CPR 2021

CLASSIFICATION

KDP®

WORLD CONNECTING CABLES

Fire resistant cables in accordance with EU Construction Products Regulation (CPR)

The European Union reports a worrying number of deaths in fires. However, the high proportion of deaths caused by toxic gases is a major concern. Removal of technical barriers in construction can only be achieved by introducing harmonized technical specifications for the purpose of assessing the characteristics of construction products.

For these reasons, the European Union amended Regulation 305/2011 known as CPR (Construction Products Regulation), which defines the classification of construction products. This way, it wants to achieve increased security in buildings. This regulation comes with a system designed to ensure that only approved products are used on sites.

CPR monitors the following characteristics:

- Mechanical resistance and stability
- Safety in case of fire
- Hygiene, health and the environment
- Safety and accessibility in use
- Protection against noise
- Energy economy and heat retention
- Sustainable use of natural resources

Construction product

"Construction product" means a product or a kit that is manufactured or marketed for the purpose of permanent incorporation in a building or part thereof and the characteristics of which affect the performance of the building with regard to the essential requirements for buildings When assessing the properties of a construction product, account should also be taken of the health and safety aspects related to its use throughout its lifecycle.

Content of Declaration of Performance

The Declaration of Performance lists the characteristics of construction products in relation to the essential characteristics of the concerned products in accordance with the relevant harmonized technical specifications.

Reaction to fire according to EN 50575

The "Reaction to fire" property has been defined for cables without cable route functionality and is regulated by the European Standard EN 50575 that describes which specific characteristics of cables are classified during combustion, it determines the classification scale, refers to the test methods and imposes obligations on the manufacturer to make out the necessary documentation and product designation.

Classification

Standard EN 50575 requires manufacturers to test each cable without cable route functionality and assign all of these cables to one of the seven classification classes, i.e. either A_{ca}, $B1_{ca}$, $B2_{ca}$, C_{ca}, D_{ca}, E_{ca} or F_{ca}, while class A represents a nearly nonflammable material. The "ca" index is just an abbreviation for "cable". Classification into a particular class is determined on the basis of combustion heat, flame spread, total heat release, and fire growth rate index. This main classification scale is supplemented by an additional classification for smoke production, flaming droplets and acidity.

The additional classification is marked by abbreviations based on the words smoke, droplets and acidity and is further defined by the following scale.

Test methods for reaction to fire classes

Class	EN ISO 1716	EN 50399	EN 60332-1-2	EN 61034-2	EN 60754-2
A_{ca}	×	-	-	-	-
$B1_{ca}$	-	×	×	×	×
$B2_{ca}$	-	×	×	×	×
C_{ca}	-	×	×	×	×
D_{ca}	-	×	×	×	×
E_{ca}	-	-	×	-	-
F_{ca}	No performance determined				

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Supplemental classification - examples

Class	Test method(s)	Classification criteria	Additional classification sx,dx,ax
A_{ca}	EN IS0 1716	PCS ≤ 2.0 MJ/kg(1)	
$B1_{ca}$	EN 50399 (30 kW flame source) and	FS ≤ 1.75 m $THR_{1\ 200s}$ ≤ 10 MJ Peak HRR ≤ 20 kW FIGRA ≤ 120 Ws^{-1}	Smoke production Flaming droplets/particles Acidity
	EN 60332-1-2	H ≤ 425 mm	
$B2_{ca}$	EN 50399 (20.5 kW flame source) and	FS ≤ 1.5 m $THR_{1\ 200s}$ ≤ 15 MJ Peak HRR ≤ 30 kW FIGRA ≤ 150 Ws^{-1}	Smoke production Flaming droplets/particles Acidity
	EN 60332-1-2	H ≤ 425 mm	
C_{ca}	EN 50399 (20.5 kW flame source) and	FS ≤ 2.0 m $THR_{1\ 200s}$ ≤ 30 MJ Peak HRR ≤ 60 kW FIGRA ≤ 300 Ws^{-1}	Smoke production Flaming droplets/particles Acidity
	EN 60332-1-2	H ≤ 425 mm	
D_{ca}	EN 50399 (20.5 kW flame source) and	$THR_{1\ 200s}$ ≤ 70 MJ Peak HRR ≤ 400 kW FIGRA ≤ 1 300 Ws^{-1}	Smoke production Flaming droplets/particles Acidity
	EN 60332-1-2	H ≤ 425 mm	
E_{ca}	EN 60332-1-2	H ≤ 425 mm	
F_{ca}	No performance determined		

Cables are certified according to EN 13501-6: ed. 2:2019 (EN 13501-6:2018) Included test standard:

