.INTUSEAL®

passive fire protection manufacturer

PRODUCTS CATALOG

FROM 04.2025

WWW.INTUSEAL.COM

APPLICATION OF PRODUCTS

	PRODUCT / WHERE TO USE	COMBUSTIBLE PIPES	COMBUSTIBLE PIPES WITH INSULATION	NON--COMBUSTIBLE PIPES WITH FLAMMABLE INSULATION	NON--COMBUSTIBLE PIPES	ELECTRICAL SERVICES	MIXED SERVICES PENETRATIONS	LINEAR JOINT SEALS	VENTILATION
1	**INTU FR MASTIC** Intumescent acrylic mastic				●	●	●		●
2	**INTU FR GRAPHITE** Intumescent graphite sealant	●				●	●		
3	**INTU FR COAT A** Fire rated ablative coat				●		●	●	
4	**INTU FR BOARD A** Fire rated ablative board				●	●	●	●	
5	**INTU FR UNICOAT P** Fire rated intumescent coat				●	●	●		
6	**INTU FR UNIBOARD** Fire rated board	●	●	●	●	●	●		
7	**INTU FR COAT I** Fire rated intumescent coat				●	●	●		
8	**INTU FR WRAP L** Intumescent pipe wrap in roll	●	●	●					
9	**INTU FR WRAP** Intumescent pipe wrap	●	●	●					
10	**INTU FR COLLAR** **INTU FR COLLAR (ST)** Intumescent pipe collar	●							
11	**INTU FR COLLAR L SLIM** Intumescent pipe collar roll	●	●	●		●	●		
12	**INTU FR DISC** Firestop intumescent disc	●			●	●			

	PRODUCT / WHERE TO USE	COMBUSTIBLE PIPES	NON--COMBUSTIBLE PIPES WITH FLAMMABLE INSULATION	NON--COMBUSTIBLE PIPES	ELECTRICAL SERVICES	MIXED SERVICES PENETRATIONS	LINEAR JOINT SEALS	VENTILATION	DOOR SEALS
13	**INTU FR FOAM 2K** Fire protection foam	●		●	●	●			
14	**INTU FR BRICK** Intumescent fire stop brick	●		●	●	●			
15	**INTU FR BANDAGE** Fire protection bandage				●	●			
16	**INTU FR EJ SEAL** Fire rated expansion joint seal						●		
17	**INSU ROPE** Fire rated linear joint seals rope						●		
18	**INTU FR MORTAR** Firestop mortar		●	●	●	●			
19	**ALFA FIREGUARD 3** Fire protection mat for ventilation ducts							●	
20	**INTU FR GRILLE** Intumescent FR Grille							●	●
21	**INTU ATP** Air transfer plate							●	
22	**INTU STRIP F / FC** Intumescent seals								●

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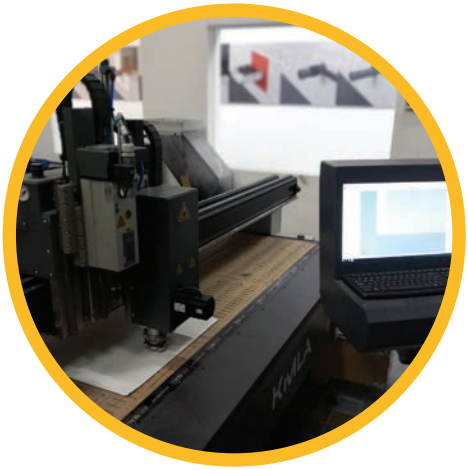
ABOUT US

INTUSEAL is a manufacturer of passive fire protection systems with headquarters and a production plant in Poland. Our solutions are dedicated to providing integrity and insulation of building structures in places where penetration by building service systems must be sealed and expansion joints must be protected.



At INTUSEAL, our aim is to offer fire and smoke containment products of the highest quality, ensuring their high performance that meets applicable legislation.

Our products stand out due to high technical parameters that make them suitable for sealing a great many types of building service systems. Together with certified products, we provide technical support by a very experienced team, active in the industrial sector for almost 20 years. We pay attention to resolution of issues jointly with our customers.

The understanding of appropriate legislation and ability to adapt the product makes us responsive to market requirements.

Thanks to our own R&D laboratories, we take care of continuous development to create new formulas offering a solid barrier against spread of fire and smoke in buildings and ultimately to protect people's lives.

Finally, our products undergo rigorous fire tests to comply with stringent standards of EU certification procedures, and to be issued with an ETA approval in the end.

INTU FR MASTIC

Intumescent acrylic mastic

.INTUSEAL®

INTU FR MASTIC

Intumescent acrylic mastic

PRODUCT DESCRIPTION

The **INTU FR MASTIC** is an acrylic mastic designed to prevent spreading of fire, smoke and gases through openings in fire rated walls and floors. **INTU FR MASTIC** expands when it is subjected to fire and close openings around pipes, cables and gaps, expansion joints by creating tight barrier for fire, smoke and gas. Mass effective fills the gaps around the installation, ensuring the integrity and insulation of fire resistance class EI 120 and EI 240.

APPLICATION

The **INTU FR MASTIC** is designed for fire protection of penetrations with:

- non-flammable pipes in floors and walls
- single electric cables / bundle of cables in floors and walls
- installation / sealing of intumescent ventilation grilles **INTU FR GRILLE**

Rigid walls:	The wall must be 150 mm minimum thickness. Must have concrete, cellular concrete or masonry structure, with minimum density 600kg/m³.
Rigid floors:	The floor must be 150 mm minimum thickness. Must have concrete, cellular concrete or masonry structure, with minimum density 1700kg/m³.

AVAILABILITY

Contents	Colour	Box	Pallet	Article number
310 ml	White	15	1260	INFRM310
310 ml	Grey	15	1260	INFRMG310
310 ml	Pure White	15	1260	INFRMPW310
600 ml	White	20	720	INFRM600
600 ml	Grey	20	720	INFRMG600
600 ml	Pure White	20	720	INFRMPW600
5 L	White	N/A	60	INFRMW5L
5 L	Grey	N/A	60	INFRMG5L

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 19/0038 of 28/06/2019
- *Declaration of Performance:*
  DoP 8/2019
- *Certificate of Constancy of Performance*
  1488-CPR-0756/W

INSTALLATION METHOD

Clean the surfaces from grease and other contaminants before applying the mastic.

Place a mineral wool backfill in the hole.
Fill the gap with **INTU FR MASTIC** to the required depth.

Application conditions: mass **INTU FR MASTIC** after hardening, can be used in the temperature range: from -30˚C to +80˚C.

TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between + 5°C and + 25°C.

- Usefulness for 310 ml capacity: 24 months from the date of production placed on the package
- Usefulness for 600 ml and 5 l capacity: 18 months from the date of production placed on the package.

INTU FR MASTIC
Intumescent acrylic mastic

TECHNICAL DATA

Table. 1. DETAILS - NON FLAMMABLE PIPES

	Diameter [mm]	Filling	Mineral wool pipe insulation lamella (density ≥ 37 kg/m³) min. thick x length [mm]	INTU FR MASTIC minimum width x depth [mm]	INTU FR MASTIC consumption of a 310 ml tube
Steel / Cast Iron	≤ 42,4	Mineral wool; ρ ≥ 40 kg/m³ Depth: 15mm	30 x 250	10 x 15	0,20
	≤ 48,3		50 x 250		0,20
	≤ 60,3				0,25
	≤ 76,1				0,30
	≤ 88,9				0,35
	≤ 108,0				0,40
	< 159,0	Mineral wool; ρ ≥ 40 kg/m³ Depth: 20 mm	50 x 650	25 x 20	1,90
	≤ 219,1		50 x 650	25 x 20	2,50
Copper / Steel / Cast Iron	≤ 6,0		30 x 500	25 x 20	0,35
	≤ 54,0		30 x 500		0,90
	≤ 88,9		50 x 700		1,30

Recommended **INTU FR MASTIC** mass width: from10 mm to maximum around 50 mm

NON FLAMMABLE PIPES - penetration seals

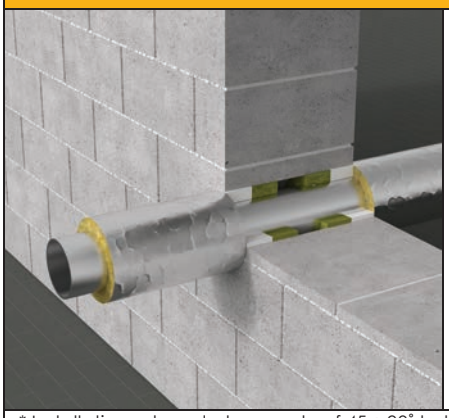


Fig. 1 Penetration seal in wall A ≥ 150 mm

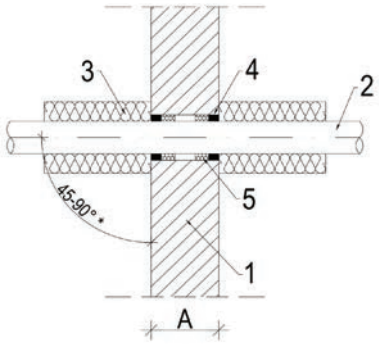
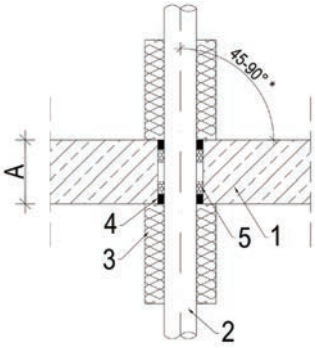


Fig. 2 Penetration seal in floor A ≥ 150 mm



* Installations placed at an angle of 45 ÷ 90° to the partition, based on PN-EN 1366-3 standard
1 – wall/floor (A – thickness)
2 – non-flammable pipe
3 – mineral wool insulation with a density (ρ) of min 37 kg/m³
4 – **INTU FR MASTIC** (details according Table 1)
5 – mineral wool backfill material with minimum density ρ ≥ 40 kg/m³.

ELECTRICAL CABLES			
Installation type	Diameter [mm]	Fire resistance classification	
		WALL	FLOOR
Single cable	Ø ≤ 21	EI 240	EI 120
Cables in bundle (made of cables Ø ≤ 21)	Ø ≤ 100	EI 90	EI 120

Fig. 1 Penetration seal in wall A ≥ 150 mm

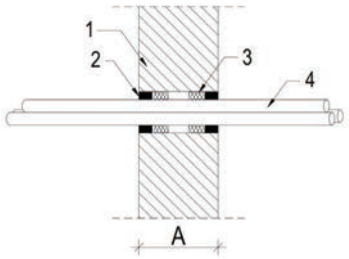
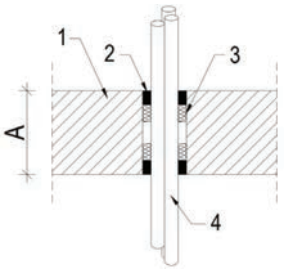


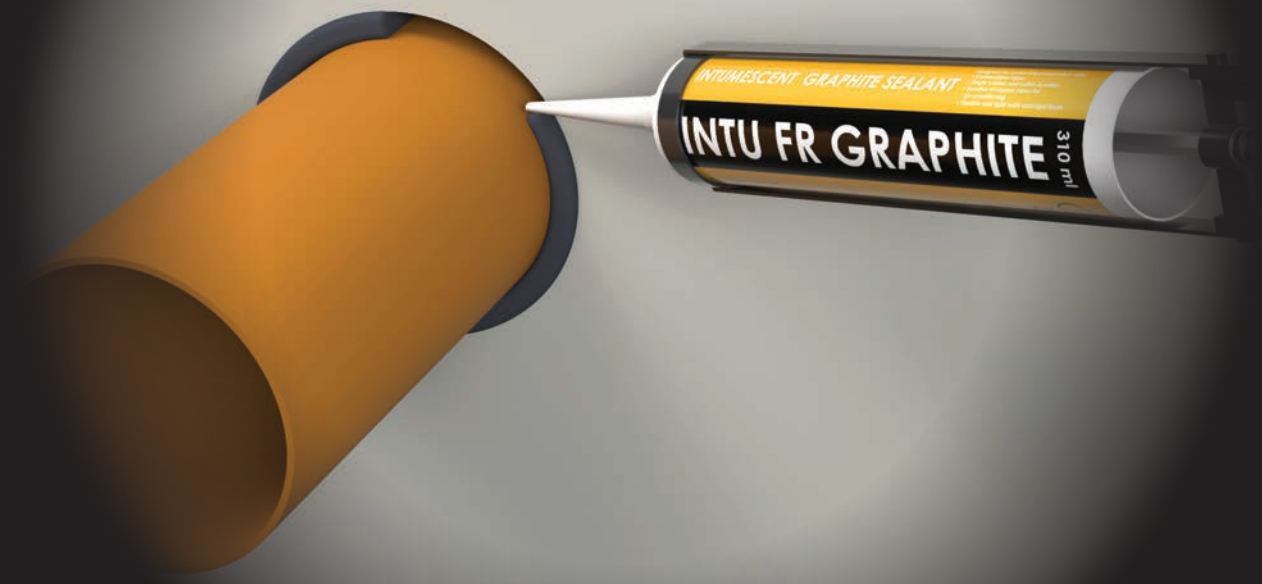
Fig. 2 Penetration seal in floor A ≥150mm



1 – wall / floor (A – thickness);
2 – mineral wool ρ ≥ 40 kg/m³ depth 15 mm;
3 – **INTU FR MASTIC** depth min 20 mm;
4 – single electric cable ≤ Ø 21mm or cables in bundle ≤ Ø 100 mm.

INTU FR GRAPHITE

Intumescent graphite sealant



INTU FR GRAPHITE

Intumescent graphite sealant

PRODUCT DESCRIPTION

The **INTU FR GRAPHITE** is graphite fire-retardant mass swells under the influence of fire, closing the opening around the installation and any gaps, creating a barrier that ensures the partition remains tight and insulating up to EI 120.

APPLICATION

The intumescent graphite sealant **INTU FR GRAPHITE** is intended for fire protection of penetration seals, especially:

- combustible pipes diameter of Ø ≤ 110mm
-
- bundles of copper pipes for air conditioning
- single cables and cable bundles
- cables in casting pipes and AROT type pipes

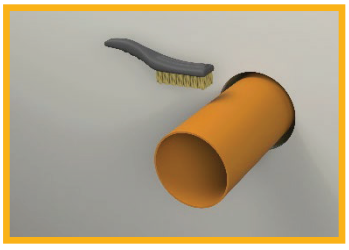
Flexible walls:	The wall must be minimum 100 mm thickness with a frame structure of steel or wooden sections covered on both sides with a minimum of 2 layers of panels with a thickness of min 12,5 mm**.**
Rigid walls:	The wall must be minimum 100 mm thickness, made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with a density of min. 450 kg/m³.
Rigid floors:	The floor must be at least 150 mm thick made of concrete, reinforced concrete or cellular concrete with a minimum density of 550 kg/m³.

AVAILABILITY

Contents	Mass colour	Box	Pallet	Article number
310 ml	Black	15	1260	INFRG310

INSTALLATION METHOD

- Clean the opening and installations from grease and other contaminants.
- Place the mineral wool base material in the hole. Fill the gap with **INTU FR GRAPHITE** mass.
- At the end line up the surface of the mass (e.g. using a spatula) Curing time: ≈ 1mm / 24h



COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 24/0152 of 28/03/2024
- *Declaration of Performance:*
  DoP 3/2024
- *Certificate of Constancy of Performance*
  1488-CPR-1109/W

TRANSPORT AND STORAGE

Store in dry and cool conditions, at a temperature between +5°C to +35°C.
Usefulness 12 months from the date of production placed on the package.

INTU FR GRAPHITE

Intumescent graphite sealant

TECHNICAL DATA

Colour	Black (Graphite)
Usage 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.
Reaction to fire	E
Methods used for the assessment	EAD 350454-00-1104 "Fire Stopping and Fire Sealing Products. Penetration Seals"
Approvals	ETA 24/0152 of 28/03/2024
Large gaps	System compatible with INTU FR UNIBOARD based on the ETA 24/1047 of 19/12/2024

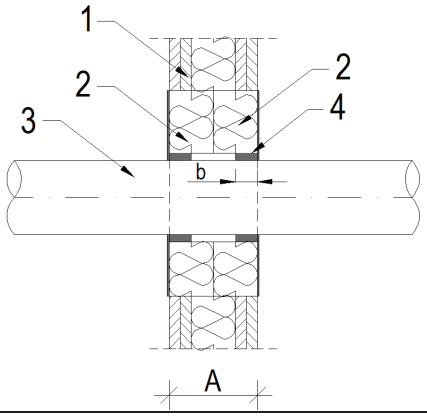
Approximate consumption of INTU FR GRAPHITE for CABLE PENETRATIONS

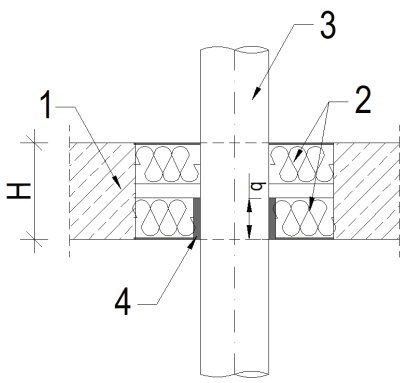
Hole diameter/ hole dimension W x H (mm)	Percentage part of hole area which cables inside			
	0%	20%	40%	60%
	Consumption of 310 ml **INTU FR GRAPHITE** cartridge			
80	0,80	0,64	0,48	0,32
100	1,30	1,04	0,78	0,52
120	1,80	1,44	1,08	0,72
140	2,50	2,00	1,50	1,00
160	3,20	2,56	1,92	1,28
150 x 150	3,60	2,88	2,16	1,44

Approximate consumption of INTU FR GRAPHITE for PIPE PENETRATIONS

Pipe diameter Ø (mm)	Hole diameter Ø (mm)	Consumption of 310 ml **INTU FR GRAPHITE** cartridge
20	40	0,15
32	52	0,21
50	70	0,30
63	83	0,37
75	95	0,43
90	110	0,51
110	130	0,61

COMBUSTIBLE PIPES WITH **INTU FR GRAPHITE**





Combustible pipe with INTU FR GRAPHITE penetration seal, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
or floor H ≥ 150 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – combustible pipe
4 – **INTU FR GRAPHITE** on minimum depth:

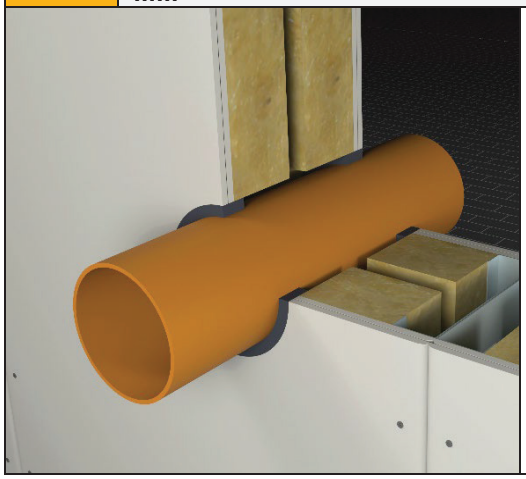
- b ≥ 25 mm from both sides of the wall
- b ≥ 50 mm from the bottom of the floor

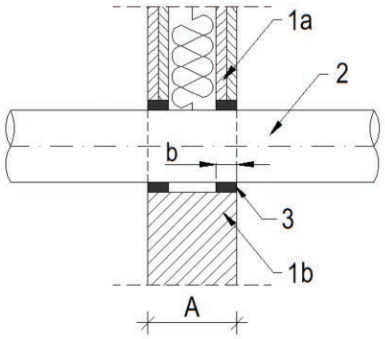
INTU FR GRAPHITE

Intumescent graphite sealant

SOLUTION DETAILS

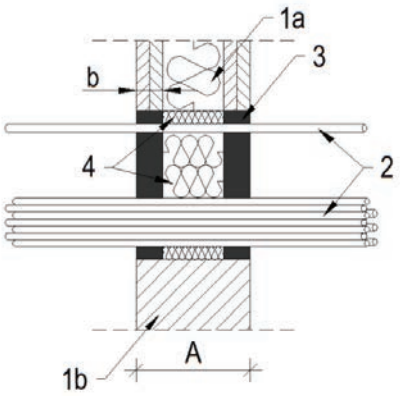
Fig.1 Combustible pipes penetration seals with single row of band in flexible or rigid wall with thickness A ≥ 100 mm





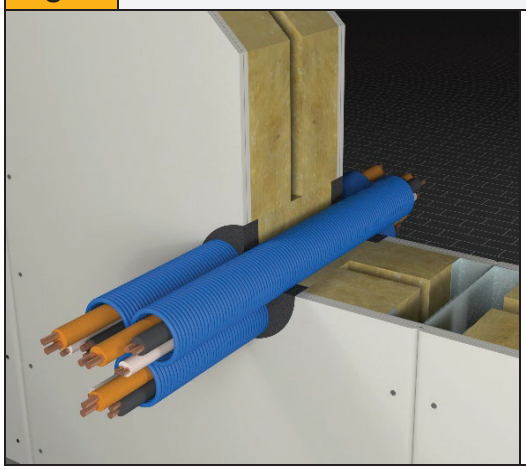
1a - flexible wall, thickn. A ≥ 100 mm
1b - rigid wall, thickness A ≥100 mm
2 - INTU FR GRAPHITE sealant with minimum depth b ≥ 25 mm
3 – combustible pipe Ø ≤ 110 mm

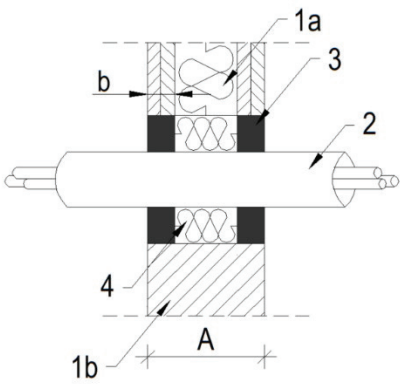
Fig.2 Electrical and mixed penetration seals in flexible or rigid wall with thickness A ≥ 100 mm



1a - flexible wall, thickn. A ≥ 100 mm
1b - rigid wall, thickness A ≥100 mm
2 - single cable $Ø_{CABLE}$ ≤ 21 mm or cables bundle $Ø_{BUNDLE}$ ≤ 100 mm, single type F cable, single coaxial wireless cable type Ø ≤ 22,23 mm
3 - INTU FR GRAPHITE sealant with minimum depth b ≥ 25 mm
4 - empty space filling with mineral wool with density ≥ 35 kg/m³

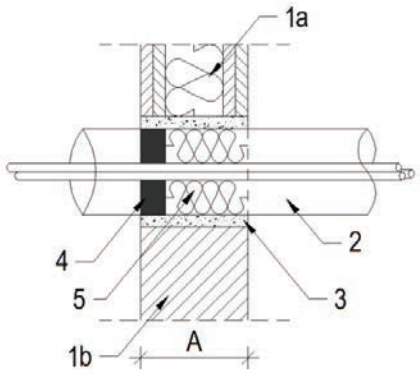
Fig.3 PVC (plastic) conduits with or without small cables in flexible or rigid wall with thickness A ≥ 100 mm





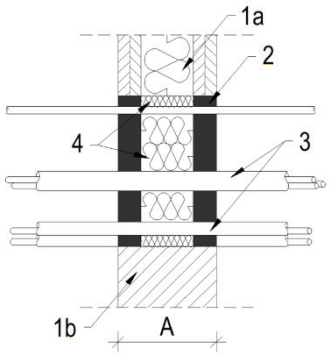
1a - flexible wall, thickn. A ≥ 100 mm
1b - rigid wall, thickness A ≥100 mm
2 - plastic protective pipe PVC $Ø_{CONDUIT}$ ≤ 37 mm empty or with small cable $Ø_{CABLE}$ ≤ 21 mm / bundle of cables $Ø^{BUNDLE}$ ≤ $Ø_{CONDUIT}$
3 - INTU FR GRAPHITE sealant with minimum depth b ≥ 25 mm
4 - empty space filling with mineral wool with density ≥ 35 kg/m³

Fig.4 Plastic conduits (AROT DVK) with or without small cables in flexible or rigid wall with thickness A ≥ 100 mm



1a - rigid wall, thickness A ≥ 100 mm
1b - flexible wall, thickness A ≥100 mm
2 - single cable $Ø_{CABLE} \leq 21$ mm / bundle of cables in a protective pipe $ØB_{UNDLE} \leq Ø_{CONDUIT}$ / empty plastic conduit $Ø_{CONDUIT} \leq 100$ mm
3 - cement mortar
4 - INTU FR GRAPHITE sealant minimum depth ≥ 25mm, applied on one any side
5 - mineral wool with density ≥ 35 kg/m³

Fig.5 PVC (plastic) conduits with or without small cables

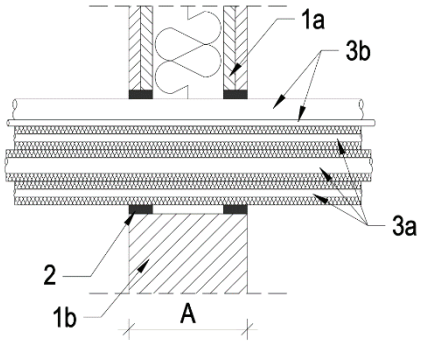


1a - flexible wall, A ≥ 100 mm
1b - rigid wall, A ≥100 mm
2 - INTU FR GRAPHITE sealant min. depth ≥ 25mm, applied on both sides of the partition

3 – cable or bundle of cables in a protective pipe

4 – filling empty space with mineral wool with density ≥ 35 kg/m³

Fig.6 Mixed bundle penetration seals

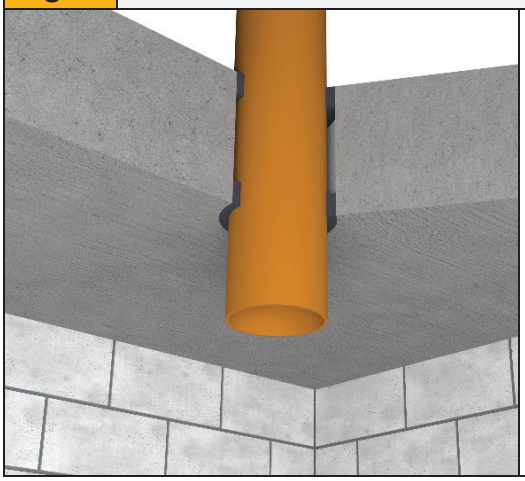


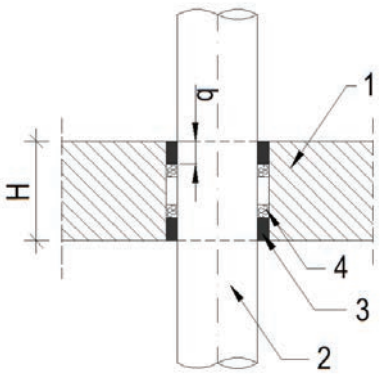
<u>Air conditioning installation bundle:</u>

3a – in FEF insulation: max. 3 x copper pipe, in PE insulation: max. 8 x copper pipe,

3b – with copper in FEF: 1 x PVC pipe and 1 x cable with copper in PE: 2 x PVC pipe and 2 x cable

Fig.7 Combustible pipes penetration seals in rigid floor with thickness A ≥ 150 mm and density ρ ≥ 550 kg/m3





1 – rigid floor H ≥ 150 mm
2 – combustible pipe
3 - INTU FR GRAPHITE sealant with minimum depth b ≥ 25 mm, applied on both sides of the floor
4 – mineral wool (density ≥ 35 kg/m³), material depth ≥ 15 mm.

INTU FR COAT A

Fire rated ablative coat

INTU FR COAT A

Fire rated ablative coat

PRODUCT DESCRIPTION

The firestop ablative paint **INTU FR COAT A** is a one-component product designed for sealing fire protection penetrations and expansion joints with fire resistance class up to **EI 240**. Under fire conditions and the influence of high temperature, endothermic reactions take place in the product. The paint absorbs heat to a large extent, delaying the impact of fire on structural elements.

APPLICATION

The fire rated ablative coat **INTU FR COAT A** is designed for fire protection of: penetration seals with single or group of non-flammable pipes in floors or walls, expansion joints in floors or walls, electric cables in walls (combined with paint **INTU FR COAT I**).

Flexible wall:	The wall must be minimum thickness 125 mm. Must have a steel profile structure covered on both sides with minimum 2 layers of boards with minimum thickness 12,5 mm.
Rigid wall:	The wall must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 600 kg/m^3.
Rigid floor:	The floor must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 1700 kg/m^3.

AVAILABILITY

Contents	Colour	Packaging	Pallet	Article number
3 kg	White	Pail	147	INCA3KG
12,5 kg		Pail	48	INCA125KG
260 kg		Barrel	2	INCA260KG

INSTALLATION METHOD

1) Clean the surface of the hole and system components from grease and other contaminants thoroughly.
2) Mix the paint thoroughly before use. The paint does not require dilution, but if necessary, water can be added.
3) Cut the mineral wool board to the correct size and place the wool board in the hole/gap, next use **INTU FR COAT A** to paint mineral wool board.
4) Fill all gaps between services – mineral board or partition – mineral board with INTU FR MASTIC.
5) Use **INTU FR COAT A** ablative paint to make an overlap on the partition and on the mineral wool lamella placed on the metal pipe.

Approximate consumption of **INTU FR COAT A**: ~1,6 ÷1,7 kg/m^2 – for a dry film thickness of 1,0 mm.

Approximate dying time: ~60 min (dry to the touch), ~360 min (complete dry).

COMPLIANCE

- *European Technical Assessment:*
  Penetration seals: **ETA 19/0038 of 28/06/2019**
  Linear joints: **ETA 19/0037 of 28/06/2019**
- *Declaration of Performance:*
  Penetration seals: **DoP 5/2019**
  Linear joints: **DoP 7/2024**
- *Certificate of Constancy of Performance*
  Penetration seals: **1488-CPR-0756/W**
  Linear joints: **1488-CPR-0763/W**

TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between + 5°C and + 35°C. Shelf life 12 months from the production date shown on the packaging.

INTU FR COAT A

Fire rated ablative coat

SOLUTION DETAILS for metal pipes penetration seals

NON-FLAMMABLE PIPES (continuous insulation)

Fig. 1. Wall penetration A ≥ 150mm

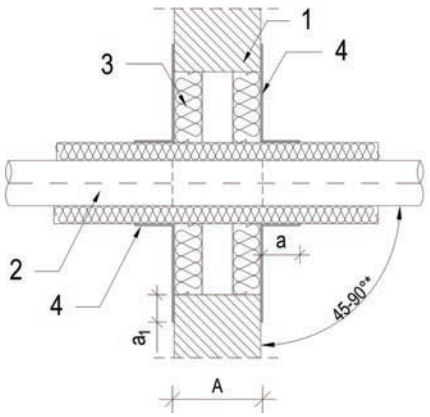
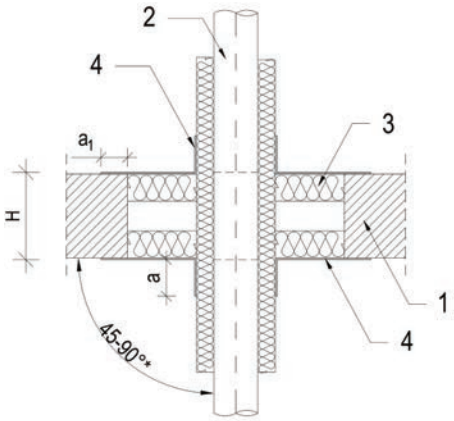
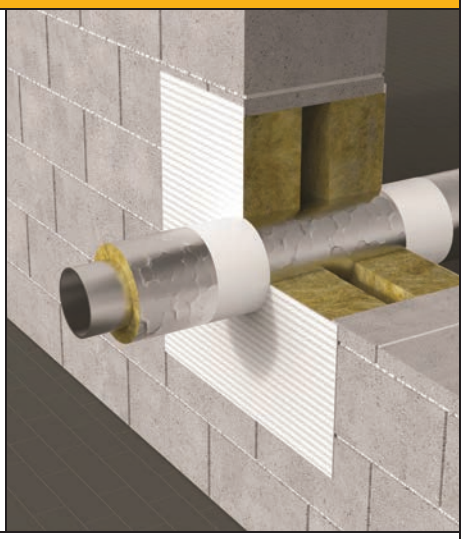


Fig. 2. Floor penetration H ≥ 150mm





1 – rigid wall or rigid floor
2 – non-flammable pipe
3 – mineral wool board with minimum thickness 60 mm and density ρ ≥ 150 kg/m³, coated **INTU FR COAT A** with 1mm dry layer thickness (or ready painted **INTU FR BOARD A**)
4 – mineral wool insulation, density ρ ≥ 37 kg/m³, length L and thickness g according to Technical Data
5 – **INTU FR COAT A** ablative paint, partition overlap a1 ≥ 10 mm; mineral wool insulation overlap a ≥ 50 mm

* Installations angled 45 ÷ 90° to the partition, based on PN-EN 1366-3 standard

NON-FLAMMABLE PIPES (non-continuous insulation)

Fig. 3. Wall penetration A ≥ 150mm

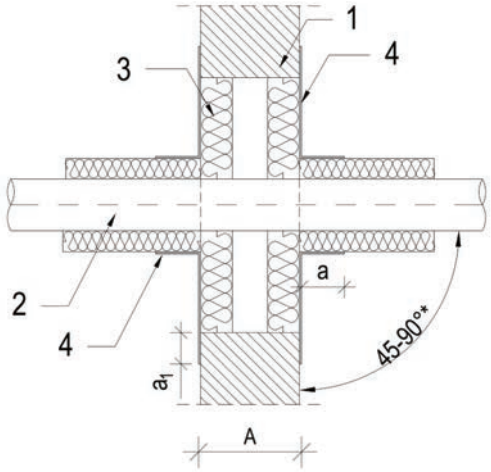
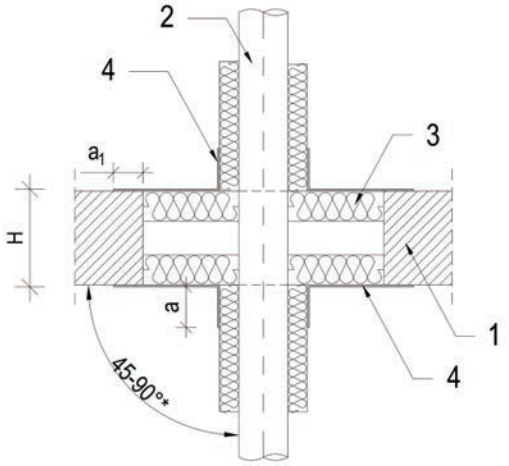


Fig. 4. Floor penetration A ≥ 150mm



1 – rigid wall or rigid floor
2 – non-flammable pipe
3 – mineral wool board with minimum thickness 60 mm and density ρ ≥ 150 kg/m³, coated **INTU FR COAT A** with 1mm dry layer thickness (or ready painted **INTU FR BOARD A**)
4 – mineral wool insulation with density ρ ≥ 37 kg/m³, length L and thickness g according to Technical Data

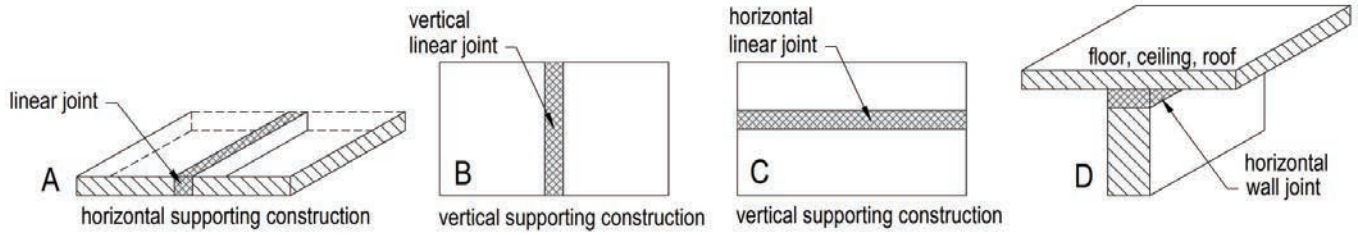
* Installations angled 45 ÷ 90° to the partition, based on PN-EN 1366-3 standard

INTU FR COAT A

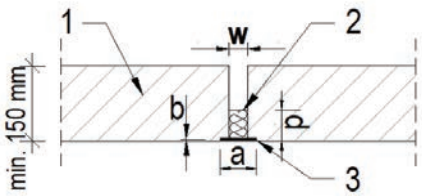
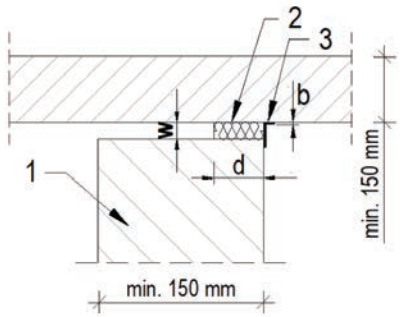
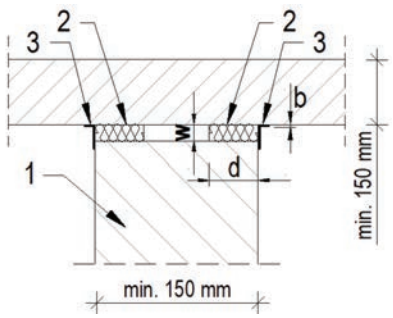
Fire rated ablative coat

TECHNICAL DATA for linear joints

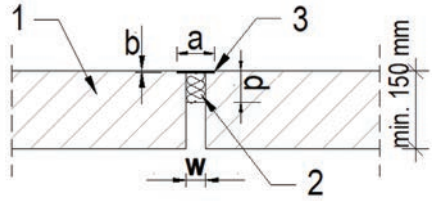
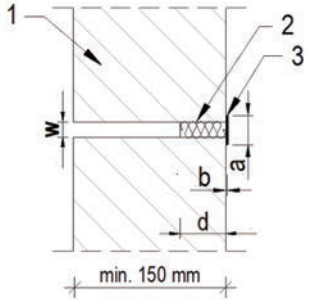
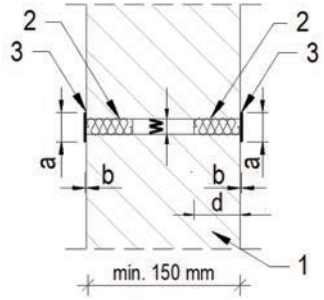
Possible orientation of linear joints seals



Fire resistance for linear joints in RIGID FLOOR gap with total width w ≤ 100 mm

Orientation: **A** d ≥ 100 mm (depth of wool)	Orientation: **D** d ≥ 100 mm (depth of wool)	Orientation: **D** d ≥ 50 mm (depth of wool)
		
EI120 Wool from any side of the partition	**EI120 - EI240** Wool from any side of the partition	**EI120** d ≥ 50 mm (depth of wool)

Fire resistance for linear joints in RIGID WALL gap with total width w ≤ 100 mm

Orientation: **B** d ≥ 100 mm (depth of wool)	Orientation: **C** d ≥ 100 mm (depth of wool)	Orientation: **B** or **C**
		
Vertical: **EI 120 - EI240** Wool from any side of the partition	Horizontal: **EI120 - EI180** Wool from any side of the partition	**EI 120**

1 – wall / floor with thickness ≥ 150 mm; gap with total width w ≤ 100 mm;
2 – **INTU FR BOARD A** and/or mineral wool with density ρ ≥ 150 kg/m³, min. depth 100 mm (coated on one side with **INTU FR COAT A**, with 1mm dry film thickness);
3 – coating of **INTU FR COAT A** on the mineral wool and wall (on one side of the wall):
- length a ≥ W + 2 x 5 mm (the wall is covered on the width of at least 5 mm from the both edges of linear joint)
- thickness b ≥ 1,0 mm (on the mineral wool) or b ≥ 0,6 mm on the wall

INTU FR BOARD A

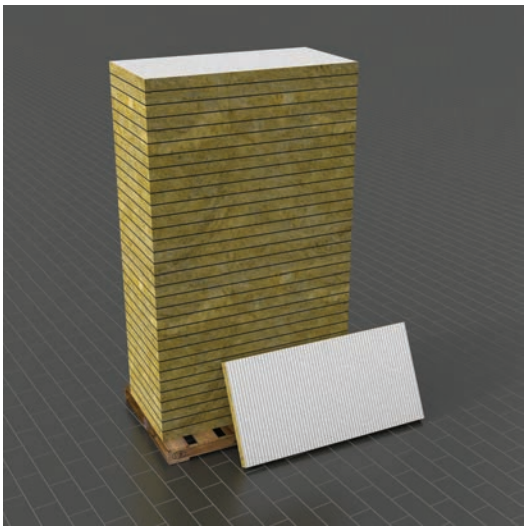
Fire rated ablative board

INTU FR BOARD A

Fire rated ablative board

PRODUCT DESCRIPTION

The firestop board **INTU FR BOARD A** is composed of a mineral wool board with thickness 60 mm, covered on one side with ablative paint **INTU FR COAT A**. The product set is designed for sealing fire protection penetrations and preparing fire expansion joints with fire resistance class up to **EI 240**. In the fire conditions, under the influence of high temperature, endothermic reactions take place in the product. The paint absorbs heat, significantly delaying the impact of fire on structural components.



