



**SCIENTIFIC AND RESEARCH CENTRE
FOR FIRE PROTECTION
named after Jozef Tuliszkowskiego
– National Research Institute
ul Nadwiślańska 213, 05-420 Józefów near Otwocka**

**LABORATORY OF COMBUSTION PROCESSES
AND EXPLOSIONS – BW**

TELEPHONE:+48 22 76 93 217 (218, 231), FAX: + 48 22 76 93 356

NOTIFIED BODY No. 1438

***REACTION TO FIRE
CLASSIFICATION REPORT
No. 211/BW/17***

Copy 1/2

PRODUCT NAME	FLEX-JZ/OZ and FLEX-JB/OB 300/500V
SPONSOR	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany
ORDER No.	229/BW/17

Classification of reaction to fire for electric cables
in accordance with EN 13501-6:2014

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used or reproduced in its entirety**



Jozefow, June 28th 2017

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1. INTRODUCTION

This classification report defines the classification assigned to product: **control cable FLEX-JZ/OZ, FLEX-JB/OB, FLEX-JZ POWER and LIYY 300/500V** in accordance with the procedures given in PN-EN 13501-6:2014.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. GENERAL

Product, FLEX-JZ/OZ, FLEX-JB/OB, FLEX-JZ POWER and LIYY is defined as **control cable** according to PN-EN 50575:2015-03+A1:2016-11.

2.1. PRODUCT DESCRIPTION

FLEX-JZ/OZ, FLEX-JB/OB, FLEX-JZ POWER and LIYY 300/500V is constructed of:

- copper conductor, class 5 according VDE 0295,
- PVC conductor insulation black,
- Earth conductor green/yellow in other layer,
- PVC outer sheath.

Design standard: Not indicated.

Cable **Flex-JZ/OZ 300/500V 3x0.75** outer diameter – 5.8 mm

Cable **Flex-JB/OB 300/500V 4x95** outer diameter – 46.2 mm

Place of manufacture: Kabeltec GmbH, Werkstr. 43, 78727 Oberndorf, Germany.

The information about the products was given by the sponsor.

3. REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

3.1. TEST REPORTS

Name of Laboratory	Name of sponsor	Report ref. no.	Test method
COMBUSTION PROCESSES AND EXPLOSIONS LAB – BW	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany	229/BW/17	PN-EN 60332-1-2:2010+A1:2016-02

REACTION TO FIRE CLASSIFICATION REPORT No. 211/BW/17



3.2. RESULTS

Test method and test number	Parameter	No. of tests	Results	
			Continuous parameter - mean	Compliance with parameters
PN-EN 60332-1-2:2010+A1:2016-02 Flex-JZ/OZ 300/500V 3x0.75	Spread of Flame $H \leq 425$ mm	1	(-)	Compliant
PN-EN 60332-1-2:2010+A1:2016-02 Flex-JB/OB 300/500V 4x95	Spread of Flame $H \leq 425$ mm	1	(-)	Compliant

(-) – not applicable

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. REFERENCE OF CLASSIFICATION

The classification has been carried out in accordance with PN-EN 13501-6:2014.

4.2. CLASSIFICATION

The product: **control cable Flex-JZ/OZ 300/500V 3x0.75 and Flex-JB/OB 300/500V 4x95** in relations to its reaction to fire behavior is classified:

E_{ca}

The additional classification in relation to smoke production is:

-

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

-

The additional classification in relation to acidity is:

-

Fire behavior	Smoke production		Flaming droplets		Acidity	
	-	-	-	-	-	-
E_{ca}	-	-	-	-	-	-

Reaction to fire classification:

 E_{ca}

4.3. FIELD OF APPLICATION

This classification is valid for the following product described in point 2 of this paper and listed below as determined in the extended application process according to CLC/TS 50576:2016 paragraph 10.

Outer diameter	Minimum [mm]	Maximum [mm]
	5.8	50.0

5. LIMITATIONS

5.1. RESERVATION

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 Construction Products Regulation.

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.

5.2. WARNING

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


signature of person undertaking classification


signature of person authorizing this report

DIRECTOR

Z-ca Dyrektora
ds. Badań i Rozwoju


mgr Sylwia Krawczyńska
Józefów, June 28 2017



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NOTIFIED BODY No. 1438

**REACTION TO FIRE
CLASSIFICATION REPORT**
No. 212/BW/17

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PRODUCT NAME	LIYCY 300/500V
SPONSOR	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany
ORDER No.	229/BW/17

Classification of reaction to fire for electric cables
in accordance with EN 13501-6:2014

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1. INTRODUCTION

This classification report defines the classification assigned to product: **control cable LIYCY 300/500V** in accordance with the procedures given in PN-EN 13501-6:2014.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. GENERAL

Product LIYCY 300/500V is defined as **control cable** according to PN-EN 50575:2015-03+A1:2016-11.

