

Series: TECHNICAL APPROVALS

CNBOP-PIB TECHNICAL APPROVAL **AT-0601-0422/2014 edition 2nd**

This Technical Approval replaces Technical Approval CNBOP-PIB
no. AT-0601-0422/2014

Pursuant to decision by the Minister of Infrastructure, dated 8th November 2004, on technical approvals and organizational units authorized to issue them (Journal of Laws No. 249, item 2497, as amended), and as result of the approval procedure carried out at the Scientific and Research Centre for Fire Protection The National Research Institute in Józefów/Otwock on request of the company:

PULSAR K. Bogusz Sp. j.
Siedlec 150
32-744 Łapczyca

this is to certify that the product:

Fire-resistant junction box of PULSAR type AWOZ and AWOP
in the following variations: AWOZ-125P, AWOZ-125P1A, AWOZ-125S,
AWOZ-125S1A, AWOZ-225P, AWOZ-225S, AWOP-225PR, AWOP-225SR,
AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP,
AWOP-960PP with fire resistance class E30, E60 and E90
(acc. to DIN 4102-12:1998)

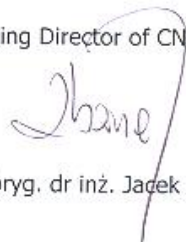
manufactured by : PULSAR K. Bogusz Sp. j.
Siedlec 150
32-744 Łapczyca

has been admitted for application in the building industry. The product usability and the range and conditions of application have been defined by an Annex-the integral part of this CNBOP-PIB Technical Approval.

Date of expiry:
from 21 August 2014
till 13 May 2019



Acting Director of CNBOP-PIB


bryg. dr inż. Jacek Zboina

An Annex

The General and Technical Provisions

Publication of the original: 21 August 2014, Józefów
Publication of translation: 21 August 2014, Józefów

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This document was originally published on 21 August 2014. In case of any conflict between the polish Technical Approval and this translation, the Polish version has prevalence.

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GENERAL AND TECHNICAL PROVISIONS

1. SUBJECT OF APPROVAL

1.1 General technical characteristics of the product

This CNBOP-PIB Technical Approval refers to the fire-resistant junction box of PULSAR types AWOZ and AWOP in the following variations: AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S, AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP with integrated maintenance of functions under fire, assigned to the class **E30, E60 or E90** of the function maintenance, according to the requirements of the DIN 4102-12:1998:11 Fire behaviour of building materials and building components - Part 12: Circuit integrity maintenance of electric cable systems; requirements and testing.

For the purpose of the approval proceeding manufacturer submitted the fire resistant junction box of PULSAR designed for installation of cables used in fire protection systems with the 30, 60 or 90 minutes minimum maintenance time of functions.

The integrated maintenance of functions in a cable system consisting of the cable, its fastening and the junction box, shall be understood as the sufficient mechanical strength to sustain cable routes in a condition which guarantees continuous supply of electric power and information signals (e.g. in the emergency power supply routes) in the temperature of fire determined by the time/temperature curve (ETK) for the time of 30, 60 or 90 minutes under the rated static load.

The scope of fire resistant junction box application has been limited to the cables with the rated voltage not exceeding 1 kV.

Fire resistant junction boxes of PULSAR are allowed for application with cables of the following manufacturers: BITNER, in cable systems described in table 6 of this Technical Approval.

Provided the methods of fastening are observed as per No. 1 and 3 of table 6, the fire resistant junction boxes of PULSAR are also allowed for application with the certified cables types HDGs FE180 PH90/E90, HDGsekwf FE180 PH90/E90, HTKSH FE180 PH90/E90, HTKSHekwf FE180 PH90/E90, JE-H(St)H FE180/E90, PGI-H FE180 E30, (N)HXH FE180/E90 and any other types provided that the cables are covered by the E90 class assigned to carry out the installation directly do the ceiling with the use of a single hanger at 300 mm spacing.

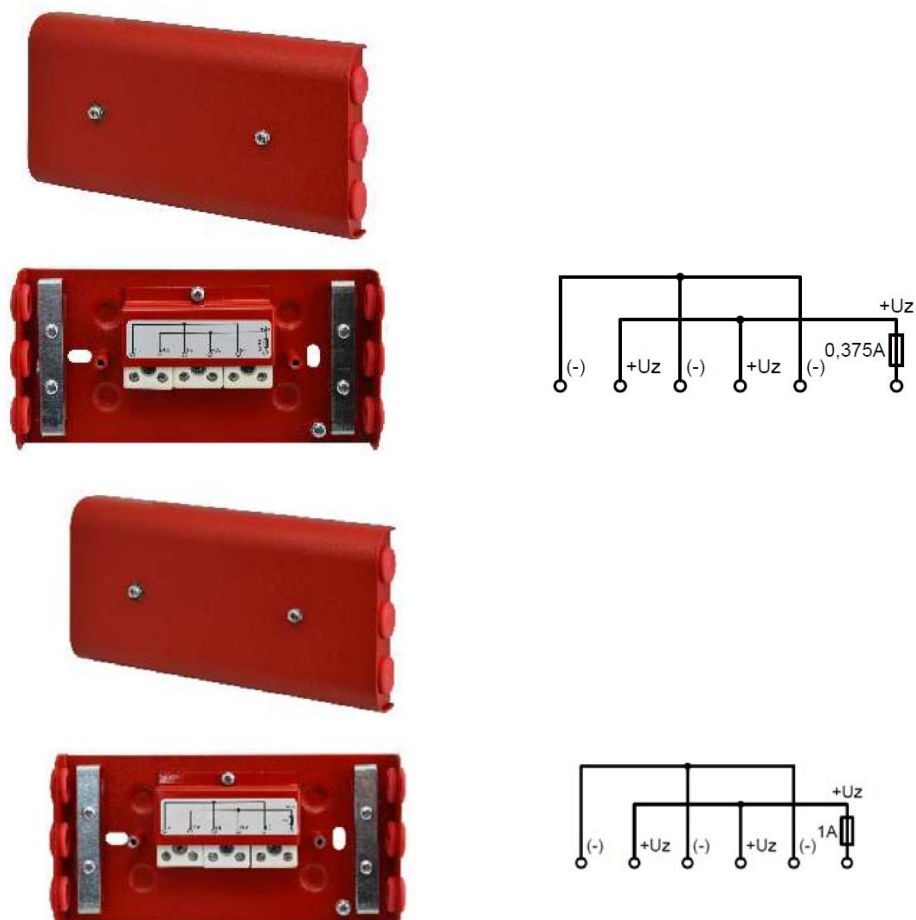
Fire resistant junction boxes of PULSAR are allowed for application in cable systems for direct assembly of single cables directly to ceiling or to the wall. The junction boxes of PULSAR are designed for connecting and branching the electric and communication cables in E90 fire resistance class, according to DIN 4102-12:1998.