APPLICATION

The fire rated ablative board **INTU FR BOARD A** is used for: fire protection of penetrations with single or group of non-flammable pipes in floors or walls, protection of expansion joints in floors or walls, fire protection of electric cables combined with intumescent paint **INTU FR COAT I**.

Flexible wall:	The wall must be minimum thickness 125 mm. Must have a steel profile structure covered on both sides with minimum 2 layers of boards with minimum thickness 12,5 mm.
Rigid wall:	The wall must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 600 kg/m^3.
Rigid floor:	The floor must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 1700 kg/m^3.

AVAILABILITY

Product	Thickness	Dimension	Pallet	Article number
INTU FR BOARD A 1S	60 mm	1200x600 mm	64	INBA601SI

INSTALLATION METHOD

1) Clean the surface of the hole and system components from grease and other contaminants thoroughly.
2) Cut the mineral wool board **INTU FR BOARD A** to the correct size and place the wool board in the hole/gap.
3) Fill all gaps between services – mineral board or partition – mineral board with INTU FR MASTIC.
4) Use **INTU FR COAT A** ablative paint to make an overlap on the partition and on the mineral wool lamella placed on the metal pipe.

TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between + 5°C and + 35°C. Shelf life as specified on the product label.

COMPLIANCE

- *European Technical Assessment:*
  Penetration seals: **ETA 19/0038 of 28/06/2019**
  Linear joints: **ETA 19/0037 of 28/06/2019**
- *Declaration of Performance:*
  Penetration seals: **DoP 6/2019**
  Linear joints: **DoP 8/2024**
- *Certificate of Constancy of Performance*
  Penetration seals: **1488-CPR-0756/W**
  Linear joints: **1488-CPR-0763/W**

INTU FR BOARD A

Fire rated ablative board

➔ SOLUTION DETAILS for metal pipes penetration seals

NON-FLAMMABLE PIPES (continuous insulation)

Fig. 1. Wall penetration A ≥ 150mm

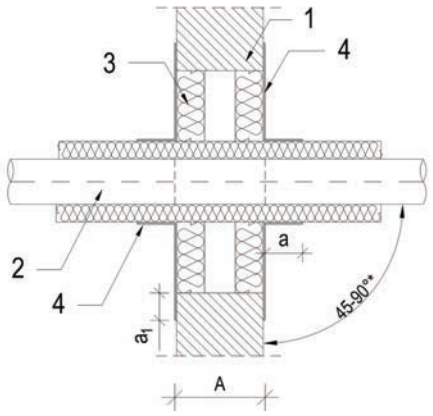
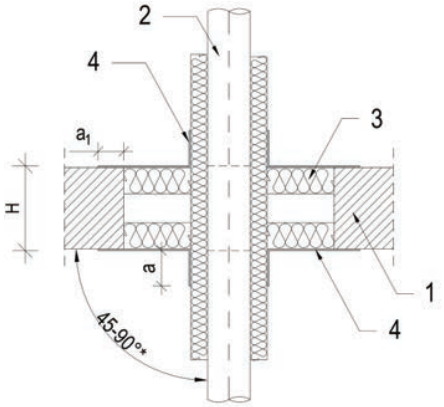
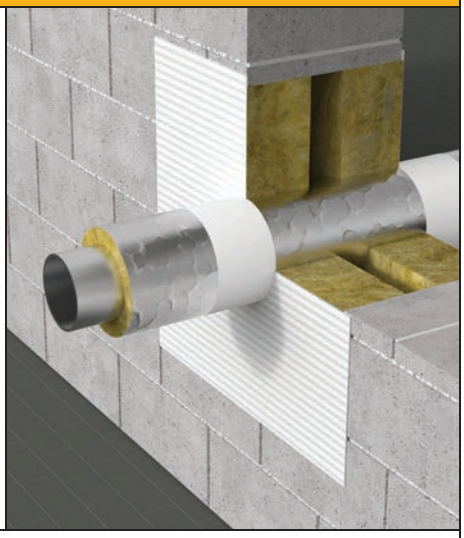


Fig. 2. Floor penetration A ≥ 150mm





1 – rigid wall or rigid floor
2 – non-flammable pipe
3 – mineral wool board **INTU FR BOARD A**
4 – mineral wool insulation, density ρ ≥ 37 kg/m³, length L and thickness g according to Technical Data
5 – **INTU FR COAT A** ablative paint, partition overlap a1 ≥ 10 mm; mineral wool insulation overlap a ≥ 50 mm

* Installations angled 45 ÷ 90° to the partition, based on PN-EN 1366-3 standard

NON-FLAMMABLE PIPES (non-continuous insulation)

Fig. 3. Wall penetration A ≥ 150mm

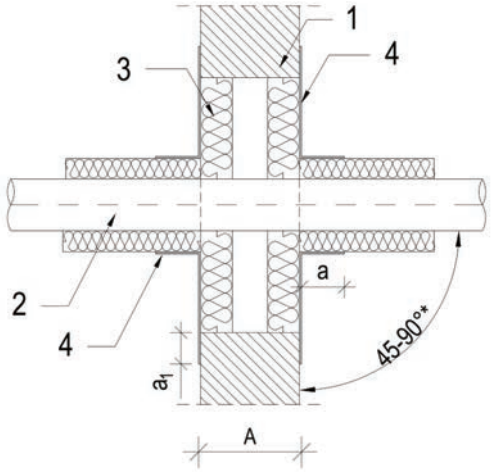
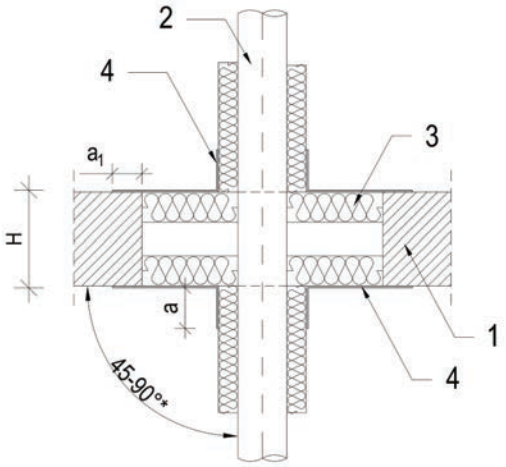


Fig. 4. Floor penetration A ≥ 150mm



1 – rigid wall or rigid floor
2 – non-flammable pipe
3 – mineral wool board **INTU FR BOARD A**
4 – mineral wool insulation with density ρ ≥ 37 kg/m³, length L and thickness g according to Technical Data

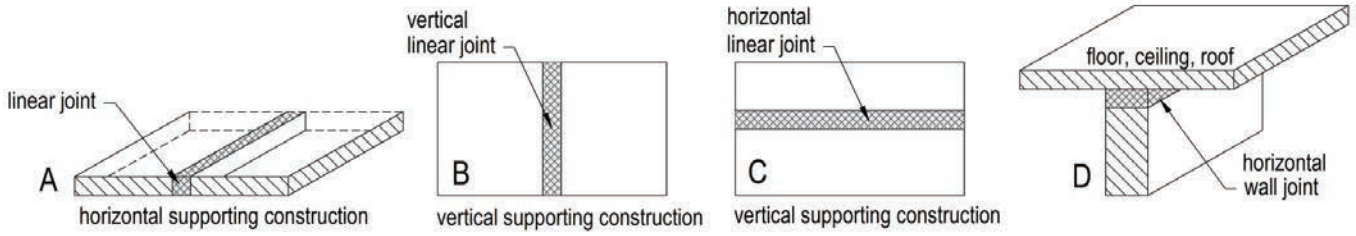
* Installations angled 45 ÷ 90° to the partition, based on PN-EN 1366-3 standard

INTU FR BOARD A

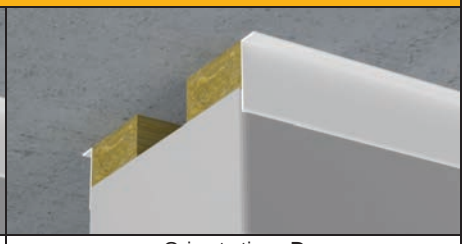
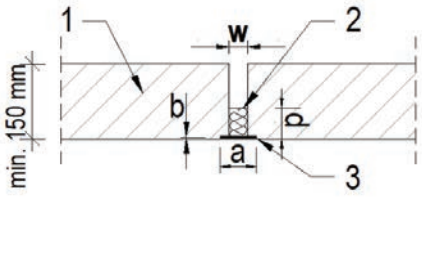
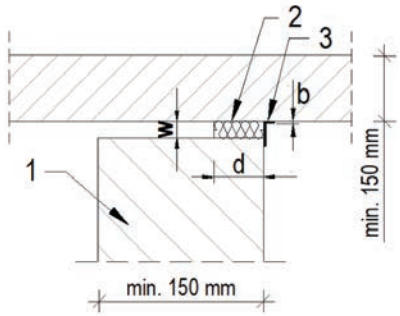
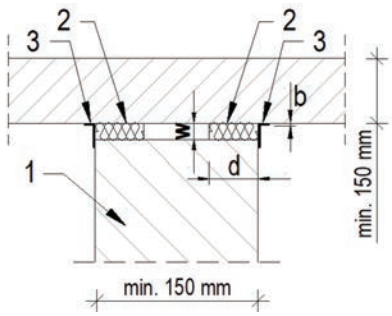
Fire rated ablative board

TECHNICAL DATA for linear joints

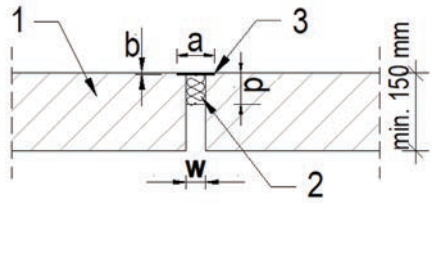
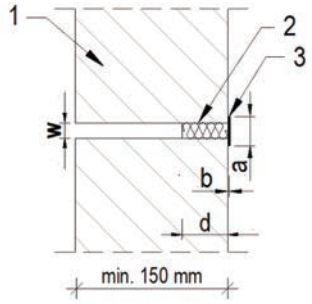
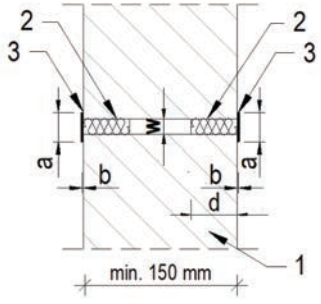
Possible orientation of linear joints seals



Fire resistance for linear joints in RIGID FLOOR gap with total width w ≤ 100 mm

		
Orientation: **A** d ≥ 100 mm (depth of wool)	Orientation: **D** d ≥ 100 mm (depth of wool)	Orientation: **D** d ≥ 50 mm (depth of wool)
		
EI120 Wool from any side of the partition	**EI120 - EI240** Wool from any side of the partition	**EI120** d ≥ 50 mm (depth of wool)

Fire resistance for linear joints in RIGID WALL gap with total width w ≤ 100 mm

Orientation: **B** d ≥ 100 mm (depth of wool)	Orientation: **C** d ≥ 100 mm (depth of wool)	Orientation: **B** or **C**
		
Vertical: **EI 120 - EI240** Wool from any side of the partition	Horizontal: **EI120 - EI180** Wool from any side of the partition	**EI 120**

1 – wall / floor with thickness ≥ 150 mm; gap with total width w ≤ 100 mm;
2 – **INTU FR BOARD A**
3 – coating of **INTU FR COAT A** on the mineral wool and wall (on one side of the wall):
- length a ≥ W + 2 x 5 mm (the wall is covered on the width of at least 5 mm from the both edges of linear joint)
- thickness b ≥ 1,0 mm (on the mineral wool) or b ≥ 0,6 mm on the wall

INTU FR UNICOAT P

Fire rated intumescent coat

INTU FR UNICOAT P

Fire rated intumescent coat

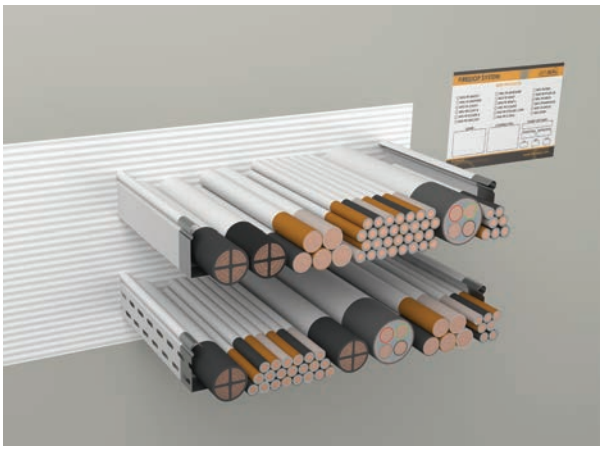
PRODUCT DESCRIPTION

The intended use of ablative paint **INTU FR UNICOAT P** is reinstate the fire resistance performance of flexible wall, rigid wall or rigid floor constructions, where they are penetrated by services: large penetration of cables or single and multiple penetration of non-combustible pipes. The **INTU FR UNICOAT P** paint should be applied at the recommended length and with the required dry layer thickness.

APPLICATION

INTU FR UNICOAT P is an ablative paint used to form penetration seals where metal and combustible pipes and cables, single or in bundles, cable ladders and cable trays, penetrate walls and floors.

Flexible walls:	The wall must have a minimum thickness 100 mm, must 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 gypsum plasterboards.
Rigid walls:	The wall must have a minimum thickness 100 mm, must comprise concrete or masonry separating elements, with a minimum density 450 kg/m³.
Rigid floor:	The floor must have a minimum thickness 150 mm, must comprise aerated or reinforced concrete, concrete, with a minimum density 550 kg/m³.



AVAILABILITY

Product	Contents	Packaging	Pallet	Article no.
INTU FR UNICOAT P	3 kg	pail	147	INUP3KG
	12 kg	pail	48	INUP12KG

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 24/1047 of 19/12/2024
- *Declaration of Performance:*
  DoP 6/2024
- *Certificate of Constancy of Performance*
  1488-CPR-1149/W

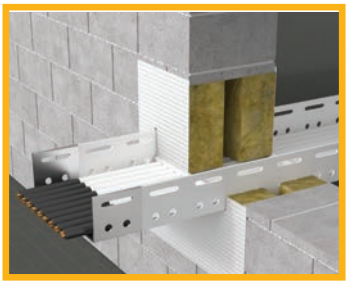
TRANSPORT AND STORAGE

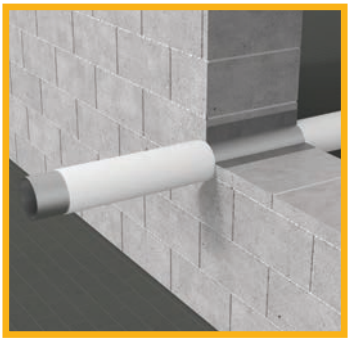
Store in dry and cool conditions at temperatures between +5°C to +35°C. Shelf life 12 months from the production date shown on the packaging.

INTU FR UNICOAT P

Fire rated intumescent coat

INSTALLATION METHOD





PREPARATION

Clean the surfaces of the opening and the installations of grease and other contaminants before the protection is performed. Fill the space in penetration with:

- mineral wool board which next should paint with **INTU FR UNICOAT P** coat or ready pre-painted **INTU FR UNIBOARD**
- cement mortar or **INTU FR MASTIC** sealant.

APPLICATION

Mix the paint thoroughly before use (to homogeneous consistency). The paint does not require dilution, but if necessary, water can be added.

Cover the pipe and cables with **INTU FR UNICOAT P** with the appropriate thickness to obtain demanded dry film thickness and length.

FINISH

Penetration seal is ready. Complete declaration and paste it next to the penetration.

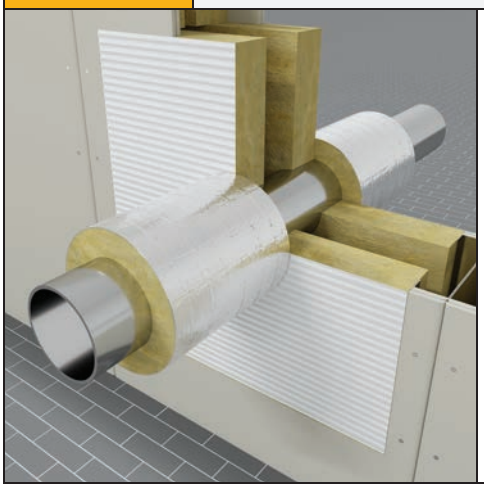
Approximate consumption of **INTU FR UNICOAT P** ~ 0,9 - 1,0 kg/m^2 – for a dry film thickness of 0,5 mm.

Drying time for coating with 1,0 mm thickness: ~80 min (dry to the touch), ~330 min (complete dry).

Colour	Mineral wool with white coating
Transportation storage temperature	-5 °C to +35 °C (store dry in the original packaging)
Usage 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.
Methods used for the assessment	EAD 350454-00-1104 “Fire Stopping and Fire Sealing Products. Penetration Seals”
Approvals	ETA-24/1047 and Classification Report No. 01988.3/22/Z00NZP
Function preservation	25 years
Joint finish	Acrylic sealant INTU FR MASTIC or cement mortar

➔ SOLUTION DETAILS

Fig.1 Wall with filling with 2 x **INTU FR UNIBOARD**



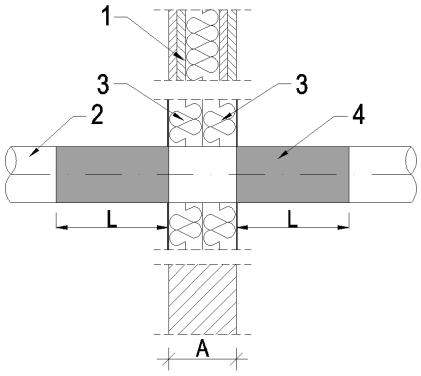
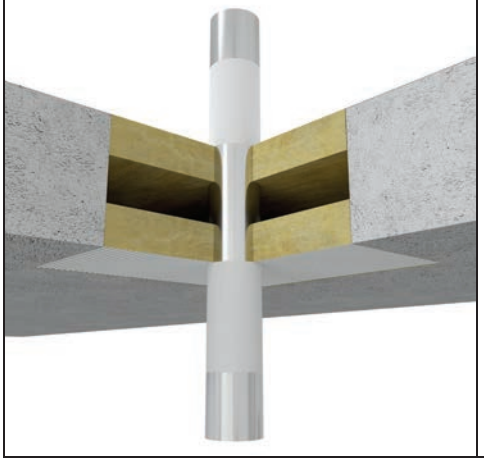


Fig. 1 Non-combustible pipe painted by **INTU FR UNICOAT P**, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
or rigid floor H ≥ 150 mm
2 – non-combustible pipe
3 – 2 x board **INTU FR UNIBOARD 1S**
4 – painting by **INTU FR UNICOAT P**

Fig.2 Floor with filling with 2 x **INTU FR UNIBOARD**



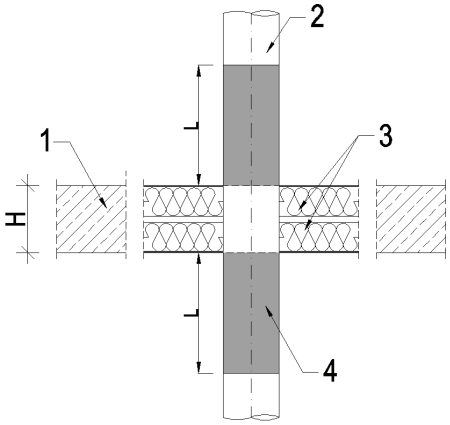
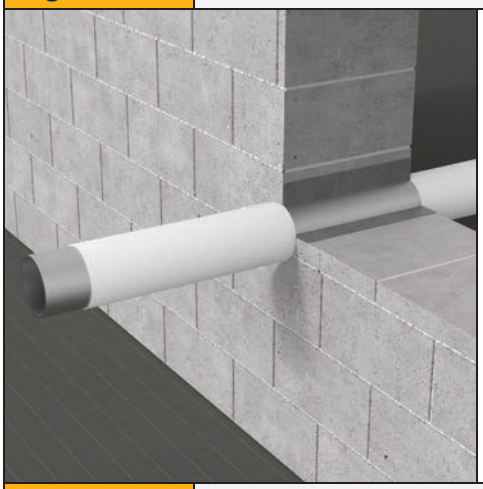


Fig. 2 Non-combustible pipe painted by **INTU FR UNICOAT P**, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
or rigid floor H ≥ 150 mm
2 – non-combustible pipe
3 – 2 x board **INTU FR UNIBOARD 1S**
4 – painting by **INTU FR UNICOAT P**

Fig.3 NON-COMBUSTIBLE PIPES in wall



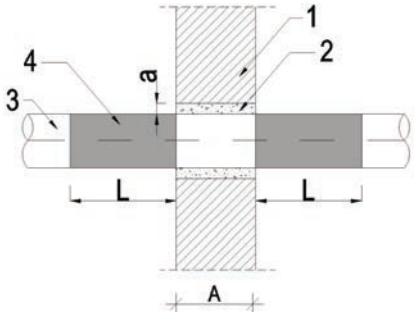
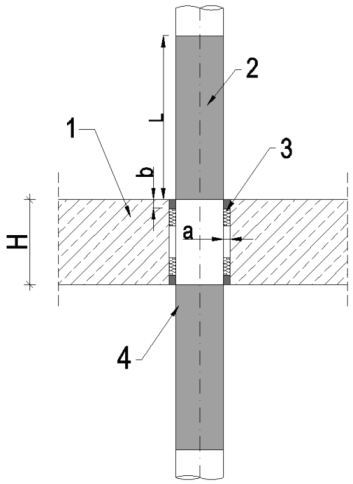


Fig. 3 Non-combustible pipe painted by **INTU FR UNICOAT P**, cement mortar in partition

1 – flexible / rigid wall A ≥ 100 mm
2 – cement mortar, a ≤ 30 mm
3 – non-combustible pipe
4 – painting by **INTU FR UNICOAT P** on both sides of the wall with length ≥ L

Fig.4-5 NON-COMBUSTIBLE PIPES in floor



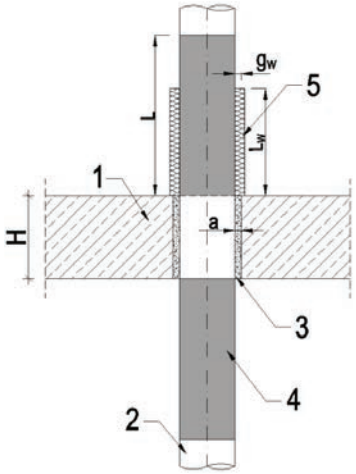
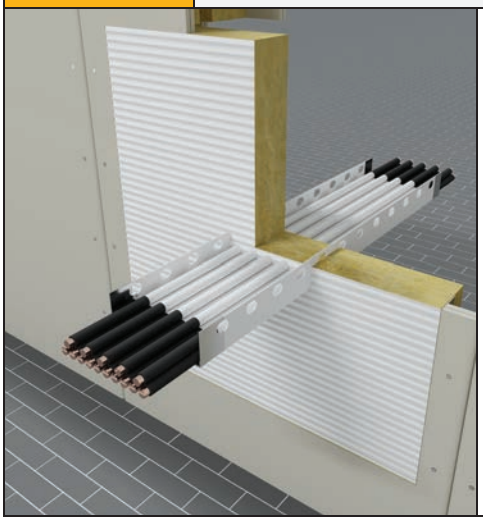


Fig. 4-5 Non-combustible pipe painted by **INTU FR UNICOAT P**, **INTU FR MASTIC** or cement mortar in partition

1 – rigid floor H ≥ 150 mm
2 – non-combustible pipe
3 – **INTU FR MASTIC** sealant – area between the pipe and supporting construction: a ≤ 20 mm, minimum depth of mass: b ≥ 25 mm on both sides of the floor, backfill material –mineral wool with density ≥ 35 kg/m³, depth ≥ 25 mm or cement mortar, a ≤ 30 mm
4 – painting by **INTU FR UNICOAT P** on both sides of the wall with length ≥ L
5 – local interrupted insulation – lamella mineral wool with minimum thickness "g_w" minimum length "L_w"

Fig.6 CABLES WITH **INTU FR UNICOAT P** partition filling 1 x board **INTU FR UNIBOARD 2S**



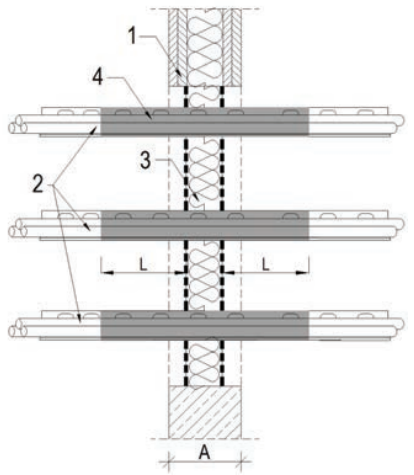
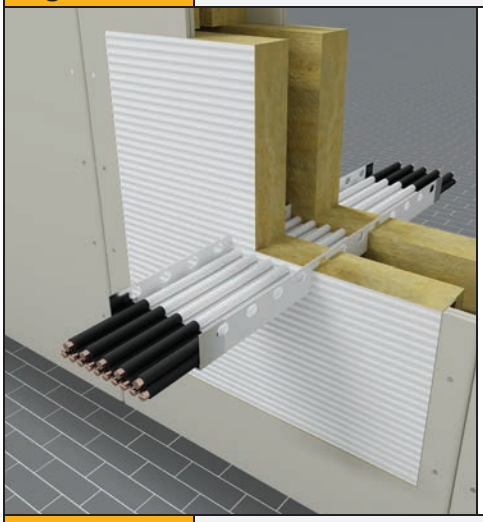


Fig. 6 Large cables penetration seal, single mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – cable, bundle of cables, cable tray / ladder
3 – partition filling 1 x board **INTU FR UNIBOARD 2S**
3 – isolated combustible pipe
4 – painting by **INTU FR UNICOAT P**

Fig.7 CABLES WITH **INTU FR UNICOAT P** partition filling 2 x board **INTU FR UNIBOARD 1S**



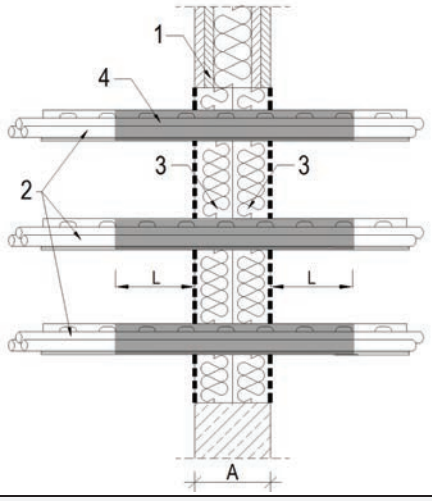
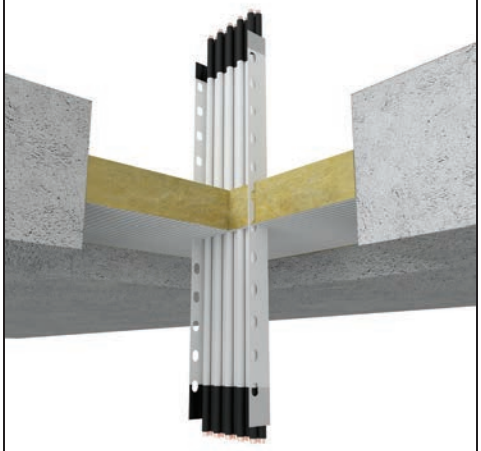


Fig. 7 Large cables penetration seal, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – cable, bundle of cables, cable tray / ladder
3 – partition filling 2 x board **INTU FR UNIBOARD 1S**
3 – isolated combustible pipe
4 – painting by **INTU FR UNICOAT P**

Fig.8 CABLES WITH **INTU FR UNICOAT P** partition filling 1 x board **INTU FR UNIBOARD 2S**



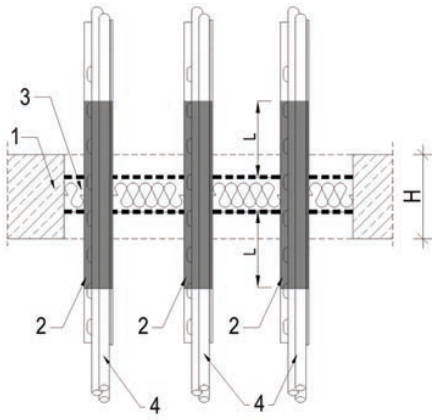
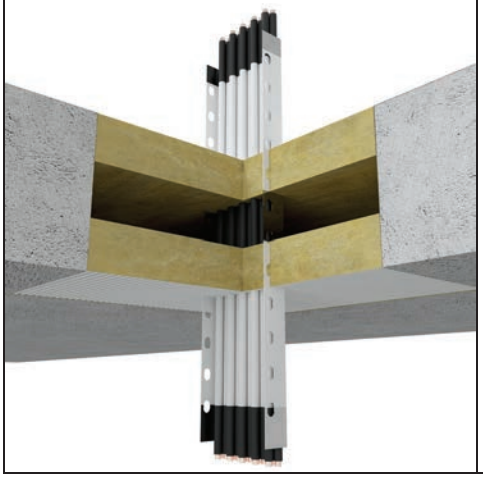


Fig. 8 Large cables penetration seal, single mineral wool board

1 – rigid floor H ≥ 150 mm
2 – painting by **INTU FR UNICOAT P**
3 – partition filling 1 x board **INTU FR UNIBOARD 2S**
4 – cable, bundle of cables, cable tray / ladder

Fig.9 CABLES WITH **INTU FR UNICOAT P** partition filling 2 x board **INTU FR UNIBOARD 1S**



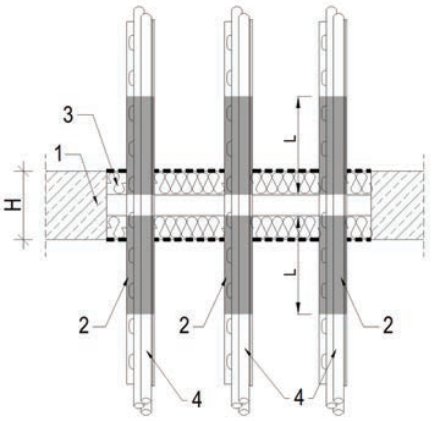


Fig. 9 Large cables penetration seal, double mineral wool board

1 – rigid floor H ≥ 150 mm
2 – painting by **INTU FR UNICOAT P**
3 – partition filling 2 x board **INTU FR UNIBOARD 1S**
4 – cable, bundle of cables, cable tray / ladder

INTU FR UNIBOARD

Fire rated board

INTU FR UNIBOARD

Fire rated board

PRODUCT DESCRIPTION

The intended use of **INTU FR UNICOAT P**, **INTU FR UNIBOARD 1S** and **INTU FR UNIBOARD 2S** is to reinstate the fire resistance performance of flexible wall, rigid wall or rigid floor constructions, where they are penetrated by services: large penetration of cables or multiple penetration of pipes. **INTU FR UNIBOARD** is mineral wool board with minimum nominal density of 140,0 kg/m³. The mineral wool board is painted with **INTU FR UNICOAT P.**

APPLICATION

Double **INTU FR UNIBOARD 1S** board and single **INTU FR UNIBOARD 2S** board in flexible or rigid wall and rigid floor supporting constructions are used for large penetration seals of cables and multiple penetration seals of pipes: plastic pipe with or without insulation and metal pipe with or without insulation.

Flexible walls:	The wall must have a minimum thickness 100 mm, must 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 gypsum plasterboards.
Rigid walls:	The wall must have a minimum thickness 100 mm, must comprise concrete or masonry separating elements, with a minimum density 450 kg/m³.
Rigid floor:	The floor must have a minimum thickness 150 mm, must comprise aerated or reinforced concrete, concrete, with a minimum density 550 kg/m³.

AVAILABILITY

Product	Thickness	Dimensio	Pallet	Article no.
INTU FR UNIBOARD 1S	50 mm	1200x600	38/76	INUB501SI
INTU FR UNIBOARD 2S	50 mm	1200x600	38/76	INUB502SI

* 1S – board factory painted on one side, one dry film thickness: 0,5mm
2S – board factory painted on two sides, one dry film thickness: 0,5mm

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 24/1047 of 19/12/2024
- *Declaration of Performance:*
  DoP 5/2024
- *Certificate of Constancy of Performance*
  1488-CPR-1149/W

TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between +5°C to +35°C.

INTU FR UNIBOARD

Fire rated board

INSTALLATION METHOD

1. PREPARATION

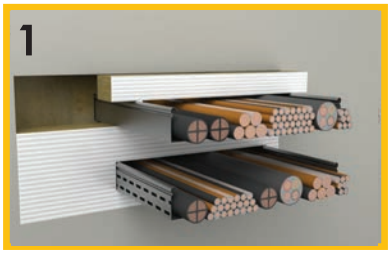
Clean the surfaces of the opening and the installations of grease and other contaminants before the protection is performed. Fill the space in penetration with mineral wool board **INTU FR UNIBOARD**.

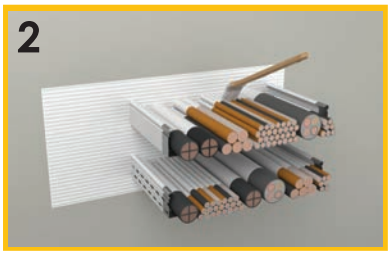
2. APPLICATION

Mix the paint well before use to a homogeneous consistency. The paint does not require dilution. Cover the pipe and cables with **INTU FR UNICOAT P** with the appropriate thickness to obtain demanded dry film thickness and length.

3. FINISH

Penetration seal is ready. Complete declaration and paste it next to the penetration.





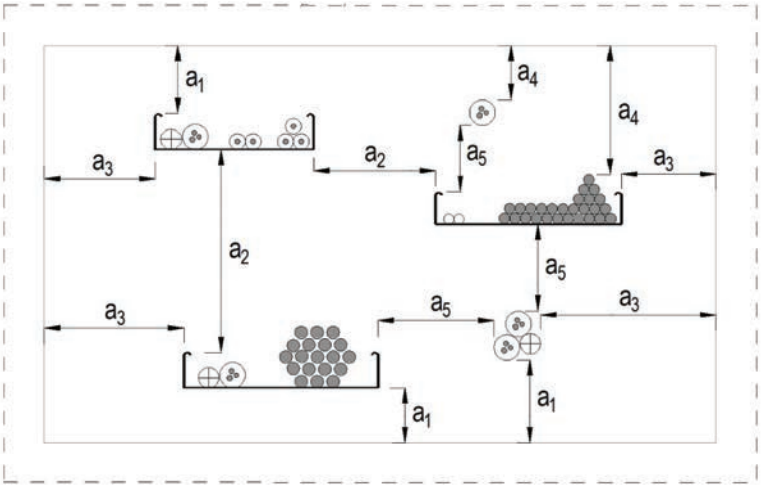
Colour		Mineral wool with white coating
Shelf life		Not applicable
Transportation storage temperature		-5 °C to +35 °C (store dry in the original packaging)
Usage category		Type Z_2: intended for use in internal conditions with humidity lower than 85% RH, excluding temperatures below 0°C, without exposure to rain or UV.
Methods used for the assessment		EAD 350454-00-1104 “Fire Stopping and Fire Sealing Products. Penetration Seals”
Approvals		ETA-24/1047 and Classification Report No. 01988.3/22/Z00NZP
Function preservation		25 years
Joint finish		Acrylic mastic INTU FR MASTIC
Possibility to use one board in the partition	**Wall**	Yes, INTU FR UNIBOARD 2S
	Floor	
Large cable penetration seal		Yes, INTU FR UNIBOARD with • INTU FR UNICOAT P on cables
Multiple penetration seal		Yes, INTU FR UNIBOARD with: • INTU FR COLLAR L SLIM on combustible pipes, combustible pipes with insulation, metal pipes with insulation • INTU FR GRAPHITE with combustible pipes • INTU FR UNICOAT P on non-combustible pipes

Filling the partition	Supporting construction	Maximum size penetration seals		
		Large cable	Multiple horizontal	Multiple vertical
1 x INTU FR UNIBOARD 2S	Wall	600 x 600 mm	1000 x 600 mm	
	Floor	625 x 1000 mm	600 x 1200 mm	
2 x INTU FR UNIBOARD 1S	Wall	1000 x 600 mm	1000 x 600 mm	400 x 1000 mm
	Floor	1000 x 625mm	1200 x 625 mm	

INTU FR UNIBOARD

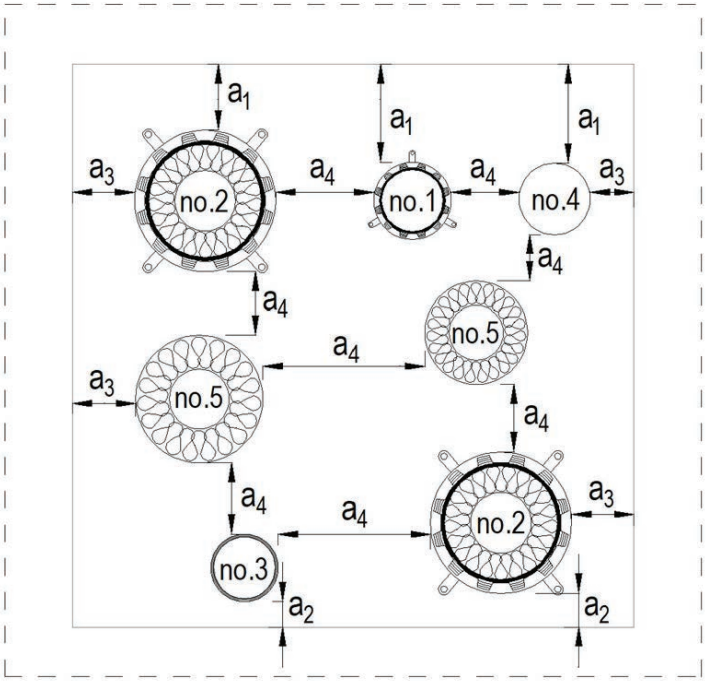
Fire rated board

Large cable penetration seal



Filling the partition	Supporting construction	Minimum distances	
		a_1, a_2, a_3, a_4	a_5
1 x INTU FR UNIBOARD 2S	Wall	0 mm	60 mm
	Floor	0 mm	60 mm
2 x INTU FR UNIBOARD 1S	Wall	0 mm	60 mm
	Floor	0 mm	60 mm

Multiple penetration seal

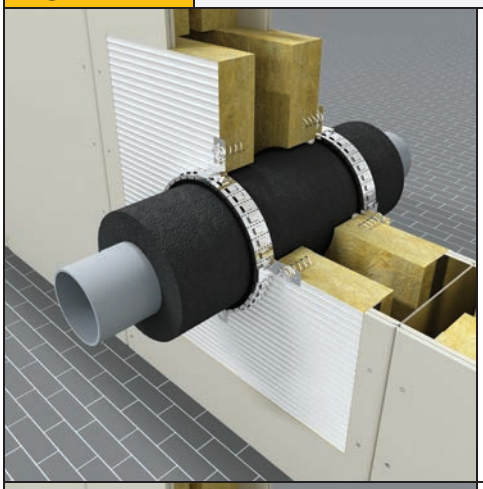


Filling the partition	Supporting construction	Minimum distances	
		a_1	a_2
1 x INTU FR UNIBOARD 2S or 2 x INTU FR UNIBOARD 1S	Wall	20 mm	70 mm
	Floor	50 mm	0 mm

Filling the partition	Supporting construction	Minimum distances	
		a_3	a_4
1 x INTU FR UNIBOARD 2S or 2 x INTU FR UNIBOARD 1S	Wall	20 mm	10 mm
	Floor	30 mm	100 mm

SOLUTION DETAILS

Fig.1-3 COMBUSTIBLE PIPES WITH **INTU FR COLLAR L SLIM**



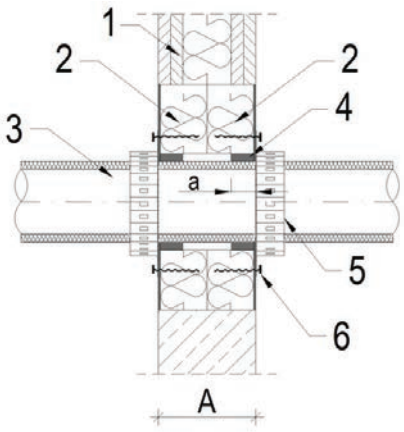
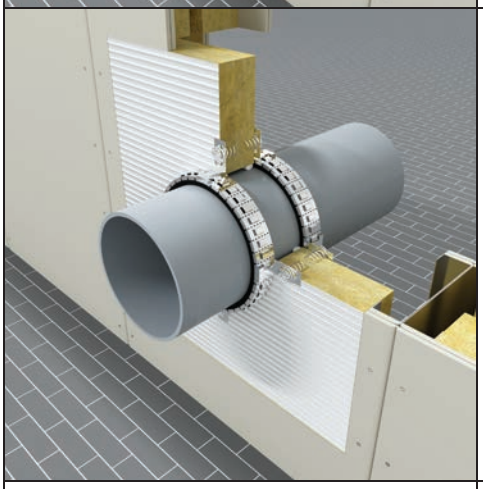


