INTUSEAL®

passive fire protection manufacturer

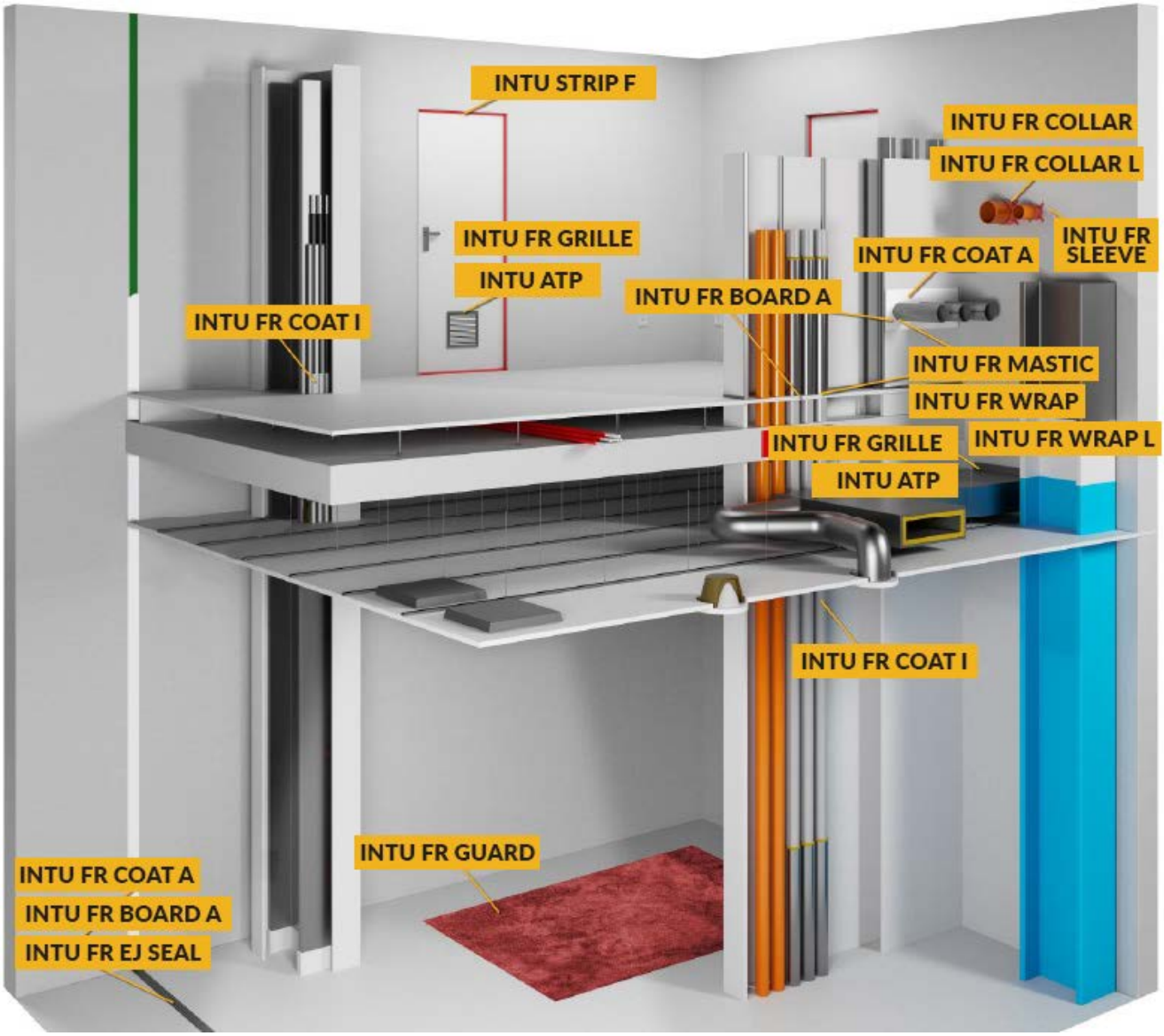
PRODUCT CATALOG

FROM 07.2022

WWW.INTUSEAL.COM

	PRODUCT / WHERE TO USE	COMBUSTIBLE PIPES	NON--COMBUSTIBLE PIPES WITH FLAMMABLE INSULATION	NON--COMBUSTIBLE PIPES	ELECTRICAL SERVICES	MIXED SERVICES PENETRATIONS	LINEAR JOINT SEALS	VENTILATION	FABRICS	DOOR SEALS
1	**INTU FR MASTIC** Intumescent acrylic mastic			●	●	●	●	●		
2	**INTU FR COAT A** Fire rated ablative coat			●		●	●			
3	**INTU FR BOARD A** Fire rated ablative board			●		●	●			
4	**INTU FR COAT I** Fire rated intumescent coat			●	●	●				
5	**INTU FR GUARD** Fire retardant impregnate								●	
6	**INTU FR WRAP** Intumescent pipe wrap	●	●							
7	**INTU FR WRAP L** Intumescent pipe wrap roll	●	●							
8	**INTU FR COLLAR** Intumescent pipe collar	●								
9	**INTU FR COLLAR L** Intumescent pipe collar roll		●							
10	**INTU FR SLEEVE** Intumescent internal pipe sleeve	●								
11	**INTU FR EJ SEAL** Fire rated expansion joint seal						●			
12	**INTU FR GRILLE** Intumescent FR Grille							●		
13	**INTU ATP** Air transfer faceplate							●		
14	**INTU STRIP F** Intumescent door seal									●

APPLICATION OF SOLUTIONS



CONTENTS

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

EUROPEAN TECHNICAL APPROVAL

EI 120-240 | -30°C / +80°C | fast drying | non-combustible pipes | electrical services | mixed services penetrations | linear joint seals | ventilation

PRODUCT DESCRIPTION

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 (details according to compliance documents).

COMPLIANCE:

Reference standard: EN 1366-3 / ETAG 026-2 / EAD 350454-00-1104
- DoP 8/2019
- ETA 19/0038
- CoC 1488-CPR-0756/W
- TDS
- SDS

APPLICATION

INTU FR MASTIC is designed for:
- fire protection of penetrations with non-flammable pipes in floors or walls,
- fire protection of single electric cables / bundle of cables in floors and walls,
- fire protection of gaps / expansion joints,
- installation / sealing of intumescent ventilation grilles INTU FR GRILLE.

Mass INTU FR MASTIC after hardening, can be used in the temperature range -30˚C ÷ +80˚C.

INSTALLATION METHOD

1. PREPARATION
a. Do not use INTU FR MASTIC if the ambient temperature is below 5°C.
b. Clean the surfaces thoroughly from grease and other contaminants before applying the mastic.
The INTU FR MASTIC should not be used on substrates that exude oils, softeners or solvents, greases and other contaminants

2. APPLICATION – fire protection of penetration pipes and cables.
a. Insert a mineral wool primer into the hole with density of 40 kg/m3 to a depth.
b. Fill the gap with INTU FR MASTIC to the required depth (for pipes or for cables).
c. Insulate the pipe from the barrier with mineral wool with a density of min 37 kg/m3 length and thickness.

3. APPLICATION – fire protection of gaps / expansion joints.
a. Insert a mineral wool primer into the gaps / expansion joints with density of 40 kg/m3 to a depth.
b. Fill the gap with INTU FR MASTIC to the required depth.