Fire resistant junction boxes of PULSAR types AWOZ-125P and AWOZ-125P1A are designed to connect cables in cable installation systems made in fire resistance class E90 according to DIN 4102-12 which is required to ensure continuity of supply or transmission of the signal in the fire for 90 minutes. Construction of branching junction boxes installation has been designed to ensure the mechanical ability to maintain cable routes in the state in which is guaranteed the continuous transmission of electricity and telecommunication signals in the fire zone. Fire resistant junction boxes can be used to supply fire protection equipment such as ventilators and smoke vents, Fire Detection and Fire Alarm Systems, Voice Alarm Systems, etc. They are made of steel DC01 1mm in red color. The types **AWOZ-125P and AWOZ-125P1A** have separate terminals for connecting the signal line, separate output for connecting the signal line and separate to connect the beacon and sounders or another parts of systems of fire protection by the fuse.



The junction boxes are made in two varieties:

- Fire resistant junction boxes type **AWOZ-125P 0,375A**
- Fire resistant junction boxes type **AWOZ-125P1A 1A**



Picture 1 Fire resistant junction boxes type AWOZ-125P and AWOZ-125P1A

Table 1

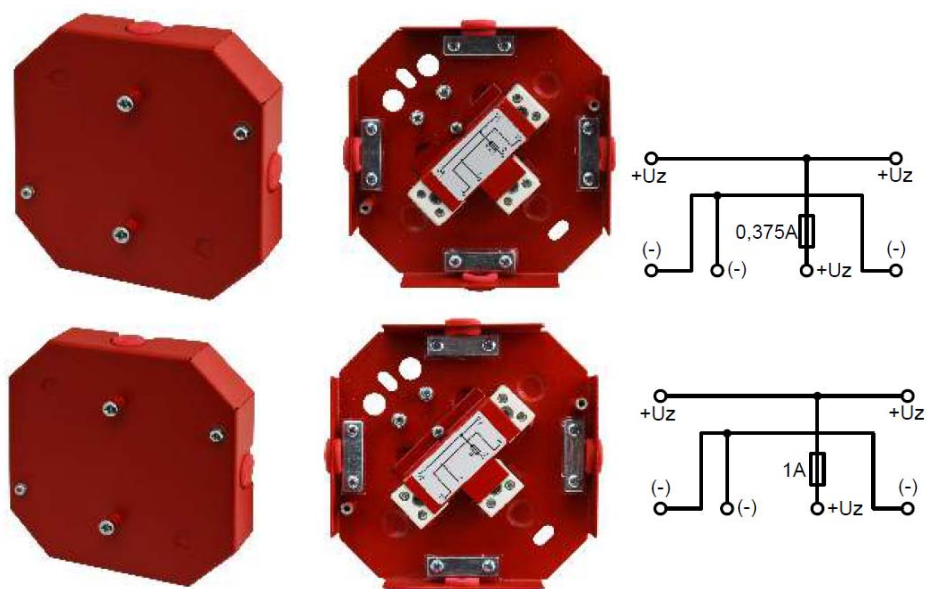
SPECIFICATIONS	AWOZ-125P	AWOZ-125P1A
Voltage	125V AC max	
Load current	0,375 A	1 A
Diameter of installation cable	Max. 10mm	
Cross-section of cable	Max. 2,5mm ²	
Degree of protection	IP20	
Cover	Steel sheet DC01 1mm, color RAL 3001	
Dimensions [mm]	154x80x30 mm	
Fastening [mm]	100mmΦ5,5mm	
Net/gross weight	0,4kg/0,43kg	

Fire resistant junction boxes of PULSAR types AWOZ-125S and AWOZ-125S1A are designed to connect cables in cable installation systems made in fire resistance class E90 according to DIN 4102-12 which is required to ensure continuity of supply or transmission of the signal in the fire for 90 minutes. Construction of branching junction boxes installation has been designed to ensure the mechanical ability to maintain cable routes in the state in which is guaranteed the continuous transmission of electricity and telecommunication signals in the fire zone. Fire resistant junction boxes can be used to supply fire protection equipment such as ventilators and smoke vents, Fire Detection and Fire Alarm Systems, Voice Alarm Systems, etc. They are made of steel DC01 1mm in red color.

The types **AWOZ-125S** and **AWOZ-125S1A** have separate terminals for connecting the signal line, separate output for connecting the signal line and separate to connect the beacon and sounders or another parts of systems of fire protection by the fuse. Covers of fire resistant junction boxes types **AWOZ-125S** and **AWOZ-125S1A** have mounting bushings to mount the beacon and sounders.

The junction boxes are made in two varieties:

- **Fire resistant junction boxes type AWOZ-125S 0,375A**
- **Fire resistant junction boxes type AWOZ-125S1A 1A**



