

Fire and how quickly it spreads has become a vitally important issue. CPR (Constructors Product Regulations) has standardised cable classes (Euro Classes) across Europe and rates how quickly cable reacts to fire spread, heat release, smoke production, acid gas production and flaming droplets. Euro Classes range from the highest performing Aca to lowest performing Fca. Testing of cables to the standard is carried out by approved Notified Organisations administered under the NANDO (New Approach Notified and Designated Organisations) system.

EuroClass Aca does not burn but it's not possible for datacomms copper or fibre cable to meet Aca as it would need to be mineral sheathed so would not have the required mechanical or electrical performance. BS 6701 A1 states that "Installation cables" shall, as a minimum, meet the requirements of EuroClass Cca-s1b,d2,a2. Installation cables are intended for use in pathways, below floors, above ceilings, behind walls or where access is limited, and are terminated insitu or pre-terminated and installed inside the buildings external fire barrier. The external fire barrier is the first barrier encountered by any service passing into the building. BS 6701 A1 also defines "other cables" which shall as a minimum meet the requirements of EuroClass Eca or BS EN 60332-1-2. Patch leads would be considered as "other cable". However, when they are installed inside a building in a pathway which is hidden, or where access is limited then it is considered to be an installation cable and should meet Cca-s1b, d2, a2 as a minimum. Fca cable should not be used within a building so typically applies to external applications.

The CPR class will be displayed on the cable sheath and/or the manufacturers reel or box. Cable manufacturers are required to produce a DoP (Declaration of Performance) which can be seen by the user.

The table below explains the CPR classifications. So, for example a full cable CPR classification could be Cca-s1a,d1,a1.

CPR Euroclass		
Aca	Non Combustible e.g. unsheathed mineral insulated	Initial type testing required with continuous surveillance and audit testing of sample by 3rd party notified certification body.
B1ca	Low fire hazard to various levels	
B2ca		
Cca		
Dca		Initial type testing by 3rd party notified certification body.
Eca	Standard Cable	
Fca	No performance defined	N/A
Additional CPR Criteria (applies to classes B1ca, B2ca, Cca & Dca)		
s1	Smoke Production	Total smoke production ≤ 50 m ² & smoke product rate ≤ 0.25 m ² /s
s1a		s1 & transmission value according to EN61034-2 $\geq 80\%$
s1b		s1 & transmission value according to EN61034-2 $\geq 60\% \leq 80\%$
s2		Total smoke production < 400 m ² & maximum smoke product rate < 1.5 m ² /s
s3		Neither s1 or s2
d0	Flaming Droplets	No flaming droplets/particles
d1		No flaming droplets/particles for longer than 10 seconds
d2		Neither d0 or d1
a1	Acidity	Electrical conductivity < 2.5 uS/mm & pH value > 4.3
a2		Electrical conductivity < 10 uS/mm & pH value > 4.3
a3		Neither a1 or a2

xSiCute is at the forefront in terms of complying with CPR standards. Our range includes fibre Eca, Cca & B2ca cables for use in pre-terms, MPO and long line leads.