AVAILABILITY

Pno.	Type	MOQ	Unit
INFRM310	White 310 ml	1 box (15 pcs)	BOX (15 pcs)
INFRMG310	Grey 310 ml	1 PALLET (1260 pcs)	PALLET
INFRMPW310	Pure White 310 ml	1 PALLET (1260 pcs)	PALLET
INFRM600	White 600 ml	1 BOX (20 pcs)	BOX (20 pcs)
INFRMG600	Grey 600 ml	1 PALLET (720 pcs)	PALLET
INFRMPW600	Pure White 600 ml	1 PALLET (720 pcs)	PALLET
INFRMW5L	White 5 L	1 PAIL	PAIL
INFRMG5L	Grey 5 L	1 PALLET (60pcs)	PALLET

STEEL PIPES - penetration seals in rigid wall

Diameter [mm]	Pipe wall thickness [mm]	Fire resistance classification			
		C/C	C/U	U/C	U/U
D ≤ 42,4	2,0 – 14,2	EI 240	EI 240	-	-
42,4 < D ≤ 48,3	2,2 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
48,3 < D ≤ 60,3	2,6 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
60,3 < D ≤ 76,1	3,1 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
76,1 < D ≤ 88,9	3,5 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
88,9 < D ≤ 108,0	4,0 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
108,0 < D ≤ 139,7	4,0 – 14,2	EI 120 (E 240*)	EI 120 (E 240*)	-	-
139,7 < D ≤ 159,0	4,0 – 14,2	EI 120 (E 240*)	EI 120 (E 240*)	-	-
159,0 < D ≤ 219,1	4,5 – 14,2	EI 90 (E 240*)	EI 90 (E 240*)	-	-

STEEL PIPES - penetration seals in rigid floor

Diameter [mm]	Pipe wall thickness [mm]	Fire resistance classification			
		C/C	C/U	U/C	U/U
D ≤ 42,4	2,0 – 14,2	EI 240	EI 240	-	-
42,4 < D ≤ 48,3	2,2 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
48,3 < D ≤ 60,3	2,6 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
60,3 < D ≤ 76,1	3,1 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
76,1 < D ≤ 88,9	3,5 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
88,9 < D ≤ 108,0	4,0 – 14,2	EI 180 (E 240*)	EI 180 (E 240*)	-	-
108,0 < D ≤ 139,7	4,0 – 14,2	EI 120 (E 240*)	EI 120 (E 240*)	-	-
139,7 < D ≤ 159,0	4,0 – 14,2	EI 120 (E 240*)	EI 120 (E 240*)	-	-

COPPER PIPES - penetration seals in rigid wall

Diameter [mm]	Pipe wall thickness [mm]	Fire resistance classification			
		C/C	C/U	U/C	U/U
D ≤ 6,0	≥ 0,8	EI 240	EI 240	-	-
6,0 < D ≤ 15,0	≥ 1,0	EI 180	EI 180	-	-
15,0 < D ≤ 18,0	≥ 1,1	EI 180	EI 180	-	-
18,0 < D ≤ 22,0	≥ 1,1	EI 180	EI 180	-	-
22,0 < D ≤ 35,0	1,4 – 14,2	EI 180	EI 180	-	-
35,0 < D ≤ 42,0	1,5 – 14,2	EI 180	EI 180	-	-
42,0 < D ≤ 54,0	1,7 – 14,2	EI 180	EI 180	-	-
54,0 < D ≤ 88,9	2,2 – 14,2	EI 120 (E 180*)	EI 120 (E 180*)	-	-

COPPER PIPES - penetration seals in rigid floor

Diameter [mm]	Pipe wall thickness [mm]	Fire resistance classification			
		C/C	C/U	U/C	U/U
D ≤ 6,0	≥ 0,8	EI 180 (E 240*)	EI 180 (E 240*)	-	-
6,0 < D ≤ 15,0	≥ 1,0	EI 90 (E 240*)	EI 90 (E 240*)	-	-
15,0 < D ≤ 18,0	≥ 1,1	EI 90 (E 240*)	EI 90 (E 240*)	-	-
18,0 < D ≤ 22,0	≥ 1,1	EI 90 (E 240*)	EI 90 (E 240*)	-	-
22,0 < D ≤ 35,0	1,4 – 14,2	EI 90 (E 240*)	EI 90 (E 240*)	-	-
35,0 < D ≤ 42,0	1,5 – 14,2	EI 90 (E 240*)	EI 90 (E 240*)	-	-
42,0 < D ≤ 54,0	1,7 – 14,2	EI 90 (E 240*)	EI 90 (E 240*)	-	-

ELECTRICAL CABLES

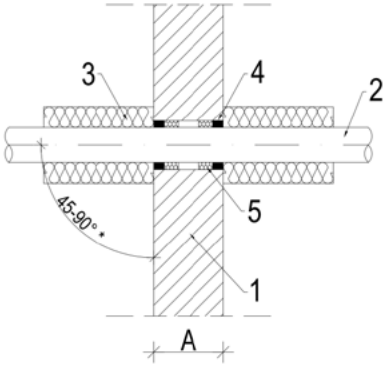
Installation type	Diameter [mm]	Fire resistance classification	
		WALL	FLOOR
Single cable	Ø ≤ 21,0mm	EI 240	EI 120
Cables in bundle (made of cables Ø ≤ 21,0mm)	Ø ≤ 100mm	EI 90, EI 120*	EI 120

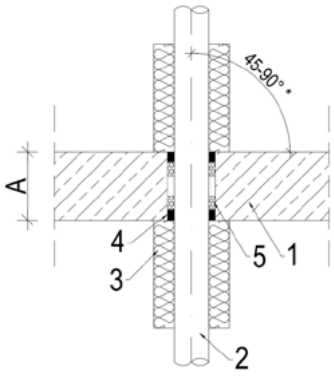
GAPS / EXPANSION JOINTS

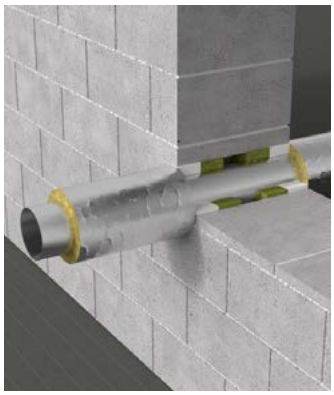
Joint width	Fire resistance classification		
	WALL (horizontal)	WALL (vertical)	FLOOR
10 mm	EI 120*	EI 120*	EI 120*
from 11 to 50 mm	EI 120*	EI 120*	EI 120*

* outside ETA, the results acc. to fire test report

SOLUTION DETAILS – NON FLAMMABLE PIPES







1 – wall (A – thickness of min 150mm)
2 – non-flammable pipe;
3 – mineral wool insulation with a density of min 37 kg/m3, length and thickness according table 1
4 – INTU FR MASTIC (details according table 1)
5 – mineral wool density of min. 40 kg/m3, dimension in according table 1

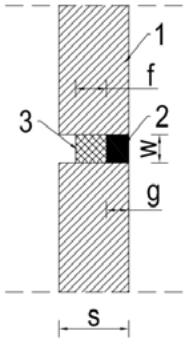
1 – floor (A – thickness min 150mm)
2 – non-flammable pipe;
3 – mineral wool insulation with a density of min 37 kg/m3, length and thickness according table 1
4 – INTU FR MASTIC (details according table 1)
5 – mineral wool density of min. 40 kg/m3, dimension in according table 1

* – Installations placed at an angle of 45 ÷ 90˚ to the partition, based on PN-EN 1366-3 standard

Diameter	Material	Filling	Insulation*	INTU FR MASTIC
≤ 42,4 mm	steel	Mineral wool Density of min. 40kg/m3 Depth: 15mm	Thickness: 30mm Length: 250mm	Width: 10mm Depth: 15mm
≤ 108,0 mm	steel		Thickness: 50mm Length: 250mm	
< 159,0 mm	steel	Mineral wool Density of min. 40kg/m3 Depth: in all partition	Thickness 50mm Length: 650mm	Width: 25mm Depth:: 20mm
≤ 219,1 mm	steel			
≤ 6,0 mm	copper		Thickness 30mm Length: 500mm	
≤ 54,0 mm	copper		Thickness 30mm Length: 500mm	Width: 25mm Depth: 20mm
≤ 88,9 mm	copper		Thickness 60mm Length: 700mm	

