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Construction Products Regulation

CPR at a glance

2020

Kabelwerk EUPEN AG

Construction Products Regulation (CPR)

What means CPR?

CPR means "**Construction Products Regulation**" and refers to the European Regulation **(EU)305/2011** dated 09.03.2011, laying down harmonized conditions for the placing on the market of construction products. CPR replaces the former CPD "Construction Products Directive" 89/106/EC.

In the frame of the CPR, the European Union has published a Harmonized Standard **EN 50575:2014/A1:2016** on 10.06.2016. This Harmonized Standard relates to **Power-, Control- and Communication Cables for general application, permanently installed in construction works subject to reaction to fire requirements**.
The standard lays down the essential requirements with regards to their performance, initial testing and monitoring.
It sets that cables within the scope of CPR must bear the **CE - Marking** as well as additional information and must be accompanied by a **DoP** "**Declaration of Performance**".

EN 50575 addresses the reaction to fire of such cables, but does not cover their resistance to fire. Resistance to fire will possibly be addressed by a different standard to be published at a later stage.

What is the purpose of CPR?

This regulation is centered on one of the major concerns of the European Authorities, i.e. the **general safety of persons and goods, in particular their safety in case of fire**, by specifying the product performances to be met.

What is the effective date of the new standard EN 50575:2014/A1:2016?

The standard EN 50575:2014/A1:2016 is in force since 10 June 2016 with a one year coexistence period. **Since July 1st 2017, manufacturers and importers [(1)] are only allowed to place on the market cables meeting the CPR regulations for the applications concerned by the CPR**.

[(1)] *'importer' means any natural or legal person established within the Union, who places a construction product from a third country on the Union market.*

What are the requirements for cables?

Aware of the importance of cables and their behavior in the event of a fire, the European Commission decided to introduce a specific classification with regards to their **reaction to fire**.
This classification applies to all Power-, Control- and Communication Cables for general application, permanently installed in construction works subject to reaction to fire requirements.
It lists the cables in 7 "**Euro - Classes**" A_{ca}, $B1_{ca}$, $B2_{ca}$, C_{ca}, D_{ca}, E_{ca}, F_{ca} in function of their decreasing performance. Various parameters such as **heat release** and **flame propagation** are evaluated.
In addition to this main classification, the European Authorities have regulated and defined the use of **Additional Parameters** as "a" = acidity, "s" = smoke and "d" = droplets.
The performance of a product and therefore its belonging to one of the categories must be checked and certified by **independent notified bodies** working on the basis of **Harmonized European Standards**.
This performance is confirmed by the manufacturer in a document called **Declaration of Performance (DoP)**, which must be drawn up before the CE marking is affixed to the product, the packaging or the official documents accompanying the product.

The table below gives a summary of the **Euro-Classes**, the **Additional Parameters**, the **Level of Security** and the **Assessment and Verification of Constancy of Performance (AVCP) System** as well as **responsibilities** of the **Notified Bodies** and **Manufacturers** in terms of **reaction to fire type testing** and **production control**.

<table>
<tr><th>Euro-classes</th><th>Additional Parameters</th><th>Safety Level</th><th>System of Attestation of Conformity</th></tr>
<tr><td>A_{ca}</td><td></td><td>Extremely high (incombustible)</td><td rowspan="5">«1+»,

- initial type test and continued surveillance by a notified body.

- control of production by the manufacturer.</td></tr>
<tr><td>$B1_{ca}$</td><td rowspan="4">- Smoke emission (s1, s1a, s1b, s2 & s3)

- Flaming droplets (d0, d1 & d2)

- Acidity (a1, a2 & a3)</td><td rowspan="2">Very high</td></tr>
<tr><td>$B2_{ca}$</td></tr>
<tr><td>C_{ca}</td><td>High</td></tr>
<tr><td>D_{ca}</td><td>Medium</td><td rowspan="2">«3»,

- initial type test by a notified body.

- production control by the manufacturer.</td></tr>
<tr><td>E_{ca}</td><td></td><td>Low</td></tr>
<tr><td>F_{ca}</td><td></td><td>No performance declared</td><td>«4», type test & control of production by the manufacturer.</td></tr>
</table>

What are the obligations of the manufacturers and importers [(1)]?

- **Manufacturers and importers** [(1)] must **ensure** that the **CE marking is affixed** to each cable concerned or its packaging or the documents accompanying the delivery.
- They must also **make available** to the customers a document called **DoP "Declaration of Performance"** attesting the performance with regards to the reaction to fire of each cable.
- From **1st July 2017**, they will only be allowed to place on the market products conforming to the standard EN 50575:2014/A1:2016.