Picture 2 Fire resistant junction boxes types AWOZ-125S and AWOZ-125S1A

Table 2

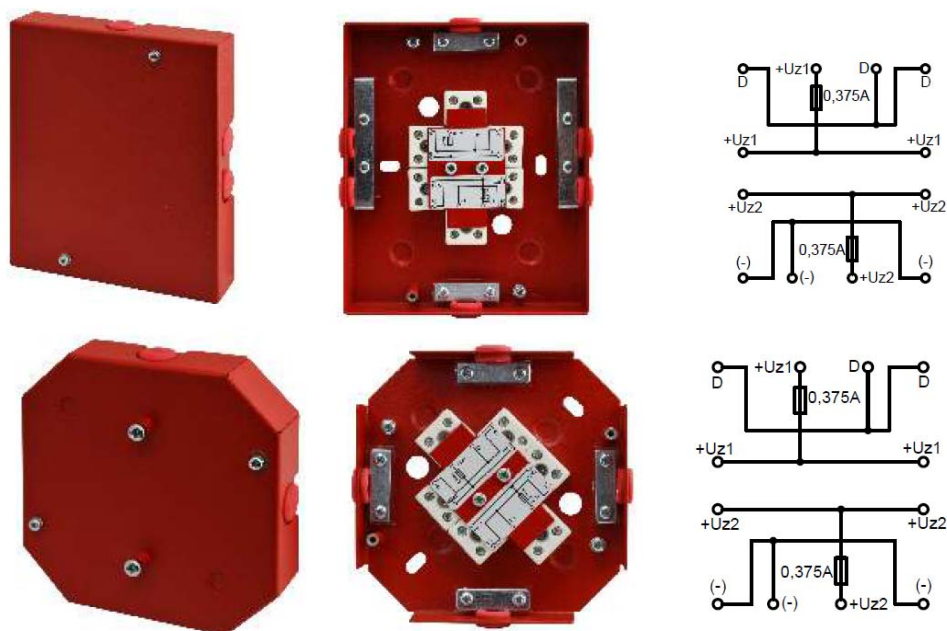
SPECIFICATIONS	AWOZ-125S	AWOZ-125S1A
Voltage	125V AC max	
Load current	0,375 A	1 A
Diameter of installation cable	Max. 10mm	
Cross-section of cable	Max. 2,5mm ²	
Degree of protection	IP20	
Cover	Steel sheet DC01 1mm, color RAL 3001	
Dimensions [mm]	120x120x37 mm	
Fastening [mm]	100mmΦ5,5mm	
Net/gross weight	0,38kg/0,41kg	

Fire resistant junction boxes of PULSAR types AWOZ-225P and AWOZ-225S are designed to connect cables in cable installation systems made in fire resistance class E90 according to DIN 4102-12 which is required to ensure continuity of supply or transmission of the signal in the fire for 90 minutes. Construction of branching junction boxes installation has been designed to ensure the mechanical ability to maintain cable routes in the state in which is guaranteed the continuous transmission of electricity and telecommunication signals in the fire zone. Fire resistant junction boxes can be used to supply fire protection equipment such as ventilators and smoke vents, Fire Detection and Fire Alarm Systems, Voice Alarm Systems, etc. They are made of steel DC01 1mm in red color.

The types **AWOZ-225P** and **AWOZ-225S** have separate terminals for connecting the signal line, separate output for connecting the signal line and separate to connect the beacon and sounders or another parts of systems of fire protection by the fuse. Covers of Fire resistant junction boxes types **AWOZ-225P** and **AWOZ-225S** have mounting bushings to mount the beacon and sounders.

The junction boxes are made in two varieties:

- **Fire resistant junction boxes type AWOZ-225P 2x0,375A**
- **Fire resistant junction boxes type AWOZ-225S 2x0,375A**



Picture 3 Fire resistant junction boxes types AWOZ-225P and AWOZ-225S

Table 3

SPECIFICATIONS	AWOZ-225P	AWOZ-225S
Voltage	125V AC max	
Load current	2x0,375 A	
Diameter of installation cable	Max. 10mm	
Cross-section of cable	Max. 2,5mm ²	
Degree of protection	IP20	
Cover	Steel sheet DC01 1mm, color RAL 3001	
Dimensions [mm]	122x142x30mm	120x120x37
Fastening [mm]	100mmΦ5,5mm	

Net/gross weight

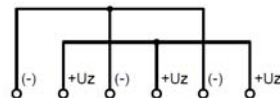
0,57kg/0,60kg

0,42kg/0,45 kg

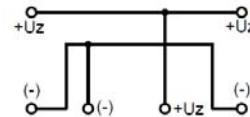
Fire resistant junction boxes of PULSAR types AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR and AWOP-425SR are designed to connect cables in cable installation systems made in fire resistance class E90 according to DIN 4102-12 which is required to ensure continuity of supply or transmission of the signal in the fire for 90 minutes. Construction of branching junction boxes installation has been designed to ensure the mechanical ability to maintain cable routes in the state in which is guaranteed the continuous transmission of electricity and telecommunication signals in the fire zone. Fire resistant junction boxes can be used to supply fire protection equipment such as ventilators and smoke vents, Fire Detection and Fire Alarm Systems, Voice Alarm Systems, etc. They are made of steel DC01 1mm in red color. The junction boxes are made in five varieties:

- **Fire resistant junction boxes type AWOP-225PR 2x2,5mm²**
- **Fire resistant junction boxes type AWOP-225SR 2x2,5mm²**
- **Fire resistant junction boxes type AWOP-325PR 3x2,5mm²**
- **Fire resistant junction boxes type AWOP-360PR 3x6mm²**
- **Fire resistant junction boxes type AWOP-425SR 4x2,5mm²**

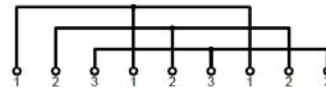
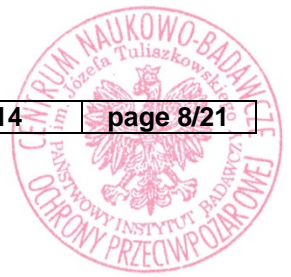
Covers of fire resistant junction boxes types **AWOP-225SR** and **AWOP-425SR** have mounting bushings to mount the beacon and sounders.



