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Classification of reaction to fire for electric cables in accordance with EN 13501-6

1 Introduction

This classification report defines the classification assigned to the cable family “Halogen-Free” (as described by the sponsor) in accordance with the procedure given in EN 13501-6.

2 Details of classified product

2.1 General

The cable family named “Halogen-Free” that is the subject of this classification is defined as power cables.

According to the owner of this classification report, this product complies with the European product specification EN 50575.

2.2 Product description

The cable family named “Halogen-Free” contains of combined multi core cables having power cores of HFFR insulation with class 5 conductor, signalling cores of PE insulation with class 1 conductor. The cables also contain AL foil and HFFR sheath (as described by the sponsor). The cables are described in the reports provided in support of classification listed in 3.1.

Table 1: Cables included in the cable family.

Name	Number of conductors	Diameter (mm)
V54592-Z161-A100	2+2	7.3
V54592-Z162-A100	2+2	7.3
V54592-Z163-A100	4+2	10.6

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3 Reports and results in support of this classification

3.1 Reports

Name of laboratory	Name of sponsor	Report reference no	Test method and date/field of application rules and date
SP	Nexans Sweden AB	6P09940-22	EN 50399:2011, EN 60332-1-2:2004+ A1:2015+A11:2016
SP	Nexans Sweden AB	6P09940-21	EN 50399:2011, EN 60332-1-2:2004+ A1:2015+A11:2016
VDE	Nexans Sweden AB	236120-CC4-1*	EN 60754-2:2014
SP	Nexans Sweden AB	6P08383-4	EN 50267-2-3:2002
SP	Nexans Sweden AB	6P08383-3	EN 50267-2-3:2002
SP	Nexans Sweden AB	6P08383-1	EN 50267-2-3:2002
SP	Nexans Sweden AB	4P06639-10rev1	EN 50267-2-3:2002

* PE 1600 and HFFR 1710

3.2 Results

Test method	Parameter	Number of tests	Results	
			Continuous parameter mean <i>m</i>	Compliance with parameters
EN 60332-1-2	$H \leq 425 \text{ mm}$	2	(-)	Compliant
EN 50399	<i>FS</i> (m)	2	3.25	Compliant
	<i>FIGRA</i> (W/s)		793	Compliant
	<i>THR</i> _{1200s} (MJ)		60	Compliant
	<i>Peak HRR</i> (kW)		355	Compliant
	<i>TSP</i> _{1200s} (m ²)		157	Compliant
	<i>Peak SPR</i> (m ² /s)		1.00	Compliant
	<i>Flaming droplets/particles</i>		Flaming droplets/particles	Compliant
	<i>Flaming droplets/particles > 10 s</i>		Flaming droplets/particles	Compliant
EN 60754-2	<i>pH</i>	6	5.3	Compliant
	<i>Conductivity</i> (µS/mm)		0.5	Compliant

4 Classification and field of application

4.1 Reference of application

This classification has been carried out in accordance with EN 13501-6:2018.

4.2 Classification

The cable family named “Halogen-Free” (as described by the sponsor) in relation to its reaction to fire behaviour is classified:

D_{ca}

The additional classification in relation to smoke production is:

s2

The additional classification in relation to flaming droplets/particles is:

d2

The additional classification in relation to acidity is:

a1

The format of the reaction to fire classification for electrical cables is:

Fire behaviour	Smoke production			Flaming droplets			Acidity		
D _{ca}	-	s	2	,	d	2	,	a	1

4.3 Field of application

This classification is valid for the following product parameters:

All cables in the family “Halogen-Free” as specified in table 1.

Cable diameter [mm] 7.3 and 10.6

The classification is valid for all end use applications.

5 Limitations

This classification document does not represent type approval or certification of the product.

The classification assigned to the product in this report is appropriate to a declaration of conformity by the manufacturer within the context of AVCP system 3 and CE marking under Regulation 305/2011/EU of the European Parliament and of the Council of 9 March 2011 (the Construction Products Regulation or CPR).

The test laboratory has, therefore, played no part in sampling the product for the test, although it holds appropriate references, supplied by the manufacturer, to provide for traceability of the samples tested.

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