



EFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş.

Fire Test Laboratory



Accredited Body

No: AB-0556-T

Notified Body

No: 2184

## CLASSIFICATION OF REACTION TO FIRE

### IN ACCORDANCE WITH

### EN 13501-6:2018

<b>Sponsor</b>	: ÜNAL KABLO SANAYİ VE TİC. A.Ş. Oruç Reis Mah. Tekstil Kent Cad. Koza Plaza, B Blok, Kat: 15, D:A/154, Esenler, İstanbul/TURKEY
<b>Tested and prepared by</b>	: EFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş. Dilovası OSB Mah. Fırat Cad. No: 18 Dilovası, Kocaeli/TURKEY
<b>Product name</b>	: H1Z2Z2-K
<b>Issue Number report No.</b>	: ERA – 21 – 072 – REV
<b>Issue Number</b>	: 1/2
<b>Date of issue</b>	: 14.07.2021

**REV:** The customer name was inadvertently misspelled in the ERA – 21 – 072 – REV. Therefore, it has replaced the classification report dated 07.06.2021 No. ERA – 21 – 072 – REV.

This classification report consists of 5 pages and may only be used or reproduced in its entirety.

Address: Dilovası OSB Mah. Fırat Cad. No: 18 Dilovası

Kocaeli/TURKEY

Phone: 0262 6581662

Fax: 0262 6581669

E-mail: [turkey@efectis.com](mailto:turkey@efectis.com)

Web: [www.efectis.com](http://www.efectis.com)

## 1. INTRODUCTION

This classification report defines the classification assigned to “H1Z2Z2-K” in accordance with the procedures given in EN 13501-6:2018.

## 2. DETAILS OF CLASSIFIED PRODUCT

### 2.1. General:

H1Z2Z2-K is defined as a “type of classified product”. Its classification is valid for the following end use application:

EN 50575:2014/A1:2016 - Power, control and communication cables - Cables for general applications in construction works subject to reaction to fire requirements

### 2.2. Description:

H1Z2Z2-K – 1x4 mm<sup>2</sup> – 5,3 mm and H1Z2Z2-K – 1x35 mm<sup>2</sup> – 12,7 mm are fully described in the test reports in support of the classification listed in clause 3.

**Manufactured Plant:** ÜNAL KABLO SANAYİ VE TİC. A.Ş.  
Velimeşe Org. San. Mah. 247. Sk. No:4/1, Ergene, Tekirdağ/TURKEY

### Tested product types:

Product name	Overall external diameter [mm]	χ parameter	Cross section area [mm <sup>2</sup> ]	Cable structure
H1Z2Z2-K	5,3	16	1x4	 <p>HF cross-linked outer sheath (3), HF cross-linked insulation sheath (2), Fine stranded tinned copper conductor (1)</p> <p>Single core sheathed (unarmoured)</p> <p>Power cable</p>
	12,7	6	1x35	

## 3. REPORTS AND RESULTS IN SUPPORT OF CLASSIFICATION

### 3.1. Reports

Name of laboratory	Name of sponsor	Report ref. no.	Test method and date Field of application rules and date
EFFECTIS ERA AVRASYA TEST VE BELGELENDİRME A.Ş.	ÜNAL KABLO SANAYİ VE TİC. A.Ş.	FTST21367	EN 50399:2011
		FTST21371	EN 50399:2011/A1:2016
		FTST21368	EN 60332-1-2:2004
		FTST21372	EN 60332-1-2:2004/A1:2015 EN 60332-1-2:2004/A11:2016
		FTST21369	EN 60754-2:2014
		FTST21373	EN 60754-2:2016/A1:2020
		FTST21370	EN 61034-2:2005
		FTST21374	EN 61034-2:2005/A2:2020

### 3.2. Results

Test method	Parameter	Number of test	Results	
			Continuous parameter mean	Compliance parameters
EN 50399 <sup>(1)</sup>	Fs (m)	1	0,56	(-)
	Peak HRR (kW)		8,3	(-)
	THR <sub>1200s</sub> (MJ)		1,9	(-)
EN 50399 <sup>(2)</sup>	FIGRA (W/s)	1	33,4	(-)
	Peak SPR (m <sup>2</sup> /s)		0,02	(-)
	TSP <sub>1200s</sub> (m <sup>2</sup> )		10,1	(-)
EN 60332-1-2 <sup>(1)</sup> Flame exposition: 60 s	Flaming droplet(s)/particle (s)	1	2	None
EN 60332-1-2 <sup>(1)</sup> Flame exposition: 60 s	H (mm)	1	57	(-)
EN 60754-2 <sup>(1)</sup>	pH	3	5,37	(-)
	Conductivity (μS/mm)	3	0,581	(-)
EN 61034-2 <sup>(1)</sup>	Transmittance (%)	1	80,5	(-)
EN 50399 <sup>(2)</sup>	Fs (m)	1	2,13	(-)
	Peak HRR (kW)		39,1	(-)
	THR <sub>1200s</sub> (MJ)		27,4	(-)
EN 50399 <sup>(2)</sup>	FIGRA (W/s)	1	69,6	(-)
	Peak SPR (m <sup>2</sup> /s)		0,04	(-)
	TSP <sub>1200s</sub> (m <sup>2</sup> )		25,3	(-)
EN 60332-1-2 <sup>(2)</sup> Flame exposition: 60 s	Flaming droplet(s)/particle (s)	1	4, 7, 16	None
EN 60332-1-2 <sup>(2)</sup> Flame exposition: 60 s	H (mm)	1	73	(-)
EN 60754-2 <sup>(2)</sup>	pH	3	5,37	(-)
	Conductivity (μS/mm)	3	0,582	(-)
EN 61034-2 <sup>(2)</sup>	Transmittance (%)	1	93,5	(-)
(-): not applicable		(1): H1Z2Z2-K – 1x4 mm <sup>2</sup> – 5,3 mm (2): H1Z2Z2-K – 1x35 mm <sup>2</sup> – 12,7 mm		

