INSTYTUT TECHNIKI BUDOWLANEJ

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European Technical Assessment

ETA-24/0158 of 28/03/2024

General Part

Technical Assessment Body issuing the European Technical Assessment	Instytut Techniki Budowlanej
Trade name of the construction product	INTU FR DISC
Product family to which the construction product belongs	Fire Stopping and Fire Sealing Products. Penetration Seals
Manufacturer	INTUSEAL Sp. z o.o. ul. Kineskopowa 1 PL 05-500 Piaseczno, Poland
Manufacturing plant	Plant MPA1
This European Technical Assessment contains	14 pages including 3 Annexes which form an integral part of this Assessment
This European Technical Assessment is issued in accordance with regulation (EU) No 305/2011, on the basis of	European Assessment Document (EAD) 350454-00-1104 “Fire Stopping and Fire Sealing Products. Penetration Seals”

Specific Part

1 Technical description of the product

INTU FR DISC is a closure device used to form penetration seals where cables and conduits penetrate walls and floors.

INTU FR DISC is a self-adhesive intumescent element (disc-shape) with diameter of 65 mm and thickness of 3 mm.

2 Specification of the intended use in accordance with the applicable European Assessment Document (EAD)

2.1 Intended use

The intended use of INTU FR DISC is to reinstate the fire resistance performance of flexible wall, rigid wall or rigid floor constructions, where they are penetrated by cables and conduits.

The specific elements of construction that INTU FR DISC may be used to provide a penetration seal in, are as follows:

Rigid walls:	The wall must have a minimum thickness of 100 mm and comprise concrete or masonry separating elements with a minimum density of 450 kg/m^3.
Flexible walls:	The wall must have a minimum thickness of 100 mm and comprise timber or steel studs lined on both faces with minimum two layers (with overall board layer thickness on one side equal to or greater than 25 mm) of 'Type F' or 'Type DF' gypsum plasterboards according to EN 520. In timber stud walls, no part of the penetration shall be closer than 100 mm to a stud, the cavity must be closed between the penetration seal and the stud and minimum 100 mm of insulation of reaction to fire class A1 or A2 according to EN 13501-1, is provided within the cavity between the penetration seal and the stud.
Rigid floors:	The floor must have a minimum thickness of 150 mm and comprise aerated concrete, concrete and reinforced concrete, with a minimum density of 550 kg/m^3.

The supporting construction shall be classified in accordance with EN 13501-2 for the required fire resistance period (equal to or greater than specified in Annex B).

INTU FR DISC may be used to provide a penetration seal with specific cables and conduits (according to Annexes A to C).

Construction details of penetration seals are provided in Annex C. Additional provisions are given in Annex A.

The provisions made in this European Technical Assessment are based on an assumed working life of the product of 10 years, when installed in the works, provided that the penetration seal is subject to appropriate installation, in accordance with the manufacturer's recommendations. The indications given on the working life cannot be interpreted as a guarantee given by the producer or the Technical Assessment Body, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

2.2 Use category

Type Z_2: intended for use in internal conditions with humidity lower than 85% RH, excluding temperatures below 0°C, without exposure to rain or UV.

3 Performance of the product and references to the methods used for its assessment

3.1 Performance of the product

3.1.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	No performance assessed
Resistance to fire	Annex B

3.1.2 Hygiene, health and the environment (BWR 3)

No performance assessed.

3.1.3 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Mechanical resistance and stability	No performance assessed
Resistance to impact / movement	No performance assessed
Adhesion	No performance assessed
Durability	Use category: Type Z_2

3.1.4 Protection against noise (BWR 5)

No performance assessed.

3.1.5 Energy economy and heat retention (BWR 6)

No performance assessed.

3.2 Methods used for the assessment

The assessment has been made in accordance with EAD 350454-00-1104.

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to the Decision 1999/454/EC of the European Commission, as amended by Decision 2001/596/EC of the European Commission, the system 1 of assessment and verification of constancy of performance applies (see Annex V to regulation (EU) No 305/2011).