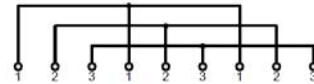
Fire resistant junction boxes type AWOP-225PR



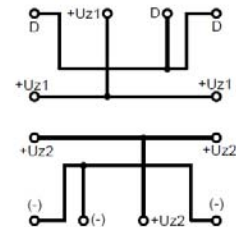
Fire resistant junction boxes type AWOP-225SR



Fire resistant junction boxes type AWOP-325PR



Fire resistant junction boxes type AWOP-360PR



Fire resistant junction boxes type AWOP-425SR

Picture 4 Fire resistant junction boxes types AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR and AWOP-425SR

Table 4

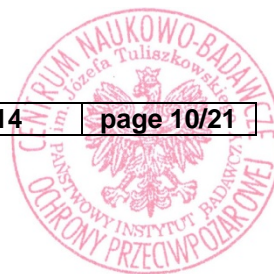
SPECIFICATIONS	AWOP-225PR	AWOP-225SR	AWOP-325PR	AWOP-425SR	AWOP-360PR
Voltage	450V AC max				
Diameter of installation cable	Max. 10mm				Max. 13mm
Cross-section of cable	Max. 2,5mm ²				Max. 6mm ²
Degree of protection	IP20				
Cover	Steel sheet DC01 1mm, color RAL 3001				
Dimensions [mm]	154x80x30	120x120x37	190x80x30	120x120x37	204x100x30
Fastening [mm]	100Φ5,5		136Φ5,5	100 Φ5,5	141Φ5,5
Net/gross weight	0,57kg/0,60kg		0,42kg/0,45 kg		

Fire resistant junction boxes of PULSAR types AWOP-625PP, AWOP-925PP and AWOP-960PP are designed to connect cables in cable installation systems made in fire resistance class E90 according to DIN 4102-12 which is required to ensure continuity of supply or transmission of the signal in the fire for 90 minutes. Construction of branching junction boxes installation has been designed to ensure the mechanical ability to maintain cable routes in the state in which is guaranteed the continuous transmission of electricity and telecommunication signals in the fire zone. Fire resistant junction boxes can be used to supply fire protection equipment such as ventilators and smoke vents, Fire Detection and Fire Alarm Systems, Voice Alarm Systems, etc. They are made of steel DC01 1mm in red color. The junction boxes are made in three varieties:

- **Fire resistant junction boxes type AWOP-625PP 6x2,5mm²**
- **Fire resistant junction boxes type AWOP-925PP 9x2,5mm²**
- **Fire resistant junction boxes type AWOP-960PP 9x6mm²**



Fire resistant junction boxes type AWOP-625PP



Fire resistant junction boxes type AWOP-925PP



Fire resistant junction boxes type AWOP-960PP

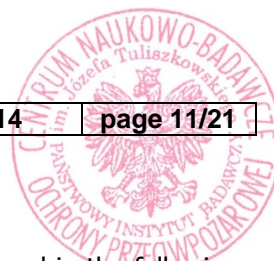
Picture 5 Fire resistant junction boxes types AWOP-625PP, AWOP-925PP and AWOP-960PP

Table 5

SPECIFICATIONS	AWOP-625PP	AWOP-925PP	AWOP-960PP
Voltage	450V AC max		
Diameter of installation cable	Max. 10mm		
Cross-section of cable	Max. 2,5mm ²		Max. 6mm ²
Degree of protection	IP20		
Cover	Steel sheet DC01 1mm, color RAL 3001		
Dimensions [mm]	154x80x30	190x80x30	204x100x30
Fastening [mm]	100Φ5,5	136Φ5,5	141Φ5,5
Net/gross weight	0,36kg/0,39kg	0,47kg/0,5kg	0,59kg/0,62kg

1.1.1 Name and address of the production plant

PULSAR K. Bogusz Sp. j., Siedlec 150, 32-744 Łapczyca



1.2 Subdivision of products

The fire-resistant junction box of PULSAR types AWOZ and AWOP are manufactured in the following variations: AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S, AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP.

1.3 Product marking and labeling

Subject to labeling are packages with the following information placed:

1. Manufacturer's name
2. Product's name and symbol

2. INTENDED USE, SCOPE AND CONDITIONS OF APPLICATION

2.1 Intended use

The fire-resistant junction boxes of PULSAR are designed for use with cable systems, for connecting and branching the electric and communication cables in fire resistance class E90, E60, E30, according to DIN 4102-12:1998 designed for transmission of signals and electric power supply to the fire protection devices in the building.

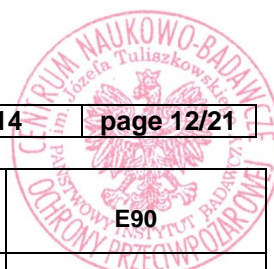
2.2 The scope and conditions of application, restrictions

Fire resistant junction boxes of PULSAR are allowed for application with cables of the following manufacturers: BITNER, in cable systems as described in Table 6.

Provided the methods of fastening are observed as per No. 1 and 3 of Table 6, the fire resistant junction boxes of PULSAR are also allowed for application with the certified cables HDGs FE180 PH90/E90, HDGsekwf FE180 PH90/E90, HTKSH FE180 PH90/E90, HTKSHekwf FE180 PH90/E90, JE-H(St)H FE180/E90, PGI-H FE180 E30, (N)HXH FE180/E90, and any other types provided that the cables are covered by the E90 class assigned to carry out the installation directly do the ceiling with the use of a single rod hanger at 300 mm spacing.

Table 6

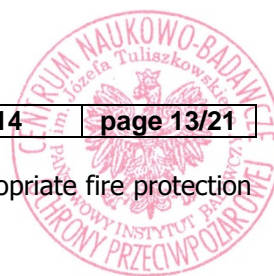
Type of junction box	Method of fastening	Cables Manufacturer, type	Fire resistance classification acc. to DIN 4102-12:1998
AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP	1. Installation directly to the ceiling or to the wall Box: 2 pins with fire resistance Cables: clips UDF (BAKS), spacing every 300 mm. Spacing between the cable fastening (cable clips) and the box edge- max. 100 mm	BITNER HDGs FE180 PH90/E90 $n \times \geq 1,0 \text{ mm}^2; n \geq 1$	E90
		BITNER HDGsekwf FE180 PH90/E90 $n \times \geq 1,0 \text{ mm}^2; n \geq 1$	E60
		BITNER HTKSH FE180 PH90/E90 $n \times 2 \times \geq 0,8; n \geq 1$	E90
		BITNER HTKSHekwf FE180 PH90/E90 $n \times 2 \times \geq 0,8; n \geq 1$	E90
		BITNER JE-H(St)H FE180/E90 $n \times 2 \times \geq 0,8; n \geq 2$	E90
		BITNER PGI-H FE180 E30 $n \times \geq 1,5 \text{ mm}^2; n \geq 2$	E90



AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP	2. Installation directly to the ceiling or to the wall Box: 2 pins with fire resistance Cables: clips UDF (BAKS), spacing every 600 mm. Spacing between the cable fastening (cable clips) and the box edge- max. 100 mm	BITNER HDGs FE180 PH90/E90 $n \times \geq 1,0 \text{ mm}^2; n \geq 1$	E90
		BITNER HTKSH FE180 PH90/E90 $n \times 2 \times \geq 0,8; n \geq 1$	E90
		BITNER HTKSHekwf FE180 PH90/E90 $n \times 2 \times \geq 0,8; n \geq 1$	E60
		BITNER JE-H(St)H FE180/E90 $n \times 2 \times \geq 0,8; n \geq 2$	E90
		BITNER PGI-H FE180 E30 $n \times \geq 1,5 \text{ mm}^2; n \geq 2$	E90
AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP	3. Installation directly to the ceiling or to the wall Box: 2 pins with fire resistance Cables: clips 1015 (OBO BETTERMANN), spacing every 300 mm. Spacing between the cable fastening (cable clips) and the box edge- max. 100 mm	BITNER NHXH FE180/E90 4x6RE	E30
		BITNER NHXCH FE180/E90 4x1,5RE	E30
		BITNER (N)HXH FE180/E90 $n \times \geq 1,5 - 6 \text{ mm}^2; n \geq 2$	E30
		BITNER (N)HXCH FE180/E90 4x6RE	E30
AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP	4. Installation directly to the ceiling or to the wall Box: 2 pins with fire resistance Cables: clips UDF (OBO BETTERMANN), spacing every 600 mm. Spacing between the cable fastening (cable clips) and the box edge- max. 100 mm	BITNER NHXH FE180/E90 $n \times \geq 1,5 - 6 \text{ mm}^2; n \geq 2$	E30
		BITNER NHXCH FE180/E90 $n \times \geq 1,5 - 6 \text{ mm}^2; n \geq 2$	E30
		BITNER (N)HXH FE180/E90 4x1,5RE	E30
AWOZ-125P, AWOZ-125P1A, AWOZ-125S, AWOZ-125S1A, AWOZ-225P, AWOZ-225S AWOP-225PR, AWOP-225SR, AWOP-325PR, AWOP-360PR, AWOP-425SR, AWOP-625PP, AWOP-925PP, AWOP-960PP	5. Installation directly to the wall Box: 2 pins with fire resistance Cables: clips UDF (OBO BETTERMANN), spacing every 600 mm. Spacing between the cable fastening (cable clips) and the box edge- max. 100 mm	BITNER HTKSH FE180 PH90/E90 $n \times 2 \times \geq 0,8; n \geq 1$	E60
		BITNER HTKSHekwf FE180 PH90/E90 $n \times 2 \times \geq 0,8; n \geq 1$	E60

2.3 Installation

Fire-resistant junction boxes of PULSAR should be fixed directly to the concrete base of class $\geq C16/20$, or to natural stone. Other construction materials are acceptable for application provided they are strong enough and at least in the same fire resistance class R90.



The pins for fastening to the base shall be made of steel material and with appropriate fire protection rating.

Fastening of junction box with cables - see Table 6.

The following boundary conditions should be observed:

Anchor pins M6 shall be placed in concrete at the minimum 30 mm. Tensile load against the anchor pin shall not exceed 500 N. As alternative, other types of pin may be used with fire safety properties which are fully proved.

It should be guaranteed that the cable systems with fire-resistant cable boxes of PULSAR in its class of functions maintenance shall be free of any threat and damages from the construction elements falling down.

3. TECHNICAL PROPERTIES / REQUIREMENTS

3.1 Construction

3.1.1 Product manufactured

Fire-resistant junction boxes of PULSAR shall be manufactured in a good and workmanlike manner, and their installation shall be carried out in accordance with this Technical Approval.

3.1.2 Product basic dimensions

Fire-resistant junction box dimensions shall comply with the manufacturer's catalogue.

3.1.3 Functionality

Fire-resistant junction boxes of PULSAR shall be designed to guarantee the proper operation in a cable system, in the E90 fire resistance class, acc. to DIN 4102-12 standard provided they are installed in accordance with the requirements of this Technical Approval and in accordance with the requirements of the manufacturer specified in the catalogue of PULSAR.

3.2 Technical properties

Fire-resistant junction boxes of PULSAR have been designed to comply with the requirements shown in Table 7 below.

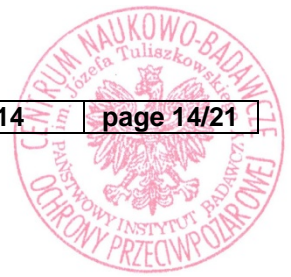
Table 7

No	Properties	Requirements	Methods of testing
1.	Product appearance, dimensions, marking and labeling	According to declaration from the manufacturer	Verification
2.	Product construction	According to declaration from the manufacturer	
3.	Continuity of the electric functions in cable lines	Capability to provide appropriate fastening of cables and maintenance of continuous electric power supply in cable lines for 90 minutes in conditions under fire	Method of testing Acc. to DIN 4102-12

4. PACKAGING, STORAGE AND TRANSPORT

4.1 Packaging

Fire-resistant junction boxes of PULSAR shall be packed in a unit or bulk packages for protection against mechanical damage and environmental conditions. For the time of transport the products shall be packed tightly to eliminate the risk of damage at reloading or transportation.



Each package shall contain the following information:

- manufacturer's name and address;
- product symbol;
- number of pieces per package for any particular system elements (for the bulk packages).

4.2 Storage

Fire-resistant junction boxes of PULSAR shall be in closed premises free from fumes and corrosive gases, in temperature from 5 °C to 40 C° and relative humidity not exceeding 80 %.

At storing avoid exposing the junction boxes to thermal radiation, sunlight and heating devices.

4.3 Transport

The transport of fire-resistant junction boxes packed acc. to Point 4.1 may be carried out with any means of transport. According to the transport regulations in force fire-resistant junction boxes shall be dully protected against mechanical damage and relative humidity exceeding 95 % at the temperature of +40 °C.