The table below shows the worst results of the classification parameters:

Test method	Parameter	Safety margin	Classification result	Compliance parameters
EN 50399	Peak HRR (kW)	40	79,1	≤ 400 (D <sub>ca</sub> )
	THR <sub>1200s</sub> (MJ)	7	34,4	≤ 70 (D <sub>ca</sub> )
	FIGRA (W/s)	130	199,6	≤ 1300 (D <sub>ca</sub> )
	Peak SPR [m <sup>2</sup> /s <sup>2</sup> ]	0,05	0,09	≤ 0,25 (s1)
	TSP <sub>1200s</sub> [m <sup>2</sup> ]	10	35,3	≤ 50 (s1)
EN 60332-1-2	Flaming droplet(s)/particle(s)	(-)	16	> 10 (d2)
EN 60332-1-2	H (mm)	(-)	73	≤ 425 (D <sub>ca</sub> )
EN 60754-2	pH	(-)	5,37	> 4,3 (a1)
	Conductivity (μS/mm)	(-)	0,582	< 2,5 (a1)
EN 61034-2	Transmittance (%)	(-)	80,5	≥ 80 % (s1a)
(-): not applicable				

#### 4. CLASSIFICATION AND FIELD OF APPLICATION

##### 4.1. Reference of classification

This classification has been carried out in accordance with the clauses 9.4, 9.9.3, 9.10 and 9.11 of EN 13501-6:2018

##### 4.2. Classification

*H1Z2Z2-K* in relation to its reaction to fire behaviour is classified:

**D<sub>ca</sub>**

The additional classification in relation to smoke production is:

**s1a**

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 *H1Z2Z2-K* is:

Fire behaviour		Smoke production			Flaming droplets			Acidity	
D <sub>ca</sub>	-	s	1a	,	d	2	,	a	1

**Reaction to fire classification: D<sub>ca</sub>-s1a,d2,a1**

##### 4.3. Field of application

This classification is valid for the following product:

Parameters as determined in the extended application process according to *CLC/TS 50576:2016*

Cable family	H1Z2Z2-K
Cable family specified in CLC/TS 50576:2016	Single core sheathed (unarmoured) Power cable
External diameter [mm]	5,3 – 12,7
χ parameter	6 – 16
Nominal voltage [V]	AC: 1,0/1,0 ve DC: 1,5/1,5
Core nature	Fine stranded tinned copper conductor
Insulation sheath	HF cross-linked
Outer sheath	HF cross-linked
Colour	Indifferent
Shape	Circular
Flexibility	Flexible
Manufacturing plant	Article 2.2

The classification is valid for all end use applications.

List of classified cables		
1x4	1x6	1x10
1x16	1x25	1x35

*Efectis*

## 5. LIMITATIONS

### 5.1. Restrictions

This classification report is valid provided that the technical specifications of product are within the limits in accordance with the field of application clause 4.3.

### 5.2. Warning

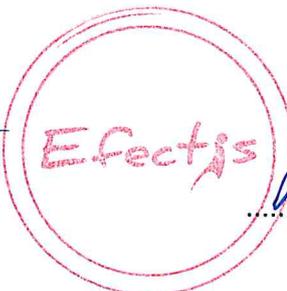
This classification document does not represent type approval or certification of the product.

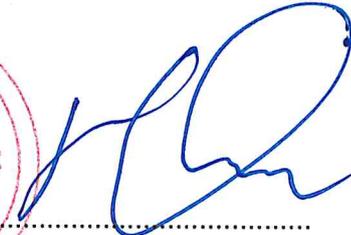
The classification assigned to the product in this report is appropriate to a declaration of conformity by the manufacturer within the context of system 3 attestation of conformity and CE marking under the 305/2011/EU Construction Products Regulation.

The manufacturer has made a declaration, which is held on file. This confirms that the products design requires no specific processes, procedures or stages (e.g. no addition of flame-retardants, limitation of organic content, or addition of fillers) that are aimed at enhancing the fire performance in order to obtain the classification achieved. As a consequence the manufacturer has concluded that system 3 attestation is appropriate.

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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Ali BAYRAKTAR  
Person in the charge of tests



  
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Onur DAĞ  
Approved by