Fig. 1 Isolated combustible pipe, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – isolated combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from both sides of the wall
6 – steel screws min. Ø6 x 50 mm



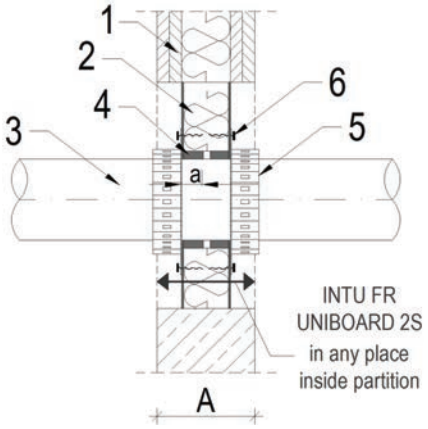


Fig. 2 Combustible pipe, single mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – 1 x board **INTU FR UNIBOARD 2S** in any place inside partition
3 – combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from both sides of the mineral wool board
6 – steel screws min. Ø6 x 50 mm

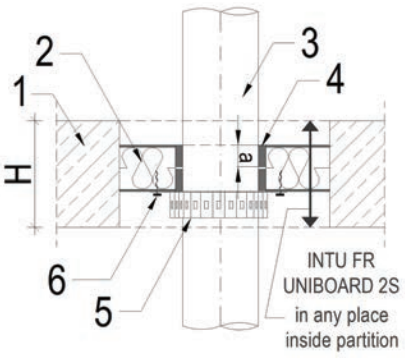
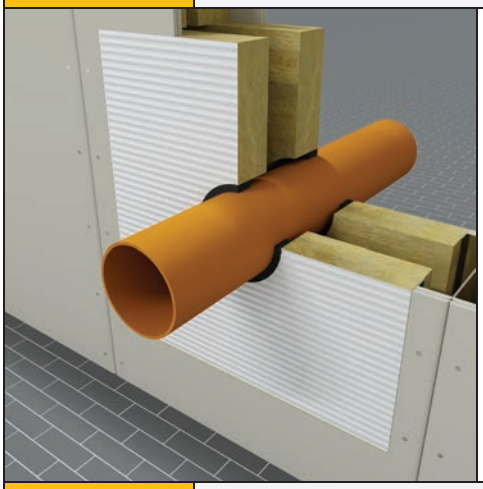


Fig. 3 Combustible pipe, single mineral wool board

1 – rigid floor H ≥ 150 mm
2 – 1 x board **INTU FR UNIBOARD 2S** in any place inside partition
3 – combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from bottom of the mineral wool board
6 – steel screws min. Ø6 x 50 mm

Fig.4 COMBUSTIBLE PIPES WITH **INTU FR GRAPHITE** in wall



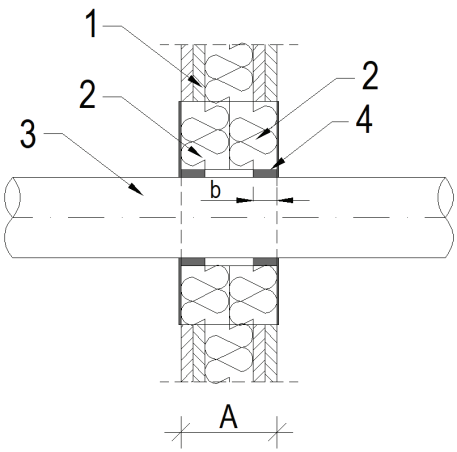
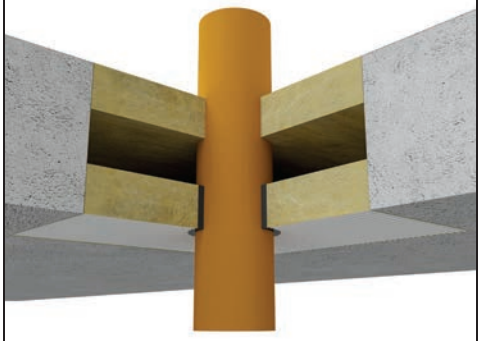


Fig. 4 Combustible pipe with INTU FR GRAPHITE penetration seal, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – combustible pipe
4 – **INTU FR GRAPHITE** on minimum depth:

- b ≥ 25 mm from both sides of the wall

Fig.5 COMBUSTIBLE PIPES WITH **INTU FR GRAPHITE** in floor



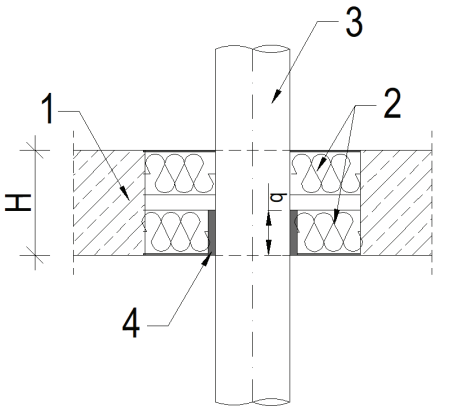
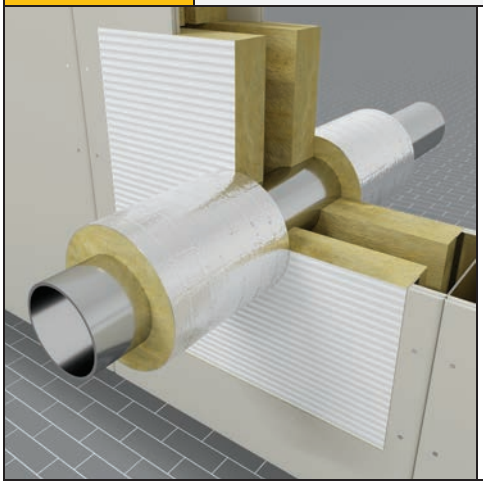


Fig. 5 Combustible pipe with INTU FR GRAPHITE penetration seal, double mineral wool board

1 – rigid floor H ≥ 150 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – combustible pipe
4 – **INTU FR GRAPHITE** on minimum depth:

- b ≥ 50 mm from the bottom of the floor

Fig.6 NON-COMBUSTIBLE PIPES WITH **MINERAL WOOL LAMELLA**



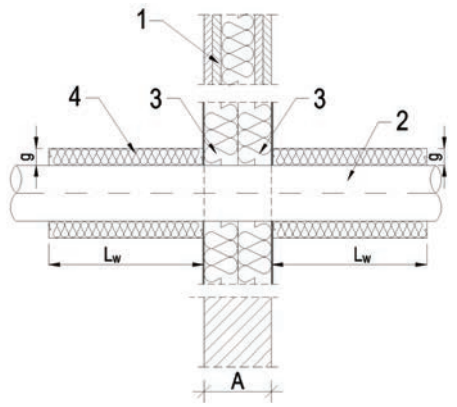
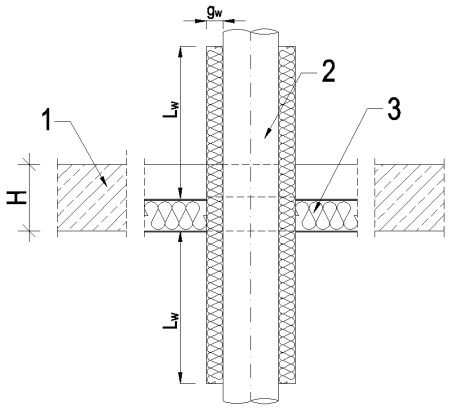


Fig. 6 Non-combustible pipe with mineral wool lamella, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – non-combustible pipe
3 – 2 x board **INTU FR UNIBOARD 1S**
4 – mineral wool lamella (interrupted) with density ≥ 35 kg/m³

Fig.7-8 NON-COMBUSTIBLE PIPES WITH **MINERAL WOOL LAMELLA**



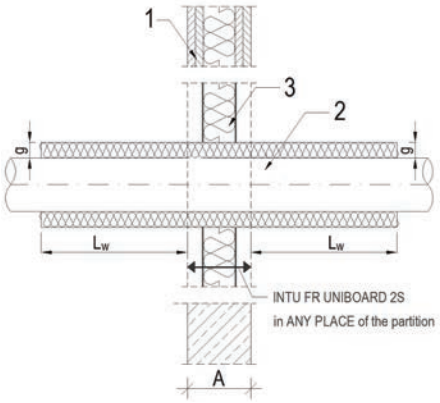
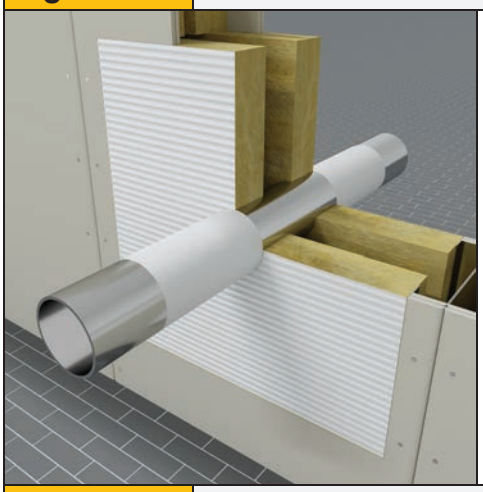


Fig. 7-8 Non-combustible pipe with mineral wool lamella, single mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
or rigid floor H ≥ 150 mm
2 – non-combustible pipe with mineral wool lamella (sustained) with density ≥ 35 kg/m³
3 – 1 x board **INTU FR UNIBOARD 2S**

Fig.9 NON-COMBUSTIBLE PIPES WITH **INTU FR UNICOAT P**



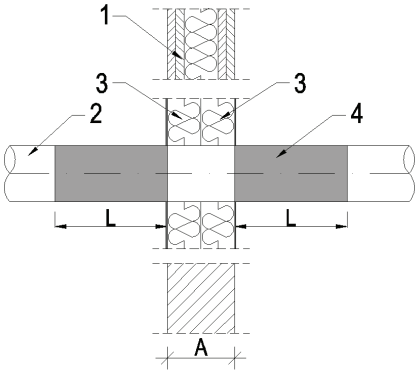
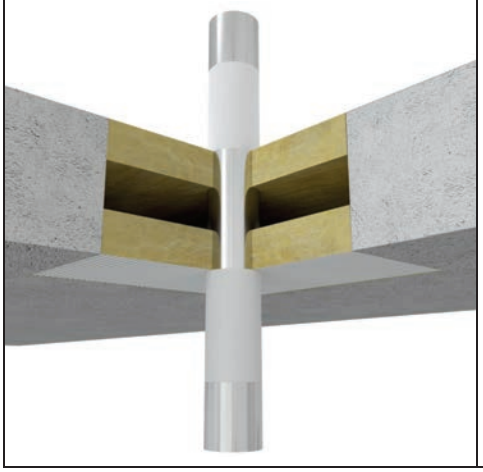


Fig. 9 Non-combustible pipe painted by **INTU FR UNICOAT P**, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – non-combustible pipe
3 – 2 x board **INTU FR UNIBOARD 1S**
4 – painting by **INTU FR UNICOAT P**

Fig.10 NON-COMBUSTIBLE PIPES WITH **INTU FR UNICOAT P**



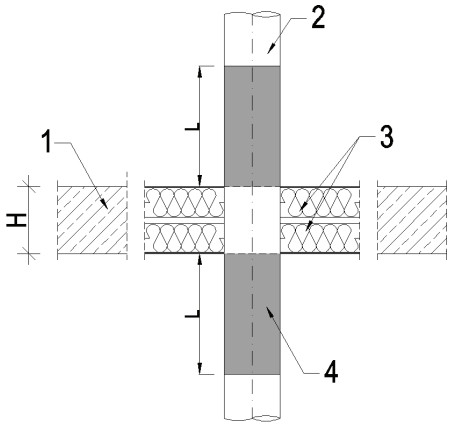
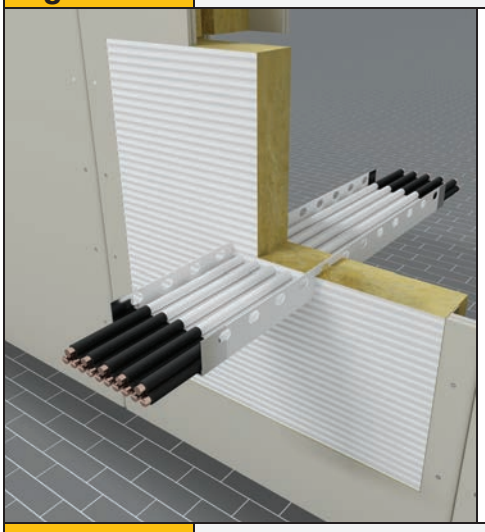


Fig. 10 Non-combustible pipe painted by **INTU FR UNICOAT P**, double mineral wool board

1 – rigid floor H ≥ 150 mm
2 – non-combustible pipe
3 – 2 x board **INTU FR UNIBOARD 1S**
4 – painting by **INTU FR UNICOAT P**

Fig.11 CABLES WITH **INTU FR UNICOAT P**



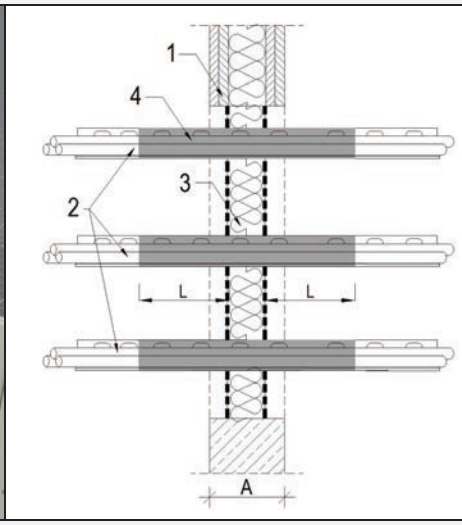
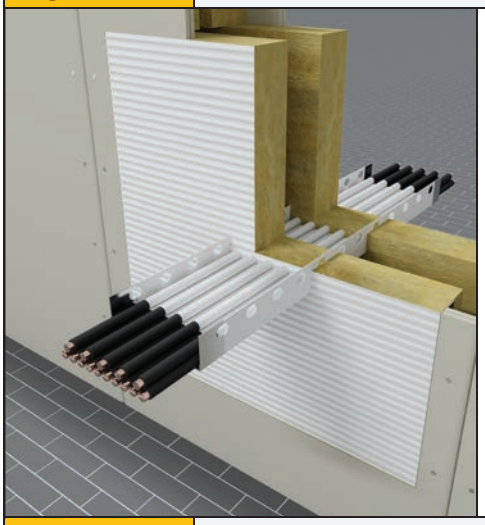


Fig. 11 Large cables penetration seal, single mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – cable, bundle of cables, cable tray / ladder
3 – partition filling by 1 x board **INTU FR UNIBOARD 2S**
4 – painting by **INTU FR UNICOAT P**

Fig.12 CABLES WITH **INTU FR UNICOAT P**



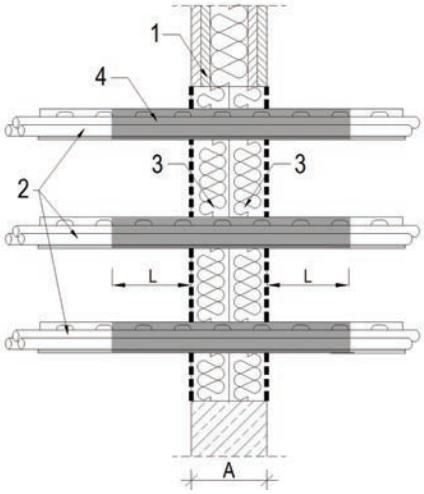
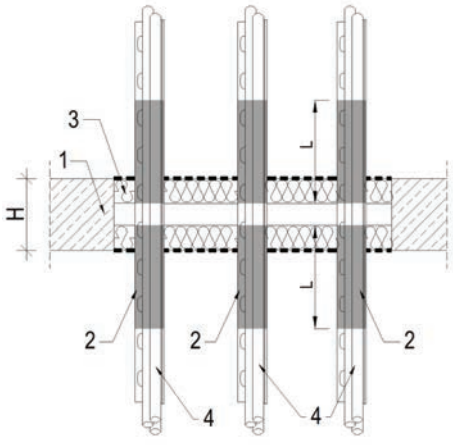


Fig. 12 Large cables penetration seal, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – cable, bundle of cables, cable tray / ladder
3 – partition filling by 2 x board **INTU FR UNIBOARD 2S**
4 – painting by **INTU FR UNICOAT P**

Fig.13-14 CABLES WITH **INTU FR UNICOAT P**



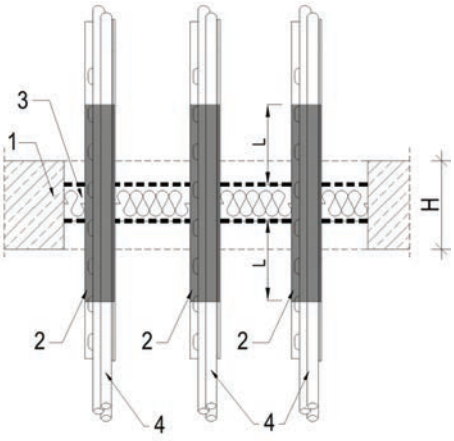


Fig. 13-14 Large cables penetration seal, single or double mineral wool board

1 – rigid floor H ≥ 150 mm
2 - painting by **INTU FR UNICOAT P**
3 – 2 x board **INTU FR UNIBOARD 1S** or 1 x board **INTU FR UNIBOARD 2S**
3 – isolated combustible pipe
4 – cable, bundle of cables, cable tray / ladder

INTU FR COAT I

Fire rated intumescent coat

INTU FR COAT I

Fire rated intumescent coat

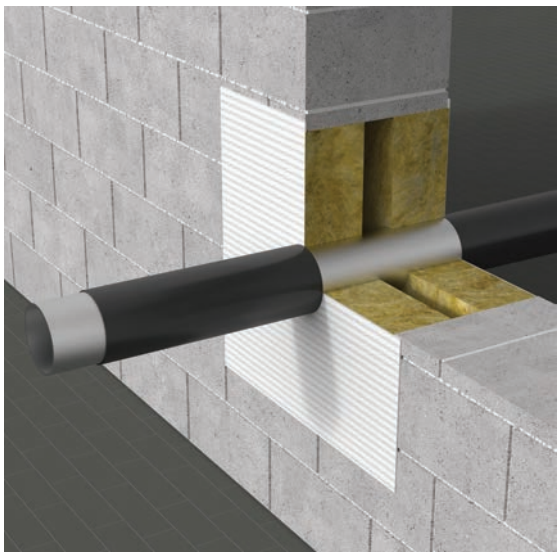
PRODUCT DESCRIPTION

The **INTU FR COAT I** is a one-component intumescent paint designed for sealing fire protection penetrations with non-flammable pipes and electric cables. The coating made with this paint swells under the influence of temperature, creating a protective layer on the protected surface. The paint protects the system elements in penetrations up to fire resistance class of **EI 240**.

APPLICATION

The **INTU FR COAT I** is intended for the protection of non-flammable pipes without insulation, electric cables, cable in trays or ladders in fire partition floors and walls.

Flexible wall:	The wall must be minimum thickness 125 mm. Must have a steel profile structure covered on both sides with minimum 2 layers of boards with minimum thickness 12,5 mm.
Rigid wall:	The wall must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 600 kg/m^3.
Rigid floor:	The floor must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 1700 kg/m^3.



AVAILABILITY

Contents	Color	Packaging	Pallet	Article number
2,5 kg	Black	Pail	147	INCI25KG
10 kg		Pail	48	INCI10KG

INSTALLATION METHOD

1. Clean the surfaces of the hole and system components from grease and other contaminants thoroughly.
2. Mix the paint well before use. The paint does not require thinning but you can add a water.
3. The space around the services should be filled with cement mortar or mineral wool board **INTU FR BOARD A**.
4. Cover the installations (pipes or cables) by **INTU FR COAT I** with layer of appropriate thickness and length.

Approximate consumption of **INTU FR COAT I** ~ 1,5 kg/m^2 – for a dry film thickness of 1,0 mm.

Drying time for coating with 1,0 mm thickness: ~40 min (dry to the touch), ~240 min (complete dry).

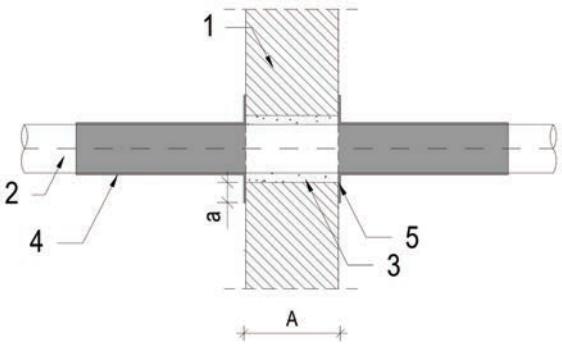
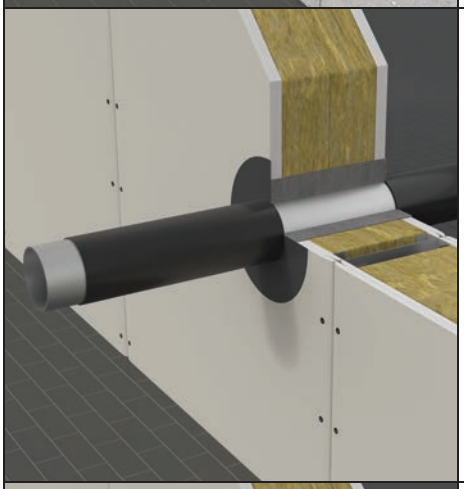
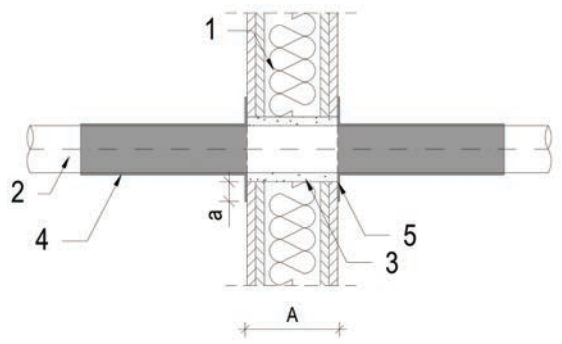
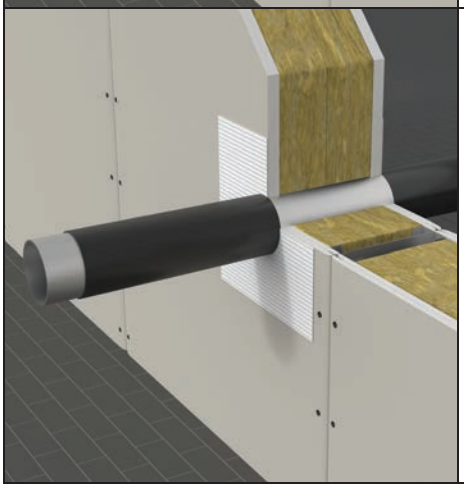
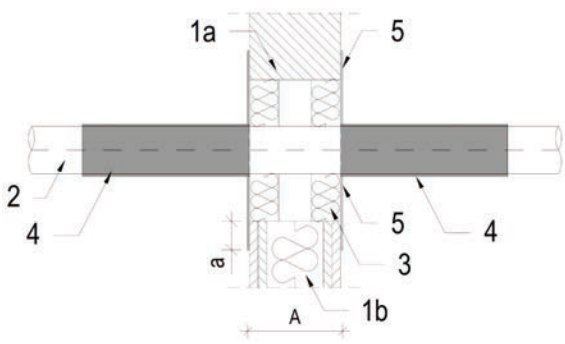
COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 19/0038 of 28/06/2019
- *Declaration of Performance:*
  DoP 7/2019
- *Certificate of Constancy of Performance*
  1488-CPR-0756/W

TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between + 5°C and + 35°C. Shelf life 12 months from the production date shown on the packaging.

➔ SOLUTION DETAILS

NON-FLAMMABLE PIPES IN WALLS		
	Fig. 1. Penetration with mortar filling in rigid wall 	**1** – rigid wall with thickness of A ≥ 150 mm **2** – non-flammable pipe **3** – cement mortar filling **4** – **INTU FR COAT I** intumescent paint on metal pipe **5** – **INTU FR COAT I** intumescent paint, overlap on the partition length a ≥ 10 mm, dry layer thickness ≥ 1,0 mm
	Fig. 2. Penetration with mortar filling in flexible wall 	**1** – flexible wall with thickness of A ≥ 125 mm **2** – non-flammable pipe **3** – cement mortar filling **4** – **INTU FR COAT I** intumescent paint on metal pipe **5** – **INTU FR COAT I** intumescent paint, overlap on the partition length a ≥ 10 mm, dry layer thickness ≥ 1,0 mm
	Fig. 3. Penetration with mineral wool filling 	**1a** – rigid wall **1b** – flexible wall **2** – non-flammable pipe **3** – filling partition with 2 x **INTU FR BOARD A** **4** – **INTU FR COAT I** intumescent paint on metal pipe **5** – **INTU FR COAT A** ablative paint, overlap on the partition length a ≥ 10 mm, dry layer thickness ≥ 1,0 mm

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Fire rated intumescent coat

NON-FLAMMABLE PIPES IN FLOORS

Fig. 4. Filling partition with mineral wool

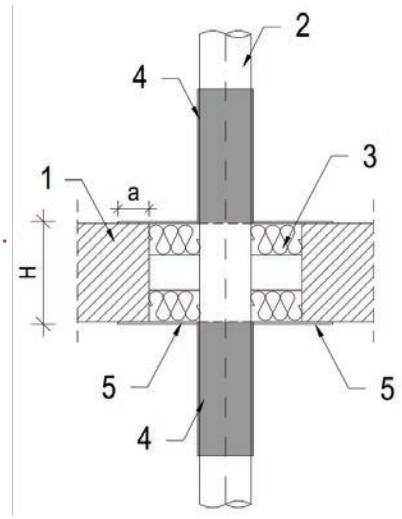
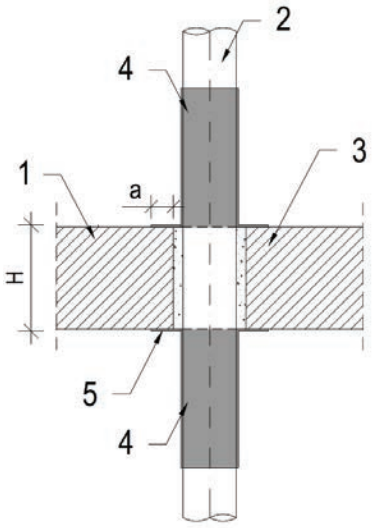


Fig. 5. Filling partition with cement mortar



1 – rigid floor, H ≥ 150 mm
2 – rura metalowa
3 – filling partition by **ALFA FR BOARD A** (Fig.4) or cement mortar (Fig. 5)
4 – **INTU FR COAT I** intumescent paint on metal pipe
5 – **INTU FR COAT A** ablative paint, overlap on the partition length a ≥ 10 mm, dry layer thickness ≥ 1,0 mm (Fig.4) or **INTU FR COAT I** intumescent paint, overlap on the partition length a ≥ 10 mm, dry layer thickness ≥ 1,0 mm (Fig.5)

CABLES IN WALLS

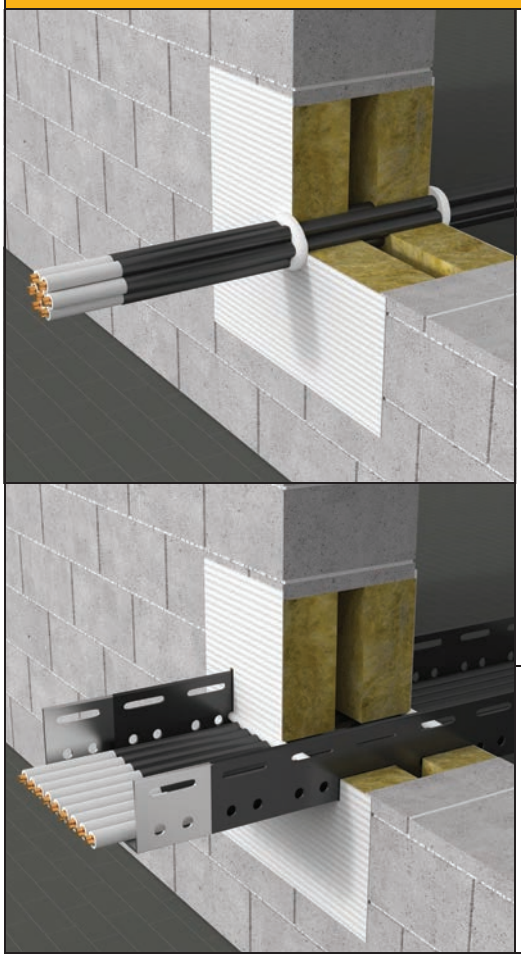
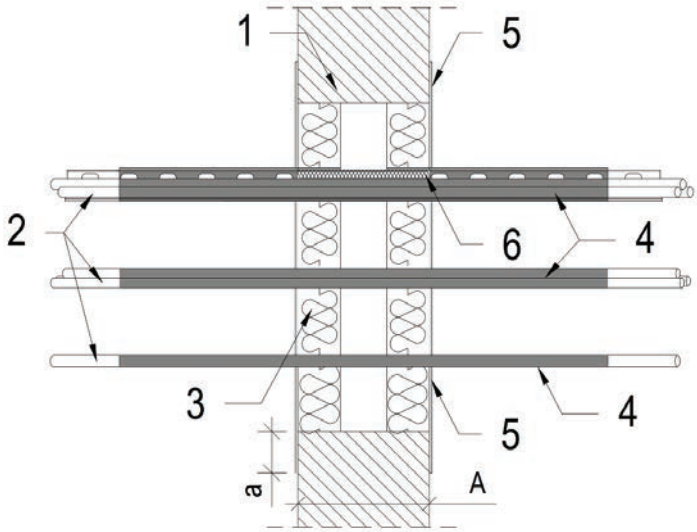


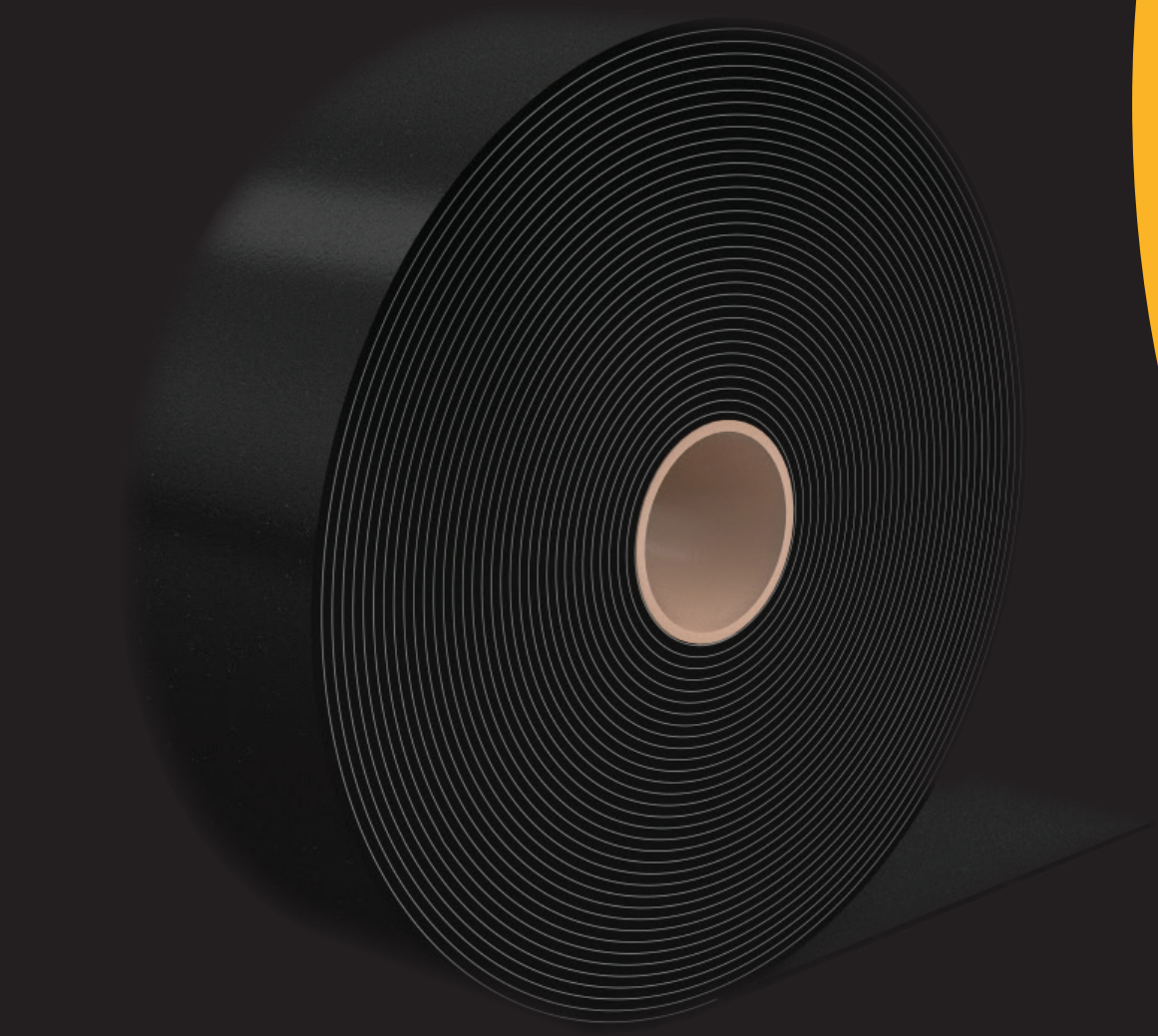
Fig. 6. Cable penetration seal with mineral wool filling



1 – rigid wall
2 – cable, cable in cable trays or cable ladders
3 – filling with 2 x **INTU FR BOARD A**
4 – **INTU FR COAT I** intumescent paint on cable, cable in cable trays or cable ladders
5 – **INTU FR COAT A** ablative paint, overlap on the partition length a ≥ 10 mm, dry layer thickness ≥ 1,0 mm
6 – gaps filling with loose mineral wool or / and **INTU FR MASTIC** mass

INTU FR WRAP L

Intumescent pipe wrap in roll



INTU FR WRAP L

Intumescent pipe wrap in roll

PRODUCT DESCRIPTION

The intumescent pipe wrap roll **INTU FR WRAP L** is made of graphite-based material that swells during a fire, preventing the spread of fire, creating a barrier ensuring that the partition remains tight and insulation up to EI 240.

APPLICATION

The **INTU FR WRAP L** tape is used for fire-retardant protection of plastic, composite and multi-layer composite pipes passing through fire separation partitions, individually or in bundles, as well as flammable and non-flammable pipes in insulation.

Flexible walls:	The wall must be 100 mm minimum thickness. Must have steel profile structure covered on both sides with minimum 2 layers of boards with thickness 12,5 mm.
Rigid walls:	The wall must be 150 mm minimum thickness. Must have concrete, cellular concrete or masonry structure, with minimum density 450 kg/m^3.
Rigid floors:	The floor must be 150 mm minimum thickness. Must have concrete, cellular concrete or masonry structure, with minimum density 550 kg/m^3.

AVAILABILITY

Dimensions	Type	Box	Pallet	Article number
60 mm x 10 m	without adhesive tape	1	375	INWRL60X10
100 mm x 10 m	without adhesive tape	1	225	INWRL100X10
60 mm x 10 m	with adhesive tape	1	375	INWRL60X10AT
100 mm x 10 m	with adhesive tape	1	225	INWRL100X10AT
60 mm x 25 m	without adhesive tape	1	72	INWRL60X25
100 mm x 25 m	without adhesive tape	1	72	INWRL100X25
60 mm x 25 m	with adhesive tape	1	72	INWRL60X25AT
100 mm x 25 m	with adhesive tape	1	72	INWRL100X25AT

COMPLIANCE

- *Test standard:*

EN 1366-3 / EAD 350454-00-1104

- *European Technical Assessment:*

ETA 18/0593 of 31/12/2018

- *Declaration of Performance:*

DoP 11/2019

- *Certificate of Constancy of Performance*

1488-CPR-0722/W

TRANSPORT AND STORAGE

It is recommended to transport and storage at dry internal conditions at temp. between + 5°C and + 35°C.

INTU FR WRAP L

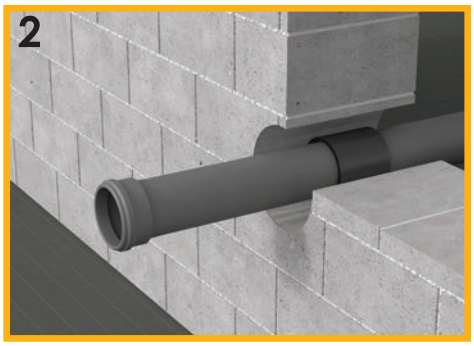
Intumescent pipe wrap in roll

➔ INSTALLATION METHOD

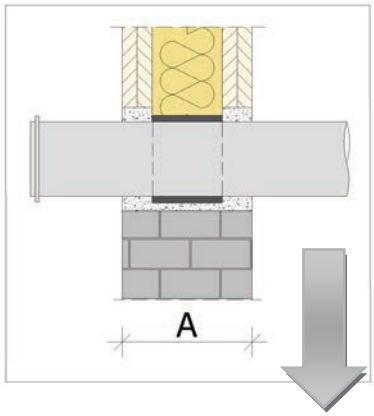
1) Prepare the appropriate length of the tape (cut off from the roll).
Wrap the pipe from one side or from two sides of the partition.

2) Slide **INTU FR WRAP L** inside the partition.

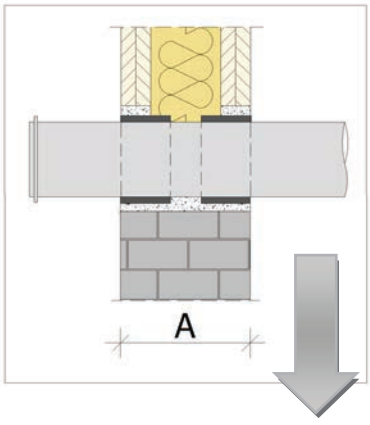
3) Fill the gap with mortar or fire protection sealant (e.g. **INTU FR MASTIC**).