5. CONFORMITY ASSESSMENT

5.1 General principles

Pursuant to Art. 4 and Art. 5, section 1, point 3, and Art. 8, section 1, of the Act dated 16th April 2004, on construction products (Journal of Acts No. 92, item 881, as amended) the product referred to in this Technical Approval may be introduced to the market and used in construction works in the scope which is adequate to the product properties and destination provided the manufacturer has had the assessment of conformity made and by issuing the domestic declaration of conformity at its sole responsibility declares that the product complies with the **AT-0601-0422/2014 edition 2nd Technical Approval** and has been marked with the building sign in accordance with the separate regulations

in force. Pursuant to the ordinance by the Minister of Infrastructure dated 11th August 2004, on the methods to declare construction products conformity and the methods to mark them with the building sign (Journal of Acts No.98, item 2041) the assessment of conformity of the of **Fire-resistant junction boxes of PULSAR** shall be made by the manufacturer based on the System No.1 and in relation

to the product conformity certification carried out by the accredited certification body on the grounds of the following procedures:

- a) the tasks from the manufacturer, i.e:
 - the factory control of production,
 - complementary testing of samples taken in the factory, carried out by the manufacturer according to the agreed testing schedule,
- b) the tasks from the accredited body:
 - preliminary testing of the product type,
 - preliminary inspection of the factory and inspection of the factory production control system,
 - continuous surveillance, evaluation and approval of the factory production control system.

5.2 Factory Production Control (FPC)

5.2.1 Introduction

The manufacturer should create, document and maintain the control system in the production plant in order to ensure that the marketed products comply with the established performance characteristics.

If the manufacturer designed, assembled, packed, processed and marked a subunit through its subcontractor, the Factory Production Control system in effect with the subcontractor must be considered. If the work is subcontracted, the manufacturer should retain control of the subunit

and ensure that it is provided with all information needed to meet its obligations, pursuant to this approval. The manufacturer who uses the subcontractor in respect of all its activities may not itself, in any circumstances, transfer its obligations to the subcontractor. The FPC system is a permanent internal production control measure, carried out by the manufacturer.

All elements, requirements and assumptions made by the manufacturer shall be systematically documented in the form of procedures.

The documentation of the production control system should ensure the general understanding of the evaluation of compliance and allow to achieve the required performance characteristics of the product and effective operation of the production control system which is to be verified. Therefore, the control service in the production plant uses exploitation techniques and all measurements allowing to maintain and control the product compliance with technical specifications. To ensure that they are introduced, there should be carried out controls and tests of measurement devices, raw materials and components, processes, production installations and equipment and finished subunits, including the properties of the material, and by use of the results obtained.

5.2.2 General requirements

If applicable the Factory Production Control System (FPC) shall comply with the requirements shown in the following chapters of the EN ISO 9001:2000 standard:

- 4.2, with exclusion of 4.2.1 a)
- 5.1e), 5.5.1, 5.5.2
- chapter 6
- 7.1, with exclusion of 7.1a), 7.2.3c), 7.4, 7.5, 7.6
- 8.2.3, 8.2.4, 8.3, 8.5.2
- FPC may constitute a part of the Quality Management System, e.g. in accordance with the EN ISO 9001 standard.

5.2.3 Special requirements relating to the product components

5.2.3.1 The Factory Production Control system shall:

- relate to this Technical Approval; and
- shall assure that the marketed **Fire-resistant junction boxes of PULSAR** comply with the determined performance characteristics;

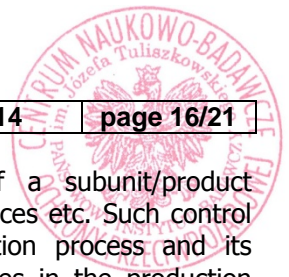
5.2.3.2 The Factory Production Control shall contain the quality schedule or the FPC schedule which is specific for the product's component and which allows identification of procedures required to prove its conformity at any particular stage, i.e:

- a) inspection and testing carried out before and/ or at the time of production with frequency specified below, and/or
- b) verification and examination of the finished products with frequency specified below.

If the manufacturer uses the finished subunits in production, then the operations as per b) should lead to such level of compliance of a subunit that is equal to the level achieved if normal FPC procedures were performed during production.

If the manufacturer does a part of the production, then the operations as per b) may be reduced and partly replaced by the operations as per a). Generally, the more of the production is done by the manufacturer, the more of the operations as per a) may be replaced by the operations as per a). In every case, the operation should lead to such level of compliance of a subunit that is equal to the level achieved if normal FPC procedures were performed during production.

Note: depending on the specific case, it may be necessary to perform actions mentioned under a) and b), or only the actions mentioned under a) or only the actions mentioned under b).



The actions as per a) should refer mainly to the average state of a subunit/product and to production facilities and their controls as well as to measurement devices etc. Such control and testing and their frequency are determined based on type, production process and its complexity, susceptibility/sensitivity of the properties of a subunit to changes in the production parameters etc.

The manufacturer should establish and maintain records constituting evidence that samples of a product were taken in the course of manufacture and examined. These records should clearly show whether the production complies with the defined acceptance criteria; such records should be kept for at least ten years. If a sample does not comply with the acceptance requirements, actions should be undertaken in respect of in-compliant products. Necessary correction actions should be undertaken immediately, and in-compliant subunits or sets of subunits should be separated and clearly identified. If an irregularity has been corrected, then the testing and verification of them should be repeated.

Results of control and testing should be accurately recorded. The description of a subunit, the production date, the applied method of testing, results of testing and acceptance criteria should be included in the records, signed by the person responsible for the control/testing. Taking into consideration the result of control that does not comply with the requirements of this approval, correction actions aimed at remedying the situation (e.g. subsequent testing, change of production process, withdrawing or improving a sub-unit) should be indicated in the records.

5.2.3.3 Individual subunits or sets of subunits used for production of the **Fire-resistant junction boxes of PULSAR** and the related documentation should be fully identifiable.

5.2.4 Preliminary inspection of the factory and the Factory Control of Production system

5.2.4.1 A preliminary control of the factory and the FCP system should be performed, as a rule, when the production is already implemented and the FCP system is already in use. However, it is possible that the initial control of the factory and FCP will be performed before production is implemented and/or FCP is already in use.