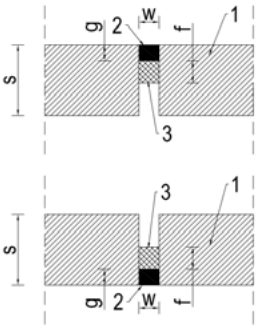
* Mineral wool insulation with aluminium wrapper, density 37 kg/m3, length L from the partition

SOLUTION DETAILS – GAPS / LINEAR JOINTS



Gap in a wall

1 – wall (s – thickness min 100mm)
2 – INTU FR MASTIC, on any side (details according table 2)
3 – mineral wool with a density of min. 50kg/m3 (details according table 2)
w – joint width

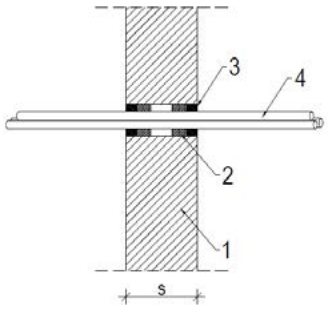


Gap in a floor

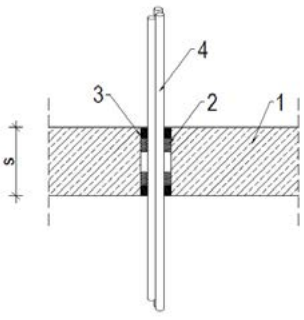
1 – floor (s – thickness min 150mm)
2 – INTU FR MASTIC applied from the bottom or top of the floor (details according table 2)
3 – mineral wool with a density of min. 50kg/m3 (details according table 2)
w – joint width

Partition	Joint width (w)	INTU FR MASTIC (pos. 2)	Mineral wool (pos. 3)
Wall	10 mm	Min. depth (g): 15 mm	Min. depth (f): 50 mm
	od 11 do 50 mm	Min. depth (g): 15 mm	Min. depth (f): 85 mm
Floor	10 mm	Min. depth (g): 10 mm	Min. depth (f): 50 mm
	od 11 do 50 mm	Min. depth (g): 15 mm	Min. depth (f): 100 mm

SOLUTION DETAILS – ELECTRIC CABLES



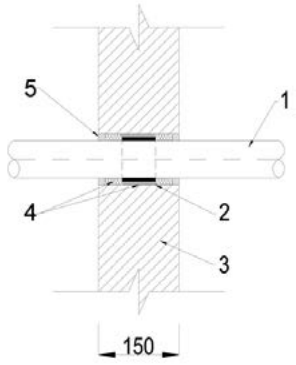
1 – wall (S – thickness of min 150mm)
2 – mineral wool density of min. 40 kg/m3, depth 15mm
3 – INTU FR MASTIC depth min 20mm
4 – single electric cable ≤ Ø 21mm or cables in bundle ≤ Ø 100mm



1 – floor (S – thickness of min 150mm)
2 – mineral wool density of min. 40 kg/m3, depth 15mm
3 – INTU FR MASTIC depth min 20mm
4 – single electric cable ≤ Ø 21mm or cables in bundle ≤ Ø 100mm

ADDITIONAL SOLUTIONS

SOLUTION DETAILS – MASSIVE WALL / FLAMMABLE PIPES

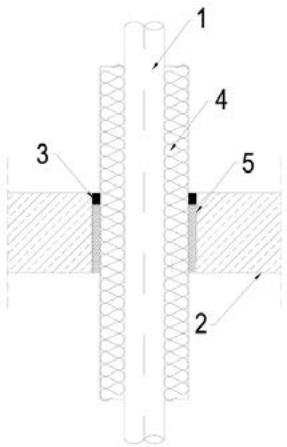


1 - Combustible pipe
2 - INTU FR WRAP L
3 - Massive wall;
4 - Mineral wool 100 kg / m3;
5 - ALFA FR MASTIC, depth 15mm;

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø110 x 4,2mm	2	120	WRAP L 60
PVC-U Ø110 x 4mm	2	120	
PP Ø110 x 2,7mm	2	92	
PP-R Ø110 x 18,3mm	2	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE FLOOR, STEEL IN WOOL INSULATION

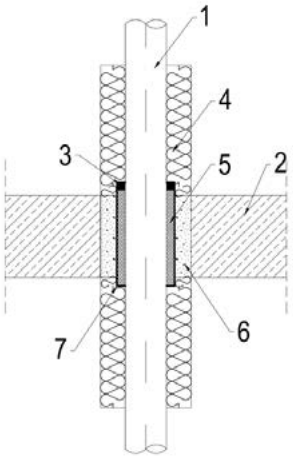


1 - metal pipe
2 - reinforced concrete ceiling
3 - ALFA FR MASTIC weight
4 - Lamela mineral wool insulation
5 - mineral wool, min. density 37 kg / m3

Pipe diameter and material	The number of layers	Mass depth
Ø355,6 x 5,6mm + wool 50 x 700 + heating cable	118	20 mm
Ø168,3 x 4,0mm + wełna 50 x 600 + kabel grzejny	120	
Ø114,3 x 3,6mm + wełna 40 x 600 + kabel grzejny	120	

The distance of the pipe from the edge of the hole is 10 to 25 mm

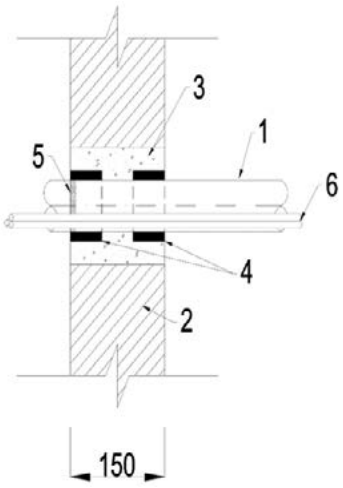
SOLUTION DETAILS – MASSIVE FLOOR, STEEL IN WOOL INSULATION WITH STEEL SLEEVE



1 - metal pipe;
2 - massive ceiling
3 - ALFA FR MASTIC fireproof compound
4 - mineral wool insulation
5 - mineral wool 37 kg / m3
6 - cement mortar
7 - metal sleeve;

Pipe diameter and material	EI	Product
Ø108 x 2,0mm sleeve Ø168,3 + wool 40mm x 600	120	20 mm

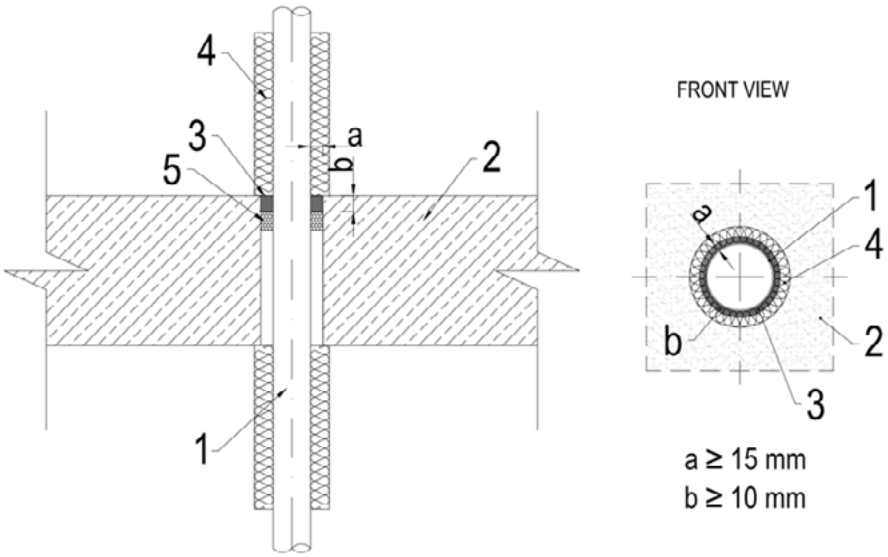
SOLUTION DETAILS – MASSIVE WALL, CABLES IN AROT PIPES



1 - AROT pipe
2 - massive wall
3 - cement mortar
4 - INTU FR WRAP L
5 - weight ALFA FR MASTIC, depth. 15mm
6 - cable, cable harness up to Ø21