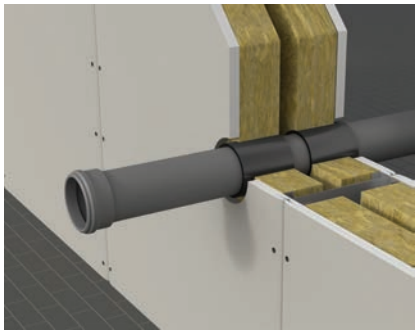


Flexible/rigid wall A ≥ 100 mm
or for rigid wall A ≥ 150 mm
<u>Single row</u> of tape, installed in wall axis

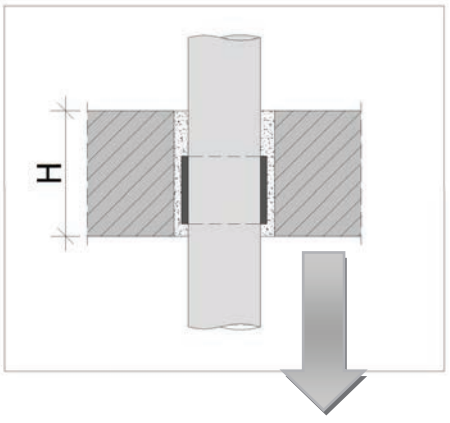


Flexible/rigid wall A ≥ 125 mm
<u>Double rows</u> of tape
Flushed with the edge of the partition





Rigid floor H ≥ 150 mm
<u>Single row</u> of tape, installed max. 10 mm
from the floor bottom

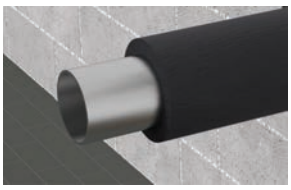


INTU FR WRAP L

Intumescent pipe wrap in roll

TECHNICAL DATA



Pipe diameter Ø [mm]	INTU FR WRAP L Length [cm]	Quantity of layers	Quantity wrapped pipes/10m roll
32	10	1	100
40	13	1	79
50	16	1	63
55	18	1	57
63	20	1	50
75	24	1	42
90	58	2	17
110	71	2	14
125	165	4	6
160	264	5	3
200	538	8	1

Pipe Ø [mm]	Insulation thickness [mm]	INTU FR WRAP L Length [cm]	Quantity of layers	Quantity wrapped pipes/10m roll
21,3	9	13	1	80
	13	31	2	32
42,4	9	19	1	52
	13	45	2	22
88,9	13	74	2	13
	25	135	3	7
114,3	25	159	3	6
	50	277	4	3
168,3	25	210	3	4
	50	345	4	2
219,1	50	409	4	2

Calculation of INTU FR WRAP L consumption

- Pipe without insulation: $L_{TAPE} = \pi \cdot Ø_{PIPE}$
  example for pipe Ø50: $L_{TAPE} = \pi \cdot 50 = \sim 160$ mm
- Pipe with insulation: $L_{TAPE} = \pi \cdot (Ø_{PIPE} + 2 \cdot \text{insulation thickness})$
  example for pipe Ø21,3
  with 9 mm insulation: $L_{TAPE} = \pi \cdot (21,3 + 2 \cdot 9) = \sim 130$ mm

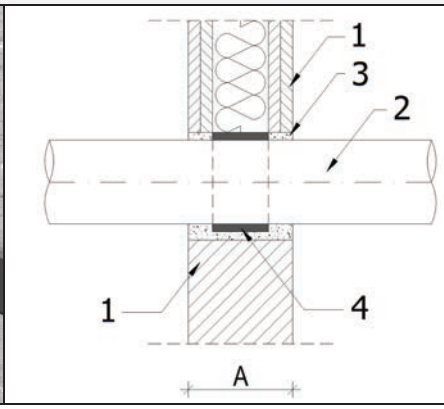
Colour	Graphite
Shelf life	Not applicable
Usage category	Type Z_2: intended for use in internal conditions with humidity lower than 85% RH, excluding temperatures below 0°C, without exposure to rain or UV.
Reaction to fire	E
Methods used for the assessment	EAD 350454-00-1104 “Fire Stopping and Fire Sealing Products. Penetration Seals”
Approvals	ETA-18/0593 of 31/12/2018 and Classification report No.: 01988.2/23/Z00NZP
Joint finish	Cement mortar or acrylic mastic INTU FR MASTIC
Large gaps	System compatible with INTU FR BOARD A based on the classification report number 01988.2/23/Z00NZP

INTU FR WRAP L

Intumescent pipe wrap in roll

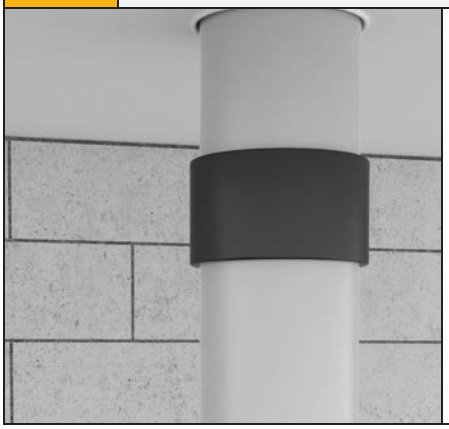
➔ SOLUTION DETAILS

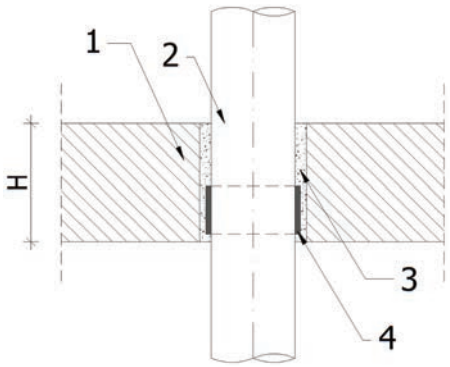
Fig.1 Combustible pipes penetration seals in walls



1. Flexible / rigid wall, A ≥ 100 mm
2. Combustible pipe
3. Gap filling with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, one row in partition axis

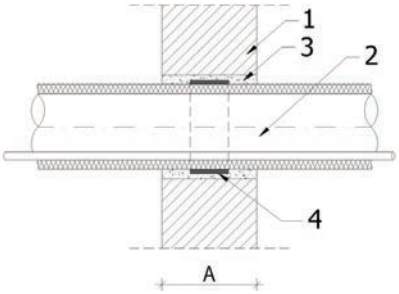
Fig.2 Combustible pipes penetration seals in floor





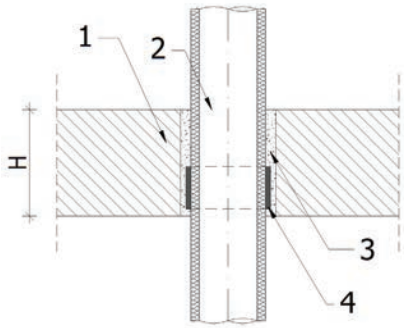
1. Rigid floor, H ≥ 150 mm
2. Combustible pipe
3. Gap filling with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, one row, maximum 10 mm from the bottom of the floor

Fig.3 Metal pipe in continuous flammable insulation – in wall



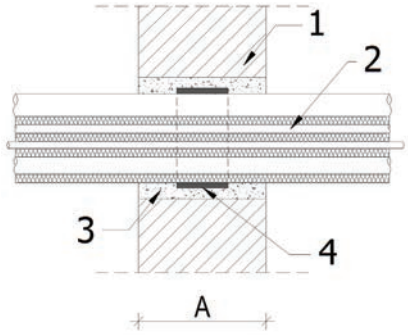
1. Flexible or rigid wall, A ≥ 100 mm
2. Metal pipe with/without heating cable in continuous insulation
3. Gap filled with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape (single row, placed in the wall thickness center)

Fig.4 Metal pipe in continuous flammable insulation – in floor



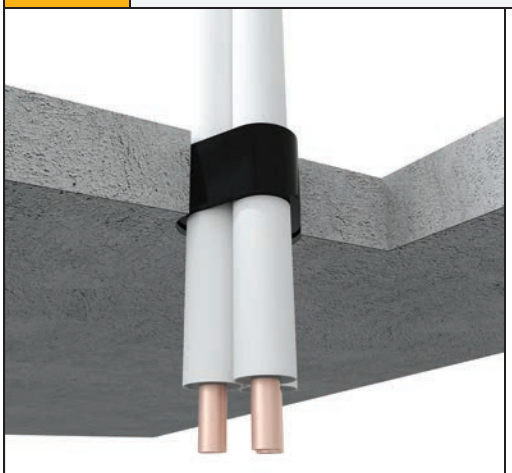
1. Rigid floor, H ≥ 150 mm
2. Metal pipe with/without heating cable in continuous insulation
3. Gap filled with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, one row, maximum 10 mm from the bottom of the floor

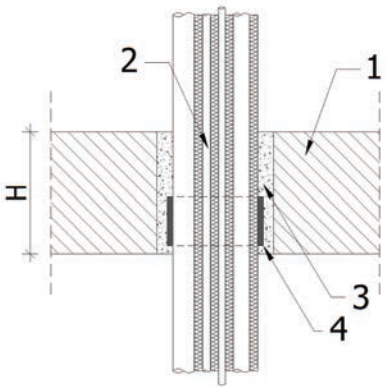
Fig.5 Air-conditioning bundle in wall



1. Flexible or rigid wall, A ≥ 100 mm
2. Bundle of combustible pipes / noncombustible pipes and cables
3. Gap filled with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, one row in partition axis

Fig.6 Air-conditioning bundle in floor



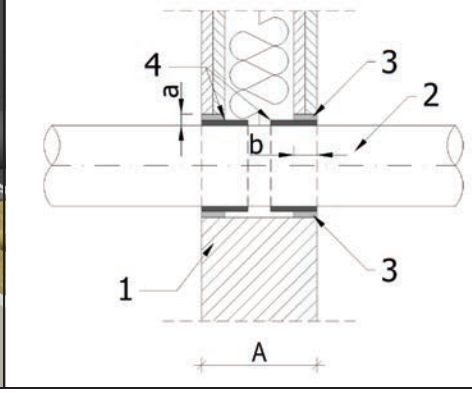


1. Rigid floor, H ≥ 150 mm
2. Bundle of combustible pipes / noncombustible pipes and cables
3. Gap filled with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, one row in partition axis

INTU FR WRAP L

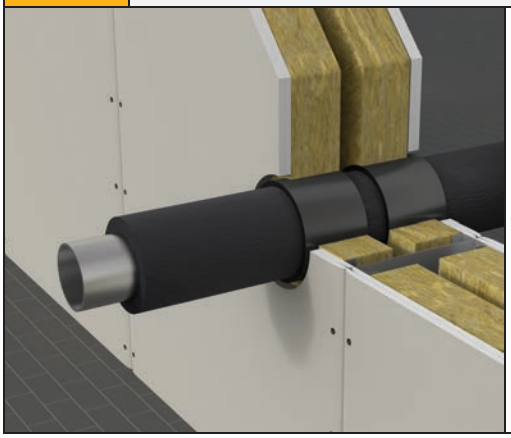
Intumescent pipe wrap in roll

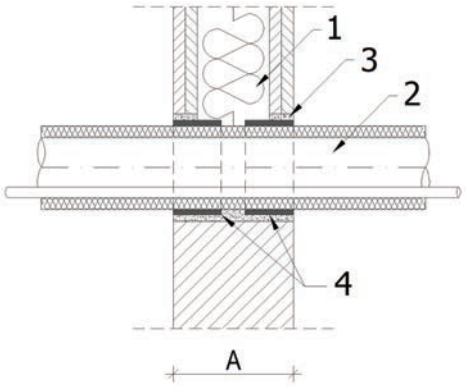
Fig.7 **Combustible pipes penetration seals - in walls**



1. Flexible / rigid wall, A ≥ 125 mm
2. Combustible pipe
3. Gap filling with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, double row, on both sides of the partition, flush with its edge

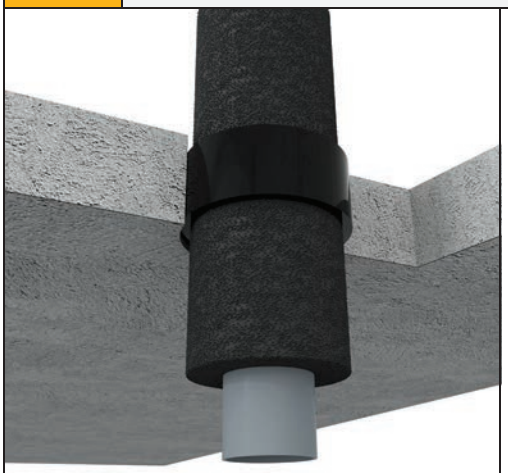
Fig.8 **Metal pipe in continuous flammable insulation – in walls**

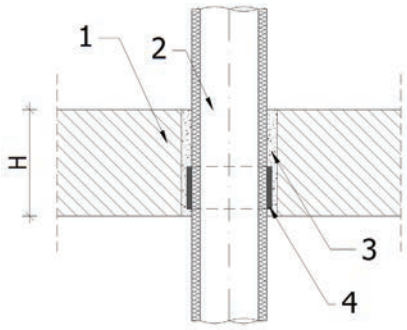




1. Flexible / rigid wall, A ≥ 125 mm
2. Metal pipe with insulation
3. Gap filling with cement mortar or **INTU FR MASTIC** mass
4. **INTU FR WRAP L** tape, double row, on both sides of the partition, flush with its edge

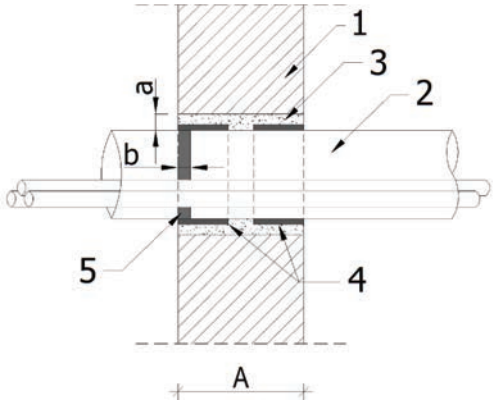
Fig.9 **Metal pipe in continuous flammable insulation – in floor**





5. Rigid floor, H ≥ 150 mm
6. Combustible pipe in PE / FEF insulation
7. Gap filled with cement mortar or **INTU FR MASTIC** mass
8. **INTU FR WRAP L** tape, one row, maximum 10 mm from the bottom of the floor

Fig.10 AROT pipe penetration seals with / without cables in rigid wall with thickness A ≥ 150 mm



1. Rigid wall with thickness of: A ≥ 150 mm.
2. Combustible pipe.
3. Gap filled with cement mortar, ring with max. width: a = 50 mm, on the whole depth of the partition.
4. **INTU FR WRAP L** band (double – placed on both sides, flush with the wall surface).
5. **INTU FR MASTIC** sealant on one side of the wall, depth of: b ≥ 15mm.

Non-combustible pipes with/without heating cable in local sustained insulation (case LS) seals with single/double rows of band

Fig.11 Flexible / rigid wall A ≥ 125 mm <u>double rows</u>

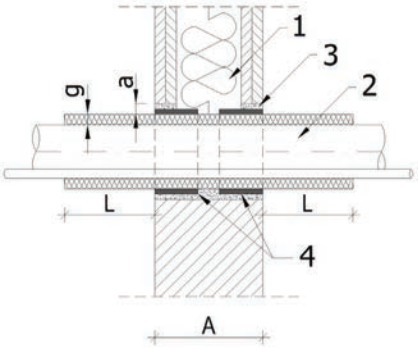
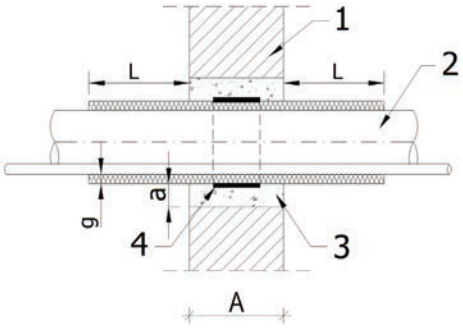


Fig.12 <u>Rigid wall</u> A ≥ 150 mm <u>single row</u>



1. Flexible or rigid wall.
2. Metal pipe with/without heating cable in local sustained insulation.
3. Gap filled with cement mortar:
-for flexible walls cement mortar ring with max. width: a = 25 mm, on the minimum depth: 25 mm on both sides of the wall / for rigid walls cement mortar ring with max. width: a = 110 mm, on the whole depth of the wall.
4. **INTU FR WRAP L** band:
-single row placed in the wall thickness center
-double rows placed on both sides, flush with the wall surface.

Additional mineral wool lamella

Fig.13 Rigid wall A ≥ 150 mm

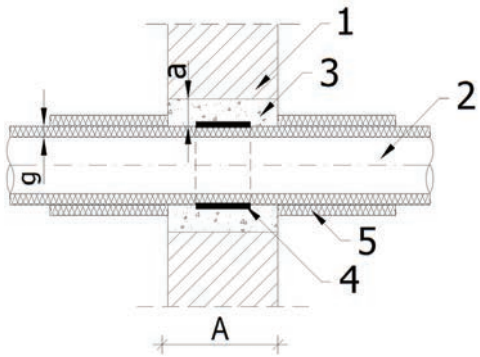
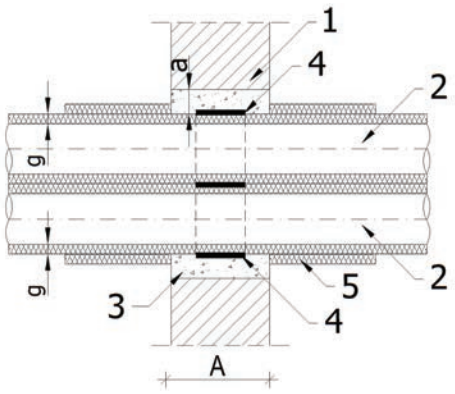


Fig.14 Rigid wall A ≥ 150 mm



1. Rigid wall A ≥ 150 mm.
2. Maximum in one bundle: 2 x metal pipe with insulation, 1 x plastic pipe and 1 x cable.
3. Gap filled with cement mortar.
4. **INTU FR WRAP L** band. For floor: single – placed on the bottom side, max. 10 mm from the floor bottom surface. Wall: double - placed on both sides, flush with the wall surface.

INTU FR WRAP

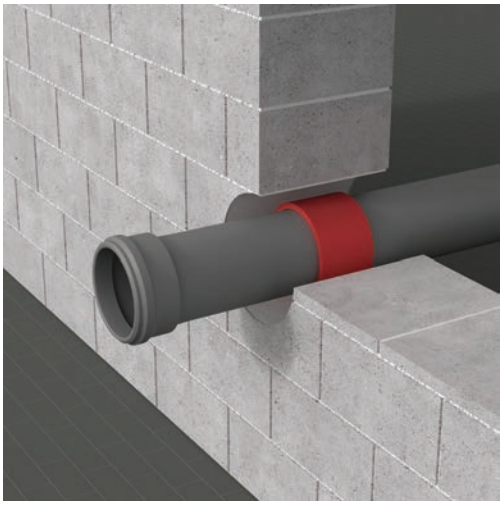
Intumescent pipe wrap

INTU FR WRAP

Intumescent pipe wrap

PRODUCT DESCRIPTION

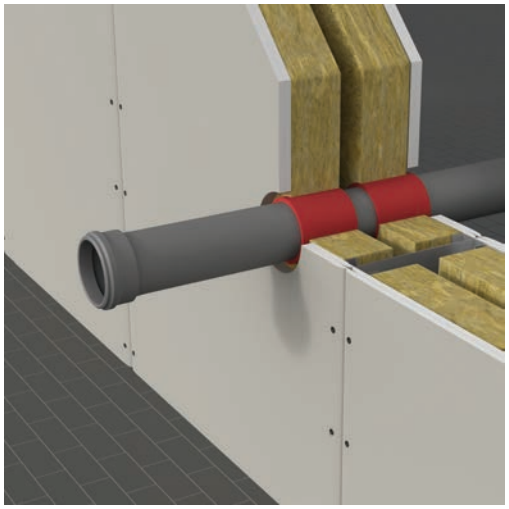
The firestop wrap **INTU FR WRAP** is made of a graphite-based material which swells during a fire, preventing the spread of fire and creating a barrier that ensures the partition maintains tightness and insulation up to EI 240.



APPLICATION

The **INTU FR WRAP** band is used for fire protection of plastic, composite and multilayer composite pipes passing through fire separation partitions individually or in bundles, as well as flammable and non-flammable pipes in insulation.

Flexible walls:	The wall must be 100 mm minimum thickness. Must have steel profile structure covered on both sides with minimum 2 layers of boards with thickness 12,5 mm.
Rigid walls:	The wall must be 150 mm minimum thickness. Must have concrete, cellular concrete or masonry structure, with minimum density 450 kg/m^3.
Rigid floors:	The floor must be 150 mm minimum thickness. Must have concrete, cellular concrete or masonry structure, with minimum density 550 kg/m^3.



AVAILABILITY

Product	Type	Box	Article no.
INTU FR WRAP	32mm	50	INWR32
	40mm	50	INWR40
	55mm	50	INWR55
	63mm	50	INWR63
	75mm	50	INWR75
	82mm	50	INWR82
	110mm	50	INWR110
	125mm	40	INWR125
	160mm	20	INWR160
	200mm	20	INWR200

COMPLIANCE:

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 18/0593 of 31/12/2018
- *Declaration of Performance:*
  DoP 1/2019
- *Certificate of Constancy of Performance*
  1488-CPR-0722/W

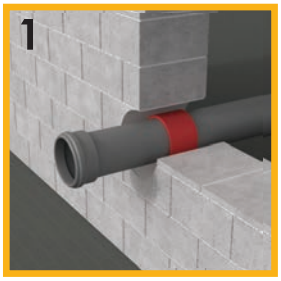
TRANSPORT AND STORAGE

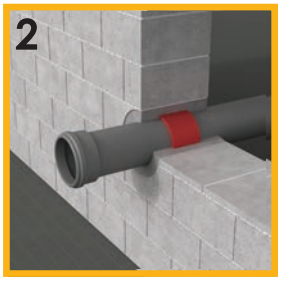
It is recommended to store in dry internal conditions at temperatures between + 5°C and + 35°C.

INTU FR WRAP

Intumescent pipe wrap

INSTALLATION METHOD





1. Wrap the pipe. Slide the INTU FR WRAP into the partition.

2. Fill the gap with cement mortar.

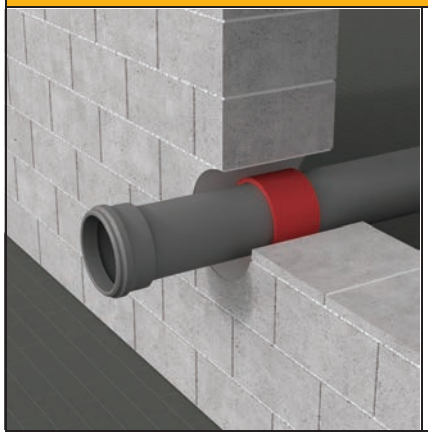
TECHNICAL DATA

Table 1 Product specification

WRAP type	Insert dimensions		Number of intumescent insert in one INTU FR WRAP [pcs.]
	Thickness [mm]	Width [mm]	
32mm	2,0	60	1
40mm	2,0	60	1
55mm	2,0	60	1
63mm	2,0	60	1
75mm	2,0	60	1
82mm	2 x 2,0	60	2
110mm	2 x 2,0	60	2
125mm	4 x 2,0	100	4
160mm	5 x 2,0	100	5
200mm	8 x 2,0	100	8

SOLUTION DETAILS

COMBUSTIBLE PIPE penetration seal in RIGID WALLS



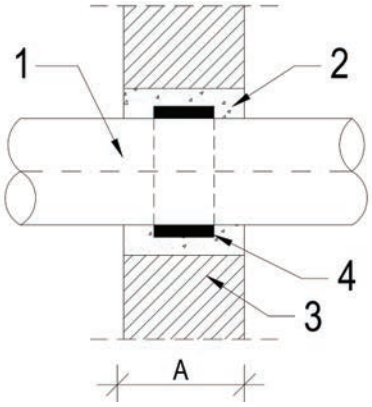
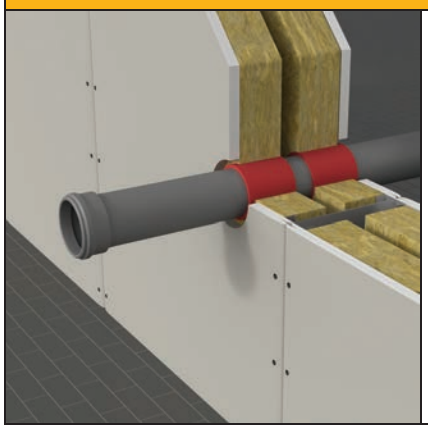


Fig. 1. Pipe in rigid wall A ≥ 150 mm

1 – flammable pipe
2 – cement mortar
3 – rigid wall
4 – **INTU FR WRAP** installed in wall axis

COMBUSTIBLE PIPE penetration seal in FLEXIBLE WALL



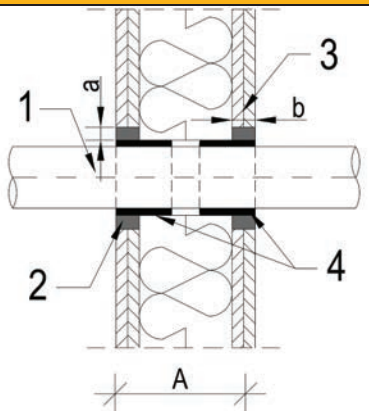
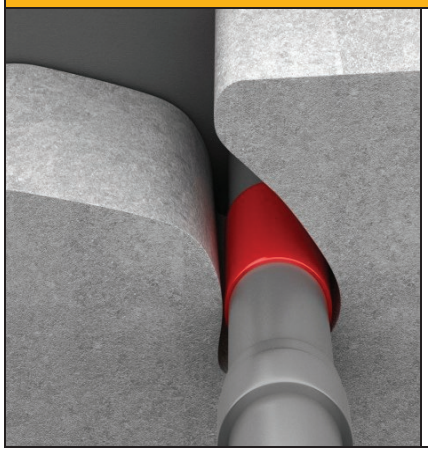


Fig. 2. Pipe in flexible wall A ≥ 125 mm

1 – flammable pipe
2 – **INTU FR MASTIC** sealant:
width 0 ≤ a ≤ 20 mm; depth b ≥ 25mm
3 – flexible wall
4 – **2 x INTU FR WRAP**, two-side flush with face of the partition

COMBUSTIBLE PIPE penetration seal in RIGID FLOOR



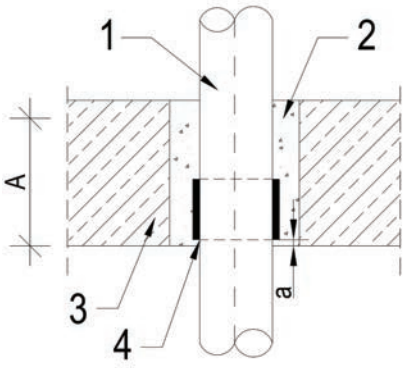
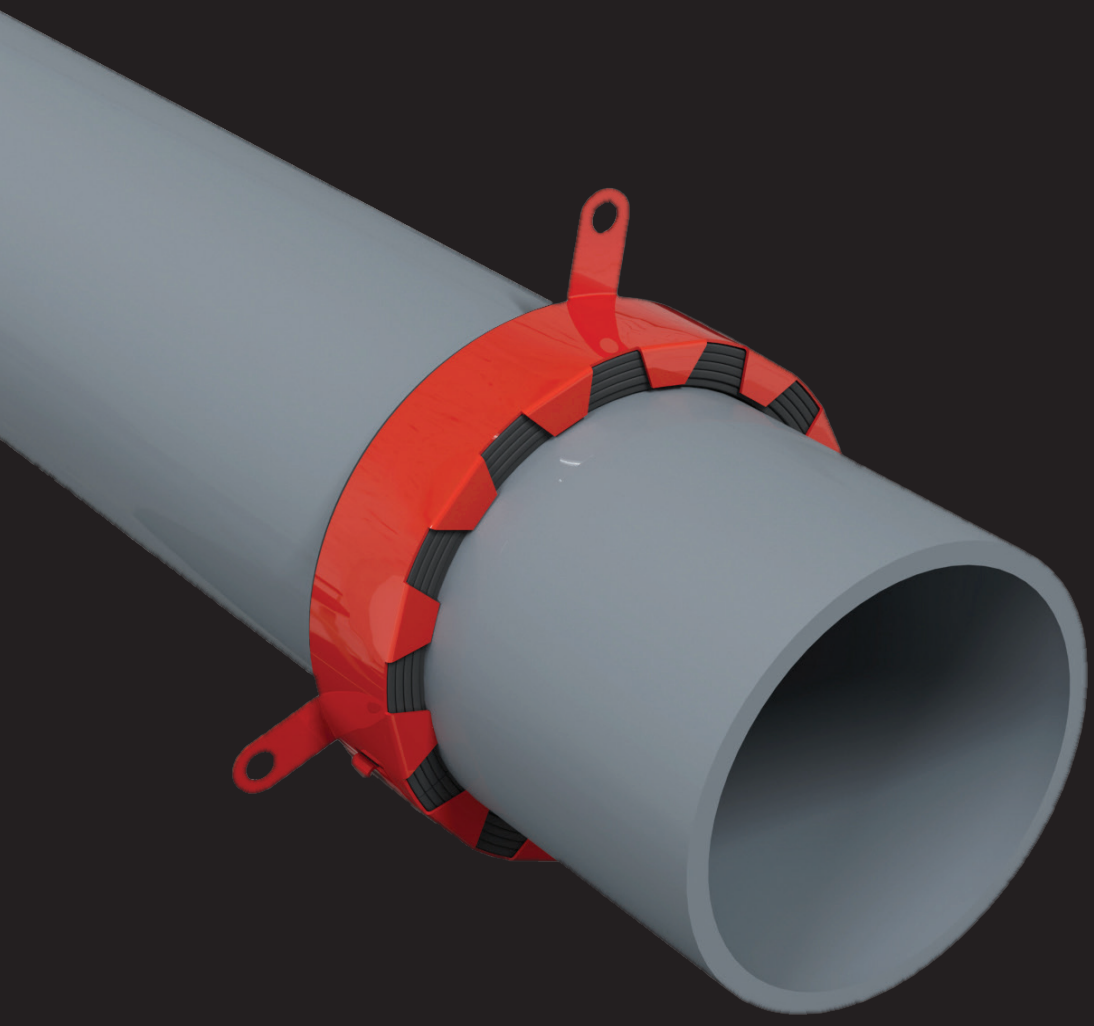


Fig. 3. Pipe in floor A ≥ 150 mm

1 – flammable pipe
2 – cement mortar
3 – floor
4 – **INTU FR WRAP,** installed a ≤ 10 mm from the floor bottom

INTU FR COLLAR

Intumescent pipe collar

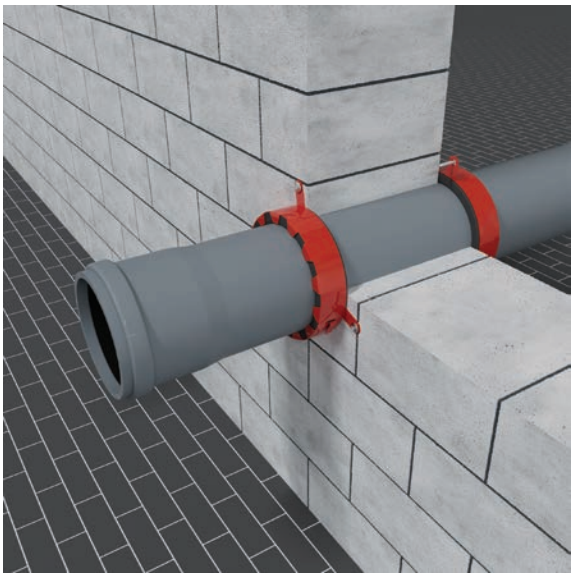


INTU FR COLLAR

Intumescent pipe collar

PRODUCT DESCRIPTION

The firestop collar **INTU FR COLLAR** is composed of a flexible insert made of graphite-based material and an external casing made of 1,0 mm steel sheet protected against corrosion by a red paint coating. The steel collar casing is equipped with a lock used for strapping the ends and stabilizing it on the pipe, as well as mounting brackets fixing the collar to the partition. The collars ensure fire resistance class up to max EI 240.



APPLICATION

The **INTU FR COLLAR** is use for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE, PE-RT, PE-X, PP-R/Al/PP-R, PP-R/PP-R-GF/PP-R, PE-RT/Al/PE-RT, PE-X/Al/PE-X) and plastic pipe bundles running through fire partitions.

Flexible walls:	The wall must be minimum thickness 100 mm. Must have frame structure of steel or wooden sections covered on both sides with minimum 2 layers of panels with minimum thickness 12,5 mm**.**
Rigid walls:	The wall must be minimum thickness 100 mm. Must be made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with min. density 600 kg/m^3.
Rigid floors:	The floor must be minimum thickness 150 mm. Must be made of concrete, reinforced concrete or cellular concrete with minimum density 1700 kg/m^3.

AVAILABILITY

Product	Type	Box	Article number
INTU FR COLLAR	32 mm	50	INCO32
	40 mm	50	INCO40
	55 mm	30	INCO55
	63 mm	30	INCO63
	75 mm	30	INCO75
	82 mm	30	INCO82
	90 mm	30	INCO90
	110 mm	2	INCO110
	125 mm	15	INCO125
	160 mm	10	INCO160
	200 mm	10	INCO200
	250 mm	1	INCO250
	315 mm	1	INCO315

COMPLIANCE:

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 19/0844 of 05/08/2020
- *Declaration of Performance:*
  DoP 2/2019
- *Certificate of Constancy of Performance*
  1488-CPR-0825/W

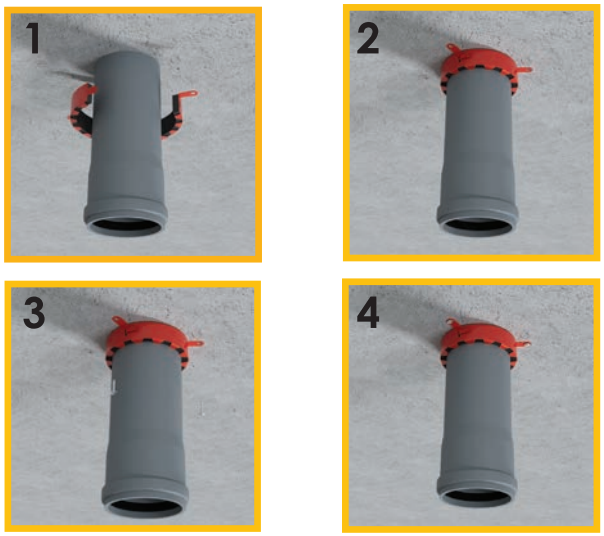
TRANSPORT AND STORAGE

Store in dry and cool conditions;
at a temperature from + 5°C to + 35°C.

INTU FR COLLAR

Intumescent pipe collar

INSTALLATION METHOD



Clean the hole and installations from dust, dirt and grease. The gaps between the hole and the edge of the pipe should be filled with mass **INTU FR MASTIC**.

1. Install **INTU FR COLLAR** on the pipe.

2. Secure **INTU FR COLLAR** using the lock.

3. Use steel wedge anchors for installation in the partition.

4. Fill any gaps with mass **INTU FR MASTIC.**

TECHNICAL DATA

Intumescent insert

Flange

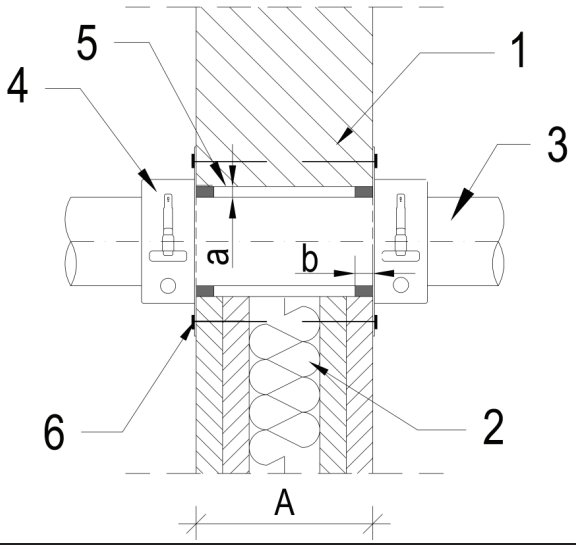
Pipe diameter Ø [mm]	Width [mm]	Number of layers	Number of fixing brackets	Collar height [mm]
Ø ≤ 50	30	2	2	31
50 < Ø ≤ 75	30	3	2	31
75 < Ø ≤ 90	30	4	3	31
90 < Ø ≤ 110	30	5	3	31
110 < Ø ≤ 125	40	7	4	41
125 < Ø ≤ 160	40	9	4	41
160 < Ø ≤ 200	60	10	4	61
200 < Ø ≤ 315	2 x 75	2 x 15	5	220
315 < Ø ≤ 355	2 x 75	2 x 15	6	220

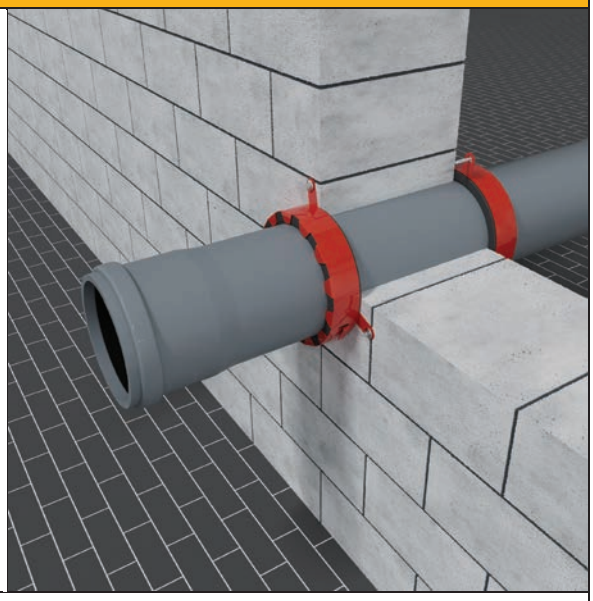
INTU FR COLLAR
Intumescent pipe collar

SOLUTION DETAILS

PLASTIC PIPE pipe penetration seal in RIGID/FLEXIBLE WALL

Fig. 1. Penetration seal in rigid/flexible wall A ≥ 100 mm

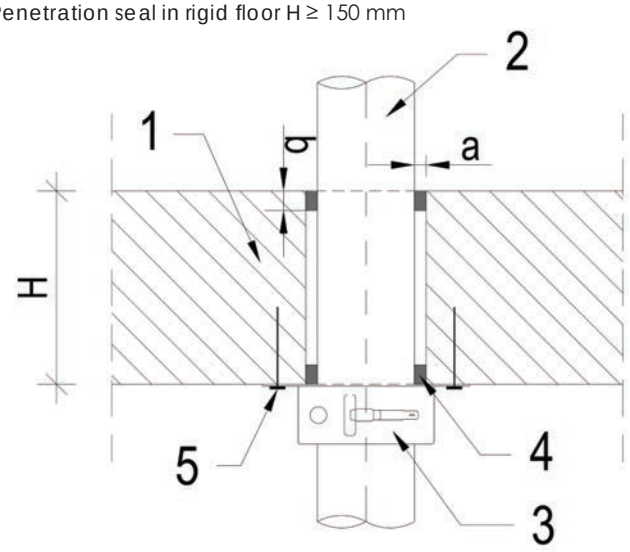




1 – rigid wall with thickness A ≥ 100 mm
2 – flexible wall with thick. A ≥ 100 mm
3 – plastic pipe
4 – **INTU FR COLLAR** fire protection collar installed on both sides of wall
5 – gap around collar filled with **INTU FR MASTIC** intumescent acrylic sealant: width 25 mm ≥ a ≥ 0 mm, depth b ≥ 10 mm
6 – screw Ø6 x 40 mm

PLASTIC PIPE pipe penetration seal in RIGID FLOOR

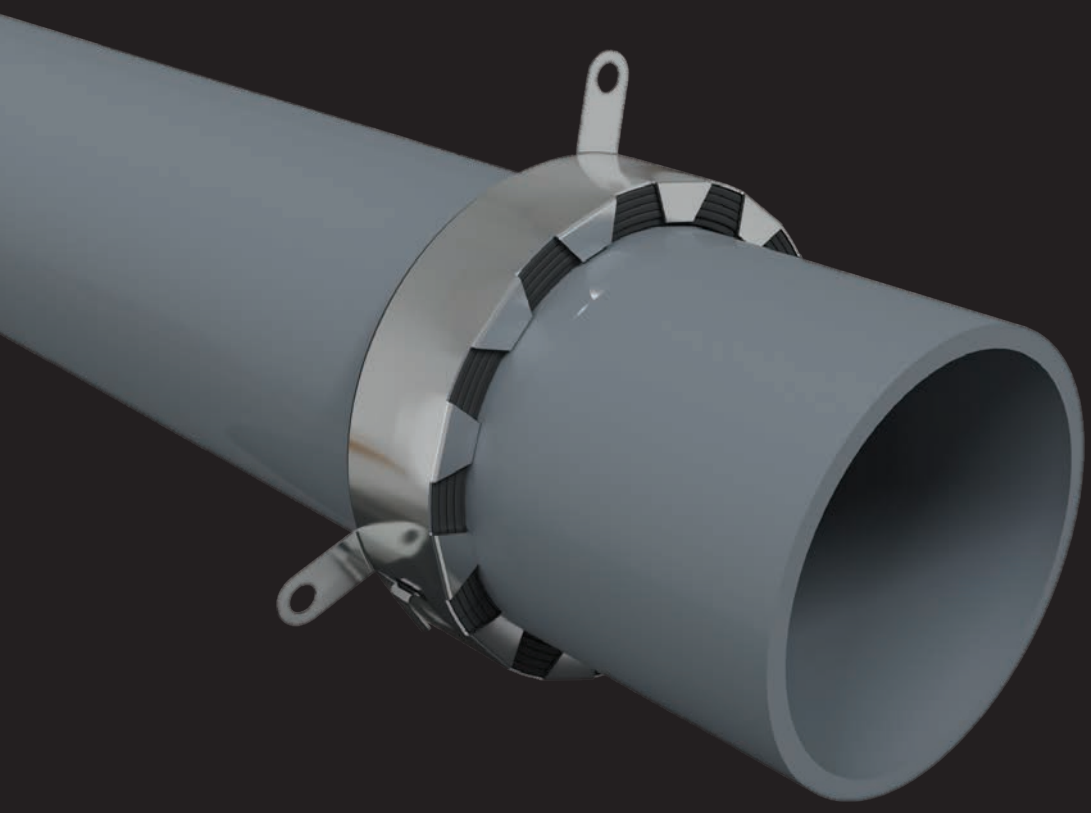
Fig. 2. Penetration seal in rigid floor H ≥ 150 mm



1 – rigid floor with thickness H ≥ 150 mm
2 – plastic pipe
3 – **INTU FR COLLAR** fire protection collar installed below of the floor
4 – gap filled with **INTU FR MASTIC** acrylic sealant on both sides of partition: width 25 mm ≥ a ≥ 0 mm, depth b ≥ 10 mm
5 – screw Ø6 x 40 mm

INTU FR COLLAR

Intumescent pipe collar (ST)

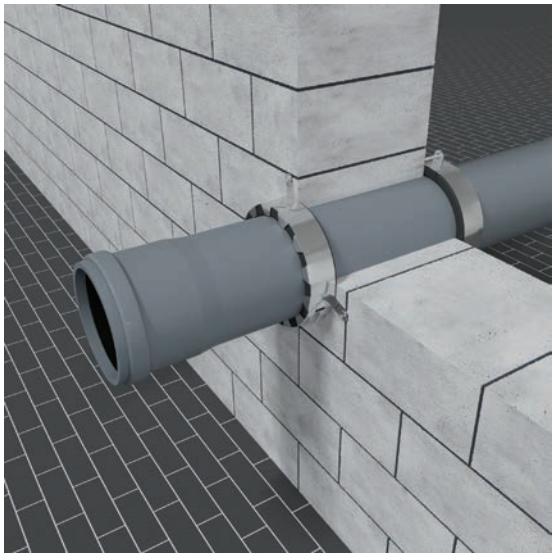


INTU FR COLLAR

Intumescent pipe collar (ST)

PRODUCT DESCRIPTION

The firestop collar **INTU FR COLLAR (ST)** is composed of a flexible insert made of graphite-based material and an external casing made of 1.0 mm stainless steel sheet. The steel collar casing is equipped with a lock used for strapping the ends and stabilizing it on the pipe, as well as mounting brackets fixing the collar to the partition. The collars ensure fire resistance class up to max EI 240.