5 Technical details necessary for the implementation of the AVCP system, as provided in the applicable European Assessment Document (EAD)

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited in Instytut Techniki Budowlanej.

For type testing the results of the tests performed as part of the assessment for the European Technical Assessment shall be used unless there are changes in the production line or plant. In such cases the necessary type testing has to be agreed between Instytut Techniki Budowlanej and the notified body.

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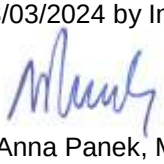


Anna Panek, MSc
Deputy Director of ITB

Additional provisions

- INTU FR DISC shall be placed on both sides of the wall or on the bottom side of the floor.
- Classifications given in Annex B are valid for opening diameter ≤ 25 mm.
- Classifications given in Annex B for cables are valid for:
  – small cables that are currently and commonly used in building practice in Europe, including optical fibre cables, except tied bundles, waveguides and non-sheathed cables (wires),
  – type B cables: E-YY-J 1x95RM, E-YY-O 1x95RM according to HD 603.3A, NYY-J 1x95RM, NYY-O 1x95RM according to HD 603.3G, VV 1x95 according to HD 603.3M and TT 1x95RM 0,6 / 1,0 kV according to HD 603.3O,
  in accordance with tables in Annex B.
- Distance from the surface of separating element to the cable or conduit support is max. 400 mm for first attachment.
- The penetration seals according to Annexes B1, B4 and B5 are made for single small cables or cable bundles.
- The minimum distance between the adjacent cable penetration seals given in Annexes B1, B4 and B5 is 20 mm.
- The plastic conduits according to Annexes B2 and B3 can be empty or equipped with single small cables ($ø_{cable}$ ≤ 21 mm) inside.
- The minimum distance between the adjacent conduit penetration seals given in Annexes B2 and B3 is 100 mm.
- Classifications given in Annex B2 for steel conduits are also valid for other metal pipe materials with:
  - thermal conductivity lower than respectively steel, and
  - melting point at least equal to respectively steel, and greater than:
    – 739 °C for the fire resistance class EI 15 and E 15,
    – 781 °C for the fire resistance class EI 20 and E 20,
    – 842 °C for the fire resistance class EI 30 and E 30,
    – 902 °C for the fire resistance class EI 45 and E 45,
    – 945 °C for the fire resistance class EI 60 and E 60,
    – 1006 °C for the fire resistance class EI 90 and E 90,
    – 1049 °C for the fire resistance class EI 120 and E 120,
    – 1110 °C for the fire resistance class EI 180 and E 180,
    – 1153 °C for the fire resistance class EI 240 and E 240.
- Classifications given in Annex B3 for plastic conduits are valid for conduits made of PVC according to EN 61386-21.

INTU FR DISC	**Annex A** of European Technical Assessment ETA-24/0158
Additional provisions	

Table B1. Resistance to fire classification of single small cables ($ø_{cable}$ ≤ 21 mm) or cable bundles ($ø_{bundle}$ ≤ 25 mm, $ø_{cable}$ ≤ 21 mm) penetration seals in flexible or rigid wall, made in accordance with Annex A and Annex C1

Fire resistance class: EI 120
wall thickness ≥ 100 mm

Table B2. Resistance to fire classification of steel conduits ($ø_{conduit}$ ≤ 16 mm, without cables inside), penetration seals in flexible or rigid wall, made in accordance with Annex A and Annex C2

Fire resistance class: EI 120-C/U EI 120-C/C
wall thickness ≥ 100 mm

Table B3. Resistance to fire classification of PVC (plastic) conduits ($ø_{conduit}$ ≤ 25 mm), with or without small cables ($ø_{cable}$ ≤ 21 mm), penetration seals in flexible or rigid wall, made in accordance with Annex A and Annex C2