Pipe diameter and material	The number of layers	EI	Product
AROT Ø 110 + cable, cable harness	2	120	WRAP L 60

SOLUTION DETAILS – MASSIVE FLOOR, STEEL IN WOOL INSULATION



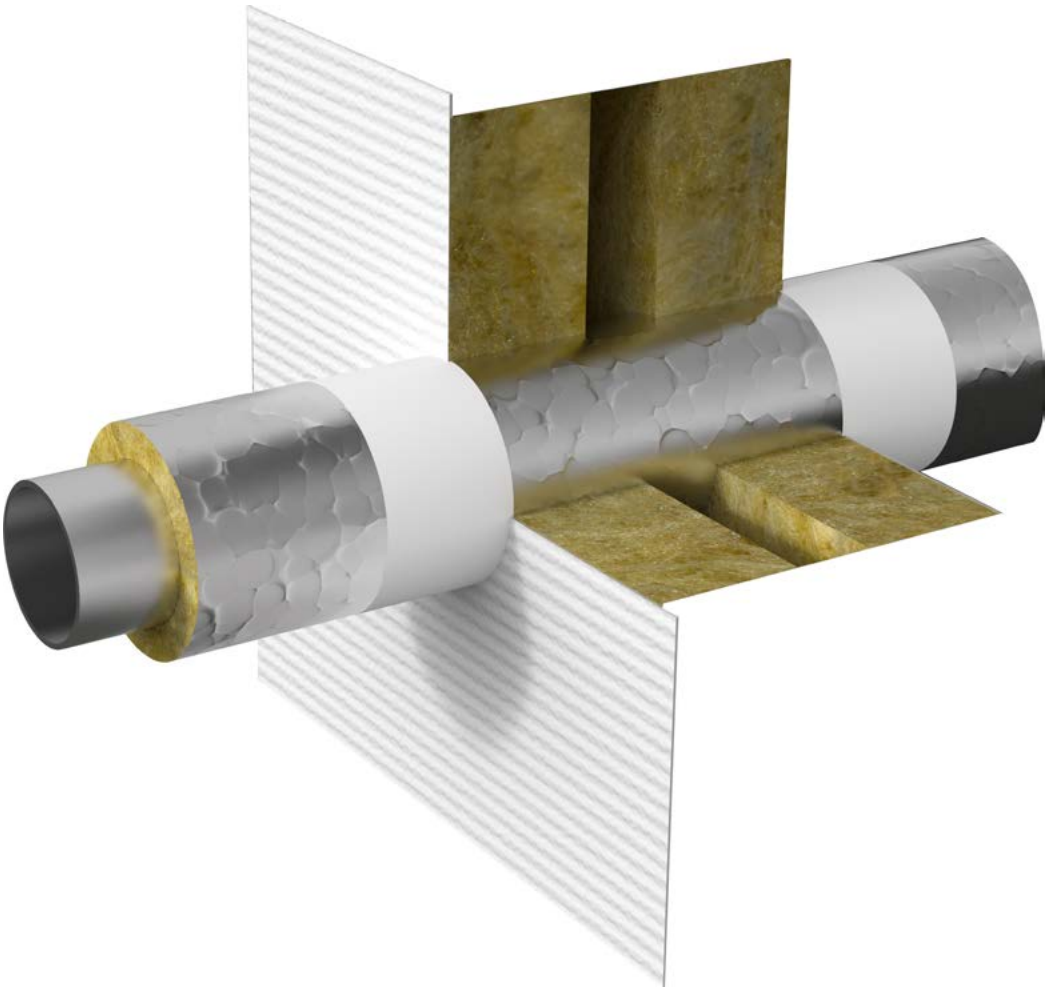
1 - Steel pipe;
2 - Reinforced concrete ceiling;
3 - INTU FR MASTIC;
4 - PAROC Hvac Lamella Mat AluCoat
(Ø = 35 kg/m3)
5 - Mineral wool 35 kg / m3, min. main 20 mm

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø110 x 4,2mm	2	120	WRAP L 60
PVC-U Ø110 x 4mm	2	120	
PP Ø110 x 2,7mm	2	92	
PP-R Ø110 x 18,3mm	2	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm

INTU FR COAT A

FIRE RATED ABLATIVE COAT



up to EI 240

fast drying

non-combustible pipes

mixed services penetrations

linear joint seals

PRODUCT DESCRIPTION

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. The product is used in combination with a mineral wool board with a density of min. 150kg/m3 and a minimum thickness of 60mm for penetration seals and with density of min. 50kg/m3 for linear joint. The ready-made/painted firestop boards INTU FR BOARD A are also available for sale.

COMPLIANCE:

• Reference standard:
penetration seals:
EN 1366-3 / ETAG 026-2 /
EAD 350454-00-1104
linear joint seals:
EN 1366-4 / ETAG 026-3 /
EAD 350141-00-1106
• DoP 5/2019
• Penetration seals: ETA 19/0038
Linear joint seals: ETA 19/0037
• Penetration seals:
CoC 1488-CPR-0756/W
Linear joint seals: Coc 1488-CPR-0763/W
• TDS
• SDS

APPLICATION

INTU FR COAT A is designed for:
• fire protection of penetrations with single non-flammable pipes or groups 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 in walls

Rigid walls: The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors: The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3

INSTALLATION METHOD

• Prior to sealing, clean the surfaces of the hole and system components from grease and other contaminants thoroughly.
• Cut the mineral wool board with a density of min 150kg/m3 to the correct size. In the case of linear joint put loose mineral wool density of min. 50kg/m3 or mineral wool board in gap of 100mm depth.
• Place the wool board in the hole/gap.
In the case of non-flammable pipes:
a) mineral wool insulation with a density of min 37kg/m3 should be placed.
b) cover a mineral wool board and a part of the insulation with INTU FR COAT A.
In the case of expansion joints, cover the mineral wool board with INTU FR COAT A ablative paint on one side of the partition. Prepare a partition overlap min 5mm.
Approximate consumption of INTU FR COAT A for painting a mineral wool boards: 1,7 kg/m2 – for a dry film thickness of 1mm.

AVAILABILITY

Pno.	Type	MOQ	Unit
INCA3KG	3 kg	1	PAIL
INCA125KG	12,5 kg	1	PAIL
INCA260KG	260 kg	2	BARREL

Table 1. Parameters for protection of non-flammable pipes.			
Diameter	**Material**	**Filling**	**Insulation***
≤ 42,4 mm	steel	2 x mineral wool board with a density of min. 150kg/m3, 60mm thick, coated on one side with INTU FR COAT A	Thickness G: 30mm; Length L: 250mm
≤ 108,0 mm	steel		Thickness G: 50mm; Length L: 250mm
≤ 159,0 mm	steel		Thickness G: 50mm; Length L: 650mm
≤ 219,0 mm	steel		Thickness G: 50mm; Length L: 650mm
≤ 6,0 mm	copper		Thickness G: 30mm; Length L: 500mm
≤ 54,0 mm	copper		Thickness G: 30mm; Length L: 500mm
≤ 88,9 mm	copper		Thickness G: 60mm; Length L: 700mm