APPLICATION

The **INTU FR COLLAR (ST)** is use for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE, PE-RT, PE-X, PP-R/Al/PP-R, PP-R/PP-R-GF/PP-R, PE-RT/Al/PE-RT, PE-X/Al/PE-X) and bundles of plastic pipes running through fire partitions.

Flexible walls:	The wall must be minimum thickness 100 mm. Must have frame structure of steel or wooden sections covered on both sides with minimum 2 layers of panels with minimum thickness 12,5 mm**.**
Rigid walls:	The wall must be minimum thickness 100 mm. Must be made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with min. density 600 kg/m^3.
Rigid floors:	The floor must be minimum thickness 150 mm. Must be made of concrete, reinforced concrete or cellular concrete with minimum density 1700 kg/m^3.

COMPLIANCE:

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 19/0844 of 05/08/2020
- *Declaration of Performance:*
  DoP 2/2019
- *Certificate of Constancy of Performance*
  1488-CPR-0825/W

AVAILABILITY

Product	Type	Box	Article number
INTU FR COLLAR (ST)	32 mm	50	INCOST32
	40 mm	50	INCOST40
	55 mm	30	INCOST55
	63 mm	30	INCOST63
	75 mm	30	INCOST75
	82 mm	30	INCOST82
	90 mm	30	INCOST90
	110 mm	2	INCOST110
	125 mm	15	INCOST125
	160 mm	10	INCOST160
	200 mm	10	INCOST200
	250 mm	1	INCOST250
	315 mm	1	INCOST315

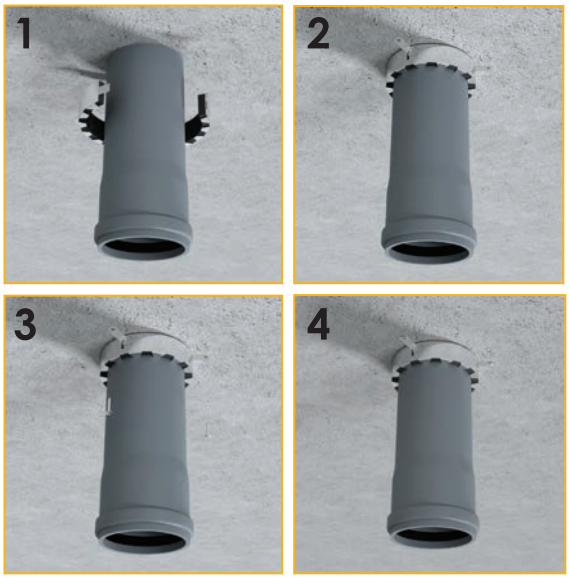
TRANSPORT AND STORAGE

Store in dry and cool conditions;
at a temperature from + 5°C to + 35°C.

INTU FR COLLAR

Intumescent pipe collar (ST)

INSTALLATION METHOD



Clean the hole and installations from dust, dirt and grease. The gaps between the hole and the edge of the pipe should be filled with mass **INTU FR MASTIC**.

1. Install **INTU FR COLLAR (ST)** on the pipe.

2. Secure **INTU FR COLLAR (ST)** using the lock.

3. Use steel wedge anchors for installation in the partition.

4. Fill any gaps with intumescent acrylic mass **INTU FR MASTIC.**

TECHNICAL DATA

Intumescent insert

Flange

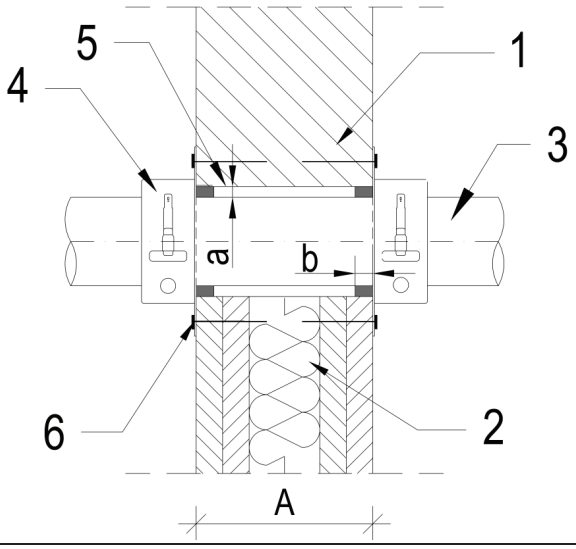
Pipe diameter Ø [mm]	Width [mm]	Number of layers	Number of fixing brackets	Collar height [mm]
Ø ≤ 50	30	2	2	31
50 < Ø ≤ 75	30	3	2	31
75 < Ø ≤ 90	30	4	3	31
90 < Ø ≤ 110	30	5	3	31
110 < Ø ≤ 125	40	7	4	41
125 < Ø ≤ 160	40	9	4	41
160 < Ø ≤ 200	60	10	4	61
200 < Ø ≤ 315	2 x 75	2 x 15	5	220
315 < Ø ≤ 355	2 x 75	2 x 15	6	220

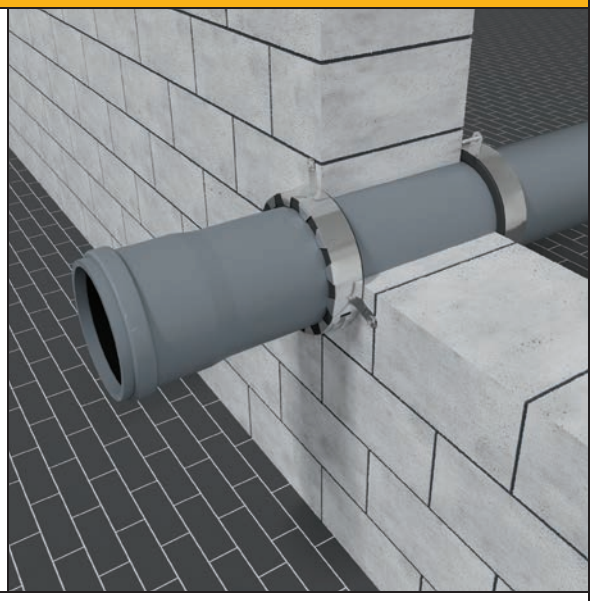
INTU FR COLLAR
Intumescent pipe collar (ST)

SOLUTION DETAILS

PLASTIC PIPE pipe penetration seal in RIGID/FLEXIBLE WALL

Fig. 1. Penetration seal in rigid/flexible wall A ≥ 100 mm

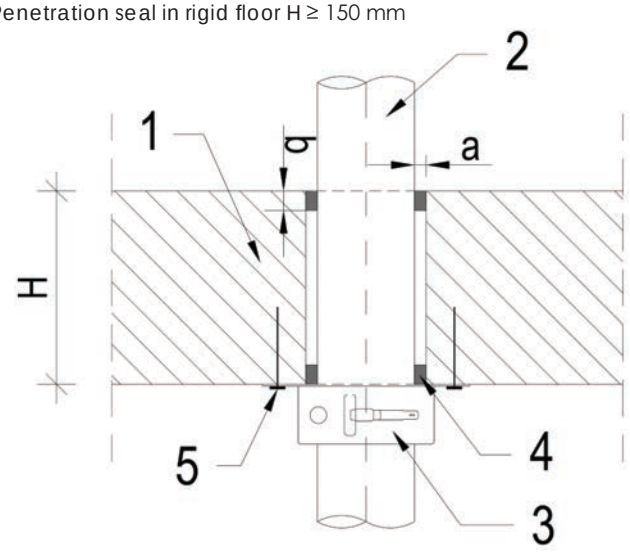




1 – rigid wall with thickness A ≥ 100 mm
2 – flexible wall with thick. A ≥ 100 mm
3 – plastic pipe
4 – **INTU FR COLLAR (ST)** fire protection collar installed on both sides of wall
5 – gap around collar filled with **INTU FR MASTIC** intumescent acrylic sealant: width 25 mm ≥ a ≥ 0 mm, depth b ≥ 10 mm
6 – screw Ø6 x 40 mm

PLASTIC PIPE pipe penetration seal in RIGID FLOOR

Fig. 2. Penetration seal in rigid floor H ≥ 150 mm



1 – rigid floor with thickness H ≥ 150 mm
2 – plastic pipe
3 – **INTU FR COLLAR (ST)** fire protection collar installed below of the floor
4 – gap filled with **INTU FR MASTIC** acrylic sealant on both sides of partition: width 25 mm ≥ a ≥ 0 mm, depth b ≥ 10 mm
5 – screw Ø6 x 40 mm

INTU FR COLLAR L SLIM

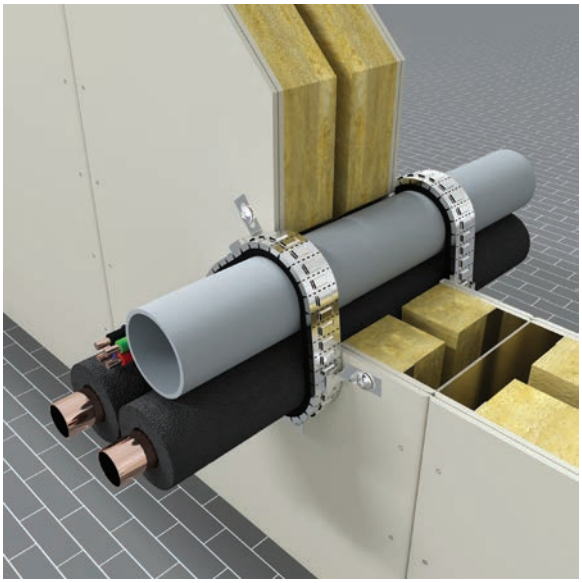
Intumescent pipe collar (ST)

INTU FR COLLAR L SLIM

Intumescent pipe collar roll

PRODUCT DESCRIPTION

INTU FR COLLAR L SLIM includes two or more layers of an intumescent, graphite based liner with a nominal thickness of 2 mm and width of 30 mm, inserted into a steel housing made of stainless steel sheet with a thickness of 0,5 mm. The housing of **INTU FR COLLAR L SLIM** is equipped with fixing elements, through which the collar is fixed to the separating element. The number of elements depends on the size of the collar.



APPLICATION

INTU FR COLLAR L SLIM is universal collar pipe closure devices used to form penetration seals where metal and combustible pipes, cables and conduits, single or in bundles, penetrate walls and floors.

Flexible walls:	The wall must have a minimum thickness 100 mm, must 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 gypsum plasterboards.
Rigid walls:	The wall must have a minimum thickness 100 mm, must comprise concrete or masonry separating elements, with a minimum density 450 kg/m^3.
Rigid floor:	The floor must have a minimum thickness 100 mm, must comprise aerated or reinforced concrete, concrete, with a minimum density 550 kg/m^3.

AVAILABILITY

Product	Contents in one box	Packaging	Pallet	Article number
INTU FR COLLAR L SLIM	steel casing 2,52 m intumescent wrap 12 m short fixings type S - 20 pcs.	1 box	375	INCOLS

Product	Contents	Packaging	Pallet	Article number
CLIP S	10 pcs.	1 foil	N/A	INCOLSCS
CLIP L	10 pcs.	1 foil	N/A	INCOLSCL
FIRE SPRINGS 40MM	20 pcs.	1 foil	N/A	INTUFSPR40

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 24/0497 of 26/08/2024
- *Declaration of Performance:*
  DoP 2/2024
- *Certificate of Constancy of Performance*
  1488-CPR-1130/W

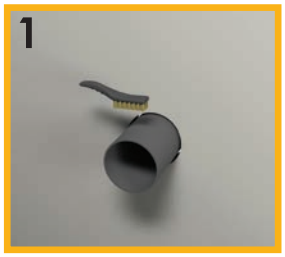
TRANSPORT AND STORAGE

Transport and store in a cool, dry place within a temperature range of + 5°C to + 35°C.

INTU FR COLLAR L SLIM

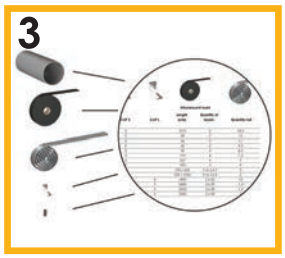
Intumescent pipe collar roll

➔ INSTALLATION METHOD

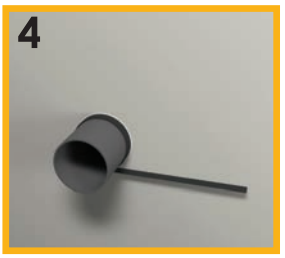


Clean the installations from dust, dirt and grease.

Fill the gaps between the installation and the partition with **INTU FR MASTIC** fireproofing mass.

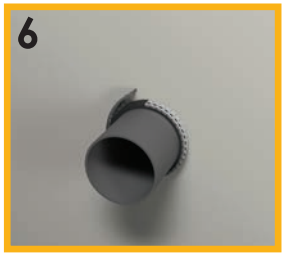


See the table below. Select and cut the appropriate length of the intumescent insert.



Wrap the intumescent insert on the pipe.

Select and cut the appropriate length of steel casing for the type of installation to be protected.



Put the casing on the intumescent insert.

Choose the appropriate clips with table below.

Attach the collar to the partition with steel screws.

Complete declaration and paste it next to the penetration.

Max pipe diameter Ø [mm]	Intumescent insert Quantity of layers	Intumescent insert Length [cm]	Steel casting Quantity of segments	Steel casting Length [cm]	Mounting clips CLIP S	Mounting clips CLIP L	Collar height [mm]
32	2	23,5	9	13,5	2		30
40	2	28	11	16,5	2		30
50	2	36	15	22,5	2		30
63	2	42	17	25,5	3		30
75	2	50	19	28,5	3		30
82	4	113	22	33,0	3		30
90	4	127	23	34,5	3		30
110	5	193	28	42,0	3		30
125	1 x 7	310	1 x 33	49,5	4	-	30
	2 x 7	620	2 x 33	99,0	1	4	2 x 30
160	1 x 9	510	1 x 42	63,0	4	-	30
	2 x 9	1020	2 x 42	126,0	1	4	2 x 30
200	2 x 10	1400	2 x 52	159,0	1	4	2 x 30
225	2 x 15	2400	2 x 61	183,0	1	5	2 x 30
250	2 x 15	2642	2 x 66	198,0	1	5	2 x 30
315	2 x 15	3260	2 x 80	240,0	1	6	2 x 30

INTU FR COLLAR L SLIM

Intumescent pipe collar roll

➔ TECHNICAL DATA

Calculation example of INTU FR COLLAR L SLIM consumption

- Pipe without insulation Ø50 (**SINGLE collar**)

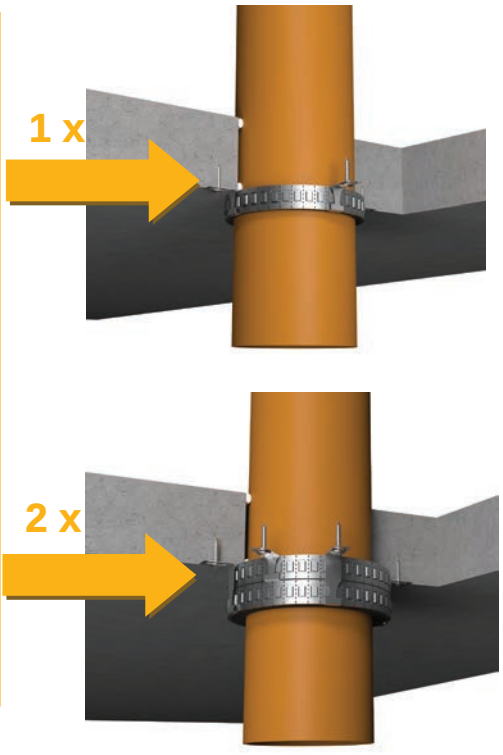
Pipe diameter Ø [mm]	Intumescent insert		Steel casting		Mounting clips
	Layers	Length [cm]	Segments	Length [cm]	CLIP S
50	2	36	15	22,5	2

- $L_{TAPE} = \pi \cdot Ø_{PIPE} \cdot (layers) \cdot (1,1\text{-}1,15)$
  for pipe Ø50: $L_{TAPE} = \pi \cdot 50 \cdot 2 \cdot 1,15 = \sim 36$ cm

- Pipe without insulation Ø250 (**DOUBLE collar**)

Pipe diameter Ø [mm]	Intumescent insert		Steel casting		Mounting clips	
	Layers	Length [cm]	Segments	Length [cm]	CLIP S	CLIP L
250	2 x 15	2642	2 x 66	198	1	5

- $L_{TAPE} = \pi \cdot Ø_{PIPE} \cdot (layers) \cdot (1,1\text{-}1,15)$
  for pipe Ø250: $L_{TAPE} = \pi \cdot 250 \cdot 2 \cdot 15 \cdot 1,15 = \sim 2642$ cm



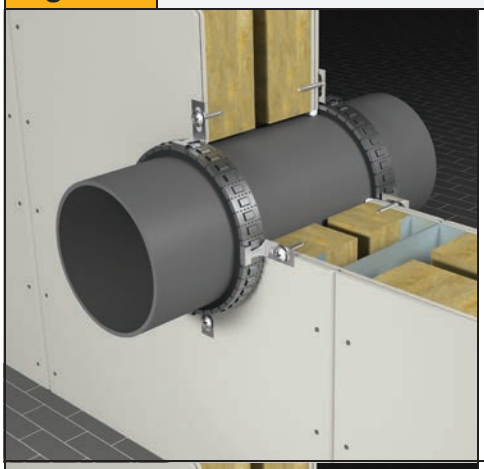
Colour	Stainless steel (casting) + Graphite (intumescent insert)
Shelf life	Not applicable
Transportation storage temperature	-5 °C to +35 °C (store dry in the original packaging)
Usage category	Type Z_2: intended for use in internal conditions with humidity lower than 85% RH, excluding temperatures below 0°C, without exposure to rain or UV.
Reaction to fire	Class E
Methods used for the assessment	EAD 350454-00-1104 “Fire Stopping and Fire Sealing Products. Penetration Seals”
Approvals	ETA-24 / 0497
Function preservation	25 years
Joint finish	Acrylic mastic INTU FR MASTIC
Large gaps	System with INTU FR UNIBOARD 1S or INTU FR UNIBOARD 2S
Mounting from one side for walls	Yes, find at ETA-24 / 0497
Mounting from above in floors	
Angle of services placement	Angle between 45° and 90°

INTU FR COLLAR L SLIM

Intumescent pipe collar roll

➔ SOLUTIONS DETAILS

Fig.1-3 Penetration seals of combustible pipes in walls



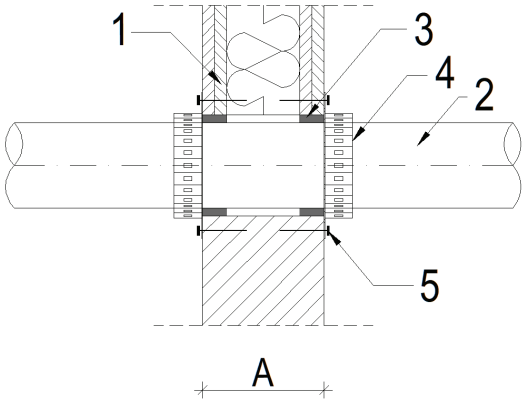
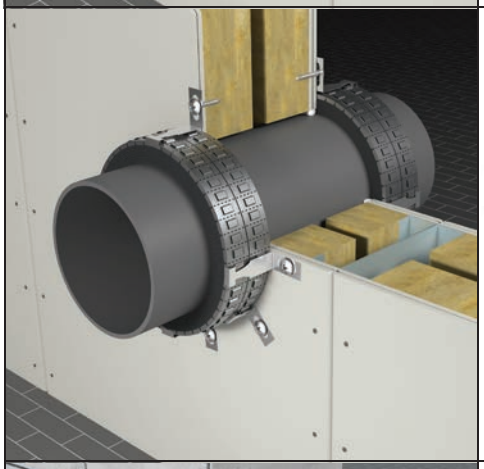


Fig. 1 Combustible pipe in wall, single collar from both sides of the wall

1 – flexible / rigid wall A ≥ 100 mm
2 – combustible pipe Ø ≤ 110 mm
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted single from both sides of the wall
5 – steel screws min. Ø6 x 50 mm



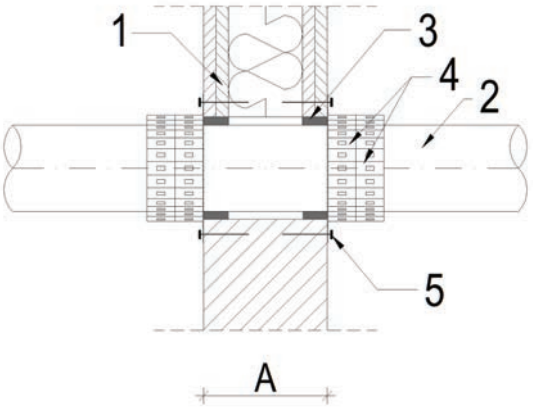
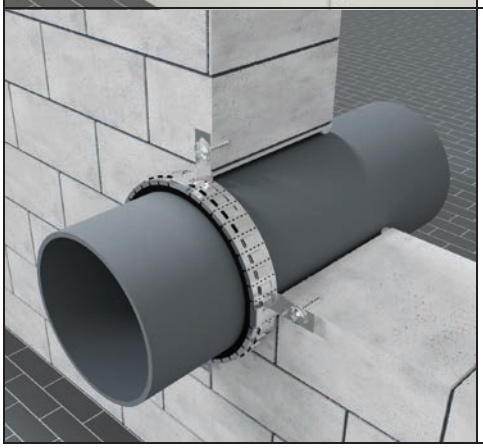


Fig. 2 Combustible pipe in wall, double collar from both sides of the wall

1 – flexible / rigid wall A ≥ 100 mm
2 – combustible pipe Ø > 110 mm
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted double from both sides of the wall
5 – steel screws min. Ø6 x 50 mm



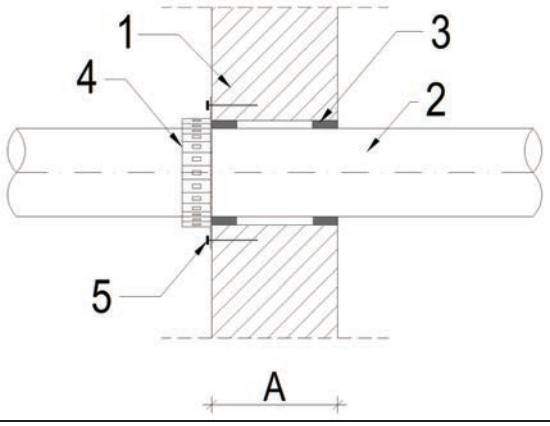
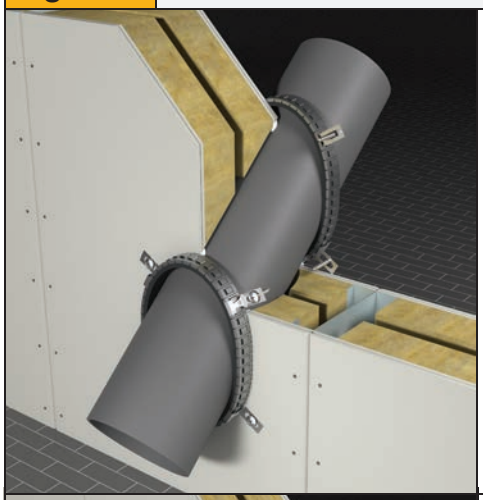


Fig. 3 Combustible pipe in wall, single collar from one side of the wall

1 – rigid wall A ≥ 100 mm
2 – combustible pipe Ø ≤ 110 mm
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted single from one side of the wall
5 – steel screws min. Ø6 x 50 mm

Fig.4-6 Penetration seals of combustible pipes / bundles in walls



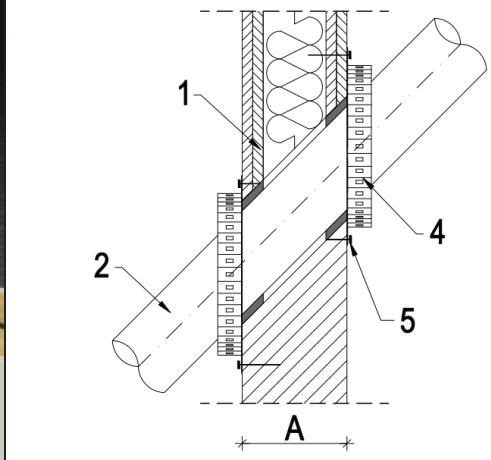
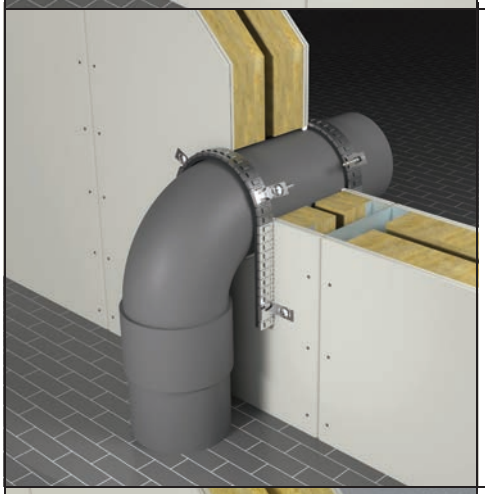


Fig. 4 Combustible pipe at an angle, in the wall

1 – flexible / rigid wall A ≥ 100 mm
2 – combustible pipe at angle
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted double from both sides of the wall
5 – steel screws min. Ø6 x 50 mm

Note: for pipe Ø110
1 (number of collars) x 5 (number of wrapping layers)
Length of steel casting for angle pipe: 28 segments



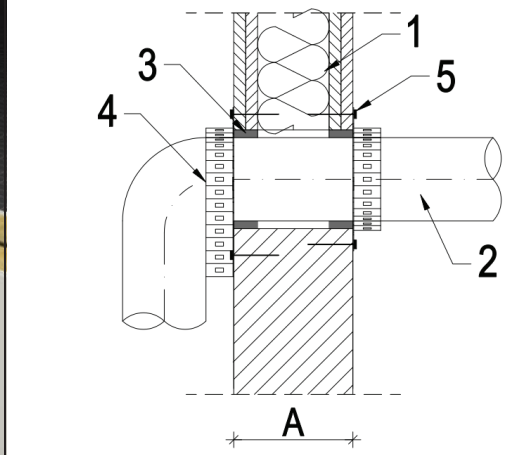
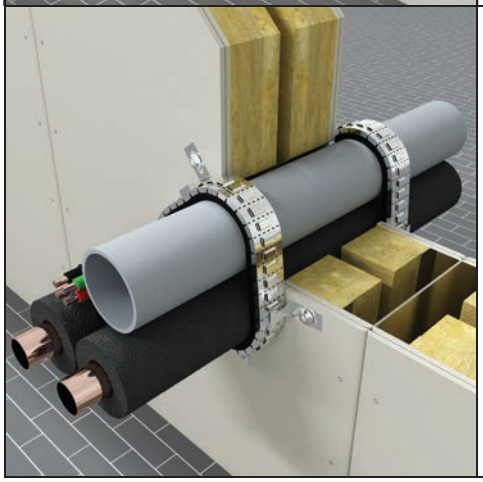


Fig. 5 Combustible pipe with elbow, in the wall

1 – flexible / rigid wall A ≥ 100 mm
2 – combustible pipe with elbow
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted double from both sides of the wall
5 – steel screws min. Ø6 x 50 mm

Note: for pipe Ø110
1 (number of collars) x 5 (number of wrapping layers)
Length of steel casting for pipe with elbow: 28 segments



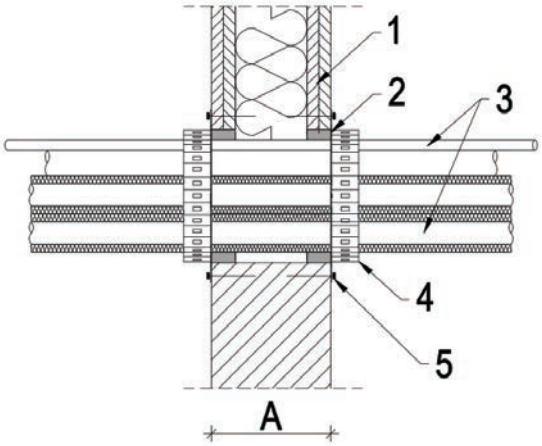


Fig. 6 Bundle of air-conditioning installations, in the wall

1 – flexible / rigid wall A ≥ 100 mm
2 – bundle with pipes and cable
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted double from both sides of the wall
5 – steel screws min. Ø6 x 50 mm

INTU FR COLLAR L SLIM

Intumescent pipe collar roll

Fig.7-9 Penetration seals of combustible pipes in floors

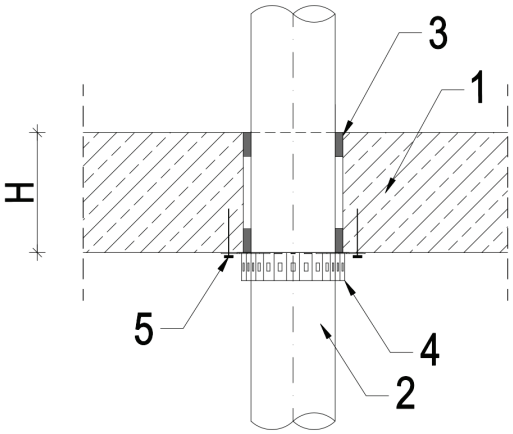
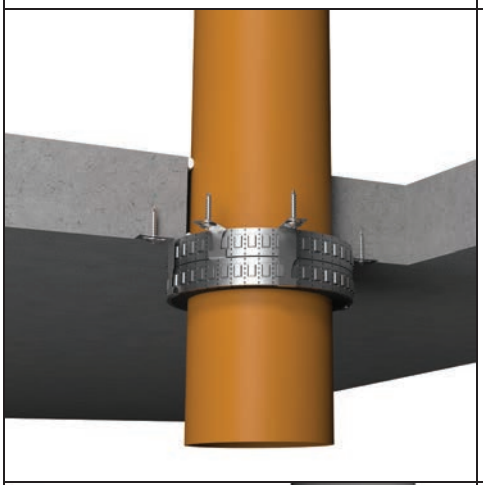


Fig. 7 Combustible pipe in floor, single collar from the bottom of the floor

1 – rigid floor H ≥ 150 mm
2 – combustible pipe Ø ≤ 110 mm
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted single from the bottom of the floor
5 – steel screws min. Ø6 x 50 mm



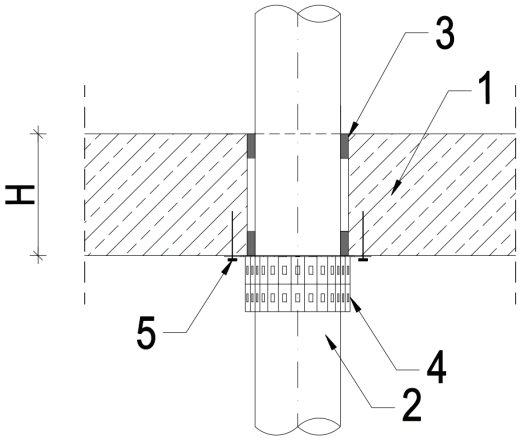
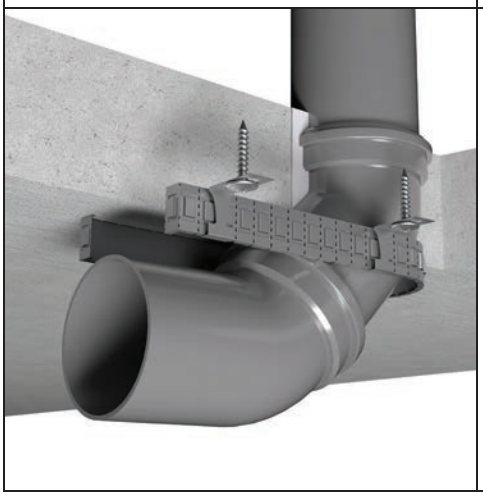


Fig. 8 Combustible pipe in floor, double collar from the bottom of the floor

1 – rigid floor H ≥ 150 mm
2 – combustible pipe Ø > 110 mm
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted double from the bottom of the floor
5 – steel screws min. Ø6 x 50 mm



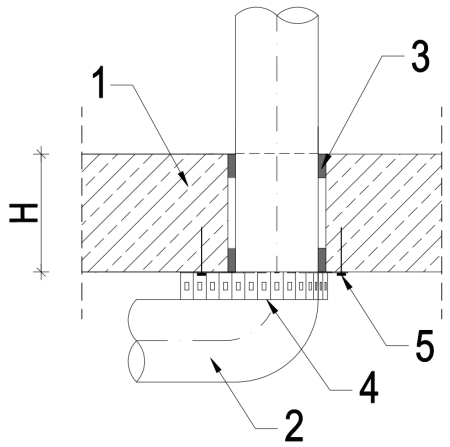
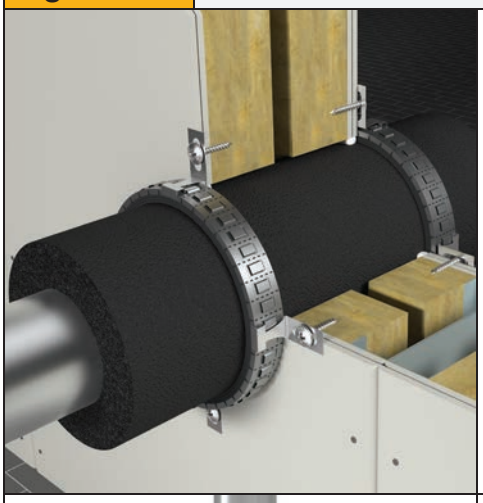


Fig. 9 Combustible pipe with elbow, in the floor

1 – rigid floor H ≥ 150 mm
2 – combustible pipe with elbow
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted double from both sides of the wall
5 – steel screws min. Ø6 x 50 mm

Note: for pipe Ø110
1 (number of collars) x 5 (number of wrapping layers)
Length of steel casting for pipe with elbow: 28 segments

Fig.10-12 | **Penetration seals of non-combustible pipes and AROT pipes**



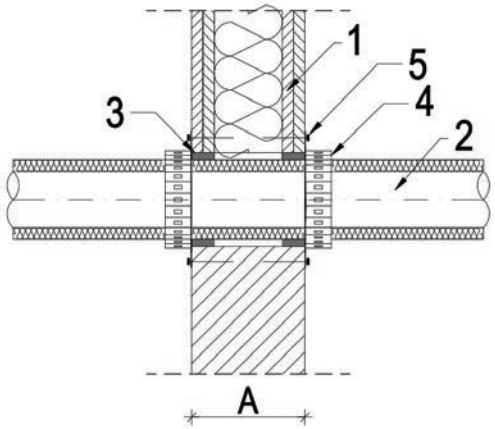


Fig. 10 Isolated metal pipe, single collar from both sides of the wall

1 – flexible / rigid wall A ≥ 100 mm
2 – isolated metal pipe or isolated combustible pipe
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted single from both sides of the wall
5 – steel screws min. Ø6 x 50 mm

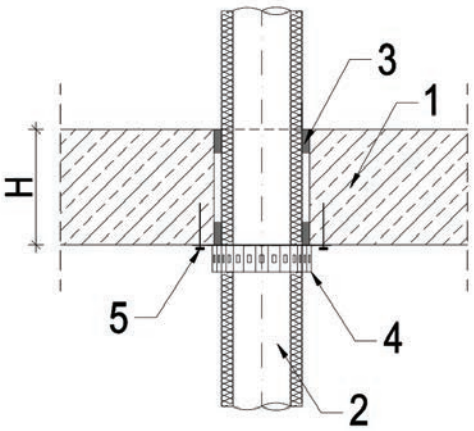
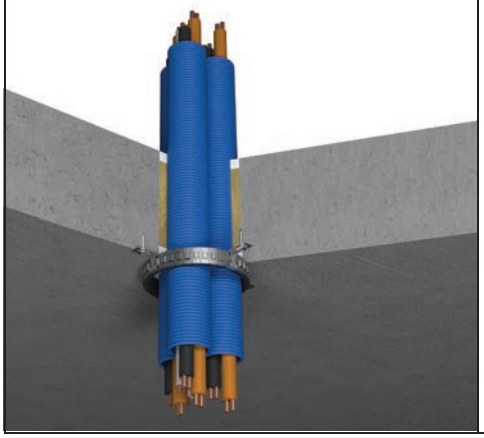


Fig. 11 Isolated metal pipe, single collar from bottom of the floor

1 – rigid floor H ≥ 150 mm
2 – isolated metal pipe or isolated combustible pipe
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted single from bottom of the floor
5 – steel screws min. Ø6 x 50 mm



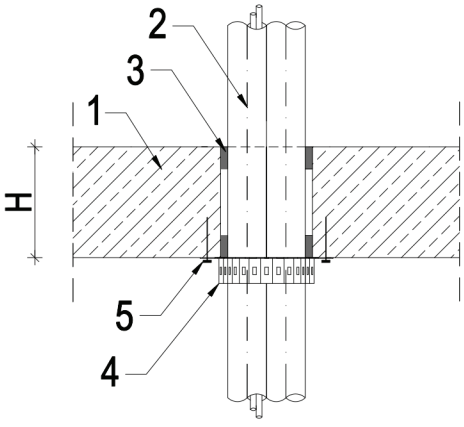


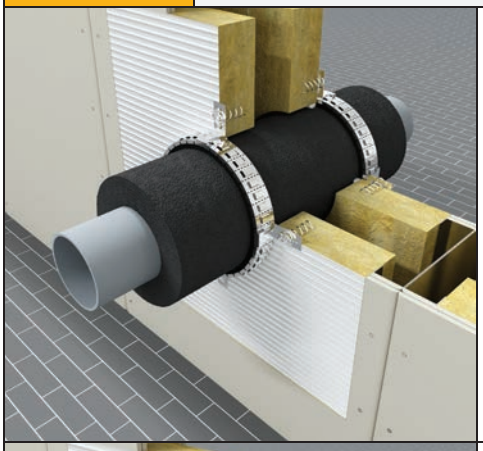
Fig. 12 AROT bundle penetration seal with collar from bottom of the floor

1 – rigid floor H ≥ 150 mm
2 – AROT cable pipe bundle with or without cable
3 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
4 – **INTU FR COLLAR L SLIM** mounted single from bottom of the floor
5 – steel screws min. Ø6 x 50 mm

INTU FR COLLAR L SLIM

Intumescent pipe collar roll

Fig.13-16 SYSTEM COMPATIBLE WITH INTU FR UNIBOARD



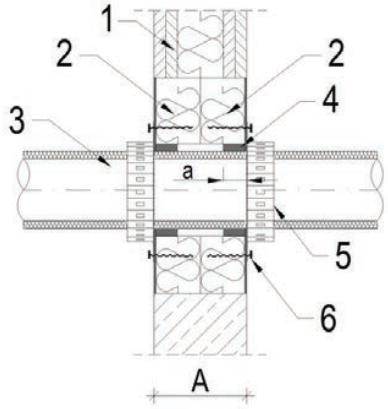
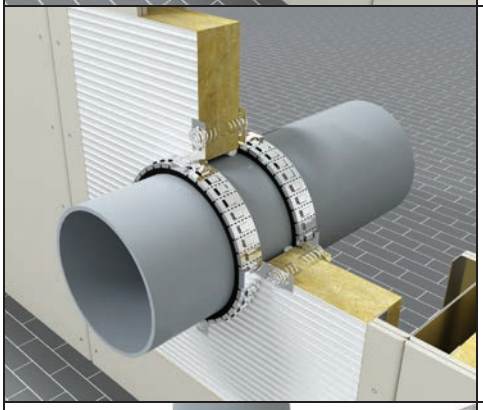


Fig. 13 Isolated combustible pipe, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – isolated metal pipe or isolated combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from both sides of the wall
6 – steel screws min. Ø6 x 50 mm