Conduit material	Conduit wall thickness [mm]	Service inside	Number x diameter x thickness of INTU FR DISC [mm]	Fire resistance class
PVC	1,05	empty	2 x 65,0 x 3,0	**E 120-U/U E 120-C/U E 120-U/C E 120-C/C**
		small cable: $ø_{cable}$ ≤ 21 mm	2 x 65,0 x 3,0	
		type B cable: E-YY-J 1x95RM, E-YY-O 1x95RM, NYY-J 1x95RM, NYY-O 1x95RM, VV 1x95, TT 1x95RM 0,6 / 1,0 kV	2 x 65,0 x 3,0	**EI 90 / E 120-U/U EI 90 / E 120-C/U EI 90 / E 120-U/C EI 90 / E 120-C/C**
wall thickness ≥ 100 mm				

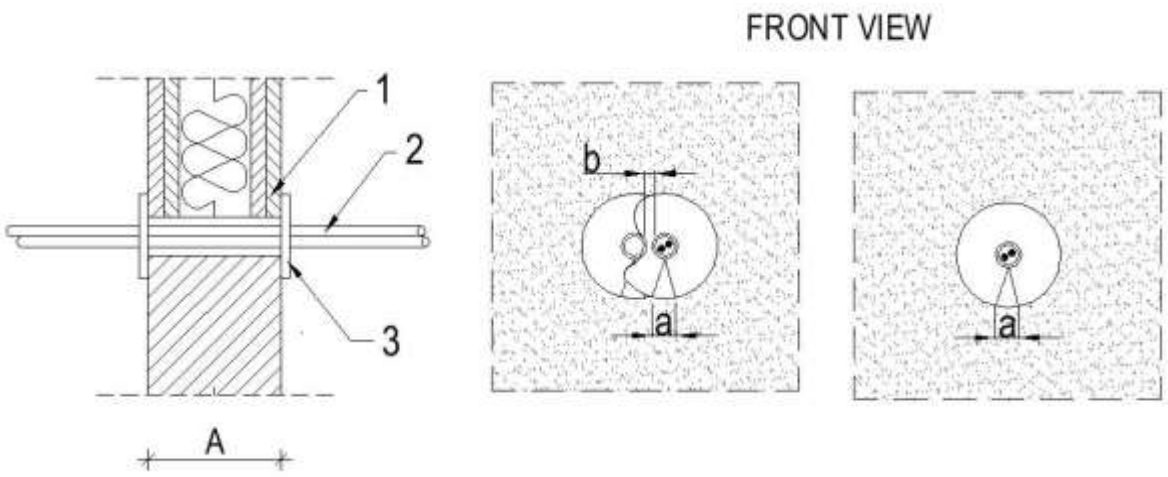
Table B4. Resistance to fire classification of single small cables ($ø_{cable}$ ≤ 14 mm) or cable bundles ($ø_{bundle}$ ≤ 25 mm, $ø_{cable}$ ≤ 14 mm) penetration seals in rigid floor, made in accordance with Annex A and Annex C3

Fire resistance class: EI 120
floor thickness ≥ 150 mm

Table B5. Resistance to fire classification of single small cables (14 mm < $ø_{cable}$ ≤ 21 mm) or cable bundles ($ø_{bundle}$ ≤ 25 mm, $ø_{cable}$ ≤ 21 mm) penetration seals in rigid floor, made in accordance with Annex A and Annex C3