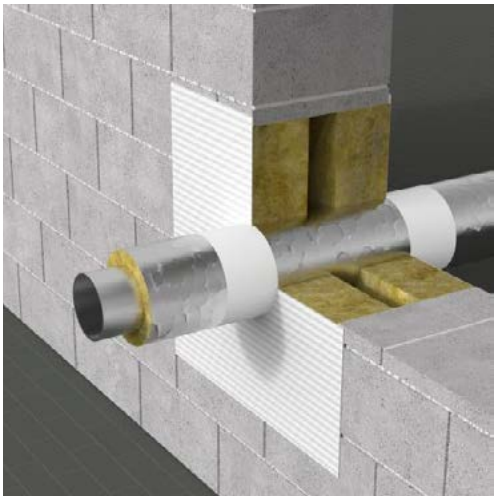
* Mineral wool insulation with aluminium wrapper, density 37 kg/m3, length L from the partition

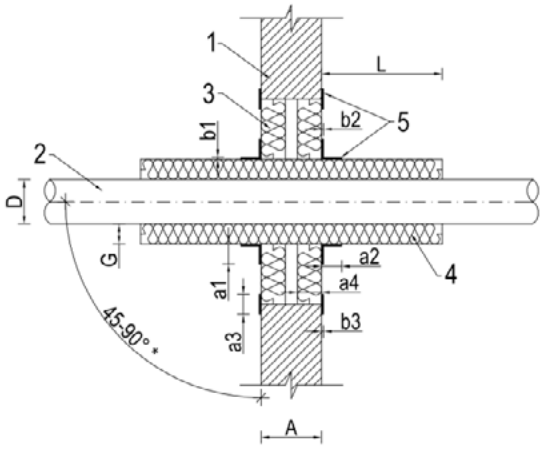
FIRE RESISTANCE CLASSIFICATION PENETRATION SEALS				
TYPE	**INSULATION**	**DN**	**EI WALL**	**EI FLOOR**
STEEL PIPES	continuous	≤ 42,4 mm	EI 120	EI 120
		≤ 108,0 mm	EI 120	EI 120
		≤ 159,0 mm	EI 120	EI 120
		≤ 219,0 mm	EI 120	-
	Non-continuous	≤ 42,4 mm	EI 120	EI 120 (EI120*)
		≤ 108,0 mm	EI 120	EI 120 (EI60*)
		≤ 159,0 mm	EI 120	EI 120
		≤ 219,0 mm	EI 120	EI 120
COOPER PIPES	continuous	≤ 6,0 mm	EI 120	EI 240
		≤ 54,0 mm	EI 60	EI 180
		≤ 88,9 mm	EI 60	EI 90
	Non-continuous	≤ 6,0 mm	EI 120	EI 240
		≤ 54,0 mm	-	EI 60
		≤ 88,9 mm	-	EI 60

* Fire resistance using a single mineral wool board

FIRE RESISTANCE CLASSIFICATION LINEAR JOINTS			
GAP [mm]	**EI WALL Vertical**	**EI WALL Horizontal**	**EI FLOOR**
≤ 100mm	EI 240	EI 120	EI 240

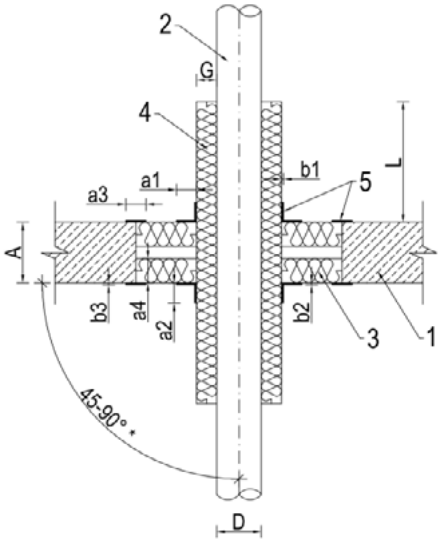
SOLUTION DETAILS – PROTECTION OF NON-FLAMMABLE PIPES (CONTINUOUS INSULATION)





Wall penetration (continuous insulation)

1 – a wall with a thickness of A≥150mm and density no less than 600 kg/m3
2 – non-flammable pipe
3 – mineral wool board with a density of min. 150 kg/m3, coated with ablative paint with a dry layer thickness of 1mm
4 – mineral wool insulation with a density of min. 37 kg/m3, length L and thickness G according to Table 1
5 – INTU FR COAT A ablative paint,
a1≥50mm; a2≥50mm; a3≥20mm; a4≥60mm;
b1≥0,6mm; b2≥0,6mm; b3≥0,6mm

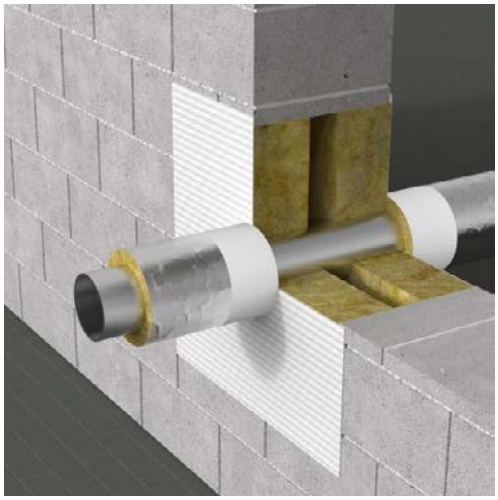


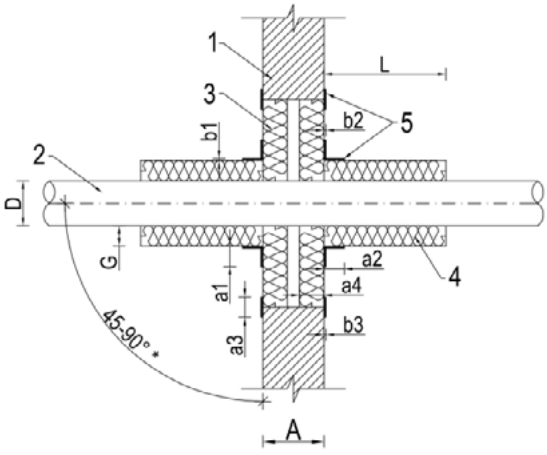
Floor penetration (continuous insulation)

1 – a floor with a thickness of A≥150mm and density no less than 1700 kg/m3
2 – non-flammable pipe
3 – mineral wool board with a density of min. 150 kg/m3, coated with ablative paint with a dry layer thickness of 1mm
4 – mineral wool insulation with a density of min. 37 kg/m3, length L and thickness G according to Table 1
5 – INTU FR COAT A ablative coat,
a1≥50mm; a2≥50mm; a3≥20mm; a4≥60mm;
b1≥0,6mm; b2≥0,6mm; b3≥0,6mm

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

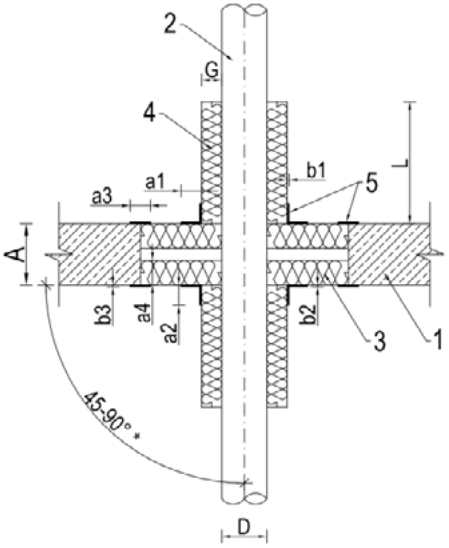
SOLUTION DETAILS – PROTECTION OF NON-FLAMMABLE PIPES (NON-CONTINUOUS INSULATION)





Wall penetration (non-continuous insulation)

