to Eca subject to third-party assessment of constancy of performance, verify the **notified body number** in the European Commission's NANDO database
- ✓ Confirm the Euroclass meets the minimum required for the building type/use under applicable national regulations

WHEN DOES CPR MARKING APPLY?

- ✓ Fixed/permanent cabling installation in a building or infrastructure — CPR applies
- ✓ Structured cabling in data centres, technical rooms and broadcast facilities inside a building — CPR applies
- ✗ Portable cables, mobile connection leads, extension cords — CPR does not apply (other electrical safety standards apply)
- ✗ Internal wiring of industrial machinery not integrated into the building — CPR does not apply

NATIONAL REGULATIONS AND MINIMUM REQUIRED CLASS

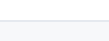
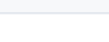
The CPR establishes the **classification system**, but does not by itself mandate a specific minimum Euroclass: it is each **Member State** that sets, in its national building regulations, which minimum class is required depending on the building type and use (e.g. housing, hospitals, escape routes, high-rise buildings). In Spain, this requirement is set out in the **Código Técnico de la Edificación (CTE)** and its associated Low-Voltage Electrotechnical Regulation (REBT). Before specifying a cable for a given project, the applicable local requirement must be verified.

Notice: This document is informational and educational in nature. It does not replace the official text of Regulation (EU) 305/2011, Delegated Regulation (EU) 2016/364, or specialised legal or technical advice. Before making any specification or compliance decision, consult the current text on EUR-Lex and, if necessary, a qualified advisor.

Sources consulted: Delegated Regulation (EU) 2016/364, EUR-Lex (eur-lex.europa.eu) · Europacable CPR FAQ (cpr.europacable.eu) · percon.es/en/blog/news/cpr-regulations · test thresholds per UNE-EN 61034-2, UNE-EN 50399 and UNE-EN 60754-2, cross-checked against technical documentation from sector laboratories and manufacturers. Content verified in September 2026; always consult the current version of the regulation and standard.

EUROCLASSES AND ADDITIONAL CRITERIA — OVERVIEW

Visual summary of the seven Euroclasses and, for classes B1ca to Dca, the typical additional letter for each criterion (smoke, acidity, flaming droplets). The severity bar shows each class's position on the scale, from Aca (no reaction) to Fca (performance not determined).

Severity	Class	Smoke production	Acidity	Flaming droplets
	Aca	—	—	—
	B1ca	s1a	a1	d0
	B2ca	s1b		
	Cca	s2	a2	d1
	Dca	s3	a3	d2
	Eca	—	—	—
	Fca	—	—	—

Severity scale: from Aca (best behaviour) to Fca (worst / not determined). Additional letters (s/d/a) are assigned only to classes B1ca–Dca; Aca, Eca and Fca do not receive them. Within each criterion, the letters also run from best to worst — see the threshold detail on page 2.

Table compiled from Delegated Regulation (EU) 2016/364 and standards UNE-EN 61034-2, UNE-EN 50399 and UNE-EN 60754-2, intended as a quick visual reference. For the binding classification of a specific reference, always consult its Declaration of Performance (DoP).