[(1)] *'importer' means any natural or legal person established within the Union, who places a construction product from a third country on the Union market.*

Which cables do not fall under the scope of harmonized standard EN 50575:2014/A1:2016?

- **Fire resistant cables** intended to be used in applications where circuit integrity in case of fire is of essence are not covered by EN 50575 (for ex. power- resp. signaling supplies for safety installations such as fire alarm, evacuation signs, fire fighting installations, …).

- **Mandate M/443** of the European Commission (Annex 1: Field of Application, Footnote [2]) excludes cables for the following applications from the scope of EN 50575:

  - power and control cables **inside machinery**
  - power and control cables **inside lifts**
  - **cables specifically designed** for use in **industrial processes** carried out **on industrial premises**

- **Outdoor cables** laid in ground or in air

What will be the impact of the CPR on the most common cable types from Kabelwerk EUPEN AG ?

Cable type		Euroclass for reaction to fire according to harmonized standard EN 50575:2014/A1:2016
H05V-U / H05V-K	Harmonized cable	E_{ca}
H07V-U / H07V-R / H07V-K	Harmonized cable	E_{ca}
H05V2-K / H07V2-K	Harmonized cable	E_{ca}
H07RN-F EUCAFLEX ^{Plus}	Harmonized cable	E_{ca}
H05Z-K	Harmonized cable	E_{ca}
H07Z-K	Harmonized cable	E_{ca}
EUCASOLAR H1Z2Z2-K	Harmonized cable	E_{ca}
U-1000 R2V	French standard	E_{ca}
U-1000 RVFV	French standard	E_{ca}
NI2XY	German standard	E_{ca}
N2XY / N2XCY	German standard	E_{ca}
EXVB / EXeVB	Belgian standard	E_{ca} / C_{ca}-s3,d2,a3
EAXVB / EAXeVB	Belgian standard	E_{ca} / C_{ca}-s1,d2,a1
TWAVB	Belgian standard	E_{ca}
TWGB-DSL	Belgian standard	E_{ca} / C_{ca}-s1,d2,a1
BXVB / BAXVB	Belgian standard	E_{ca}
XMvK	Dutch standard	E_{ca}
2XY / 2XCY	IEC standard	E_{ca}
YMvK	Dutch standard	D_{ca}-s2,d2,a3
YMvK flex	Dutch standard	D_{ca}-s2,d2,a3
VO / VG-YMvKas	Dutch standard	D_{ca}-s2,d2,a3
H07Z1-K	Harmonized standard	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d2,a1
H07Z1-R	Harmonized standard	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
NHXMH	German standard	C_{ca}-s1,d2,a1
N2XH	German standard	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
(N)2XH RF	German standard	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
N2XCH	German standard	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
J-H(St)H	German standard	C_{ca}-s1,d1,a1 / C_{ca}-s1,d2,a1
XVB	Belgian standard	C_{ca}-s3,d2,a3
XFVB	Belgian standard	C_{ca}-s3,d2,a3

Cable type		Euroclass for reaction to fire according to harmonized standard EN 50575:2014/A1:2016
XV flex	Belgian standard	C_{ca}-s3,d2,a3
XGB	Belgian standard	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
EXAVB multicore	Belgian standard	C_{ca}-s3,d2,a3
SXAVB	Belgian standard	C_{ca}-s3,d2,a3
YMz1K	Dutch standard	C_{ca}-s1,d1,a1 / $B2_{ca}$-s1,d1,a1
YMz1K flex	Dutch standard	C_{ca}-s1,d1,a1 / $B2_{ca}$-s1,d1,a1
Z1G-YMz1Kas	Dutch standard	C_{ca}-s1,d1,a1 / $B2_{ca}$-s1,d1,a1
Z1O-YMz1Kas	Dutch standard	C_{ca}-s1,d1,a1 / $B2_{ca}$-s1,d1,a1
FRECO-EMC Li2XY(CuB)CY		C_{ca}-s3,d2,a3
2XHRH / 2XHQH	IEC standard	$B2_{ca}$-s1,d1,a1
(N)2XSH, (N)2XS(F)H, N2XCH 1-3 kV	Rail feeder cables	$B2_{ca}$-s1a,d1,a1
Medium Voltage – halogen free	German standard (single - and 3 core)	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
Medium Voltage – halogen free	Belgian standard (single core)	C_{ca}-s1,d2,a1 / $B2_{ca}$-s1,d1,a1
Medium Voltage – halogen free	IEC standard (3 core)	$B2_{ca}$-s1,d1,a1
Railway signalling cables	German standard (unarmoured / armoured)	$B2_{ca}$-s1,d1,a1
50 Ω Feeder Cable halogen free	½” - 1-5/8”	E_{ca} / C_{ca}-s1,d2,a1
50 Ω Feeder Cable halogen free	5092, 5128, 5228A	$B2_{ca}$-s1a,d1,a1
75 Ω Subscriber Cable PVC	RG6, RG11, RG59	E_{ca}
75 Ω Subscriber Cable halogen free	RG6, RG11	E_{ca}
75 Ω Distribution Cable PVC	3/8”	E_{ca}
75 Ω Distribution Cable halogen free	7088, 7188	E_{ca} / C_{ca}-s1,d2,a1
EUCARAY® halogen free	1/2", 5/8", 7/8”, 1-1/4”, 1-5/8”	E_{ca}
EUCARAY® halogen free	7/8”, 1-1/4”, 1-5/8"	$B2_{ca}$-s1a,d1,a1
Instrumentation Cable	M443	not concerned
Lead sheathed Cable	outdoor/underground	not concerned
Fire resistant Cable	EN 50575	not concerned