1 – a wall with a thickness of A≥150mm and density no less than 600 kg/m3
2 – non-flammable pipe
3 – mineral wool board with a density of min. 150 kg/m3, coated with ablative paint with a dry layer thickness of 1mm
4 – mineral wool insulation with a density of min. 37 kg/m3, length L and thickness G according to Table 1
5 – INTU FR COAT A ablative paint,
a1≥50mm; a2≥50mm; a3≥20mm; a4≥60mm;
b1≥0,6mm; b2≥0,6mm; b3≥0,6mm

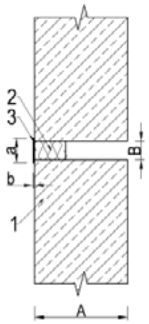


Floor penetration (non-continuous insulation)

1 – a floor with a thickness of A≥150mm and density no less than 1700 kg/m3
2 – non-flammable pipe
3 – mineral wool board with a density of min. 150 kg/m3, coated with ablative paint with a dry layer thickness of 1mm
4 – mineral wool insulation with a density of min. 37 kg/m3, length L and thickness G according to Table 1
5 – INTU FR COAT A ablative coat,
a1≥50mm; a2≥50mm; a3≥20mm; a4≥60mm;
b1≥0,6mm; b2≥0,6mm; b3≥0,6mm

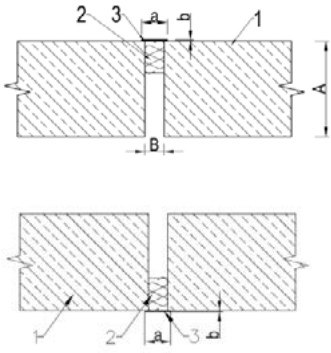
* - Installations angled 45 ÷ 90˚ to the partition, based on PN-EN 1366-3 standard

PROTECTION OF FIRE RATED EXPANSION JOINTS



Expansion joint in a wall

1 – a wall with a thickness of A≥150mm and density no less than 600 kg/m3, the gap with a thickness of B≤100mm
2 – mineral wool with a density of min. 50 kg/m3, min. depth 100mm, coated on one side with INTU FR COAT A, with a dry film thickness of 1mm
3 – INTU FR COAT A ablative paint, with a thickness of b≥0.60mm, overlap on the partition of min. 5mm

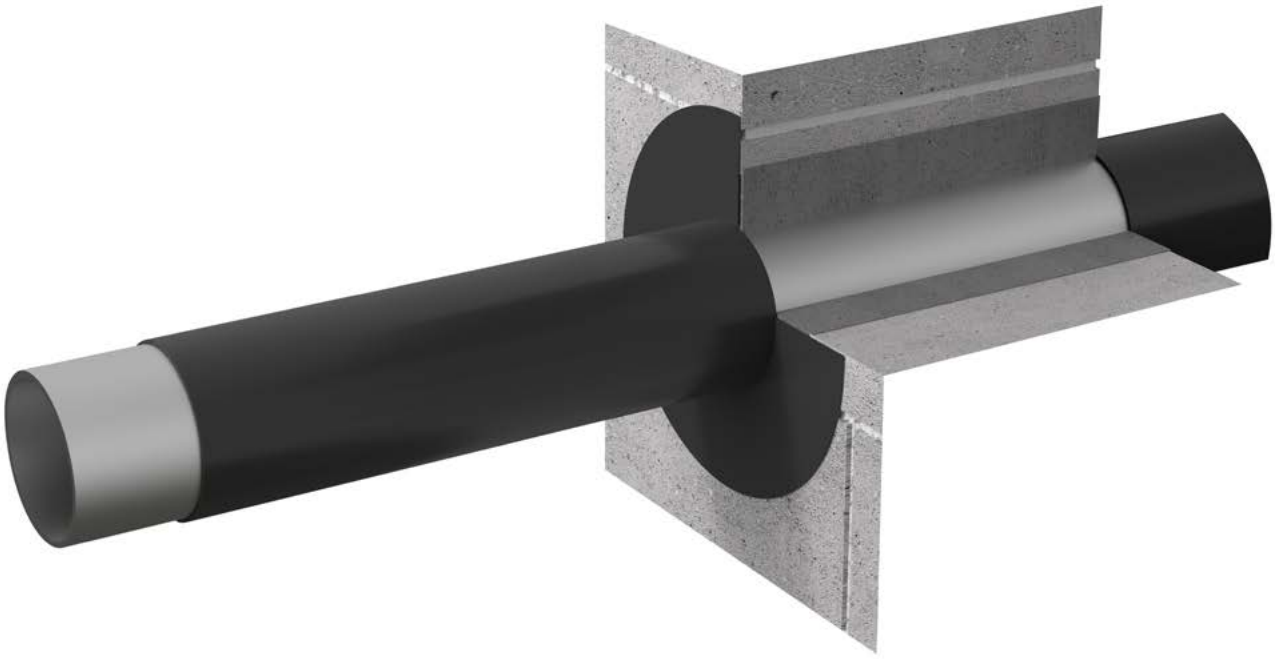


Expansion joint in a floor

1 – a floor with a thickness of A≥150mm and density no less than 1700 kg/m3, gap with a thickness of B≤100mm
2 – (installation from the bottom or top of the floor) mineral wool with a density of min. 50 kg/m3, minimum depth 100mm, coated on one side with INTU FR COAT A, with a dry film thickness of 1mm
3 – INTU FR COAT A ablative paint, with a thickness of b≥0.60mm, overlap on the partition of min. 5mm

INTU FR COAT I

FIRE RATED INTUMESCENT COAT



up to EI 240

fast drying

non-combustible pipes

electrical services

mixed services penetrations

PRODUCT DESCRIPTION

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. (details according to reference documents).

COMPLIANCE:

• Reference standard:
EN 1366-3 / ETAG 026-2
/ EAD 350454-00-1104
• DoP 5/2019
• ETA 19/0038
• CoC 1488-CPR-0756/W
• TDS
• SDS

APPLICATION

INTU FR COAT I is intended for the protection of non-flammable pipes in fire partition floors and walls and electric cables / cable trays in wall.
Flexible walls:
The wall must be at least 125mm thick and have a steel profile structure covered on both sides with a minimum of 2 layers of boards with a thickness of 12.5mm.
Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3.

INSTALLATION METHOD

1. Prior to sealing, 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 pipe should be filled with cement mortar or mineral wool, the space around cable/ cable trays should be filled mineral board INTU FR BOARD A (or mineral wool board density INTU FR COAT A) flush with the face of the partition.
4. Cover the pipe with INTU FR COAT I with a layer of appropriate thickness and length.
5. Cover the hole filling (mineral wool/cement mortar) with INTU FR COAT A ablative paint, overlapping the surface of the partition.

Approximate consumption of INTU FR COAT I – 1,5 kg/m2 – for a dry film thickness of 1mm.

AVAILABILITY

Pno.	Type	MOQ	Unit
INCI25KG	2,5 kg	1	PAIL
INCI10KG	10 kg	1	PAIL

Table 1. Parameters for protection of non-flammable pipes.					
Diameter	**Hole**	**Diameter**	**Material**	**Filling**	**Coating thickness x length [b2 x c]**
STEEL PIPES	Larger than the diameter of the pipe by 2x50mm	≤ 42,4 mm	steel	Mineral wool with a density of min. 150 kg/m3	1mm x 500mm
		≤ 108,0 mm*	steel		1mm x 500mm
		≤ 159,0 mm*	steel		2mm x 500mm
		≤ 219,0 mm*	steel		2mm x 500mm
	Larger than the diameter of the pipe by 2x20mm	≤ 42,4 mm	steel	Concrete mortar	1mm x 500mm
		≤ 108,0 mm	steel		1mm x 500mm
		≤ 159,0 mm	steel		2mm x 500mm
		≤ 219,0 mm	steel		2mm x 500mm

* Pipe is also painted inside the partition.