2.1. PRODUCT DESCRIPTION

Cable LIYCY 300/500V is constructed of:

- Copper conductor class 5 according to VDE 0295,
- PVC core insulation,
- Cores twisted into layers,
- Foil wrapping,
- Overall screen of tinned copper wires,
- PVC outer sheath,

Design standard: Not indicated.

Cable LIYCY 300/500V 3x0.75 outer diameter – 5.7 mm,

Cable LIYCY 300/500V 25x1.5 outer diameter – 18.7 mm.

Place of manufacture: Kabeltec GmbH, Werkstr. 43, 78727 Oberndorf, Germany.

The information about the products was given by the sponsor.

3. REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

3.1. TEST REPORTS

Name of Laboratory	Name of sponsor	Report ref. no.	Test method
COMBUSTION PROCESSES AND EXPLOSIONS LAB – BW	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany	229/BW/17	PN-EN 60332-1-2:2010+A1:2016-02



3.2. RESULTS

Test method and test number	Parameter	No. of tests	Results	
			Continuous parameter - mean	Compliance with parameters
PN-EN 60332-1-2:2010+A1:2016-02 LIYCY 300/500V 3x0.75	Spread of Flame H ≤ 425 mm	1	(-)	Compliant
PN-EN 60332-1-2:2010+A1:2016-02 LIYCY 300/500V 25x1.5	Spread of Flame H ≤ 425 mm	1	(-)	Compliant

(-) – not applicable

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. REFERENCE OF CLASSIFICATION

The classification has been carried out in accordance with PN-EN 13501-6:2014.

4.2. CLASSIFICATION

The product: **control cable LIYCY 300/500V 3x0.75 and LIYCY 300/500V 25x1.5 in relations to its reaction to fire behavior is classified:**

E_{ca}

The additional classification in relation to smoke production is:

-

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

-

The additional classification in relation to acidity is:

-

Fire behavior	Smoke production		Flaming droplets		Acidity	
	-	-	-	-	-	-
E_{ca}	-	-	-	-	-	-

Reaction to fire classification:

E_{ca}

4.3. FIELD OF APPLICATION

This classification is valid for the following product described in point 2 of this paper and listed below as determined in the extended application process according to CLC/TS 50576:2016 paragraph 10.

Outer diameter	Minimum [mm]	Maximum [mm]
	5.7	23.4

5. LIMITATIONS


5.1. RESERVATION

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 Construction Products Regulation.

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.

5.2. WARNING

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


signature of person undertaking classification


signature of person authorizing this report

DIRECTOR

Z-ca Dyrektora
ds. Badań i Rozwoju


mgr Sylwia Krawczyńska
Józefów, June 28th 2017



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NOTIFIED BODY No. 1438

**REACTION TO FIRE
CLASSIFICATION REPORT**
No. 213/BW/17

Copy 1/2

PRODUCT NAME	FLEX-SY-JZ/OZ 300/500V FLEX-SY-JB/OB 300/500V
SPONSOR	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany
ORDER No.	229/BW/17

Classification of reaction to fire for electric cables
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1. INTRODUCTION

This classification report defines the classification assigned to product: **control cable FLEX-SY-JZ/OZ and FLEX-SY-JB/OB 300/500V** in accordance with the procedures given in PN-EN 13501-6:2014.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. GENERAL

Product FLEX-SY-JZ/OZ and FLEX-SY-JB/OB 300/500V is defined as **control cable** according to PN-EN 50575:2015-03+A1:2016-11.

2.1. PRODUCT DESCRIPTION

Cable FLEX-SY-JZ/OZ and FLEX-SY-JB/OB 300/500V is constructed of:

- Copper conductor class 5 according to VDE 0295,
- PVC core insulation,
- Cores twisted into layers,
- PVC inner sheath,
- Overall screen made of galvanized steel wire
- PVC outer sheath,

Design standard: Not indicated.

Cable **FLEX-SY-JZ 300/500V 5x1.5** outer diameter – 11.0 mm,

Cable **FLEX-SY-JB 300/500V 4x95** outer diameter – 54.6 mm.

Place of manufacture: Kabeltec GmbH, Werkstr. 43, 78727 Oberndorf, Germany.

The information about the products was given by the sponsor.

3. REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

3.1. TEST REPORTS

Name of Laboratory	Name of sponsor	Report ref. no.	Test method
COMBUSTION PROCESSES AND EXPLOSIONS LAB – BW	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany	229/BW/17	PN-EN 60332-1- 2:2010+A1:2016- 02



3.2. RESULTS

Test method and test number	Parameter	No. of tests	Results	
			Continuous parameter - mean	Compliance with parameters
PN-EN 60332-1-2:2010+A1:2016-02 FLEX-SY-JZ 300/500V 5x1.5	Spread of Flame $H \leq 425$ mm	1	(-)	Compliant
PN-EN 60332-1-2:2010+A1:2016-02 FLEX-SY-JB 300/500V 4x95	Spread of Flame $H \leq 425$ mm	1	(-)	Compliant

(-) – not applicable

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. REFERENCE OF CLASSIFICATION

The classification has been carried out in accordance with PN-EN 13501-6:2014.