5.2.4.2 The following elements should be subjected to evaluation to verify that the requirements as per 5.2.2 and 5.2.3 have been fulfilled:

- the Factory Production Control system documentation ; and
- the production plant.

In evaluating the production plant the following should be verified:

- a) that all the means necessary to achieve the operational characteristics of the **Fire-resistant junction boxes of PULSAR**, required by this approval (see 5.2.4.1) are or will be available;
- b) that the FPC system procedures, according to the FPC system documentation, are or will be put into use;
- c) that the product complies or will comply with the samples used in the initial type testing (see 5.2.4.1) and whose compliance with this approval has been verified; and
- d) if the FPC system is a part of the quality management system in accordance with EN ISO 9001 (see 5.2.2) and as being part of such quality management system is certified and subject to annual supervision of the certifying authority, recognized by an accredited entity being a member of the European Co-operation for Accreditation which signed the Multilateral Agreement (MLA).

5.2.4.3 All the manufacturer's plants in which final assembly or at least the final testing is carried out should be subjected to evaluation in order to verify whether the conditions as per 5.2.4.2 a) to c) exist.

A single evaluation may concern one or more subunits of products, production lines and/or production processes. If the FPC system concerns more than one subunits of products, production

lines and/or production processes and if has been verified that the general requirements have been fulfilled, then the detailed verification of the FPC requirements specific for subunits of the product, carried out for a single subunit of the product may be recognized as being representative for other FPC subunits.

5.2.4.4 The evaluations previously made in accordance with the requirements of this Technical Approval may be considered, provided that they have been made in the same compliance evaluation system, using the same product, designed, constructed in a similar way and of a similar functionality, so that the results might be applicable to the product in question.

Note: The compliance evaluation system means a control made by the independent third party under surveillance of the body responsible for product certification.

5.2.4.5 Any assessment and the assessment results are subject to documentation in the form of report.

5.2.5 Continuous inspection of the Factory Production Control system

5.2.5.1 All of the factories which were subject to assessment according to Point 5.2.4 shall be assessed once a year again, with exclusion as stated in Point 5.2.5.2.

5.2.5.2 In the event continuous surveillance relating to the Factory Production Control system is provided by manufacturer the frequency of repeatable assessments by the third party in the manufacturer's factory may be reduced to one assessment every four years.

Note 1: The satisfactory assessment shall be a report made by the relevant certification body (see 5.2.4.2.d).

Note 2: If the FPC system, compliant with EN ISO 9001, has been implemented properly (verified by the QM audit) it can be assumed that the integrated and relevant part of the FPC has been taken into account with positive results. Based on the above mentioned the production at the factory is under sufficient surveillance and the frequency of the FPC special assessments can be reduced.

5.2.5.3 Evaluation and the evaluation results are subject to documentation in the form of report.

5.2.6 Modification procedures

In the event of the component, product, production method or Factory Production Control system modification (provided it may affect the product technical features) a repeated assessment of the factory and the Factory Production Control system shall be carried out in relation to the issues which might be affected by the process of modification.

Evaluation and the evaluation results are subject to documentation in the form of report.

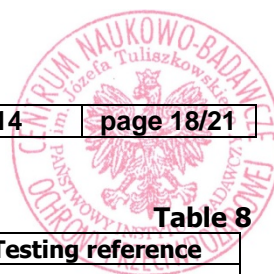
5.3 Initial type testing (ITT)

Preliminary testing of the type is a confirmation of the required product technical and performance characteristics before its marketing and application. Preliminary testing shall be carried out on the occasion of any change of raw materials, components, method of production, including modifications of the Factory Production Control system, provided they might affect the product performance features.

Under this Technical Approval preliminary testing of the type shall be carried out by the accredited testing laboratories based on the assessment of conformity according to **System No.1**.

The scope of preliminary testing of the type includes every type of tests specified in column 3 Table 8.

Positive results of the approval testing carried out at the accredited laboratories, which in the course of granting this CNBOP-PIB Technical Approval **AT-0601-0422/2014 edition 2nd** were the base to determine the technical and performance characteristics of the product, may be recognized as the preliminary testing of the type within the conformity assessment.



No	Schedule of testing	Type of testing		Testing reference
		Preliminary testing of the product type	On-going product testing	
1	2	3	4	5
1	Product appearance, dimensions, product marking and labeling	+	+	Table 7, p. 1
2	Construction of the product	+	+	Table 7, p. 2
3	Maintenance of the electric functions in cable lines	+	-	Table 7, p. 3
" + " obligatory testing " - " optional testing				

5.4 The finished product testing

The schedule of the finished product testing includes the on-going testing and periodical testing.

5.4.1 On-going testing schedule

The on-going testing is subject to the Factory Control of Production according to which the manufacturer shall guarantee that the product technical properties comply with this Technical Approval requirements.

The scope of testing according to Table 8, column 4 respectively. The on-going testing results shall be registered on the continuous basis and the register records should confirm that the products comply with any respective conformity assessment criteria. Each product lot shall be easily identified in the register of testing.

According to the Factory Production Control procedures the manufacturer shall declare the acceptable quality level of the product.

5.4.2 Periodical testing

Periodical testing shall be made if the product was subject to any relevant changes. In such event the manufacturer undertakes to advise the approval institution on any such changes made. The scheme of periodical testing shall be determined accordingly to the product modification.

5.5 Methods of testing

The product testing shall be carried out according to the methods specified in Point 3 and Table 7, of this Technical Approval. The obtained results shall be compared with the respective point. Appropriate environment and testing conditions should be guaranteed at the time of as defined in the standard documents specified in Point 3 and Table 7 of this Technical Approval.

5.6 Sampling

Random sampling shall be taken according to PN-83/N-03010 or any other equivalent standard.

5.7 Evaluation of testing results

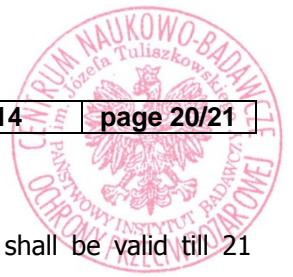
The manufactured product shall be found compliant with the requirements of this Technical Approval if the results of all tests are positive.