Diameter	**Hole**	**Diameter**	**Material**	**Filling**	**Coating thickness x length [b2 x c]**
COPPER PIPES	Larger than the diameter of the pipe by 2x50mm	≤ 6,0 mm	copper	Mineral wool with a density of min. 150 kg/m3	1mm x 500mm
		≤ 54,0 mm	copper		1mm x 500mm
		≤ 88,9 mm	copper		1mm x 500mm
	Larger than the diameter of the pipe by 2x20mm	≤ 6,0 mm	copper	Concrete mortar	1mm x 500mm
		≤ 54,0 mm	copper		1mm x 500mm
		≤ 88,9 mm	copper		1mm x 500mm

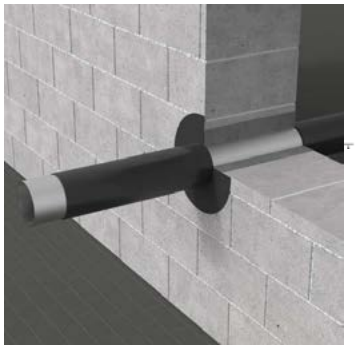
	Filling	**Intumescent paint**
ELECTRIC CABLES (SINGLE / IN BUNDLE / IN CABLE TRAYS)	Mineral wool with a density of min. 150kg / m3, 60mm thickness, painted with INTU FR COAT A ablative paint (or INTU FR BOARD A) both sides of the wall	Thickness min 1mm Length 300 mm from the partition

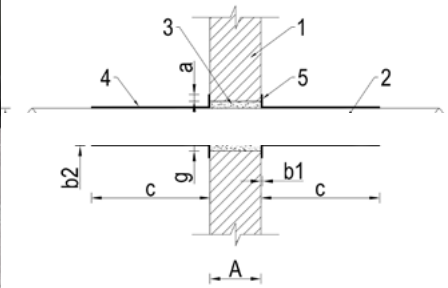
FIRE RESISTANCE CLASSIFICATION					
	Filling	**DN**	**EI Flexible wall**	**EI Wall**	**EI Floor**
STEEL PIPES	Mineral wool with a density of min. 150 kg/m3	≤ 42,4 mm	EI 120	EI 180	EI 240
		≤ 108,0 mm	EI 120	EI 120	EI 120
		≤ 159,0 mm	-	EI 60	EI 180
		≤ 219,0 mm	-	-	EI 90
	Concrete mortar	≤ 42,4 mm	EI 90	EI 240	EI 240
		≤ 108,0 mm	EI 60	EI 240	EI 180
		≤ 159,0 mm	-	EI 60	EI 120
		≤ 219,0 mm	-	EI 60	EI 90
COOPER PIPES	Mineral wool with a density of min. 150 kg/m3	≤ 6,0 mm	-	EI 120	EI 240
		≤ 54,0 mm	-	EI 90	EI 240
		≤ 88,9 mm	-	-	EI 180
	Concrete mortar	≤ 6,0 mm	-	EI 120	EI 240
		≤ 54,0 mm	-	EI 120	EI 180
		≤ 88,9 mm	-	-	EI 120

	Filling	**Intumescent paint**		
ELECTRIC CABLES (also IN TRAYS)	Single cable	Ø ≤ 21mm	EI 120	EI 120*
	Single cable	Ø ≤ 80mm	EI 120	-
	Bundle of cables (made of single cable Ø ≤ 21mm)	Ø ≤ 100mm	EI 120	EI 120*

* Outside ETA, the results acc. to fire test report

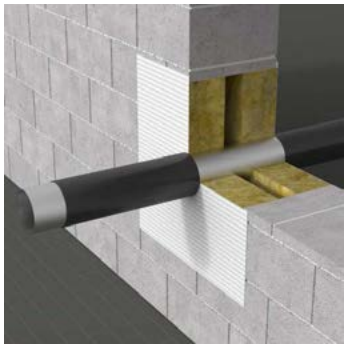
SOLUTION DETAILS – NON-FLAMMABLE PIPES

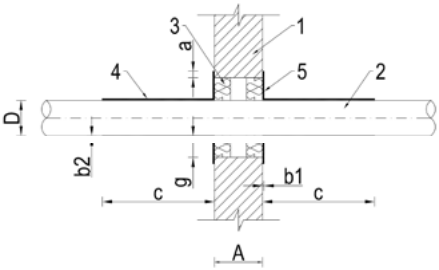




Penetration with mortar filling

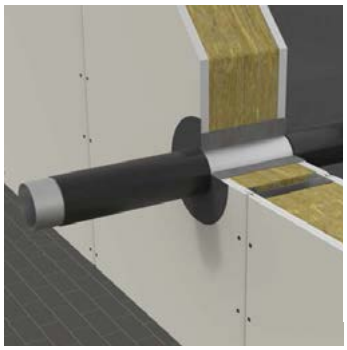
1 – a partition (wall or floor) with a thickness of A≥150mm
2 – non-flammable pipe
3 – concrete mortar filling g<20mm
4 – INTU FR COAT I intumescent paint b2≥1mm; c≥500mm;
5 – INTU FR COAT I intumescent paint, a≥10mm; b1≥1mm;

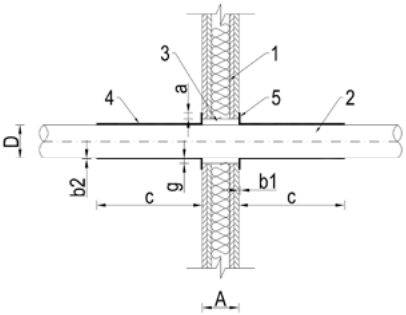




Transition with mineral wool filling

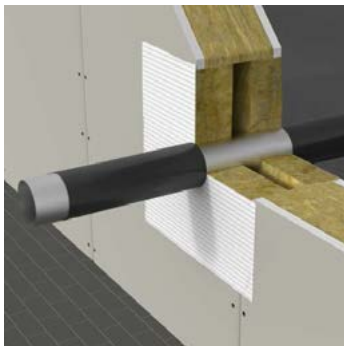
1 – a partition (wall or floor) with a thickness of A≥150mm
2 – non-flammable pipe
3 – mineral wool filling with a density of min. 150 kg/m3, thickness min. 60 mm, g≤50mm
4 – INTU FR COAT I intumescent paint b2≥1mm; c≥500mm;
5 – INTU FR COAT A ablative paint, a≥10mm; b1≥1mm;

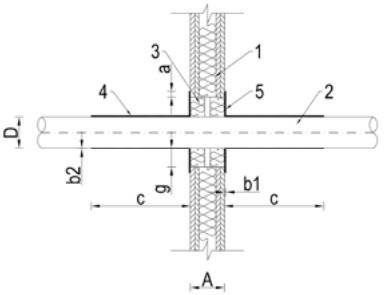




Penetration with mortar filling

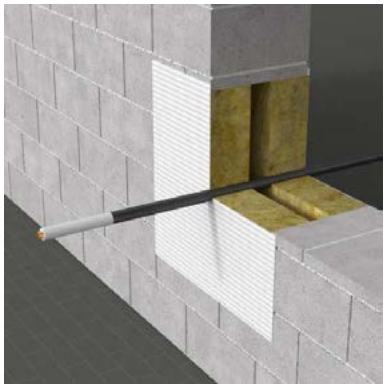
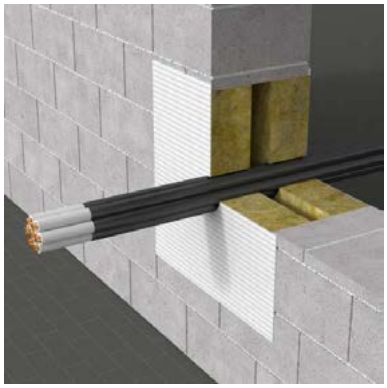
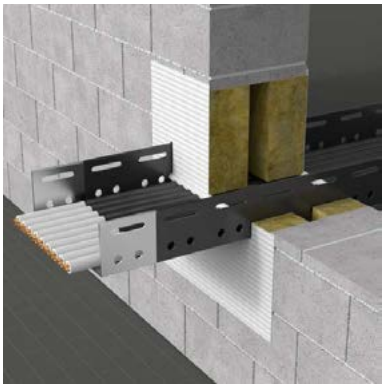
1 – flexible wall, thickness of A≥125mm
2 – non-flammable pipe
3 – concrete mortar filling g<20mm
4 – INTU FR COAT I intumescent paint b2≥1mm;
c≥500mm;
5 – INTU FR COAT I intumescent paint, a≥10mm; b1≥1mm;