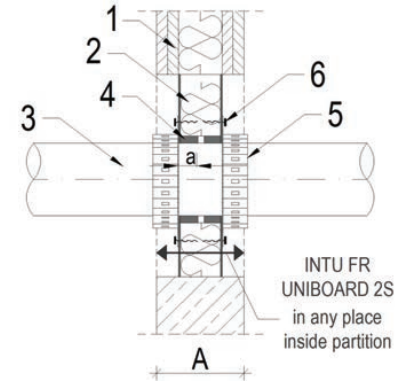
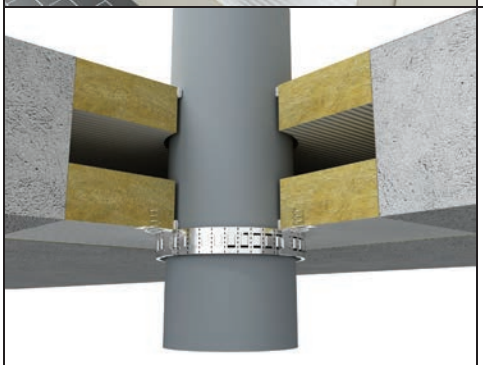


Fig. 14 Combustible pipe, single mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – 1 x board **INTU FR UNIBOARD 2S**
3 – combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from both sides of the mineral wool board
6 – steel screws min. Ø6 x 50 mm



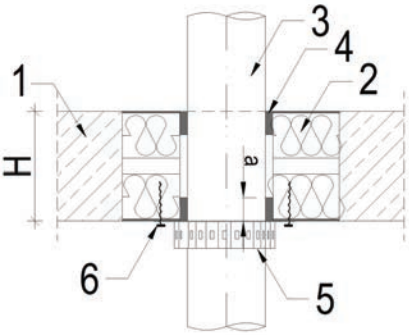
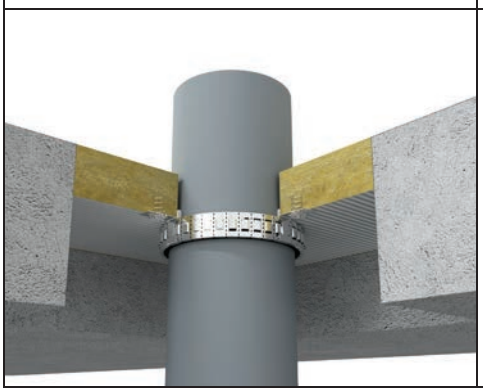


Fig. 15 Combustible pipe, double mineral wool board

1 – rigid floor H ≥ 150 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from the bottom of the floor
6 – steel screws min. Ø6 x 50 mm



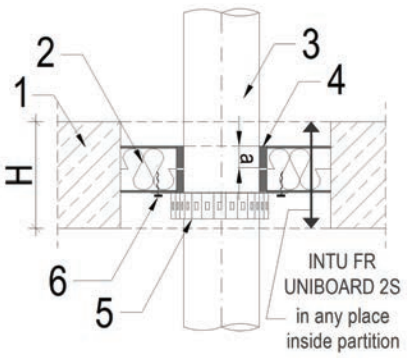
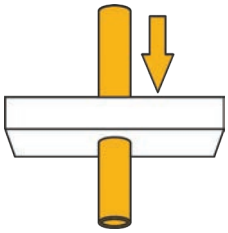
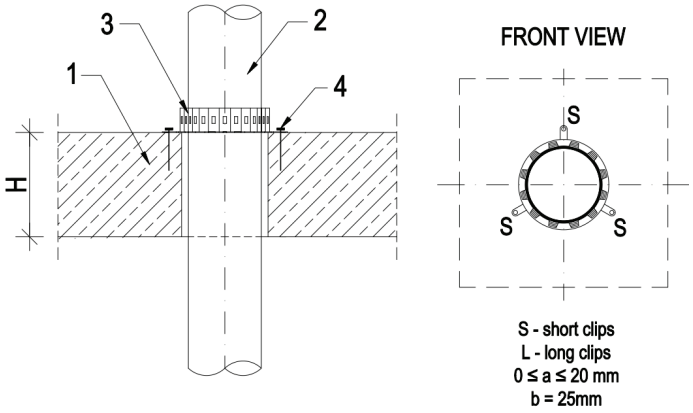
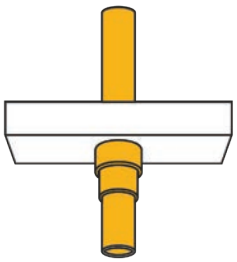
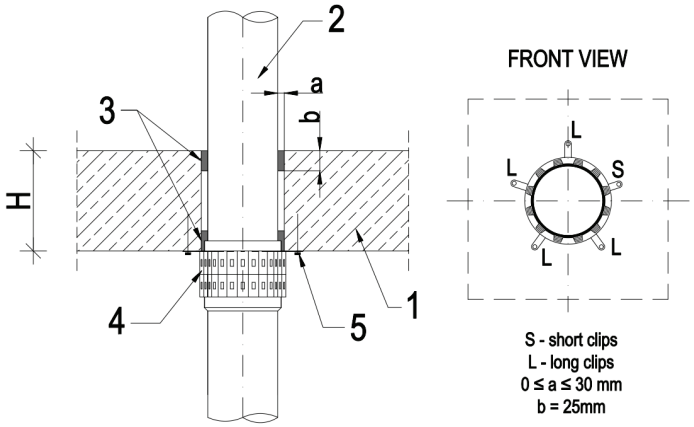
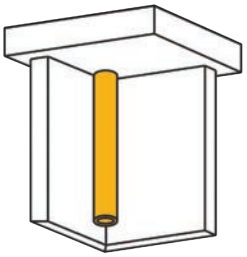
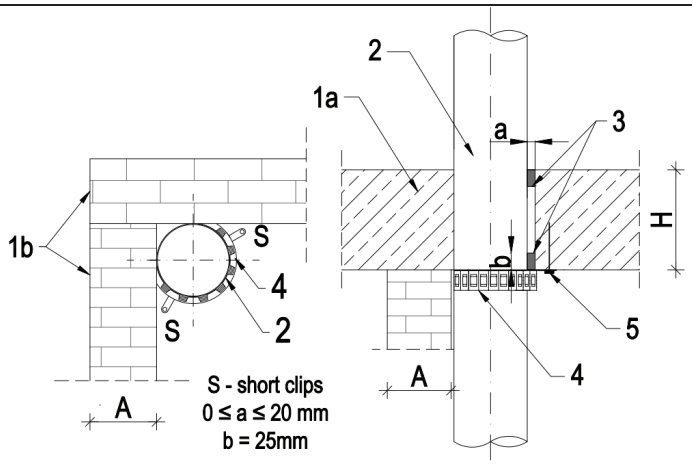


Fig. 16 Combustible pipe, single mineral wool board

1 – rigid floor H ≥ 150 mm
2 – 1 x board **INTU FR UNIBOARD 2S**
3 – combustible pipe
4 – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition
5 – **INTU FR COLLAR L SLIM** mounted single from bottom of the mineral wool board
6 – steel screws min. Ø6 x 50 mm

INTU FR COLLAR L SLIM

Intumescent pipe collar roll

Fig.17-19	Details of other solutions	
• collar from the top of the floor 		**1** – rigid floor H ≥ 150 mm **2** – combustible pipe **3** – **INTU FR COLLAR L SLIM** mounted single from the top of the floor **4** – steel screws min. Ø6 x 50 mm
• collar on the pipe's socket 		**1** – rigid floor H ≥ 150 mm **2** – combustible pipe **3** – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition **4** – **INTU FR COLLAR L SLIM** mounted double from bottom of the floor (on pipe's socket) **5** – steel screws min. Ø6 x 50 mm
• corner collar 		**1a** – rigid floor H ≥ 150 mm **1b** – rigid wall A ≥ 100 mm **2** – combustible pipe **3** – **INTU FR MASTIC** on minimum depth ≥ 25 mm from both sides of the partition **4** – **INTU FR COLLAR L SLIM** mounted single from bottom of the floor **5** – steel screws min. Ø6 x 50 mm

INTU FR DISC

Firestop intumescent disc

INTU FR DISC

Firestop intumescent disc

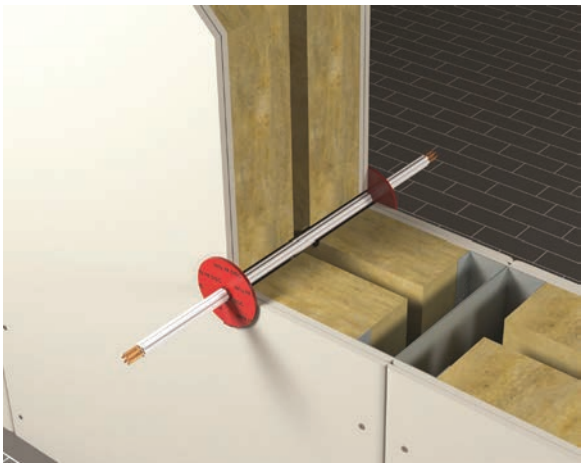
PRODUCT DESCRIPTION

The **INTU FR DISC** is a Ø65 x 3 mm self-adhesive fireproof intumescent disc that is applied to the partition and can be plastically shaped around installations in small openings up to Ø25 mm in diameter. **INTU FR DISC** swells when exposed to temperature and forms a fire-resistant seal for installations passing through the partition in fire resistance class up to **EI120**.

APPLICATION

The Fire resistant system **INTU FR DISC** is designed for application in openings of diameter ≤ Ø25 mm and used to fire protection of:

- Single electric cables with diameter Ø ≤ 21 mm
- Fibre-optic cables and cable bundles with diameter Ø ≤ 25 mm
- Single steel pipes with diameter Ø ≤ 16 mm



Flexible walls:	The wall must be minimum thickness 100 mm. Must have frame structure of steel or wooden sections covered on both sides with minimum 2 layers of panels with minimum thickness 12,5 mm.
Rigid walls:	The wall must be minimum thickness 100 mm. Must be made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with min. density 450 kg/m³.
Rigid floors:	The floor must be minimum thickness 150 mm. Must be made of concrete, reinforced concrete or cellular concrete with minimum density 550 kg/m³.

AVAILABILITY

Product	Dimesnions	Box	Outer box	Pallet	Art. noumber
INTU FR DISC	65 mm x 3 mm	32	384	12288	INFRDC32

INSTALLATION METHOD

- Clean the surfaces of the partition from grease and other contaminants before sealing is performed.
- Stick the intumescent disk at the installation site with 10 mm overlap:

  – in wall: apply intumescent discs from both sides of the partition

  – floor, apply intumescent disc from the bottom of the floor

COMPLIANCE

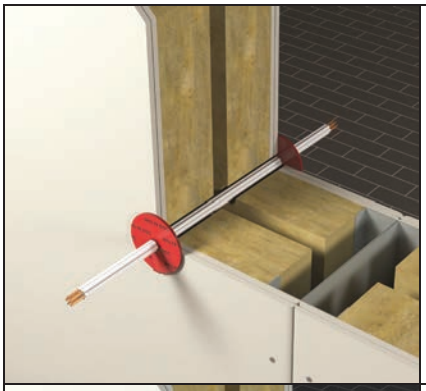
- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 24/0158 of 28/03/2024
- *Declaration of Performance:*
  DoP 4/2024
- *Certificate of Constancy of Performance*
  1488-CPR-1110/W

TRANSPORT AND STORAGE

Store in dry conditions, at a temperature between +5°C to +35°C. Shelflife: 12 months from the date of production placed on the package.

INTU FR DISC
Intumescent disc

➔ SOLUTION DETAILS



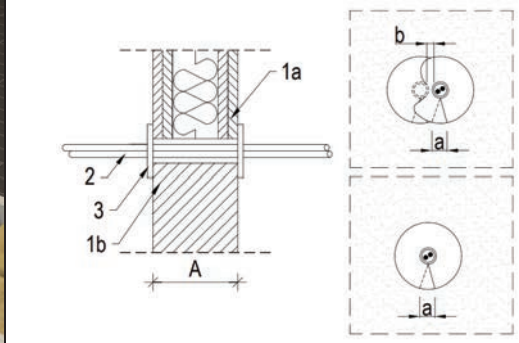
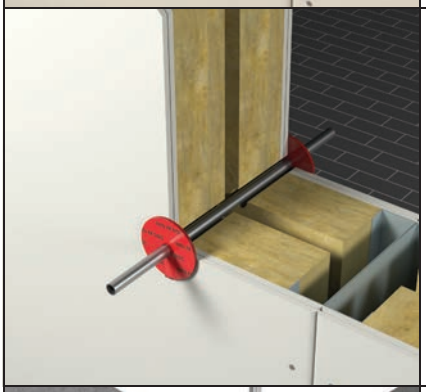


Fig. 1. Cables penetration in wall

1a – flexible wall, th. A ≥ 100 mm
1b – rigid wall, thickness A ≥ 100 mm
2 – cable up to Ø21mm or bundle of cables up to diameter Ø25mm
3 – intumescent pad **INTU FR DISC**

Disk edge overlap a ≈10 mm
Distance between openings b ≥ 20 mm



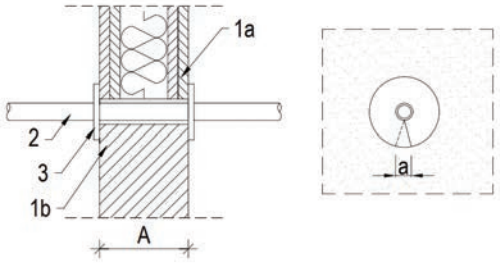
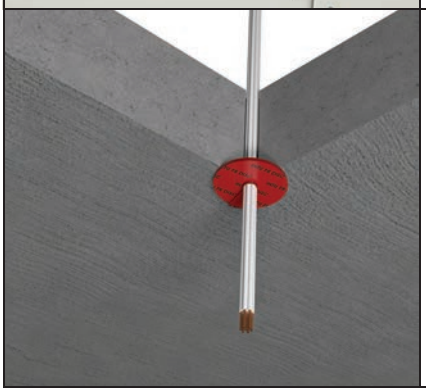


Fig. 2. Steel pipe penetration in wall

1a – flexible wall, th. A ≥ 100 mm
1b – rigid wall, thickness A ≥ 100 mm
2 – steel pipe / conduit Ø ≤16 mm
3 – intumescent pad **INTU FR DISC**

Disk edge overlap a ≈10 mm



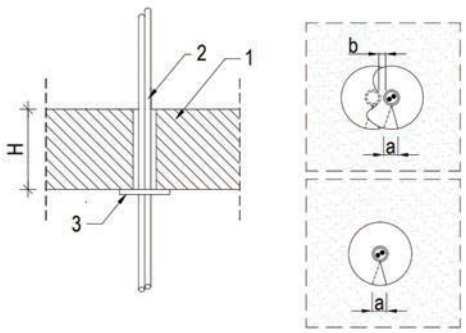


Fig. 3. Cables penetration in floor

1 – rigid floor, thickness H ≥ 150 mm
2 – cable or bundle of cables
3 – intumescent pad **INTU FR DISC**

Disk edge overlap a ≈10 mm
Distance between openings b ≥ 20 mm

INTU FR FOAM 2K

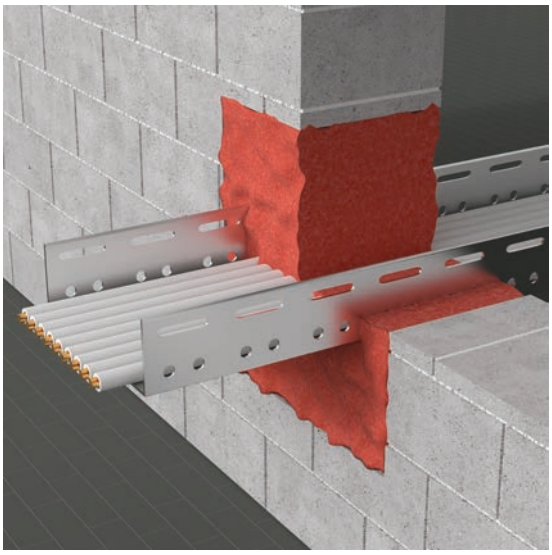
Fire protection foam

INTU FR FOAM 2K

Fire protection foam

PRODUCT DESCRIPTION

The **INTU FR FOAM 2K** intumescent fire-retardant foam based on polyurethane. After application, it reacts and increases its volume. During a fire, it swells, preventing the spread of fire, creating a barrier ensuring that the partition remains tight and insulating up to EI 120.



APPLICATION

The **INTU FR FOAM 2K** intumescent fire protection foam is cartridges on the basis of polyurethane. Is intended to be easy used as mixed penetration seal to the fire resistance performance of flexible wall, rigid wall and rigid floor construction where they have been provided, with apertures which are penetrated by various cables, waveguides, conduits / tubes, metal pipes, plastic pipes and cable support constructions (perforated or non-perforated steel cable trays and steel ladders).

Flexible walls:	The wall must be minimum thickness 94 mm. Must have steel or timbers profile structure covered on both sides with minimum 2 layers of boards with minimum thickness 12,5 mm or minimum one layer of boards (minimum thickness 25 mm) with classification.
Rigid walls:	The wall must be minimum 100 mm thickness, made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with a density of min. 450 kg/m^3.
Rigid floors:	The floor must be 150 mm minimum thickness. Must have concrete, aerated concrete, cellular concrete, reinforced concrete or masonry structure, with min. density $\rho \geq 450$ kg/m^3.

AVAILABILITY

Product	Unit	Pallet (pcs)	Article number
INTU FR FOAM 2K 380 ml	BOX (6 pcs)	360 (60xBOX)	INFO2K380
Additional equipment	**Unit**	**Pallet (pcs)**	**Article number**
INTU FR FOAM 2K HandyMax	pcs	N/A	INFO2KHM
INTU FR FOAM 2K PowerMax	pcs	N/A	INFO2KHMPM
INTU FR FOAM 2K MIXING NOZZLE	BOX (50 pcs)	N/A	INF2KMIX

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA-10/0431 and ETA-11/0206
- *Declaration of Performance:*
  DoP ZZ330-20180701
- *Certificate of Constancy of Performance*
  0761-CPR-0208

TRANSPORT AND STORAGE

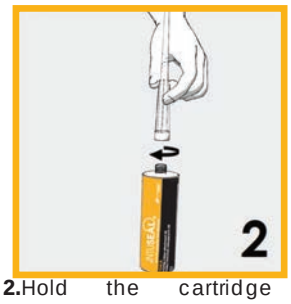
Store in dry and cool conditions at temperatures between + 5°C and + 25°C.

INTU FR FOAM 2K

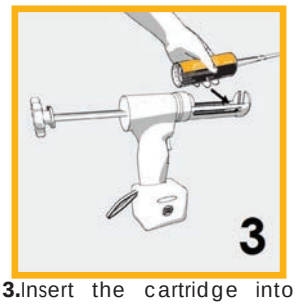
Fire protection foam

INSTALLATION METHOD

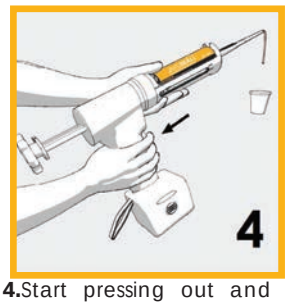
1.Clean the installations from dust, dirt and grease.



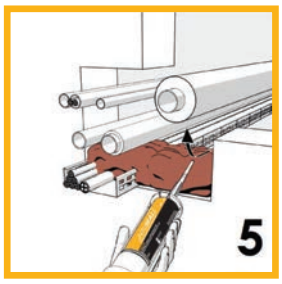
2.Hold the cartridge vertically with the tip pointing upward, unscrew the cap and firmly screw on the provided mixing nozzle.

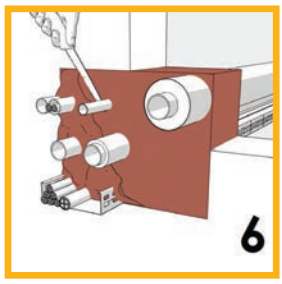


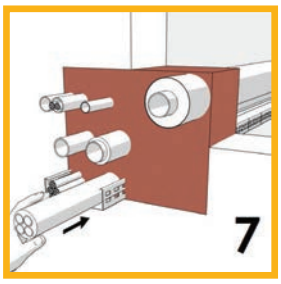
3.Insert the cartridge into the intended dispensing gun.

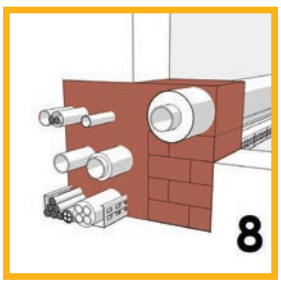


4.Start pressing out and discard non-uniform initial material.









5. Fill the opening from back to front. In this process build up the foam from bottom to top, always guide the tip of the mixing nozzle above the foam so that the material does not stick or clog. After a work interruption longer than approximately 50 seconds the foam hardens in the mixing nozzle, which then must be replaced. Prior to changing the mixing nozzle, offload the dispensing gun, and carefully replace the mixing nozzle.

6. After approx. 2 minutes projecting foam residues can be cut off with a suitable knife in compliance with the necessary protective measures and safety regulations.

7. Cables that will be installed retroactively can be routed through the existing foam.

8. The fire protection penetration seal is finished. Complete any important information on the penetration seal label.

Note: If the mixing nozzle is clogged, never use force to press out the material: force can destroy the cartridge or the dispensing gun!
Wear suitable protective gloves and protective clothing for the work.

Additional equipment	
INTU FR FOAM 2K HandyMax	**INTU FR FOAM 2K PowerMax**
	
Manual injection dispenser. The dispenser is made of high-quality materials that guarantee long and trouble-free operation. The special design of the dispensers ensures perfect matching of compatible containers.	Electrical injection dispenser. The dispenser has included: trigger drive module with regulator, 7.2 V lithium-ion battery, speed control, LED light. Max speed: 4 mm/sec. Max power: 600 kgf / 6000 N / 1,320 lbs.

INTU FR FOAM 2K

Fire protection foam

TECHNICAL DATA

Table 1 Properties of the **INTU FR FOAM 2K** intumescent fire protection foam

Colour	Red / brown*
Shelf life	12 months in unopened packaging at a temperature between 5°C and 30°C
Transportation storage temp.	+5 °C to +30 °C (store dry and dustfree in the original packaging)
Application temperature	+15 °C to +30 °C (optimally +20 °C tot +25 °C)
Temp. resistance	-20 °C to +80 °C
Foam yield*	Up to 2.1 litres (at 22 °C material and ambient temperature)
Work interruption*	Approx. 50 sec
Cuttability	After approx. 90 seconds (at 22 °C material and ambient temperature)
VOC	< 2 µg/m³
Density	ρ = 215 kg/m³
Thermal cond. (λ)	0,088 W/(m*K)
Exp. pressure	No expansion pressure measurable
Expansion factor 1)	from 1.6 x to 4.5 x
Category of use 2)	Type Z_1 in accordance with EAD 350454-00-1104
Recoatable 3)	Yes
Air permeability	Q600 ≤ 0.08 m³/(h*m²) Test standard EN 1026
Resistance to static pressure differences	No visible changes up to the maximum test pressure of the test device (Pmax=10000 Pa).
Acoustic properties	RW 66 dB (test dimension 360 x 360 x 200 mm)
Fire class	E in accordance with EN 13501-1
Approvals	ETA-10/0431 and ETA-11/0206
Function retention	10 years

* Foam output and max. possible work interruptions depend on the material and ambient temperature.

1) Expansion factor. Tested on samples at 450 °C for 25 minutes without overload. The expansion factor is a laboratory characteristic value. The expansion factor in an installed state depends on the existing preconditions.

2) Permissible environmental conditions. Conduit seal for use in conditions with ≥ 85% RH, protected from temp. below 0 °C, and without exposure to rain and/or UV.

3) Influence of finishing materials and chemicals the following paints and occasional brief influences from chemicals will not change the fire protection properties:
Coating materials : Dispersion paint, alkyd paint, polyurethane acrylic paint, epoxy resin paint, silicone
Solvent/oil : Butyl acetate, butanol, trichloroethylene, xylene, acetone, turpentine
Gaseous chemicals : Brief storage with concentrated ammonium hydroxide solution

Environmental conditions with high humidity levels and/or some coating materials and chemicals may change the color or limit color changes.

Table 2 The maximum gap dimensions based on EN 13501-2 for multiple and single penetrations

Partition construction	**Mixed penetrations** (cable trays, cables, tubes and pipes)	**Cable penetrations** (cable and cable ducts)
	Maximum gap WxH [mm]	Maximum gap WxH [mm]
Solid walls: aerated concrete, concrete, reinforced concrete or masonry	450 x 500	270 x 270 or Ø300
Lightweight partitions: wooden or steel construction with cladding on both sides	450 x 500	270 x 270 or Ø300
Solid floors: aerated concrete, concrete or reinforced concrete	450 x 450	270 x 270 or Ø300

➔ SOLUTION DETAILS

FLEXIBLE WALLS with thickness c ≥ 94 mm

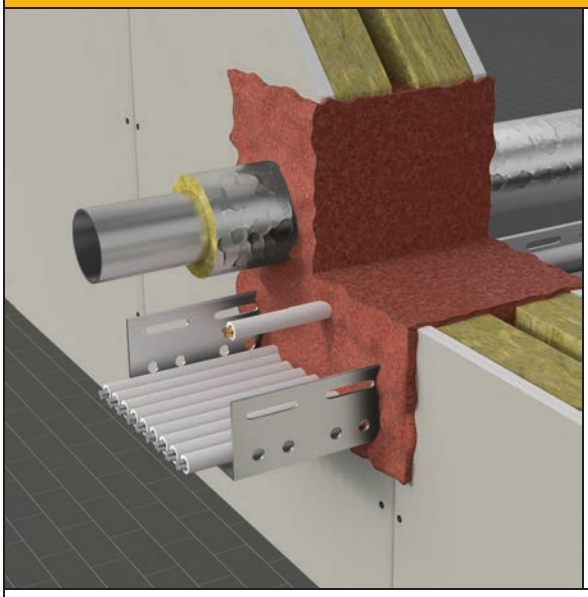


Fig. 1 Mixed penetration seal in flexible wall

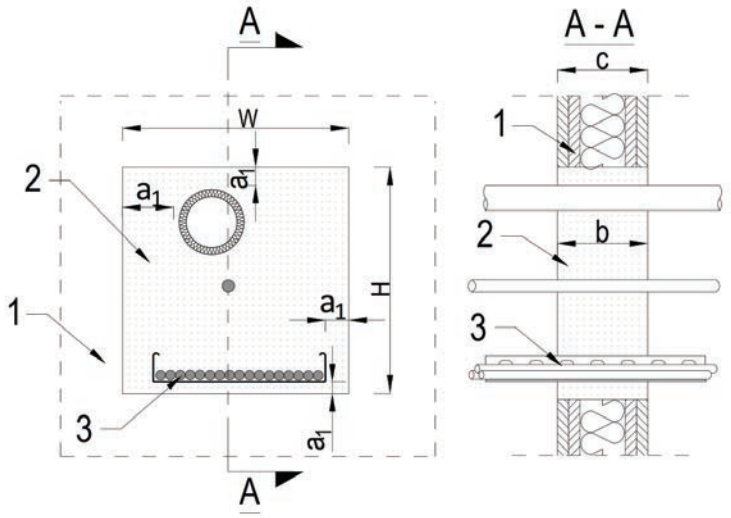
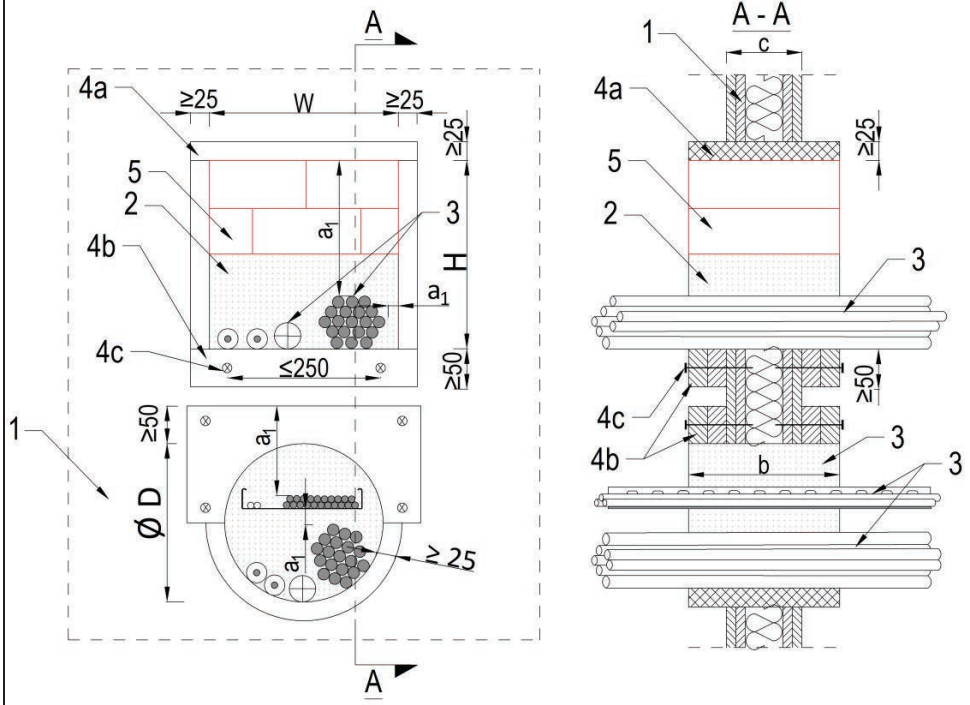


Fig. 2 Cable penetration seal in flexible wall - detail with increased wall thickness



1. Flexible wall with thick. c ≥ 94 mm
2. Filling with **INTU FR FOAM 2K**, depth b in accordance with the tables above
3. Cable / cable bundles / cables in trays / mixed penetration seals
4a. Facing made of two layers of gypsum board (min. thickness 2 x 12.5 mm) or silicate board (min. thickness 25 mm)
4b. Increasing the wall thickness on one / both sides to at least the min. thickness of the penetration seal (installation of the board around the opening, board width ≥ 50 mm)
4c. Fixing with screws to plaster/ silicate boards
5. **INTU FR BRICK** filling
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used alternatively

Minimum mounting distance:
a1 ≥ 0 mm

RIGID WALLS with thickness c ≥ 100 mm

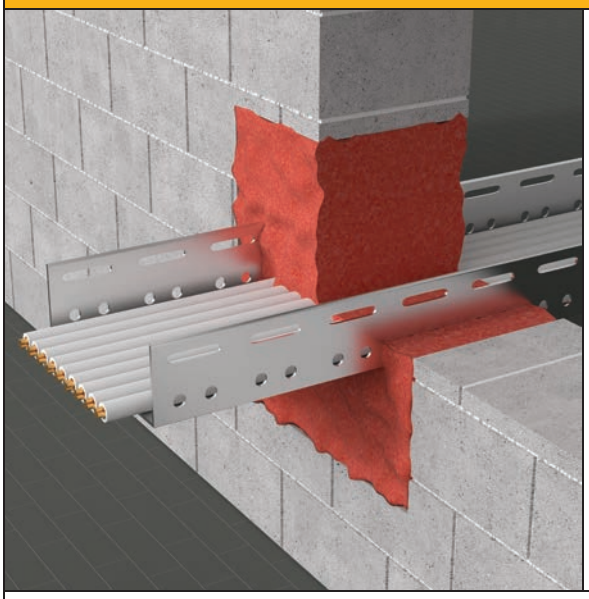


Fig. 3 Cable penetration seal in rigid wall

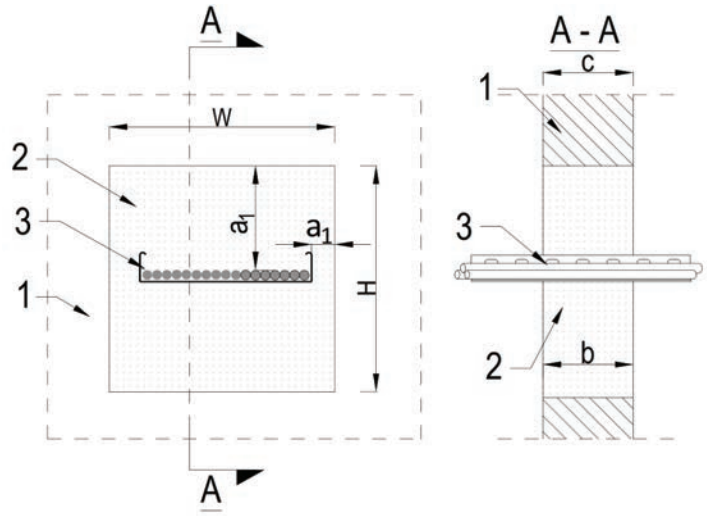
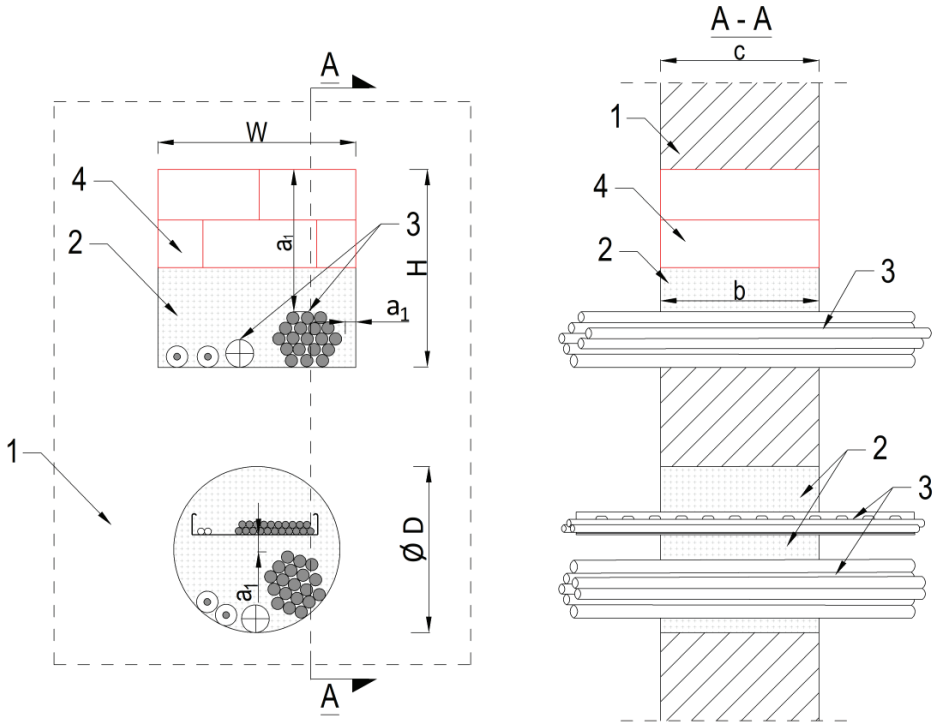


Fig.4 Cable penetration seal in rigid wall

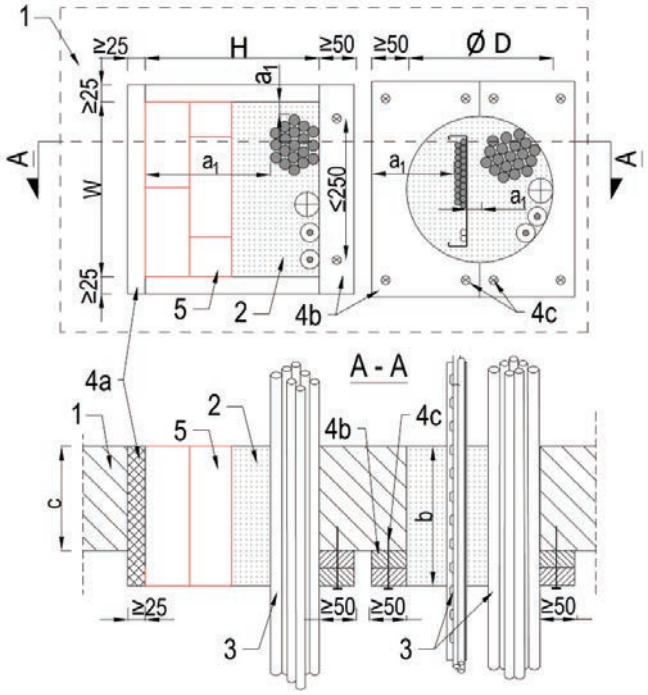


1. Rigid wall with thick. c ≥ 100 mm
2. Filling with **INTU FR FOAM 2K**, depth b in accordance with the tables above
3. Cable / cable bundles / cables in trays / mixed penetration seals
4. **INTU FR BRICK** filling
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used alternatively

Minimum mounting distance:
a1 ≥ 0 mm

RIGID FLOOR with thickness c ≥ 150 mm

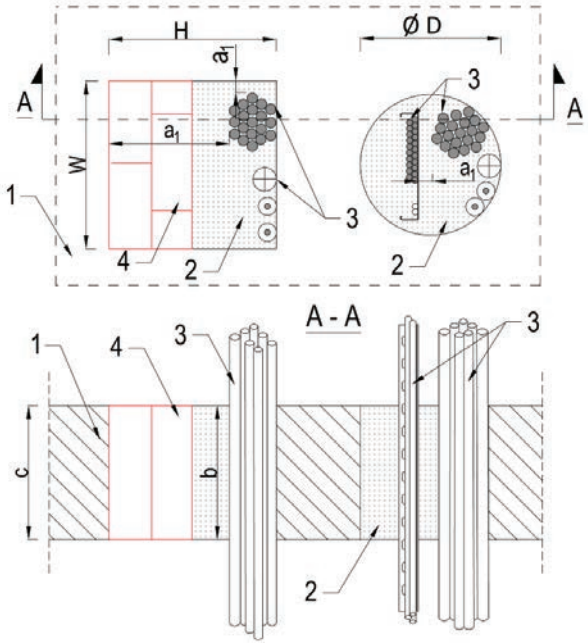
Fig.5 Cable penetration seal in the floor - detail with increased floor thickness



1. Rigid floor with thick. c ≥ 150 mm
2. Filling with **INTU FR FOAM 2K**, depth b in accordance with the tables above
3. Cable / cable bundles / cables in trays / mixed penetration seals
4a. Facing made of two layers of gypsum board (min. thickness 2 x 12.5 mm) or silicate board (min. thickness 25 mm)
4b. Increasing the wall thickness on one / both sides to at least the min. thickness of the penetration seal
(installation of the board around the opening, board width ≥ 50 mm)
4c. Fixing with screws to plaster/ silicate boards
5. **INTU FR BRICK** filling
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used alternatively

Minimum mounting distance:
a1 ≥ 0 mm

Fig.6 Cable penetration seal in the floor - detail with enough floor thickness

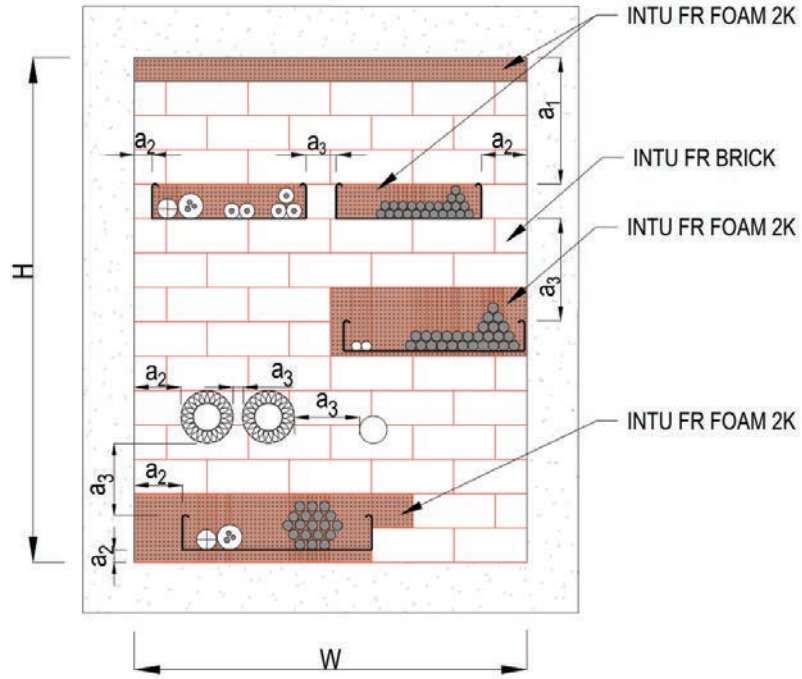


1. Rigid floor with thick. c ≥ 150 mm
2. Filling with **INTU FR FOAM 2K**, depth b in accordance with the tables above
3. Cable / cable bundles / cables in trays / mixed penetration seals
4. **INTU FR BRICK** filling
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used alternatively

Minimum mounting distance:
a1 ≥ 0 mm

Example of use INTU FR FOAM 2K in mixed penetration seal

Fig. 7 Mixed penetration seal - minimum working clearances



Minimum working clearances in accordance with Table 3

a_1-penetrating element / top edge of penetration seal

a_2-penetrating element /side or lower edge of penetration seal

a_3-penetrating element / penetrating element

Example of use INTU FR FOAM 2K in single pipe with / without insulation penetration seal or single cble

Fig. 8 Pipe with insulation / pipe without insulation penetration seal in wall

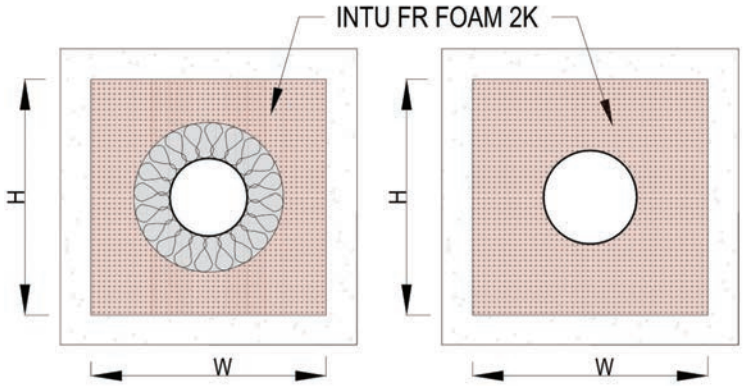
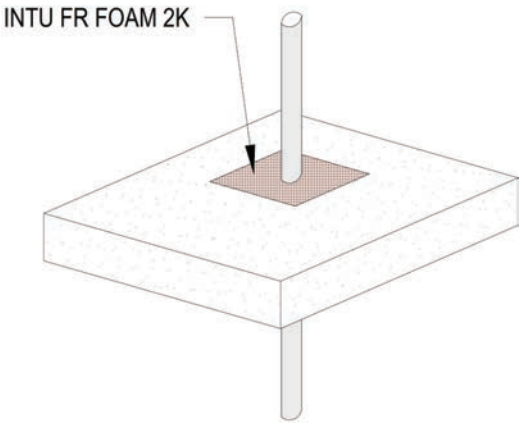


Fig. 9 Single cable penetration seal in floor



INTU FR BRICK

Intumescent fire stop brick

INTU FR BRICK

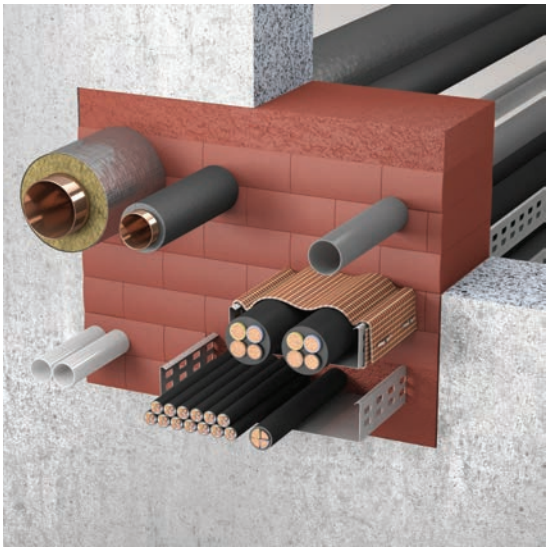
Intumescent fire stop brick

PRODUCT DESCRIPTION

Fire protection block **INTU FR BRICK** is made of intumescent polyurethane foam with halogen-free fire safety additives. Intumescent foam close the hole during fire, preventing the spread of fire and smoke.