Situation July 2020
For other cable types and details, please contact us!

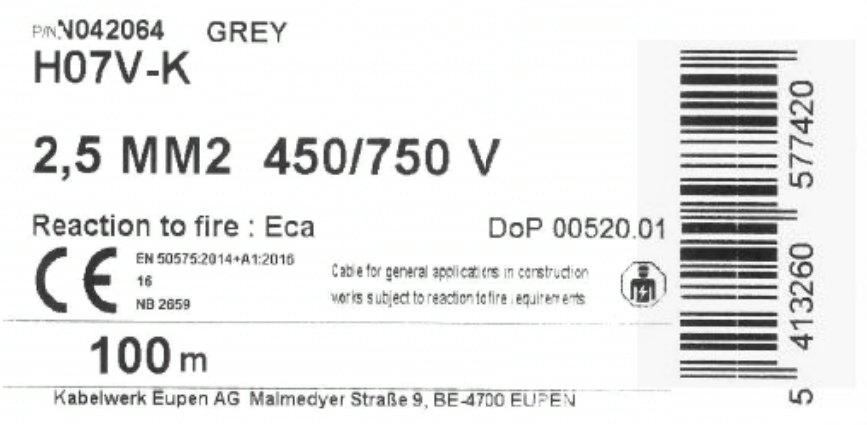
Marking, identification and traceability!

Outer sheath marking of all cables produced by Kabelwerk EUPEN AG which fall under the scope of CPR will include Euroclass for reaction to fire and corresponding DoP number. This will allow an easy identification and traceability for the distributors, electrical contractors, end-users and inspection authorities. Furthermore, all contractual documents like order confirmation, invoice and delivery-sheet will bear Euroclass and DoP number for each ordered position.

The product labels which are affixed on the cable drums and on the cable coils will also bear CE marking and all other mandatory information requested by harmonized standard EN 50575:2014/A1:2016.

Please find hereunder an example of a product label of a cable drum of N2XH-J 4X70 SM $B2_{ca}$-s1,d1,a1.

Please find hereunder also an example of a product label of 100 m coil of H07V-K 1X2,5 E_{ca}