4.2. CLASSIFICATION

The product: control cable FLEX-SY-JZ 300/500V 5x1.5 and FLEX-SY-JB 300/500V 4x95 in relations to its reaction to fire behavior is classified:

E_{ca}

The additional classification in relation to smoke production is:

-

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

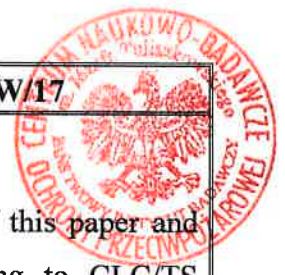
-

The additional classification in relation to acidity is:

-

Fire behavior	Smoke production		Flaming droplets		Acidity	
	-	-	-	-	-	-
E_{ca}	-	-	-	-	-	-

Reaction to fire classification:
 E_{ca}



4.3. FIELD OF APPLICATION

This classification is valid for the following product described in point 2 of this paper and listed below as determined in the extended application process according to CLC/TS 50576:2016 paragraph 10.

Outer diameter	Minimum [mm]	Maximum [mm]
	11.0	68.3

5. LIMITATIONS


5.1. RESERVATION

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 Construction Products Regulation.

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5.2. WARNING

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signature of person undertaking classification


signature of person authorizing this report

DIRECTOR


Z-ca Dyrektora
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.....
Józefów, June 28th 2017
mgr Sylwia Krawczyńska



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NOTIFIED BODY No. 1438

**REACTION TO FIRE
CLASSIFICATION REPORT**
No. 214/BW/17

Copy 1/2

PRODUCT NAME	FLEX-CY-JZ/OZ 300/500V FLEX-CY-JB/OB 300/500V
SPONSOR	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany
ORDER No.	229/BW/17

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1. INTRODUCTION

This classification report defines the classification assigned to product: **control cable FLEX-CY-JZ/OZ and FLEX-CY-JB/OB 300/500V** in accordance with the procedures given in PN-EN 13501-6:2014.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. GENERAL

Product FLEX-CY-JZ/OZ and FLEX-CY-JB/OB 300/500V is defined as **control cable** according to PN-EN 50575:2015-03+A1:2016-11.

2.1. PRODUCT DESCRIPTION

Cable FLEX-CY-JZ/OZ and FLEX-CY-JB/OB 300/500V is constructed of:

- Copper conductor class 5 according to VDE 0295,
- PVC core insulation,
- PVC inner sheath,
- Overall screen made of tinned cooper wire braid, coverage approximately 85%,
- PVC outer sheath,

Design standard: Not indicated.

Cable **FLEX-CY-JZ/OZ 300/500V 3x1.5** outer diameter – 8.9 mm,

Cable **FLEX-CY-JB/OB 300/500V 4x70** outer diameter – 40.0 mm.

Place of manufacture: Kabeltec GmbH, Werkstr. 43, 78727 Oberndorf, Germany.

The information about the products was given by the sponsor.

3. REPORTS AND RESULTS IN SUPPORT OF THIS CLASSIFICATION

3.1. TEST REPORTS

Name of Laboratory	Name of sponsor	Report ref. no.	Test method
COMBUSTION PROCESSES AND EXPLOSIONS LAB – BW	Kabeltec GmbH Werkstr. 43 78727 Oberndorf, Germany	229/BW/17	PN-EN 60332-1- 2:2010+A1:2016- 02



3.2. RESULTS

Test method and test number	Parameter	No. of tests	Results	
			Continuous parameter - mean	Compliance with parameters
PN-EN 60332-1-2:2010+A1:2016-02 FLEX-CY-JZ/OZ 300/500V 3x1.5	Spread of Flame $H \leq 425$ mm	1	(-)	Compliant
PN-EN 60332-1-2:2010+A1:2016-02 FLEX-CY-JB/OB 300/500V 4x70	Spread of Flame $H \leq 425$ mm	1	(-)	Compliant

(-) – not applicable

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. REFERENCE OF CLASSIFICATION

The classification has been carried out in accordance with PN-EN 13501-6:2014.

4.2. CLASSIFICATION

The product: control cable FLEX-CY-JZ/OZ 300/500V 3x1.5 and FLEX-CY-JB/OB 300/500V 4x70 in relations to its reaction to fire behavior is classified:

$$E_{ca}$$

The additional classification in relation to smoke production is:

-

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

-

The additional classification in relation to acidity is:

-

Fire behavior	Smoke production			Flaming droplets		Acidity			
E_{ca}	-	-	-	,	-	-	,	-	-

Reaction to fire classification:

$$E_{ca}$$