- fire resistance class up to EI 120
- mixed penetration seal
- to medium-sized and large fire protection penetration seals
- penetration seals with frequently changing pass-through installations
- for use in walls and floors

APPLICATION



The **INTU FR BRICK** intumescent fire stop brick is intended to be used as mixed penetration seal to temporarily or permanently reinstate the fire resistance performance of flexible wall, rigid wall and rigid floor construction where they have been provided, with apertures which are penetrated by various cables, waveguides, conduits / tubes, metal pipes, plastic pipes and cable support constructions (perforated or non-perforated steel cable trays and steel ladders).

Flexible walls:	The wall must be minimum thickness 94 mm. Must have steel or timbers profile structure covered on both sides with minimum 2 layers of boards with minimum thickness 12,5 mm or minimum one layer of boards (minimum thickness 25 mm) with classification.
Rigid walls:	The wall must be minimum 100 mm thickness, made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with a density of min. 450 kg/m^3.
Rigid floors:	The floor must be 150 mm minimum thickness. Must have concrete, aerated concrete, cellular concrete, reinforced concrete or masonry structure, with min. density $\rho \geq 450$ kg/m^3.

AVAILABILITY

Product	Type	Unit	Pallet (pcs)	Article number
INTU FR BRICK	200x144x60 mm	BOX (18pcs)	450 (25xBOX)	INFBRK

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA-10/0431 and ETA-11/0206
- *Declaration of Performance:*
  DoP ZZ230-20180701
- *Certificate of Constancy of Performance*
  0761-CPR-0187

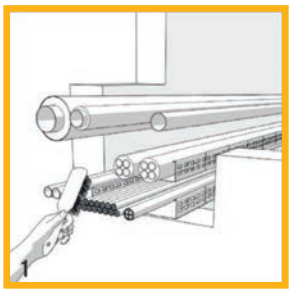
TRANSPORT AND STORAGE

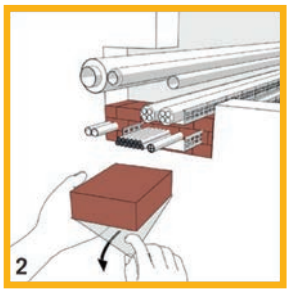
Store in dry and cool conditions at temperatures between + 5°C and + 25°C.

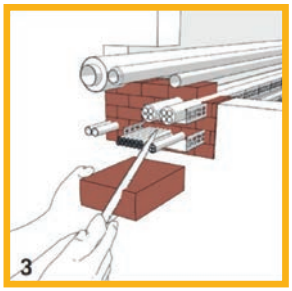
INTU FR BRICK

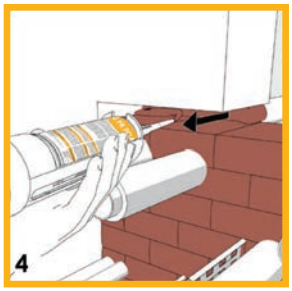
Intumescent fire stop brick

INSTALLATION METHOD









1. Clean the installations from dust, dirt and grease.

2. Remove the **INTU FR BRICK** protective foil. Place the blocks in layers (like in a brick bond in masonry, i.e. layer-by-layer offset of the vertical butt joints) so that they fit tightly in the component opening.

3. In the area of penetrating elements, cut the **INTU FR BRICK** to the required size.

4. Fill the remaining gaps with **INTU FR FOAM 2K** fire retardant foam. The filling depth must be equal to the minimum seal thickness. The maximum area that can be filled with **INTU FR FOAM 2K** is maximum 450 mm x 500 mm (width x height).

   Gaps between cables should be filled with fire retardant mass, e.g. **INTU FR MASTIC**, 20 mm deep. from both sides. Joints between **INTU FR BRICK** blocks and between the edge of the opening and bricks do not require any additional sealing.

TECHNICAL DATA

Table 1 Properties of the **INTU FR BRICK** fire protection block

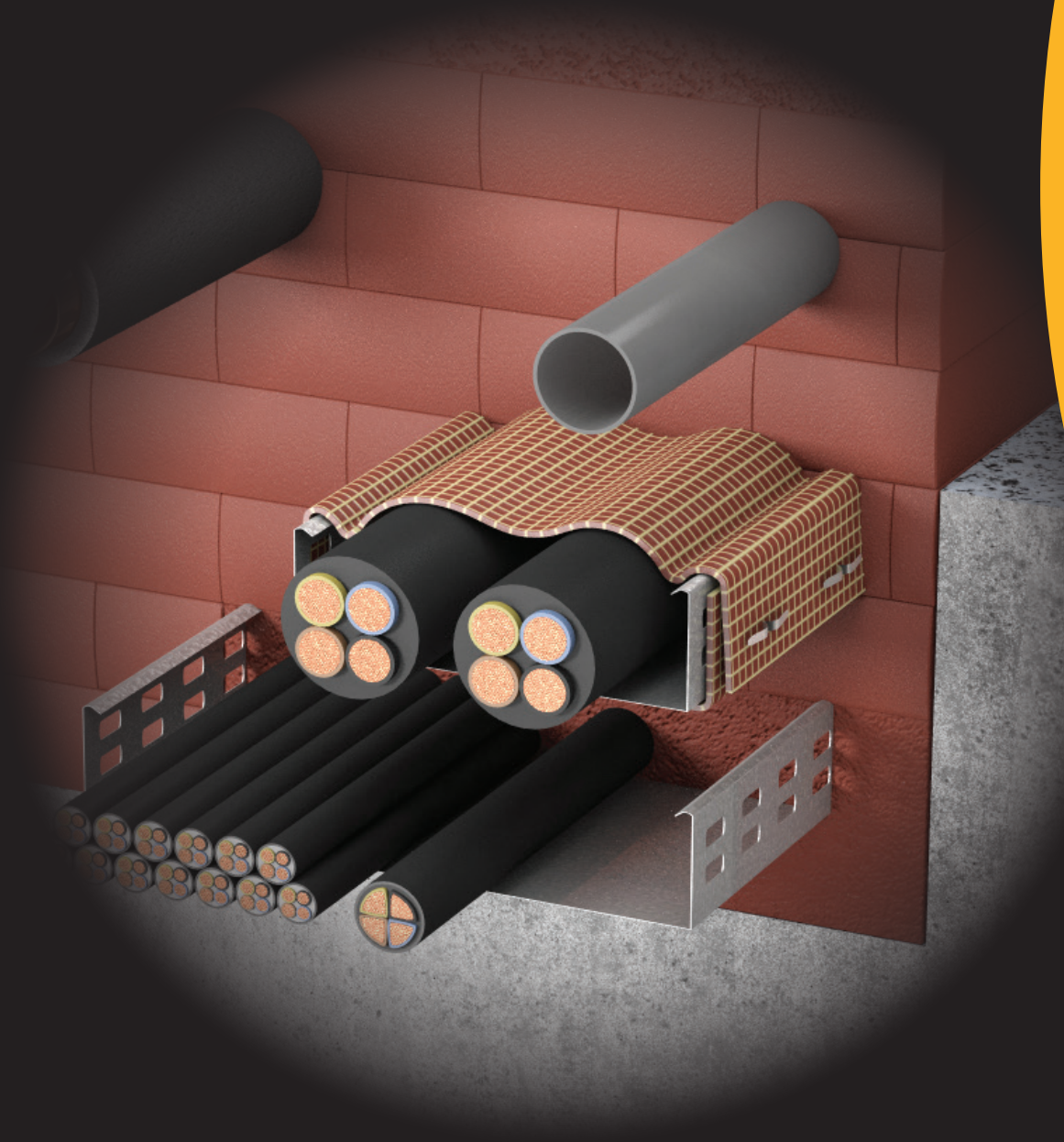
Colour	Red / brown
Shelf life	12 months in unopened packaging at a temperature between 5°C and 30°C
Transportation storage temp.	+5 °C to +30 °C (store dry and dustfree in the original packaging)
Application temperature	+15 °C to +30 °C (optimally +20 °C tot +25 °C)
Temperature resistance	-20 °C to +80 °C
Cuttability	Direct
VOC	< 2 µg/m³
Density	ρ = 240 kg/m³ - 300 kg/m³
Thermal conductivity (λ)	0,103 W/(m· K)
Expansion pressure	No expansion pressure measurable
Expansion factor [1)]	from 1.6 x to 4.5 x
Category of use [2)]	Type Z_1 in accordance with EAD 350454-00-1104
Possibility of coat	Yes
Air permeability	Q50 ≤ 0.82 m³/(h· m²) / Q600 = 6.61 m³/(h· m²) Q50 =1.12 m³/(h· m²)/Q600=7.65 m³/(h· m²)
Acoustic properties	RW 45 dB (test dimension 350 x 350 x 144 mm) RW 49 dB (test dimension 360 x 360 x 200 mm
Fire class	E in accordance with EN 13501-1
Approvals	ETA-10/0431 and ETA-11/0206
Function retention	10 years

Table 2 The opening size of fire penetration seal

Partition		Penetration seal parameters		
Class minutes		**EI 60**	**EI 120**	
Type	Thick. [mm]	Width W [mm]		Height H [mm]
		For seal thick. b=144mm	For seal thick. b=200mm	
Rigid wall	b ≥ 100	600		1000
		1000		600
Partition		Penetration seal parameters		
Rigid floor	b ≥ 150	unlimited	unlimited	≤ 375
		6000	unlimited	400
		2250	4800	450
		1000	1300	600
		---	1000	700
Partition		Penetration seal parameters		
Flexible wall	b ≥ 94	600		1000
		1000		600

INTU FR BANDAGE

Fire protection bandage



INTU FR BANDAGE

Fire protection bandage

PRODUCT DESCRIPTION

Fire protection wrap **INTU FR BANDAGE** is a non-shrinking, solvent-free, self-adhesive, plastic butyl sealing tap. The **INTU FR BANDAGE** is intumescent during fire, preventing the spread of fire and smoke. It is used as a cable wrap for fire resistance class **EI 120**.

- fire resistance class up to **EI 120**
- fast and easy assembly
- mixed penetration seal
- environmentally and user-friendly
- permanently elastic
- for use in walls and floors

APPLICATION

The **INTU FR BANDAGE** fire protection wrap is used as cable wrap for fire resistance. Is intended to be easy used as mixed penetration seal to the fire resistance performance of flexible wall, rigid wall and rigid floor construction where they have been provided, with apertures which are penetrated by various cables, waveguides, conduits / tubes, metal pipes, plastic pipes and cable support constructions (perforated or non-perforated steel cable trays and steel ladders).

Flexible walls:	The wall must be minimum thickness 94 mm. Must have steel or timbers profile structure covered on both sides with minimum 2 layers of boards with minimum thickness 12,5 mm or minimum one layer of boards (minimum thickness 25 mm) with classification.
Rigid walls:	The wall must be minimum 100 mm thickness, made of concrete, reinforced concrete, concrete blocks, cellular concrete, ceramic brick (solid, hollow or lattice) or silicate brick (solid or hollow) with a density of min. 450 kg/m^3.
Rigid floors:	The floor must be 150 mm minimum thickness. Must have concrete, aerated concrete, cellular concrete, reinforced concrete or masonry structure, with min. density $\rho \geq 450$ kg/m^3.

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA-10/0431 and ETA-11/0206
- *Declaration of Performance:*
  DoP ZZ451-20180701
- *Certificate of Constancy of Performance*
  0761-CPR-0208

AVAILABILITY

Product	Type	Unit	Article number
INTU FR BANDAGE	150 mm / 5 m	BOX (1pcs)	INFBAND

TRANSPORT AND STORAGE

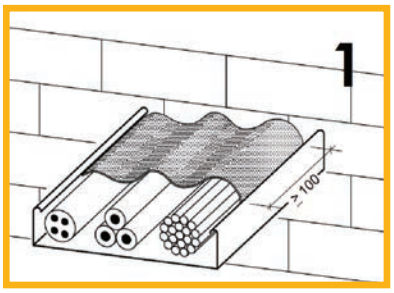
Store in dry and cool conditions at temperatures between + 5°C and + 25°C.

INTU FR BANDAGE

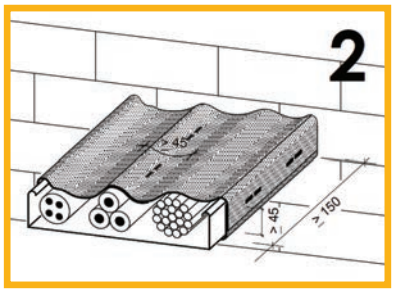
Fire protection bandage

INSTALLATION METHOD

Step 1



Step 2



1. Place a layer of **INTU FR BANDAGE** at least 100 mm wide on the penetrating elements on both sides.

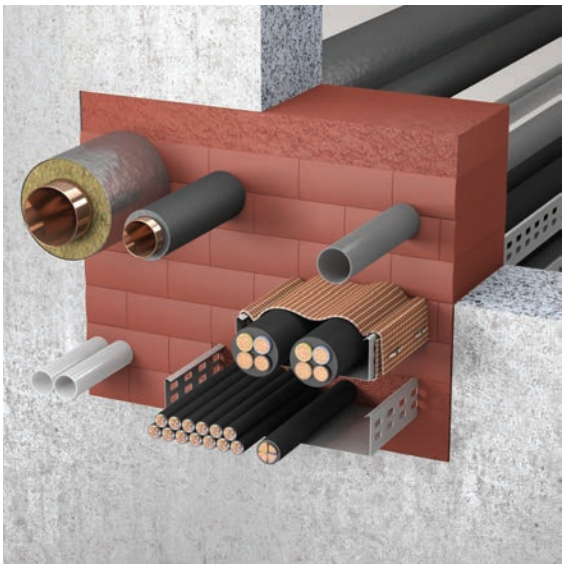
2. Then a strip minimum 150 mm of **INTU FR BANDAGE** must be wrapped around the penetrating elements on both sides. The adhesive side must lay on the cables or the cable support systems. The glass fabric that serves as protection is on the outside.

3. The beginning and end of **INTU FR BANDAGE** must be connected with at least two steel clips or steel wire (Ø 1 mm). The length of overlap must be at least 45 mm. Multiple strips can also be arranged one after the other with an overlap of at least 45 mm. The butt joints must also be connected with steel clips or steel wire.

TECHNICAL DATA

Table 1 Properties of the **INTU FR BANDAGE** fire protection wrap

Colour	Red / brown with light grey topcoat*
Shelf life	Not applicable
Transportation storage temp.	+5 °C to +30 °C (store dry and dustfree in the original packaging)
Application temperature	+5 °C to +30 °C
Temperature resistance	-20 °C to +60 °C
Expansion pressure	No expansion pressure measurable
Expansion factor [1)]	from 6.0 x to 9.0 x
Category of use	Type Z_1 in accordance with EAD 350454-00-1104
Recoatable [2)]	Yes
Fire class [3)]	E in accordance with EN 13501-1
Approvals	ETA-10/0431 and ETA-11/0206



[1)] Expansion factor tested on samples at 450 °C for 25 minutes with overload. The expansion factor is a laboratory characteristic value. The expansion factor in an installed state depends on the existing preconditions.

[2)] Permissible environmental conditions. Conduit seal for use in conditions with ≥ 85% RH, protected from temperatures below 0 °C and without exposure to rain and/or UV.

[3)] Influence of finishing materials and chemicals the following paints and occasional brief influences from chemicals will not change the fire protection properties:
Coating materials : Dispersion paint, alkyd paint, polyurethane acrylic paint, epoxy resin paint, silicone
Solvent/oil : Butyl acetate, butanol, trichloroethylene, xylene, acetone, turpentine
Gaseous chemicals : Brief storage with concentrated ammonium hydroxide solution
Contact with metals and plastics: The surface consistency of aluminum, stainless steel, galvanized steel and plastics of polyethylene and polyvinyl chloride is not negatively affected by contact with **INTU FR FOAM 2K** and **INTU FR BANDAGE**.

INTU FR EJ SEAL

Fire rated expansion joint seal

INTU FR EJ SEAL

Fire rated expansion joint seal

PRODUCT DESCRIPTION

The flexible gap filler **INTU FR EJ SEAL** is composed non-flammable foams of different thicknesses, with layers of graphite-based intumescent material. During fire, the material increases its volume and forms firestop foam filling the gap. The system is very flexible, making it ideal for gaps with a high degree of displacement.

- Fire resistance class up to EI 120
- Installation in walls and floors
- Easy installation without the use of special tools
- High flexibility
- Resistance to difficult weather conditions

APPLICATION

Fire retardant sealing of gaps and fire rated expansion joints in walls and floors with fire resistance class max EI 120 up to 100 mm gap width.

Rigid walls:	The wall must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 600 kg/m^3.
Rigid floor:	The floor must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 1700kg/m^3.

AVAILABILITY

Product	Type	Box	Article number
INTU FR EJ SEAL	10 mm / 1 m	100	INEJS10/120
	20 mm / 1m	80	INEJS20/120
	30 mm / 1m	80	INEJS30/120
	40 mm / 1m	60	INEJS40/120
	50 mm / 1m	50	INEJS50/120
	60 mm / 1m	40	INEJS60/120
	70 mm / 1m	40	INEJS70/120
	80 mm / 1m	30	INEJS80/120
	90 mm / 1m	25	INEJS90/120
	100 mm / 1m	25	INEJS100/120

INSTALLATION METHOD

1. The surface of the joint must be clean, dry and free of dust before installation.
2. Choose the right size of the filler depending on the width of the gap.
3. Compress the **INTU FR EJ SEAL** flexible filler and insert it into the gap so that the intumescent material adheres to the partition.
4. Fill the remaining gap with mineral wool with minimum density 50 kg/m^3.
5. **INTU FR EJ SEAL** should be placed on either side of wall or floor, flush with the partition.

COMPLIANCE

- *European Technical Assessment:*
  ETA 20/0330 of 26/05/2020
- *Declaration of Performance:*
  DoP 10/2019
- *Certificate of Constancy of Performance*
  1488-CPR-0865/W

TRANSPORT AND STORAGE

It is recommended to store in dry internal conditions at temperatures between + 5°C and + 35°C.

INTU FR EJ SEAL

Fire rated expansion joint seal

TECHNICAL DETAILS

Type of INTU FR EJ SEAL	Gap width „w”	Expansion movement up to 7,5%
		Nominal width x thickness of INTU FR EJ SEAL seal
INTU FR EJ SEAL 10 mm	do 10 mm	14 x 25 mm
INTU FR EJ SEAL 20 mm	od 11 do 20 mm	34 x 30 mm
INTU FR EJ SEAL 30 mm	od 21 do 30 mm	44 x 35 mm
INTU FR EJ SEAL 40 mm	od 31 do 40 mm	54 x 40 mm
INTU FR EJ SEAL 50 mm	od 41 do 50 mm	64 x 40 mm
INTU FR EJ SEAL 60 mm	od 51 do 60 mm	78 x 40 mm
INTU FR EJ SEAL 70 mm	od 61 do 70 mm	88 x 40 mm
INTU FR EJ SEAL 80 mm	od 71 do 80 mm	98 x 40 mm
INTU FR EJ SEAL 90 mm	od 81 do 90 mm	118 x 40 mm
INTU FR EJ SEAL 100 mm	od 90 do 100 mm	128 x 40 mm

Construction element	Horizontal	Vertical
WALL / FLOOR	EI120	EI120
	EI 120 -T-X-B-W10-50	EI 120 -V-X-B-W10-50

T	Linear joint seals: horizontal supporting structure
V	Linear joint seals: vertical supporting structure
X	Linear joint seals: expansion joint movement up to 7,5%
B	Linear joint seal type: made on construction site or prefabricated
W	Linear joint width

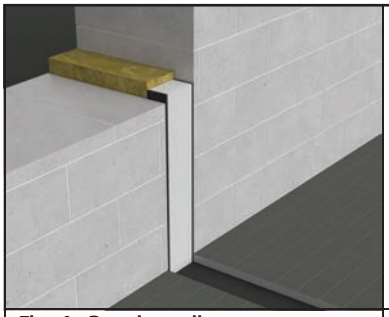


Fig. 1. Gap in wall

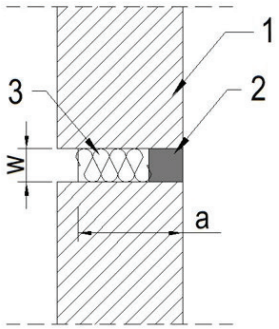


Fig. 2. Gap between wall and floor

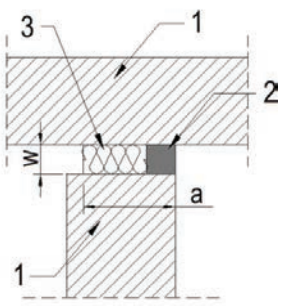
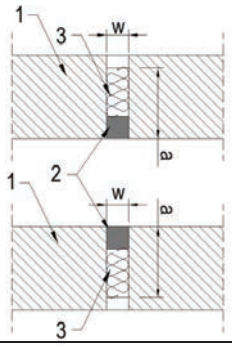


Fig. 3. Gap in floor / wall



1 – wall / floor with minimum thickness 150 mm
2 – expansion joint seal **INTU FR EJ SEAL** from any side of the partition
3 – mineral wool with minimum density 50 kg/m³

a – minimum depth of: **INTU FR EJ SEAL** + mineral wool ≥ 150 mm
w – width of gap

INSU ROPE

Fire rated linear joint seals rope

INSU ROPE

Fire rated linear joint seals rope

PRODUCT DESCRIPTION

The **INSU ROPE** fire rated linear joint seals rope is made of mineral wool. The non-flammable structure of the material creates a tight barrier, ensuring the partition tight and insulating up to EI 240.

APPLICATION

The **INSU ROPE** is used for linear sealing: horizontal and vertical.

Rigid walls:	The wall made of concrete, cellular concrete, reinforced concrete or masonry construction with minimum density: 700 kg/m³ . The wall thickness must be minimum 150 mm.
Rigid floors:	The floor made of concrete, cellular concrete, reinforced concrete or masonry construction with minimum density: 700 kg/m³ . The floor thickness must be minimum 150 mm.

AVAILABILITY

Type	Type	Packaging	Art. number
INSU ROPE	12 mm / 30 m	ROLL (30m)	INIR12/30
	20 mm / 30 m	ROLL (30m)	INIR20/30
	30 mm / 30 m	ROLL (30m)	INIR30/30
	40 mm / 30 m	ROLL (30m)	INIR40/30
	50 mm / 25 m	ROLL (25m)	INIR50/25
	60 mm / 25 m	ROLL (25m)	INIR60/25
	70 mm / 20 m	ROLL (20m)	INIR70/20
	80 mm / 20 m	ROLL (20m)	INIR80/20
	90 mm / 18 m	ROLL (18m)	INIR90/18
	100 mm / 10 m	ROLL (10m)	INIR100/10
	120 mm / 2 m	ROLL (2m)	INIR120/2
	150 mm / 2 m	ROLL (2m)	INIR150/2
	170 mm / 2 m	ROLL (2m)	INIR170/2
	180 mm / 2 m	ROLL (2m)	INIR180/2

COMPLIANCE

- *European Technical Assessment:*
  ETA – 17/0061 of 24/05/2018
- *Declaration of Performance:*
  1404-CPR-3055/2018
- *Certificate of Constancy of Performance*
  1404-CPR-3055

TECHNICAL DATA

Operating temperature	< 750 °C/ 1382 °F
Melting temperature	> 1000 °C/ 1832 °F
Reaction to fire class	A1
Thermal conductivity	0,035 W/m2 - 0,040 W/m
Heat capacity	840 J/kgK
Sound insulation	Yes
Density	240 kg/m³

TRANSPORT AND STORAGE

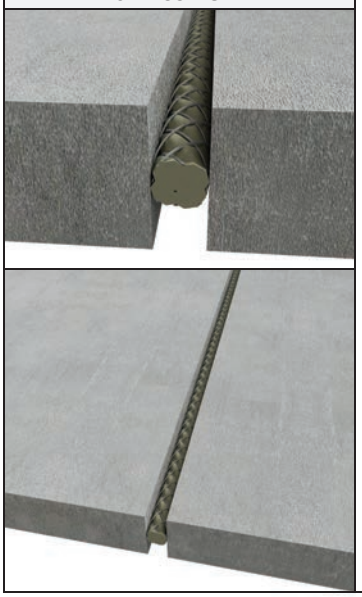
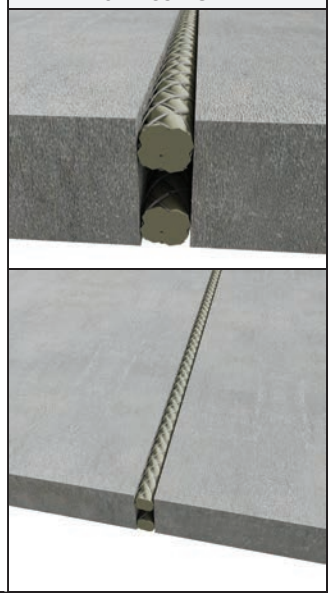
Store in dry and cool conditions at a temperature from + 5°C to + 35°C.

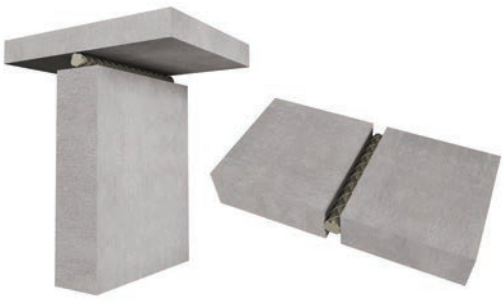
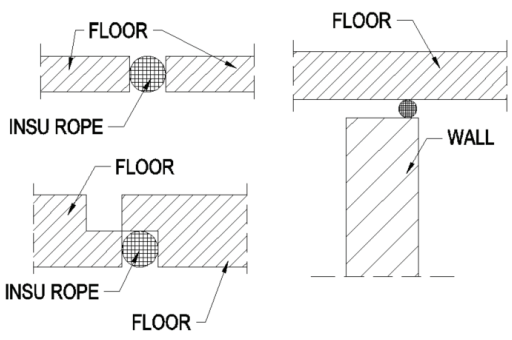
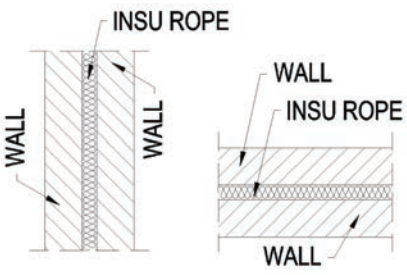
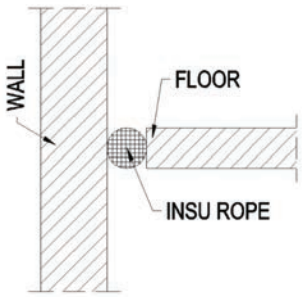
INSU ROPE

Fire rated linear joint seals rope

➔ INSTALLATION METHOD

1. Clean the linear gap/hole surface and make sure they are free of dust and other dirt.
2. Select the diameter of **INSU ROPE** according to the availability table and the number.
3. Place the **INSU ROPE** rope in the construction element, flush with the face or inside the element's cross-section.
4. **INSU ROPE** should be laid in one or two layers. At the end of one rope adding another one, place and press another rope butt to the first one.

SINGLE layer of **INSU ROPE**	DOUBLE layer of **INSU ROPE**
	

Application (A)	Application (B)	Application (C)
		
		

INTU FR MORTAR

Firestop mortar

INTU FR MORTAR

Firestop mortar

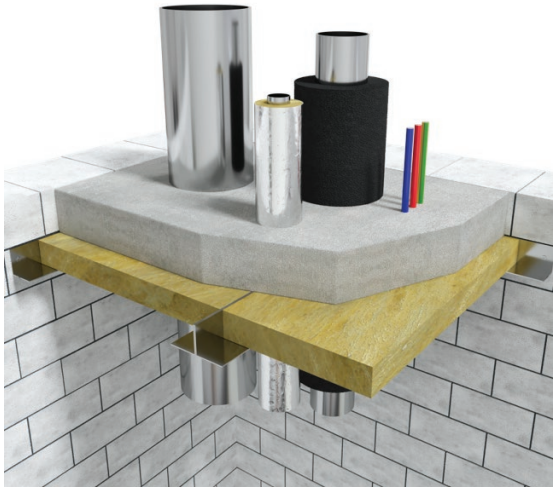
PRODUCT DESCRIPTION

The **INTU FR MORTAR** is a firestop mortar gypsum based. The use of fire stop mortar is to reinstate the fire resistance performance of rigid wall and floor constructions where they are penetrated by multiple services - various type of cables and metallic pipes. The **INTU FR MORTAR** is supplied as a dry material, and is mixed with water to the required ratio prior to installation. When mixed is self-supporting in wall orientation, in floor orientation is needed support - mineral wool board. The mortar effectively fills the gaps around the service penetration, ensuring that the partition maintains the integrity and insulation up to EI240.

APPLICATION

The **INTU FR MORTAR** a firestop mortar is used for fire protection of multiple installation services, including: insulated and non- insulated metallic pipes, plastic conduits, electrical cables, bundle of cables, cable trays, cable ladders, non-sheathed wires, telecommunication cables, bundles of copper pipes for air conditioning. It is suitable for use in both small and large service openings and can be easily mixed to either a stiff or pourable consistency.

Flexible walls:	The wall must have a minimum thickness 100 mm, must comprise 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 gypsum plasterboards.
Rigid walls:	The wall must have a minimum thickness 100 mm, must comprise all type concrete or masonry elements, with a minimum density 650 kg/m^3.
Rigid floor:	The floor must have a minimum thickness 150 mm, must comprise aerated or reinforced concrete, concrete, with a minimum density 550 kg/m^3.



AVAILABILITY

Product	Contents	Packaging	Pallet	Article no.
INTU FR MORTAR	20 kg	bag	50 bags/ pallet	INFRMRT20
INSULWRAP	13,42 m^2	roll	20 pcs/ pallet	INSLWRP06

COMPLIANCE

- *Test standard:*
  EN 1366-3 / EAD 350454-00-1104
- *European Technical Assessment:*
  ETA 24/1229 of 16/12/2024
- *Declaration of Performance:*
  DoP 9/2024

TRANSPORT AND STORAGE

Store in dry conditions clear of the ground. Shelf life of an unopened bag is 12 months from date of manufacture.

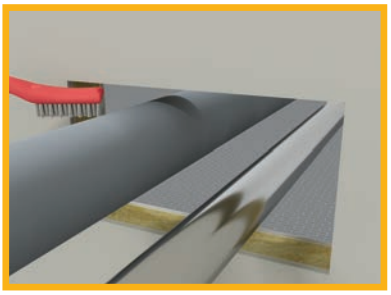
INTU FR MORTAR

Firestop mortar

INSTALLATION METHOD

1. PREPARATION

Ensure contact surfaces within the opening and services are clean, and free of grease and loose material. Also, that mineral wool batts (where used) and clean water for mixing are available.



2. MIXING

Gradually add **INTU FR MORTAR** to clean water in a container while stirring manually or mechanically. Continue mixing until a smooth, lump-free consistency is obtained. Recommended mix ratios are as follows:

INTU FR MORTAR	Mortar / water ratio (by volume)	Compressive strength [N/mm²]	Modulus of rupture [N/mm²]
FLOOR openings	2,5 : 1	10,37	3,00
WALL openings	3,0 : 1	14,51	3,98

The pot life and setting time depends on the size of mix; the amount of water used and ambient/water temperatures. Typical set times are between 45 and 90 minutes.

Efficiency: ~two 20 kg bags of **INTU FR MORTAR** are required to fill space of 1 m² area to a depth of 50 mm

3. APPLICATION

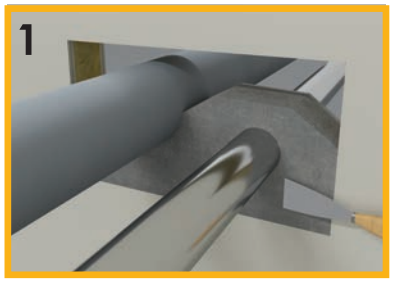
Apply between +5°C and +40°C. Porous contact surfaces are best wetted to ensure a good bond with the **INTU FR MORTAR**. For small holes, shuttering may not be required and a stiff mix can be trowelled directly into the opening ensuring any gaps between services are fully filled. If required, apply protective paper masking tape around the opening and around the services in the plane of the wall surface. Application tools and mixing equipment should be cleaned with clean water immediately after use.

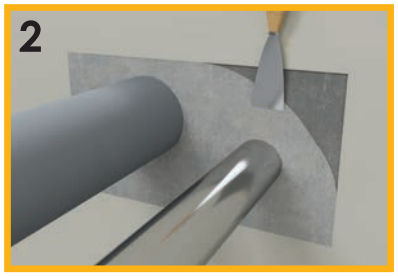
WALL seal installation

- In case of wall, you can immediately start applying mortar in the hole.

1) Starting at the bottom trowel the mix into the opening working it around and between services to form a complete seal. For larger opening repeat the mixing procedure and apply further layers of **INTU FR MORTAR** onto each previous layer to close the opening. Additional **INTU FR MORTAR** can be applied to both faces of the seal to achieve the required minimum depth of seal and a uniform finish.

2) At the end smooth the mortar onto the surface of the hole with a suitable tool.





INTU FR MORTAR

Firestop mortar

FLOOR seal installation

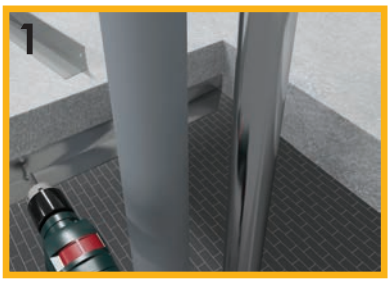
- In the case of floor, you must prepare permanent formwork / shuttering in the form of a mineral wool board.

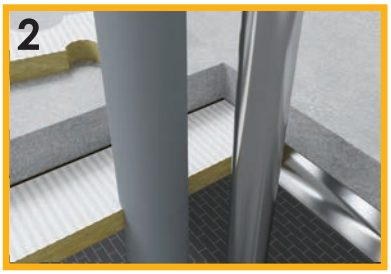
1) Cut suitable lengths of 50 x 50 x 2 mm steel angle and fix around the inside face of the floor opening using steel fixings at 250 mm maximum centres. The angles should be positioned at a depth to permit one layer of 50 mm thick stone mineral wool board supported on the angle overlaid with minimum 90 mm thickness of **INTU FR MORTAR** to be contained within the floor depth.

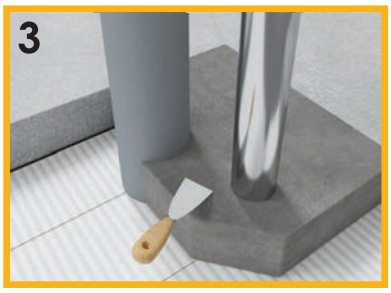
2) Cut out the required pieces of board sections and install within the opening to form complete layer of permanent shuttering for the **INTU FR MORTAR**. Pour the mix into the opening working it around and between services to form a complete seal.

3) Pour the mixture into the hole, spreading it evenly around to completely seal the hole.

4) Smooth the mortar onto the surface of the hole with a suitable tool.