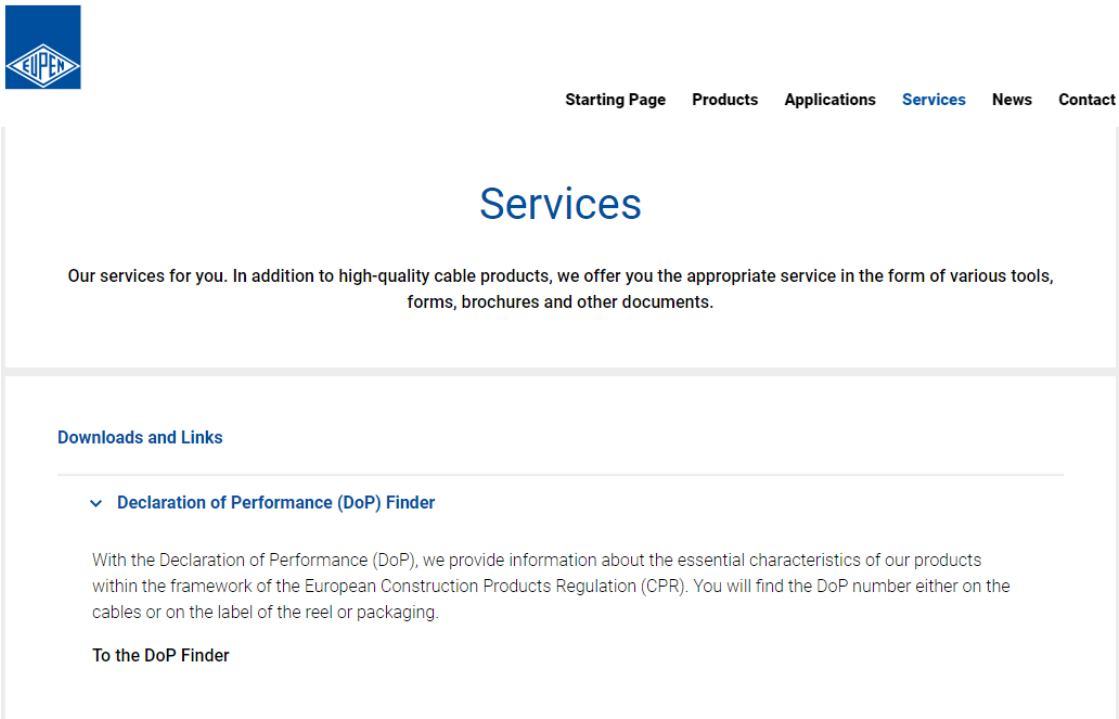
Some information on the product labels are mandatory as it must be ensured that they are available for all participants in the supply chain. The following information are mandatory:

- CE marking
- Identification number of the notified body
- Name and address of the manufacturer
- Two last digits of the year in which marking was first affixed
- Reference number of the Declaration of Performance (DoP)
- Number of applicable EN standard (EN 50575:2014/ A1:2016)
- Unique identification number of the product type
- Intended use of the product
- Euroclass for reaction to fire

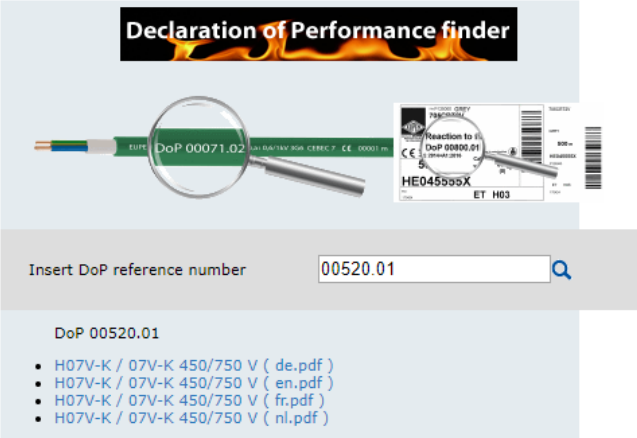
Example of a Declaration of Performance (DoP) and where can you find it?

The Declarations of Performance (DoP) for our cables will be available on the website of Kabelwerk EUPEN AG: http://www.eupen.com

Customers can access them through our "DoP Finder" (see hereafter):