EN ISO 1716	PCS
EN 50399	$THR_{1\ 200s}$; Peak HRR; FIGRA; FS; $TSP_{1\ 200s}$; Peak SPR; Flaming droplets/particles
EN 61034 - 2	Transmittance
EN 60754 - 2	Conductivity and pH
EB 60332 - 1 - 2	H

The symbols and notations correspond to those given in the appropriate test method

FIGRA	fire growth rate index used for classification purposes [W/s]
PCS	gross heat of combustion [MJ/kg]
$THR_{1\ 200s}$	total heat release (HRR_{sm30}) from test start until end of test, excluding contribution from ignition source [MJ]
TSP1200s	total smoke production (SPRsmso) from test start until end of test [m^2]
Peak HRR	= HRR = maximum value of heat release, excluding the burner output, determined during the whole burner application time, averaged over 30 s expressed in [kW]
Peak SPR	= SPR = maximum value of smoke production, determined during the whole burner application time, averaged over 60 s, expressed in [m^2/s]
FS	vertical flame spread [m] equals the damaged length of the sample
H	vertical flame spread [mm]

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Additional classification

Product classified $B1_{ca}$, $B2_{ca}$, C_{ca}, D_{ca} obtain an additional classification:

s1, s1a, s1b, s2 or s3 regarding the smoke production

additional classification s1, s1a, s1b, s2, s3 for smoke production

<table>
<tr><th colspan="2">s1</th><th>s2</th><th>s3</th></tr>
<tr><td colspan="2">$TSP_{1\ 200s} \leq 50\ m^2$</td><td>$TSP_{1\ 200s} \leq 400\ m^2$</td><td rowspan="4">Product for wich no performance is declared or which do not comply with the s1 and s2 criteria</td></tr>
<tr><td colspan="2">Peak SPR ≤ 0.25 m^2/s</td><td>Peak SPR ≤ 1.5 m^2/s</td></tr>
<tr><td>s1a</td><td>s1b</td><td rowspan="2"></td></tr>
<tr><td>Compliance with s1</td><td>Compliance with s1</td></tr>
<tr><td>Transmittance ≥ 80 %</td><td>Trasnmittance ≥ 60 % < 80 %</td><td></td></tr>
</table>

a1, a2 or a3 regarding acidity

additional classifications a1, a2, a3 for acidity (EN 60754-2)

<table>
<tr><th>a1</th><th>a2</th><th>a3</th></tr>
<tr><td>conductivity of < 2.5 µS/mm</td><td>conductivity of < 10 µS/mm</td><td rowspan="2">no performance is declared or if the product does not comply with the a1 and a2 classification criteria</td></tr>
<tr><td>pH > 4.3</td><td>pH > 4.3</td></tr>
</table>

d0, d1, or d2 regarding the production of flaming droplets and/or particles

additional classifications d0, d1, d2 for flaming droplets and/or particles

d0	d1	d2
no flaming doplets/ particles occur within 1200 s	no flaming doplets/ particles persisting longer than 10 s occur within 1200 s	Product for which no performance is declared or which do not comply with the d0 and d1 criteria

Assessment and Verification of Performance Stability (AVCP System)

Classification ->	A_{ca}, $B1_{ca}$, $B2_{ca}$, C_{ca}	D_{ca}, E_{ca}	F_{ca}
AVCP system	1+	3	4
Factory production control (FPC)	Manufacturer	Manufacturer	Manufacturer
Further testing of samples taken by the manufacturer	Manufacturer	×	×
Assessment of the performance	Notified Body	Notified Body	Notified Body
Initial inspector (plant and FPC)	Notified Body	×	×
Continuous serveillance, assessment and evaluation of FPC	Notified Body	×	×
Audit – testing of sample taken by the Notified Body	Notified Body	×	×

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Our Declaration of Performance

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DECLARATION OF PERFORMANCE
No. 13/21

1. Unique identification code of the product-type:	J--V(ZN)H Duplex 2,8 2F (ZNT0)	
2. Intended use/es:	Communication fiber optical cable	
3. Manufacturer:	KABELOVNA Děčín Podmokly, s.r.o., Ústecká 840/33, 405 33 Děčín 5, CZECH REPUBLIC	
4. Authorised representative:	-	
5. System/s of AVCP:	1 +	
6. Harmonised standard:	EN 50575:2014+A1:2016	
Notified body/ies:	1014	
7. Declared performance/s:	Reaction to fire	Cca s1d0a1
	Dangerous substances	NPD
8. Appropriate Technical Documentation and/or Specific Technical Documentation:	Test report No.	210997-01/01

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 above.

Place of issue: Děčín

Date of issue: 26.05.2021

Signed for and on behalf of the manufacturer: Ing. Lenka Mádlová

Function: Commercial director

KABELOVNA Děčín Podmokly, s.r.o.
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