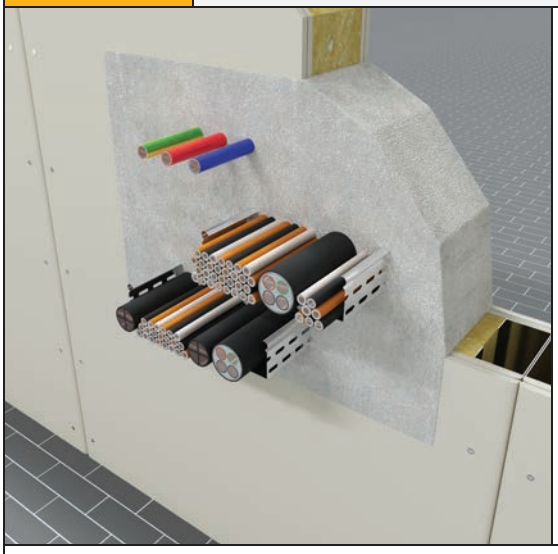
TECHNICAL DATA

Colour		Off-white powder
Density		~660 kg/m³ as untapped, free-flowing powder / ~860 kg/m³ one month after application
Reaction to fire		A1
Sound insulation		57 dB
Chloride content		Zero
Shelf life		Shelf life of an unopened bag is 12 months
Transportation storage temperature		Store in dry conditions in the original packaging
Usage category		Type Y_2: intended for use at temperatures below 0°C, but with no exposure to rain nor UV. Includes lower use categories.
Methods used for the assessment		EAD 350454-00-1104 “Fire Stopping and Fire Sealing Products. Penetration Seals”
Approvals		ETA-24/1229 of 2024/12/16
Function preservation		25 years
Compatibility with services		Excellent adhesion to concrete, metals and cables
Necessity of formwork	**Wall**	No, in wall orientation INTU FR MORTAR is self-supporting
	Floor	Yes, structure comprising 60 mm x 60 mm x 6 mm steel angle cassette system, which supports a 50 mm thick mineral fibre board (density ≥ 140 kg/m³)

Minimum thickness of INTU FR MORTAR in partition	Supporting construction	Maximum size penetration seals
		Maximum seal size
100 mm	Wall	Unlimited - in wall orientation INTU FR MORTAR is self-supporting
150 mm		
90 mm	Floor	1400 x 1200 mm
50 mm		700 x 600 mm

SOLUTION DETAILS

Fig.1-3 NON-COMBUSTIBLE PIPES AND CABLES



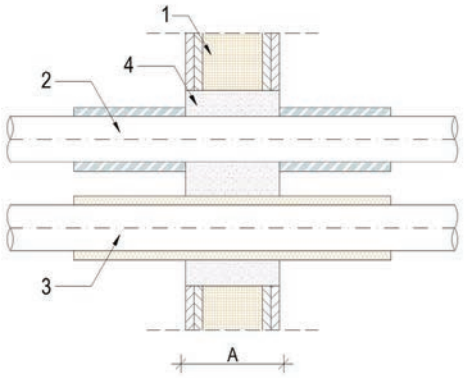


Fig. 1 Isolated non-combustible pipes in flexible / rigid wall

1 – flexible / rigid wall A ≥ 100 mm
2 – metal pipe in FEF insulation
3 – metal pipe in mineral wool insulation
4 – **INTU FR MORTAR** with minimum thickness 100 mm

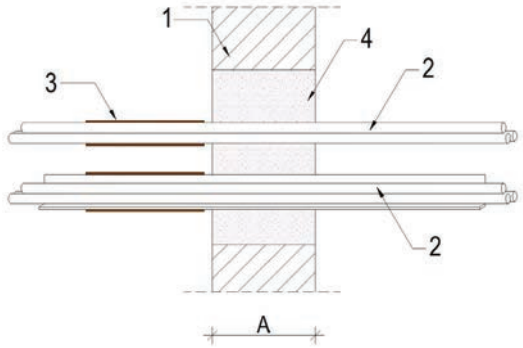
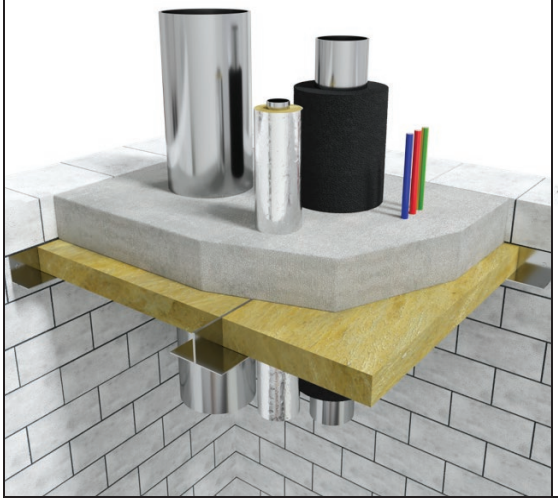


Fig. 2 Cables / , cable trays or ladders in rigid wall

1 – rigid wall A ≥ 150 mm
2 – electrical cables, bundle of cables, cable trays, cable ladders, non-sheathed wires, telecommunication cables
3 – **INSULWRAP**
4 – **INTU FR MORTAR** with minimum thickness 150 mm



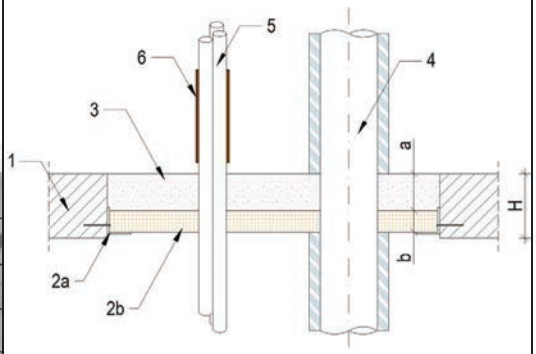
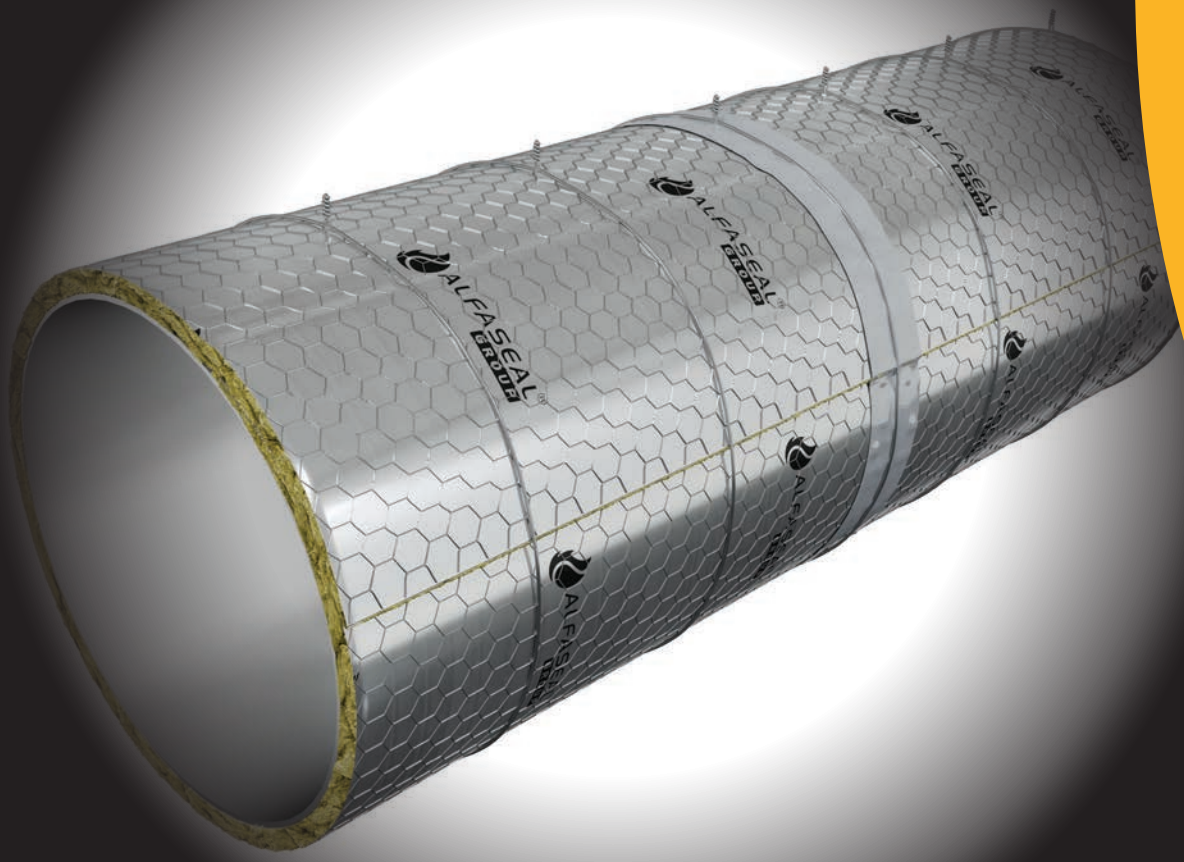


Fig. 3 Isolated non-combustible pipes and cable bundles in floor

1 – rigid floor H ≥ 150 mm
2a – steel angle
2b – mineral wool board
3 – **INTU FR MORTAR**
4 – metal pipe in FEF insulation
5 – electrical cables, bundle of cables, cable trays, cable ladders, wires, telecommunication cables
6 – **INSULWRAP**

ALFA FIREGUARD 3

Fire protection mat for ventilation ducts

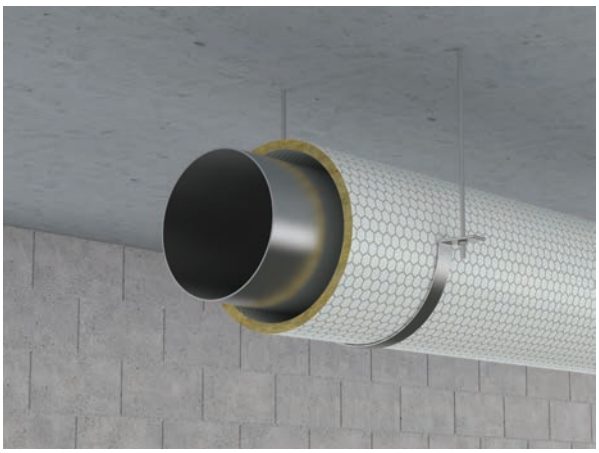


ALFA FIREGUARD 3

Fire protection mat for ventilation ducts

PRODUCT DESCRIPTION

The **ALFA FIREGUARD 3** is a flexible mat designed for fire protection of metal ventilation ducts (in accordance with EN1366-1) exposed to external fire. The product is a rock wool cushion quilted on a metal mesh. The exposed side is covered with a wire aluminium foil, while the internal side has a glass wool fabric treated with an ablative product. With its reduced 30 mm thickness, the cushion is easy to apply even on curved profiles and does not overload the support tie rods, which are certified without protection.



APPLICATION

Rectangular ventilation ducts:	Size maximum 1250 x 1000 mm
Round ventilation ducts:	Size maximum Ø1000 mm

AVAILABILITY

Product name	Specification	Article number
ALFA FIREGUARD 3	6000 x 1000 x 30 mm	INFGMATT
ALFA BAND 3	25 m	INFGBD25
ALFA FIEGUARD WIRE	1 mm / 50 m	INFGWR1MM
ALFA FIREGUARD MOUNTING KEY		INFGKEY

TECHNICAL DATA

Weight	~ 5 kg/m^2
Size	1 roll of mat: 6000 x 1000 x 30 mm 1 roll of mat = 6 m^2 1 pallet = 10 rolls
Density	ρ = 100 kg/m^3
Thermal conductivity	Λ = 0,035 W/(m· K)
Absorption	≤ 1 kg/m^2
Cuttability	Tak
Colour	Inside – white Outside - silver
ALFA BAND 3 consumption	~10-12 linear meter for 1 roll of mat ALFA FIREGUARD 3 (6 m^2)

COMPLIANCE

- *Test standard:*
  EN 1366-1 / EAD 350142-00-1106
- *European Technical Assessment:*
  ETA 25/0029 of 16/01/2025
- *Declaration of Performance:*
  DoP 1/2025
- *Certificate of Constancy of Performance*
  1292/CPR/116247

TRANSPORT AND STORAGE

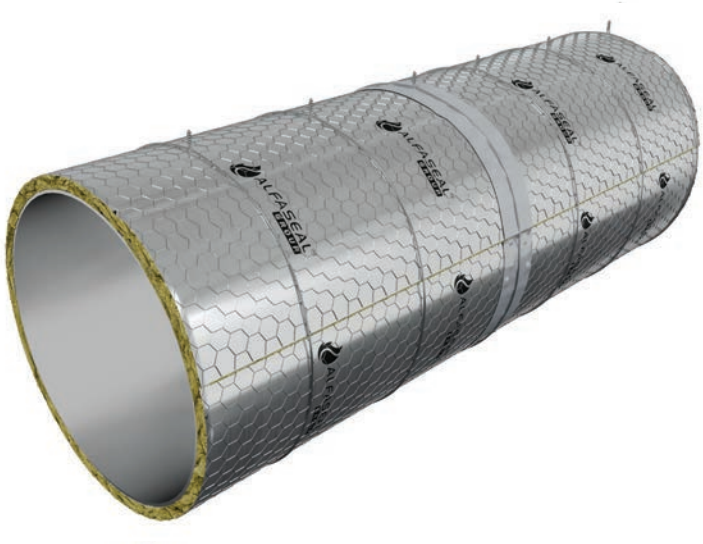
Transport and store in a dry place.

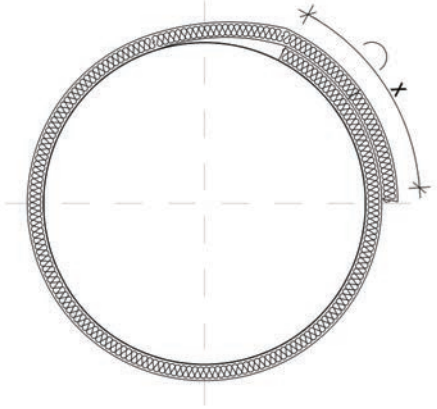
Protect against moisture.

ALFA FIREGUARD 3

Fire protection mat for ventilation ducts

➔ INSTALLATION METHOD

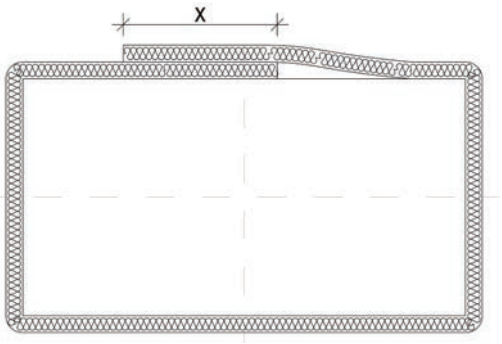




1a. ROUND CROSS-SECTION. Measure the canal circumference and increase them by:

- 190 mm (to compensate the thickness of the mat)
- 200 mm = x – overlap

Summary: canal circumference + 390 mm



1b. RECTANGULAR CROSS-SECTION. Measure the canal circumference and increase them by:

- 240 mm (to compensate the thickness of the mat)
- 200 mm = x – overlap

Summary: canal circumference + 440 mm

2. Cut the mat **ALFA FIREGUARD 3** to the designated length.

3. Wrap the cut section of the mat around the duct with overlap ≥ 200 mm.
Secure the mat with steel wire 1 mm thick for every 300 mm (three loops for linear meter).
Repeat the steps from point 1 to 3 to cover the ventilation duct with a second parallel layer.

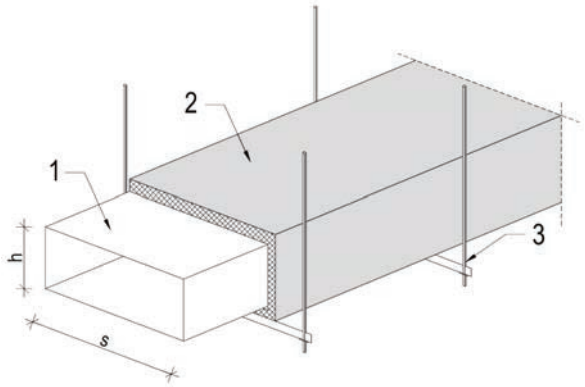
4. Use **ALFA BAND 3** self-adhesive tape to the transverse joint between the two sections of the mat.
Protect **ALFA BAND 3** by placing a 1 mm thick wire around tape placed on the ventilation duct.

ALFA FIREGUARD 3

Fire protection mat for ventilation ducts

SOLUTION DETAILS

Fig.1 Protection of the horizontal ventilation duct EI 120 (ve o→i) S

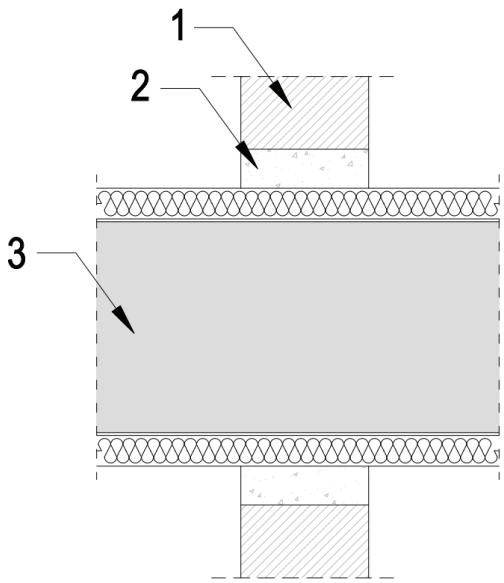


1 – steel ventilation duct with size:
s x h, EI120(ve o→i) S;

2 – **ALFA FIREGUARD 3**, fire protection flexible mat with thickness 30 mm;

3 – slings should be mounted at a distance of max. 1400 mm (suspension details according to ETA).

Fig.2 Penetration seal of the ventilation duct through rigid walls - filling with mortar

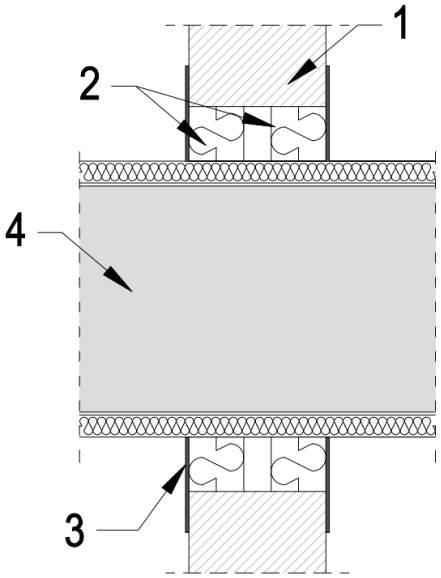


1 – rigid wall, EI 120;

2 - filling with cement mortar;

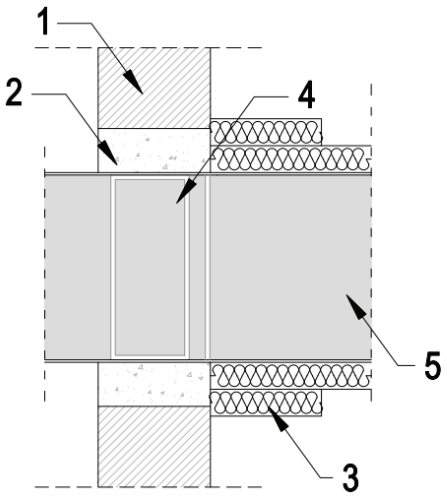
3 – ventilation duct wrapped with one layer of **ALFA FIREGUARD 3** fire protection mat.

Fig.3 Penetration seal of the ventilation duct through rigid walls - filling with mineral wool



1 – rigid wall, EI 120;
2 - filling made of 2 x mineral wool board (density ≥ 140 kg/m³) painted one-sided with ablative paint;
3 – fire protection ablative paint for example INTU FR COAT A, dry thickness layer ≥ 1.0, overlap on the partition ≥ 20 mm;
4 – ventilation duct wrapped with one layer of **ALFA FIREGUARD 3** fire protection mat.

Fig.4 Penetration seal of the ventilation duct (with fire damper) through rigid walls - filling with mortar



1 – rigid wall, EI 120;

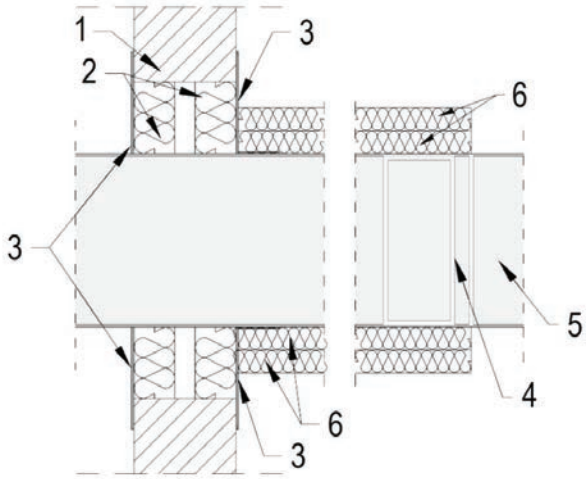
2 – filling with cement mortar;

3 – additional layer of **ALFA FIREGUARD 3** mat ≥ 100 mm long;

4 – fire damper;

5 – ventilation duct wrapped with one layer of **ALFA FIREGUARD 3** fire protection mat.

Fig.5 Protection of the ventilation duct (with fire damper) penetration through rigid walls



1 – rigid wall;

2 – filling partition with 2 x mineral wool boards with minimum density 150 kg/m³ and thickness 60 mm, painted with fire-resistant ablative paint;

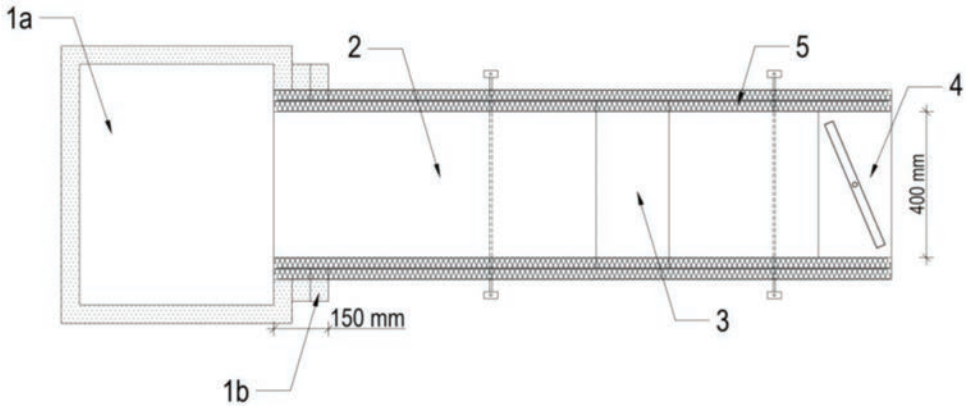
3 – overlap on the partition by ablative fire resistance paint INTU FR COAT A;

4 – fire damper;

5 – steel ventilation duct;

6 – 2 layers (non-standard solution) of fire protection flexible mat **ALFA FIREGUARD 3.**

Fig.6 Protection of the ventilation duct (with fire damper) penetration through rigid walls



1a – fan in the housing made of silicate-cement board;

1b – reinforcement - 2 x board;

2 – steel ventilation duct;

3 – pipe T-piece which is going into the slab ceiling;

4 – fire damper, EIS120;

5 – 2 layers (non-standard solution) of fire protection flexible mat **ALFA FIREGUARD 3.**

INTU FR GRILLE

Intumescent FR Grille

INTU FR GRILLE

Intumescent FR Grille

PRODUCT DESCRIPTION

Firestop ventilation grilles **INTU FR GRILLE** are made of a rigid steel frame with an intumescent insert. During a fire, the intumescent insert expands prevent the spread of fire and hot gases, ensuring the partition maintains fire resistance class up to EI 240.

APPLICATION

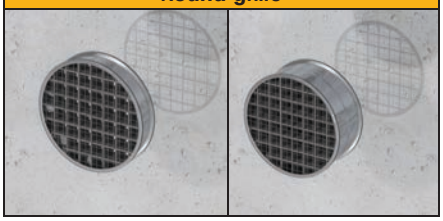
INTU FR GRILLE is install in the ventilation holes in walls and floors. The material is swelling during fire fills the hole completely.

Rigid wall:	The wall must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 600kg/m³.
Rigid floor:	The floor must be minimum thickness 150 mm. Must have concrete, cellular concrete or masonry structure, with minimum density 1700kg/m³.

AVAILABILTY

Rectangular grille

Round grille



Connectors for INTU FR GRILLE:	
Model T	Model X

AVAILABILITY

- round grille C50, C80 - Ø100 ÷ Ø400
- rectangular grille R40A - 100 x 100 ÷ 600 x 600
- rectangular grille R40B - 100 x 100 ÷ 300 x 300
- rectangular grille R80 - 100 x 100 ÷ 600 x 600

INTU FR GRILLE grilles for type R40A and R80, can be made in non-standard dimensions.

INSTALLATION METHOD

1. Adjust the size of the grille to the size of the hole.
2. Apply a small amount of intumescent acrylic mastic (e.g. **INTU FR MASTIC** to the grille along its edge.
3. Push the grille into the hole.
4. Fill the remaining gaps and cavities with firestop acrylic putty.
5. Install masking plates (e.g. **INTU ATP**) on both sides of the partition using steel screws.

COMPLIANCE

- *Technical Assessment:* **00518/25/Z00NZP of 14/01/2025**
- *Declaration of Performance:* **DoP 2/2025**

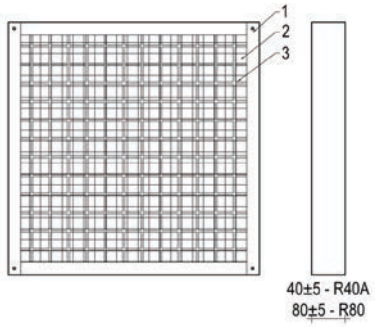
TRANSPORT AND STORAGE

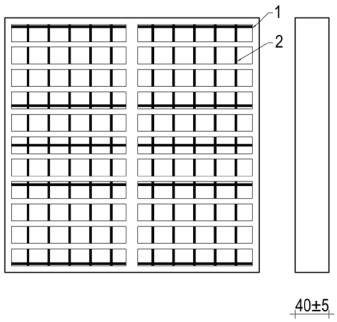
Store in dry and cool conditions at temperatures between + 5°C and + 35°C.

INTU FR GRILLE
Intumescent FR Grille

RECTANGULAR GRILLE - AVAILABILTY, FIRE RESISTANCE CLASS

Rectangular grille R40A, R80	Rectangular grille R40B
1 – metal casing **2** – steel wire mesh **3** – intumescent insert (dimensions in mm)	**1** – metal casing **2** – intumescent insert (dimensions in mm)





Grille type	Grille dimensions [mm]	Grille thickness [mm]	Fire resistance class	Scope of application
INTU FR GRILLE R40A	100 x 100 ÷ 600 x 600	40	EI 60	wall and floor
INTU FR GRILLE R40B	100 x 100 ÷ 300 x 300	40	EI 120	wall and floor
INTU FR GRILLE R80	100 x 100 ÷ 300 x 300	80	EI 240	wall
			EI 180	floor
	301 x 301 ÷ 600 x 600	80	EI 90	floor

Height [mm]	R40A / Width [mm] / Art. No.										
	100	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**
100	INGRR60/ 100x100	INGRR60/ 150x100	INGRR60/ 200x100	INGRR60/ 250x100	INGRR60/ 300x100	INGRR60/ 350x100	INGRR60/ 400x100	INGRR60/ 450x100	INGRR60/ 500x100	INGRR60/ 550x100	INGRR60/ 600x100
150		INGRR60/ 150x150	INGRR60/ 200x150	INGRR60/ 250x150	INGRR60/ 300x150	INGRR60/ 350x150	INGRR60/ 400x150	INGRR60/ 450x150	INGRR60/ 500x150	INGRR60/ 550x150	INGRR60/ 600x150
200			INGRR60/ 200x200	INGRR60/ 250x200	INGRR60/ 300x200	INGRR60/ 350x200	INGRR60/ 400x200	INGRR60/ 450x200	INGRR60/ 500x200	INGRR60/ 550x200	INGRR60/ 600x200
250				INGRR60/ 250x250	INGRR60/ 300x250	INGRR60/ 350x250	INGRR60/ 400x250	INGRR60/ 450x250	INGRR60/ 500x250	INGRR60/ 550x250	INGRR60/ 600x250
300					INGRR60/ 300x300	INGRR60/ 350x300	INGRR60/ 400x300	INGRR60/ 450x300	INGRR60/ 500x300	INGRR60/ 550x300	INGRR60/ 600x300
350						INGRR60/ 350x350	INGRR60/ 400x350	INGRR60/ 450x350	INGRR60/ 500x350	INGRR60/ 550x350	INGRR60/ 600x350
400							INGRR60/ 400x400	INGRR60/ 450x400	INGRR60/ 500x400	INGRR60/ 550x400	INGRR60/ 600x400
450								INGRR60/ 450x450	INGRR60/ 500x450	INGRR60/ 550x450	INGRR60/ 600x450
500									INGRR60/ 500x500	INGRR60/ 550x500	INGRR60/ 600x500
550										INGRR60/ 550x550	INGRR60/ 600x550
600											INGRR60/ 600x600

Height [mm]	R40B / Width [mm] / Art. No.				
	100	**150**	**200**	**250**	**300**
100	INGRR120/ 100x100	INGRR120/ 150x100	INGRR120/ 200x100	INGRR120/ 250x100	INGRR120/ 300x100
150	INGRR120/ 100x150	INGRR120/ 150x150	INGRR120/ 200x150	INGRR120/ 250x150	INGRR120/ 300x150
200	INGRR120/ 100x200	INGRR120/ 150x200	INGRR120/ 200x200	INGRR120/ 250x200	INGRR120/ 300x200
250	INGRR120/ 100x250	INGRR120/ 150x250	INGRR120/ 200x250	INGRR120/ 250x250	INGRR120/ 300x250
300	INGRR120/ 100x300	INGRR120/ 150x300	INGRR120/ 200x300	INGRR120/ 250x300	INGRR120/ 300x300

It applies to <u>all</u> **INTU FR GRILLES**:

<u>Standard</u> size of grilles:
[WIDTH x HEIGHT]
means:
[LARGER DIMENSION x SMALLER DIMENSION]

You can order **INTU FR GRILLE**
in any size – the price is set individually.

INTU FR GRILLE

Intumescent FR Grille

Height [mm]	R80 / Width [mm] / Art. No.										
	100	150	200	250	300	350	400	450	500	550	600
100	INGRR240/ 100x100	INGRR240/ 150x100	INGRR240/ 200x100	INGRR240/ 250x100	INGRR240/ 300x100	INGRR240/ 350x100	INGRR240/ 400x100	INGRR240/ 450x100	INGRR240/ 500x100	INGRR240/ 550x100	INGRR240/ 600x100
150		INGRR240/ 150x150	INGRR240/ 200x150	INGRR240/ 250x150	INGRR240/ 300x150	INGRR240/ 350x150	INGRR240/ 400x150	INGRR240/ 450x150	INGRR240/ 500x150	INGRR240/ 550x150	INGRR240/ 600x150
200			INGRR240/ 200x200	INGRR240/ 250x200	INGRR240/ 300x200	INGRR240/ 350x200	INGRR240/ 400x200	INGRR240/ 450x200	INGRR240/ 500x200	INGRR240/ 550x200	INGRR240/ 600x200
250				INGRR240/ 250x250	INGRR240/ 300x250	INGRR240/ 350x250	INGRR240/ 400x250	INGRR240/ 450x250	INGRR240/ 500x250	INGRR240/ 550x250	INGRR240/ 600x250
300					INGRR240/ 300x300	INGRR240/ 350x300	INGRR240/ 400x300	INGRR240/ 450x300	INGRR240/ 500x300	INGRR240/ 550x300	INGRR240/ 600x300
350						INGRR240/ 350x350	INGRR240/ 400x350	INGRR240/ 450x350	INGRR240/ 500x350	INGRR240/ 550x350	INGRR240/ 600x350
400							INGRR240/ 400x400	INGRR240/ 450x400	INGRR240/ 500x400	INGRR240/ 550x400	INGRR240/ 600x400
450								INGRR240/ 450x450	INGRR240/ 500x450	INGRR240/ 550x450	INGRR240/ 600x450
500									INGRR240/ 500x500	INGRR240/ 550x500	INGRR240/ 600x500
550										INGRR240/ 550x550	INGRR240/ 600x550
600											INGRR240/ 600x600

ROUND GRILLE - AVAILABILTY, FIRE RESISTANCE CLASS

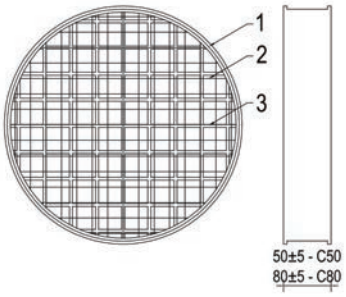
Round grille C50 / C80

1 - metal casing

2 - steel wire mesh

3 - intumescent insert

(dimensions in mm)



Grille type	Grille dimensions [mm]	Grille thickness [mm]	Fire resistance class	Scope of application
INTU FR GRILLE C50	Ø100 ÷ Ø400	50	EI 60	wall and floor
INTU FR GRILLE C80	Ø100 ÷ Ø400	80	EI 120	wall and floor

There is a possibility to **order INTU FR GRILLE** in **any size** - the price is set individually.

Fire resistance class	Diameter [mm] / Art. No.									
	100	125	150	160	200	250	300	315	350	400
C50	INGRC 60/100	INGRC 60/125	INGRC 60/150	INGRC 60/160	INGRC 60/200	INGRC 60/250	INGRC 60/300	INGRC 60/315	INGRC 60/350	INGRC 60/400
C80	INGRC 120/100	INGRC 120/125	INGRC 120/150	INGRC 120/160	INGRC 120/200	INGRC 120/250	INGRC 120/300	INGRC 120/315	INGRC 120/350	INGRC 120/400

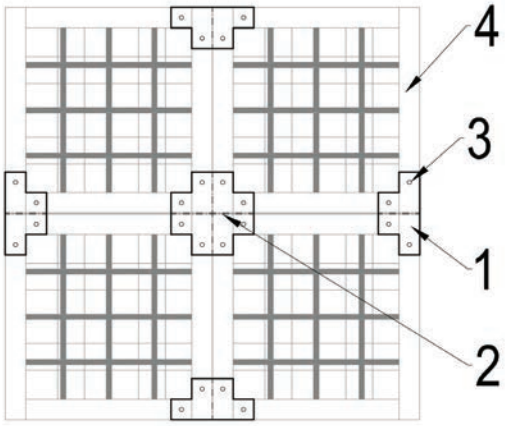
CONNECTOR FOR INTU FR GRILLE

Connectors **model T** and **model X** are used to connect rectangular intumescent firestop ventilation grills **INTU FR GRILLE** to each other. Connectors should be attached to the metal casing using rivets or steel sheet metal scraws.

Model T connector		Model X connector	
Model T		Model X	

INTU FR GRILLE
Intumescent FR Grille

HOW TO CONNECT INTU FR GRILLE

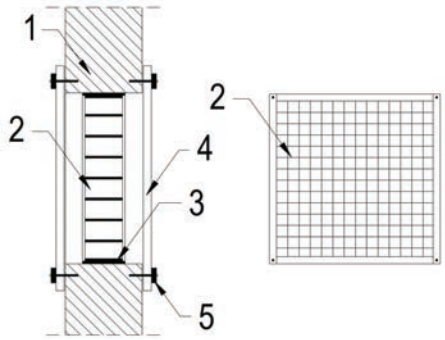
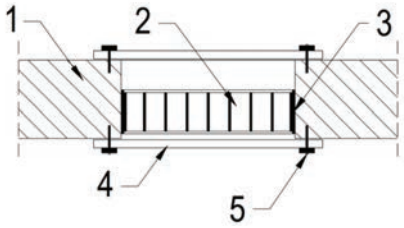


1 – Connector – **model T**
2 – Connector – **model X**
3 – steel rivet – Ø3mm
4 – intumescent grille **INTU FR GRILLE**

Apply a small amount of intumescent acrylic mastic (e.g. **INTU FR MASTIC**) for a grill along edge.

Fill all other joints and cavities with intumescent acrylic mastic (e.g. **INTU FR MASTIC**).

SOLUTION DETAILS

INTU FR GRILLE in rigid walls / rigid floors		
		**Fig. 1. Installation of INTU FR GRILLE in the wall** **1** – rigid wall **2** - **INTU FR GRILLE** ventilation grille **3** - intumescent acrylic mastic e.g. **INTU FR MASTIC** **4** - masking plate (e.g. **INTU ATP**) **5** - steel screws
		**Fig. 2. Installation of INTU FR GRILLE in the floor** **1** – rigid floor **2** - **INTU FR GRILLE** ventilation grille **3** - intumescent acrylic mastic e.g. **INTU FR MASTIC** **4** - masking plate (e.g. **INTU ATP**) **5** - steel screws

INTU ATP

Air transfer plate

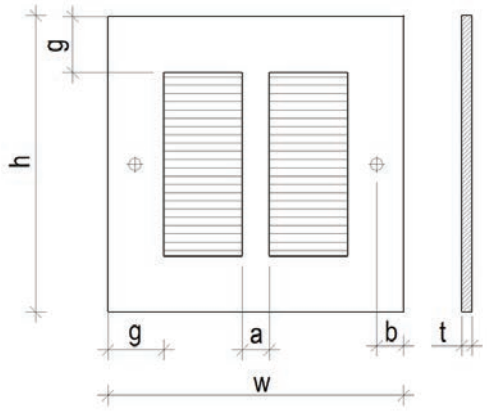
INTU ATP
Air transfer plate

PRODUCT DESCRIPTION

Louver masking grille **INTU AIR TRANSFER PLATE** is used for aesthetic protection of ventilation inlets/outlets. **INTU AIR TRANSFER PLATE** is manufactured using modern production techniques and precision stamping machines. The material is 0,9 mm thick steel. The louvres are placed every 8,5mm, with a 30% downward slant.

- Colour: RAL 9006
- Finish: satin
- Use in walls and floors with INTU FR GRILLE
- Use in doors with INTU FR GRILLE DS

DIMENSIONAL DATA



TRANSPORT AND STORAGE

Store in dry and cool conditions at temperatures between + 5°C and + 35°C.

w [mm]	h [mm]	t [mm]	g [mm]	a [mm]	b [mm]
143 x 143 ± 0,5 do 651 x 651 ± 0,5	143 x 143 ± 0,5 do 651 x 651 ± 0,5	5,0 ± 0,5	27,0 ± 0,5	13,0 ± 0,5	13,0 ± 0,5

AVAILABILTY TABLE

~Size of INTU FR GRILLE [mm] [WIDTH] / [HIGHT]	Size of INTU FR ATP [w x h] [mm] *Active surface [cm²]*									
	102	152	203	254	305	356	406	457	508	610
102	143 x 143 *~ 63 cm²*	193 x 143 *~98 cm²*	244 x 143 *~125 cm²*	295 x 143 *~161 cm²*	346 x 143 *~197 cm²*	397 x 143 *~232 cm²*	447 x 143 *~241 cm²*	498 x 143 *~295 cm²*	549 x 143 *~322 cm²*	651 x 143 *~393 cm²*
152		193 x 193 *~152 cm²*	244 x 193 *~193 cm²*	295 x 193 *~249 cm²*	346 x 193 *~304 cm²*	397 x 193 *~359 cm²*	447 x 193 *~373 cm²*	498 x 193 *~456 cm²*	549 x 193 *~497 cm²*	651 x 193 *~608 cm²*
203			244 x 244 *~262 cm²*	295 x 244 *~336 cm²*	346 x 244 *~411 cm²*	397 x 244 *~486 cm²*	447 x 244 *~505 cm²*	498 x 244 *~617 cm²*	549 x 244 *~673 cm²*	651 x 244 *~823 cm²*
254				295 x 295 *~424 cm²*	346 x 295 *~519 cm²*	397 x 295 *~613 cm²*	447 x 295 *~636 cm²*	498 x 295 *~778 cm²*	549 x 295 *~849 cm²*	651 x 295 *~1037 cm²*
305					346 x 346 *~626 cm²*	397 x 346 *~740 cm²*	447 x 346 *~768 cm²*	498 x 346 *~939 cm²*	549 x 346 *~1024 cm²*	651 x 346 *~1252 cm²*
356						397 x 397 *~866 cm²*	447 x 397 *~900 cm²*	498 x 397 *~1100 cm²*	549 x 397 *~1200 cm²*	651 x 397 *~1466 cm²*
406							447 x 447 *~1031 cm²*	498 x 447 *~1261 cm²*	549 x 447 *~1375 cm²*	651 x 447 *~1681 cm²*
457								498 x 457 *~1422 cm²*	549 x 498 *~1551 cm²*	651 x 498 *~1895 cm²*
508									549 x 549 *~1726 cm²*	651 x 549 *~2110 cm²*
610										651 x 651 *~2539 cm²*

INTU STRIP F/FC

Intumescent seals

INTU STRIP F/FC

Intumescent seals

PRODUCT DESCRIPTION

The firestop intumescent seal **INTU STRIP F** and **INTU STRIP FC** (intumescent seal with a self-adhesive layer) is made of a graphite-based material. Under the influence of high temperature, the material swells, increasing its volume. The expanding product prevents the spread of fire through joints and gaps in fire doors.

INSTALLATION METHOD

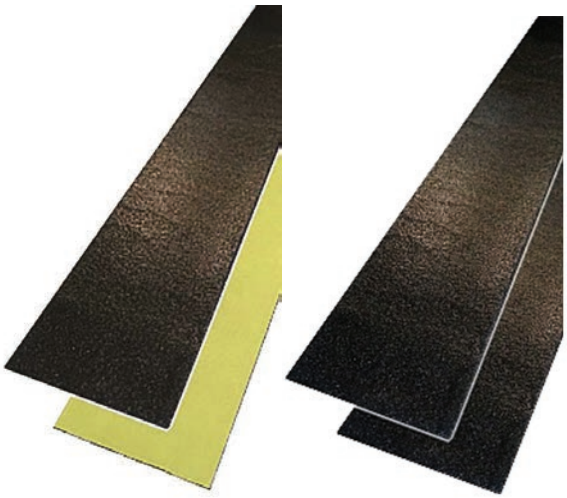
1) Dust the gluing surface and then degrease with IPA (isopropyl alcohol / isopropanol min. 90%)

2) Install the seal around the door in previously prepared millings.

INTU STRIP F: Using your own gluing technology, precisely fit the seal in the milling place along its entire length.

INTU STRIP FC: Remove the protective layer from the adhesive tape, align the seal and press it thoroughly in previously prepared millings along its entire length.

The seal should not be cut after gluing to the substrate.



TECHNICAL PROPERTIES

Color	Black
Self-adhesive tape	INTU STRIP F: NO INTU STRIP FC: YES
Thickness [mm]	2,0
Width [mm]	10 ÷ 58
Length [m]	50; 100; 200
Density [g/cm³]	1,2 ± 15%
Swelling temperature [°C]	~ 140
Swelling ratio	≥ 35,97
Swelling pressure [N/mm²]	~ 0,815
Fire resistance	Max 60 minutes
Thermal conductivity λ [W/mK]	0,4049

COMPLIANCE

- *Door fire test report:* **LZP43-02580/16/Z00NZP**
- *Swelling pressure report:* **LZP48-2580/16/Z00NZP**
- *Swelling height report:* **LZP09-2580/16/Z00NZP**
- *Thermal conductivity coefficient test report:* **LZF00-03116/20/Z00NZF**

TRANSPORT AND STORAGE

Store in dry and cool conditions, at a temperature between +5°C to +35°C.

NEW TOOL TO SUPPORT THE SELECTION OF PASSIVE FIRE PROTECTION SOLUTIONS

.INTUSELECTOR

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ALFASEAL® GROUP

ALFASEAL GROUP Sp. z o. o.
ul. Kineskopowa 1
05-500 Piaseczno, Poland
sales@intuseal.com
www.intuseal.com