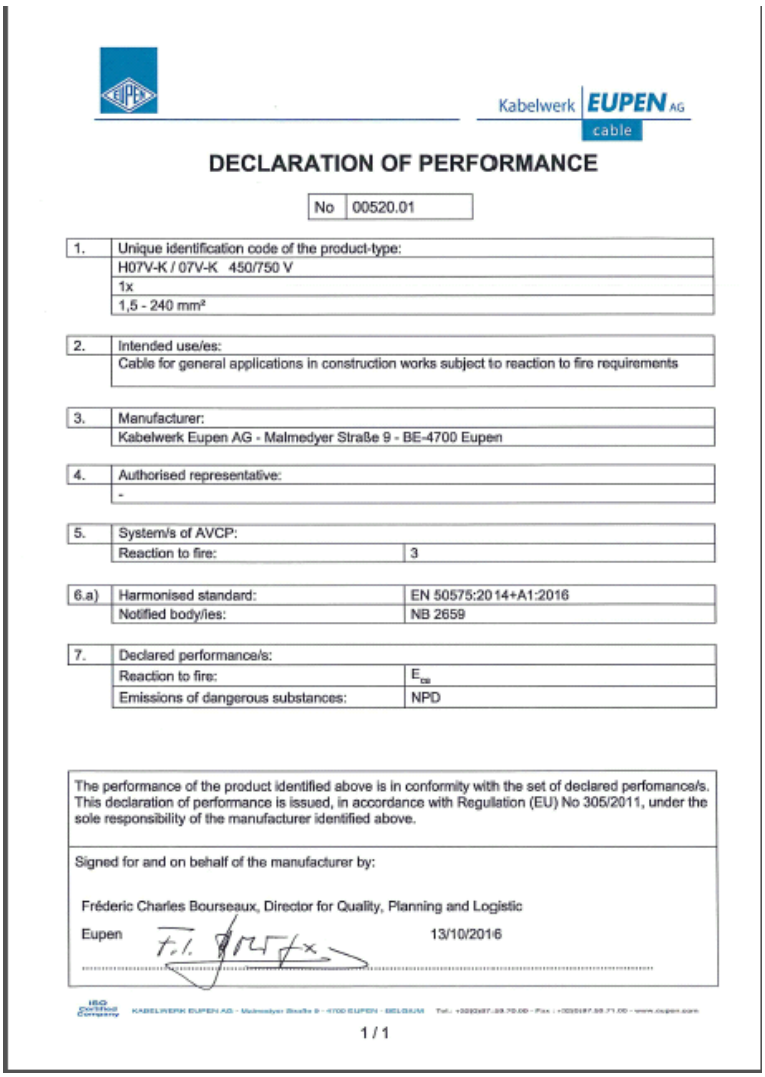


By inserting the corresponding DoP number - for example **00520.01** for H07V-K - in the designated field and pushing the search icon:



Customers can print or download the DoP version in the requested language (de = German; nl = Dutch; en = English; fr = French). DoP in further languages will be available upon request.

Please find hereafter an example of the DoP with reference number **00520.01** for H07V-K in English language:



Kabelwerk EUPEN AG cable

DECLARATION OF PERFORMANCE

No	00520.01

1.	Unique identification code of the product-type:	
	H07V-K / 07V-K 450/750 V	
	1x	
	1,5 - 240 mm²	
2.	Intended use/es:	
	Cable for general applications in construction works subject to reaction to fire requirements	
3.	Manufacturer:	
	Kabelwerk Eupen AG - Malmedyer Straße 9 - BE-4700 Eupen	
4.	Authorised representative:	
	-	
5.	System/s of AVCP:	
	Reaction to fire:	3
6.a)	Harmonised standard:	EN 50575:2014+A1:2016
	Notified body/ies:	NB 2659
7.	Declared performance/s:	
	Reaction to fire:	E_{ca}
	Emissions of dangerous substances:	NPD

The performance of the product identified above is in conformity with the set of declared perfomance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Fréderic Charles Bourseaux, Director for Quality, Planning and Logistic

Eupen 13/10/2016

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In order to reduce the number of DoP, Kabelwerk EUPEN AG opted for grouping as much as possible items in product families. H07V-K serves as a good example of this methodical approach because all cross sections, from 1,5 up to 240 mm², are of the same construction design and therefore covered by the same DoP **00520.01**.

This will certainly simplify the work of all concerned parties in the supply chain.

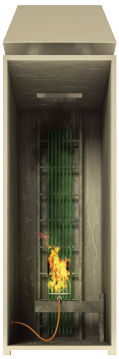
What are the obligations of the cable distributors?

- Before distributing any cables which fall under the scope of CPR and EN 50575:2014/ A1:2016, the distributor must verify and ensure that the concerned cable is indeed complying to this standard e.g. marking, labelling and documentation (DoP) must be complying and must be available and accessible from the manufacturer (for instance from its website).
- The distributor must ensure that a copy of DoP will be provided to its customer in printed or in electronic form.
- The distributor must ensure that CE marking plus all additional mandatory information will also be affixed on its customized cable cuts or after re-packing.

EN 50575 = AVCP by Third Party (audit & control) + tests acc. the following standards + DoP + CE - marking

E_{ca} F_{ca}

EN 60332-1-2 - vertical flame propagation – describes the testing method for E_{ca} and F_{ca} classification and is mandatory as well for all higher classifications, D_{ca} up to $B2_{ca}$

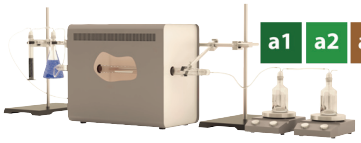


$B2_{ca}$ C_{ca} D_{ca}

d0 d1 d2

s1 s2 s3

EN 50399 describes the testing method for heat release and flame spread $B2_{ca}$ down to D_{ca} classification and the testing methods for the additional criteria with regards to flaming droplets (d0 – d2) and smoke production (s1 –s3)



a1 a2 a3

EN 60754-2 describes the testing method for additional criteria with regards to acidity a1 – a3 by measuring pH & conductivity

s1a s1b

EN 61034 describes the testing method for additional criteria with regards to smoke s1a and s1b (optional)

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