6. FORMAL ARRANGEMENTS

6.1 The AT-0601-0422/2014 edition 2nd Technical Approval is a document confirming the applicability of the product **Fire-resistant junction boxes of PULSAR** in the building industry in the scope determined by the provisions of this Technical Approval.

6.2 The specification of operational characteristics and technical properties and the required quality thereof, as provided for in the Technical Approval are the basis for the Manufacturer to make the evaluation of compliance and to issue, at its own exclusive responsibility, the domestic certificate of compliance.

- 6.3 Technical Approval AT-0601-0422/2014 edition 2nd** confirms a positive evaluation of the product as it is produced by the Manufacturer and notified for the approval procedure. The approval procedure does not change or improve the product by assigning to it other requirements than those declared by the Applicant and any other ways of testing the operational characteristics and technical properties of the product than those actually applied in production, testing of the product type and the on-going factory production control.
- 6.4** This Technical Approval does not authorize the manufacturer to label a construction product before it is marketed.
- 6.5** The product should be delivered to the recipient subject to the terms and conditions relating to packaging, storage and transportation, set out under point 4 of this Technical Approval. This condition applies to the Supplier at all the stages of distribution of the product, from the manufacturer to the end-user.
- 6.6** The Technical Approval does not release the manufacturer from liability for the quality of a construction product, each batch of such product and its individual copies, and the contractors of construction works from liability for the proper use thereof.
- 6.7** The guarantee for the construction product to which this Technical Approval is related must be given by the Manufacturer on the basis of separate provisions.
- 6.8** The content of published prospectuses and announcements and of other documents relating to the marketing and use of the product to which this Technical Approval relates in the construction industry, should contain the information that the product has been given **CNBOP-PIB Technical Approval AT-0601-0422/2014 edition 2nd**.
- 6.9** The CNBOP-PIB Technical Approval does not violate the rights arising out of the provisions on the industrial property protection, and in particular the notice of the Speaker of the Parliament of the Republic of Poland dated 13 June 2003 on the Publication of a Uniform Text of the Act of 30 June 2000 –Industrial Property Law (Journal of Laws No. 2119, item 1117). The ensuring of such rights is the duty of the person using this Technical Approval.
- 6.10** The manufacturer has an obligation to verify whether the solution in respect of which the Technical Approval has been given does not violate any third party rights.
- 6.11** The liability for any damage made to anyone as a result of the defect in the product shall be borne by the Manufacturer.
- 6.12** In granting the CNBOP-PIB Technical Approval does not assume any liability for any violation of exclusive or accrued rights.
- 6.13** CNBOP-PIB may change the operational characteristics and technical properties specified in this Technical Approval. This requires a written application, with substantiation, submitted by the manufacturer and carrying out an approval procedure in the scope relating to the changes. It is not permissible to make any changes in the content of the Technical Approval in the procedure other than as that described above.
- 6.14** This Technical Approval may be withdrawn by the CNBOP-PIB in the event of changes in any separate regulations and standards issued by international institutions, if provided for in the agreements made, substantial changes in scientific assumptions and the state of practical knowledge and the lack of confirmation of the positive evaluation of the suitability of the building product in the course of its application. The Technical Approval may be revoked on own initiative of CNBOP-PIB or on motion of the Chief Inspector of the Building Supervisory Authority, after concluding explanatory proceedings with the participation of the applicant.

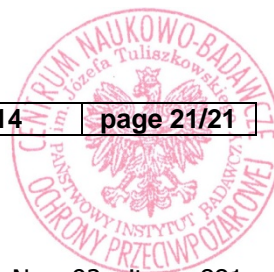


7. VALIDITY EXPIRATION DATE

This **CNBOP-PIB Technical Approval AT-0601-0422/2014 edition 2nd** shall be valid till 21 August 2014 until 13 May 2019.

The validity of the CNBOP-PIB Technical Approval may be extended without renewed approval procedures if the Applicant or the Applicant's legal successor applies for it to the Scientific and Research Centre for Fire Protection – National Research Institute not later than 3 months prior to the validity termination date.

THE END OF TECHNICAL APPROVAL



ADDITIONAL INFORMATION

Regulations

The Act dated 16th April 2004, construction products (Journal of Laws No. 92, item 881, as amended).

The ordinance by the Minister of Infrastructure, dated 12th April 2002, on technical conditions for the buildings and their location (Journal of Laws No. 75, item. 690, as amended).

The ordinance by the Minister of Infrastructure, dated 8th November 2004, on technical approvals and organizational units authorized to issue them (Journal of Laws No 249, item. 2497, as amended).

The ordinance by the Minister of Infrastructure, dated 11th August 2004, on methods to declare conformity of the construction products and the methods of the construction product labeling (Journal of Laws No. 198, item. 2041, as amended).

The ordinance by the Minister of Interior and Administration, dated 7th June 2010, on fire protection of buildings and other related objects and areas. (Journal of Laws No. 109, item 719).

Applied standards and associated documents

PN - EN 13501-2	Fire classification of the construction products and building elements - Part 2: Classification using data from fire resistance test, excluding ventilation services
PN-EN 1363-1	Fire resistance tests - Part 1: General requirements
DIN 4102-2	Fire behavior of building materials and components - Part 2: Building components, definitions, requirements and tests
DIN 4102-4	Fire behaviour of building materials and building components - Part 4: synopsis and application of classified building materials, components and special components
DIN 4102-12	Fire behaviour of building materials and building components - Part 12: Circuit integrity maintenance of electric cable systems; requirements and testing

Reports from testing- Evaluation- Classifications, used in the process of approval

1. Report from the testing FIRES-FR-012-14-AUNE, of 28.01.2014, carried out at the Fires s.r.o., Osloboditel,ov 282, 059 35 Batizovce, Slovakia.
2. Classification No. FIRES-JR-002-14-NURE, of 29.01.2014, carried out at the Fires s.r.o., Osloboditel,ov 282, 059 35 Batizovce, Slovakia.

Documents

No	Document's name	Document's number	Date
1	Application for implementing of changes of technical approval	721/DA/2013	07.08.2014

The scope of the changes of technical approval

The following changes:

1. designation was changed of Fire-resistant junction boxes of PULSAR;
2. numbers of tables were fixed.