Fire resistance class: EI 90 / E 120
floor thickness ≥ 150 mm

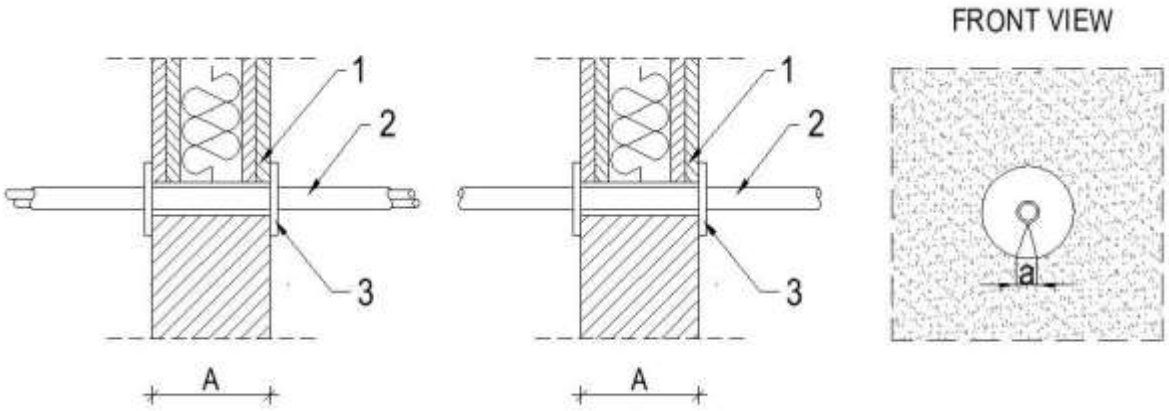
Fig. C1. Single small cable or cable bundle penetration seal in flexible or rigid wall made with use of INTU FR DISC



1 Flexible or rigid wall thickness of A = min. 100 mm
2 Single small cable or cable bundle
3 INTU FR DISC installed on both sides of the wall, a = 10 mm, b ≥ 20 mm

INTU FR DISC	**Annex C1** of European Technical Assessment ETA-24/0158
Construction details Single small cable or cable bundle penetration seals in flexible or rigid wall	

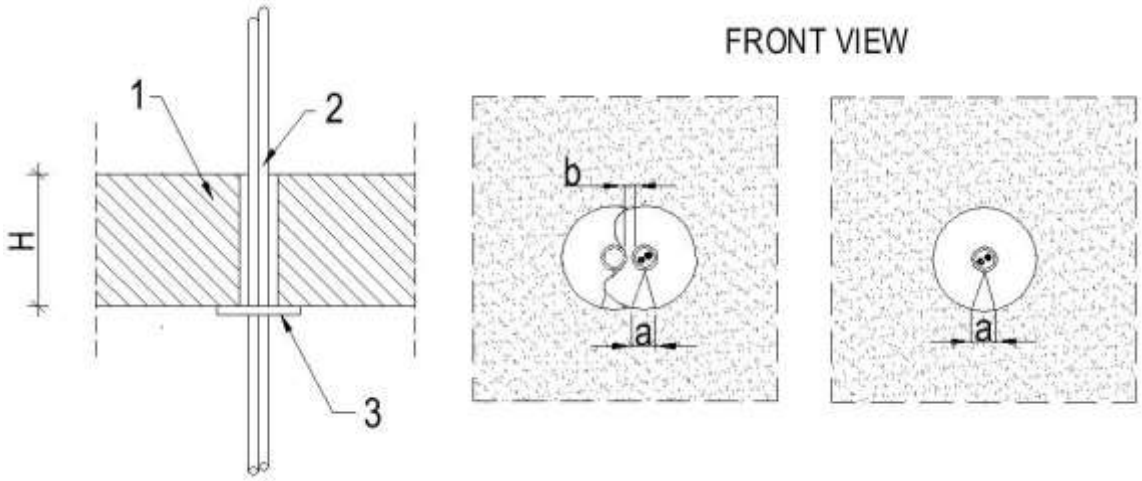
Fig. C2. Plastic and metal conduit penetration seal in flexible or rigid wall made with use of INTU FR DISC



1 Flexible or rigid wall thickness of A = min. 100 mm
2 Metal or plastic pipe conduit, with or without cable
3 INTU FR DISC installed on both sides of the wall, a = 10 mm

INTU FR DISC	**Annex C2** of European Technical Assessment ETA-24/0158
Construction details Plastic or metal conduit penetration seals in flexible or rigid wall	

Fig. C3. Single small cable or cable bundle penetration seal in rigid floor made with use of INTU FR DISC



1 Rigid floor thickness of H = min. 150 mm
2 Single small cable or cable bundle
3 INTU FR DISC installed on bottom of the floor, a = 10 mm, b ≥ 20 mm

INTU FR DISC	**Annex C3** of European Technical Assessment ETA-24/0158
Construction details Single small cable or cable bundle penetration seals in rigid floor	