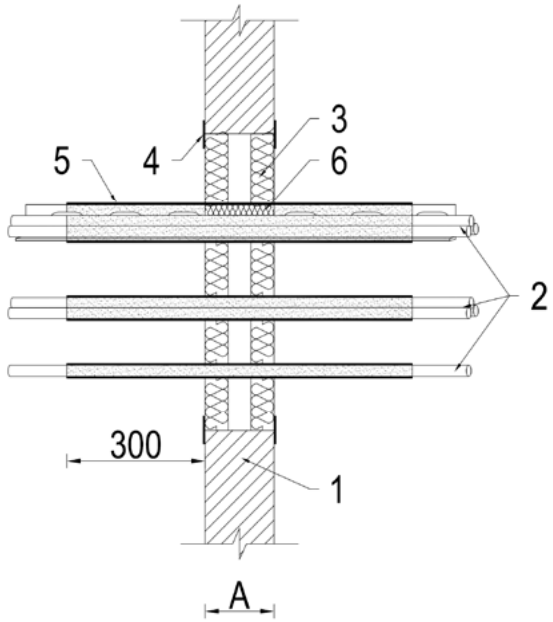


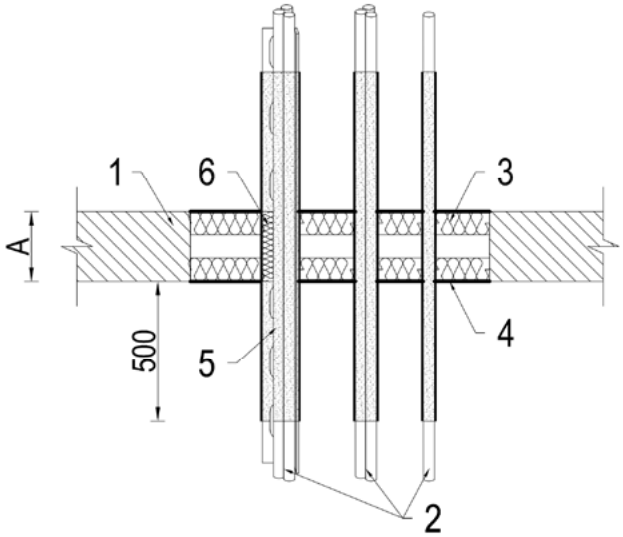


Transition with mineral wool filling
1 – flexible wall. thickness A≥125mm
2 – non-flammable pipe
3 – mineral wool filling with a density of min. 150 kg/m3, thickness min. 60 mm, g≤50mm
4 – INTU FR COAT I intumescent paint b2≥1mm; c≥500mm;
5 – INTU FR COAT A ablative paint, a≥10mm; b1≥1mm;

ELECTRIC CABLES





Penetration seal of electric cables in wall

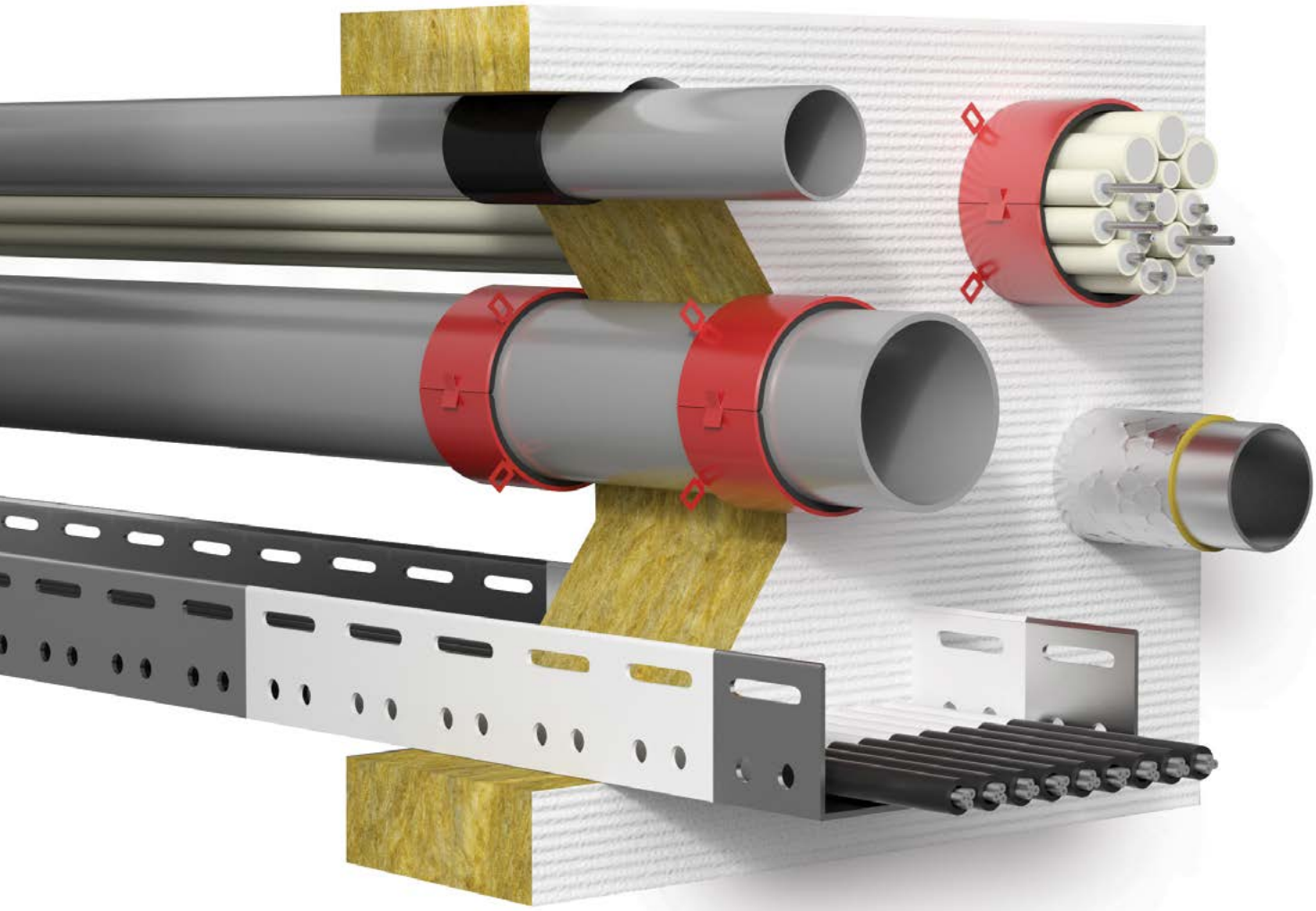
1 – a partition (wall) with a thickness of A≥150mm
2 – single cable / bundle of cables / cable trays
3 – mineral wool filling with a density of min. 150 kg/m3, thickness min. 60 mm, g≤50mm painted ablative paint INTU FR COAT A (or INTU FR BOARD A)
4 – INTU FR COAT A ablative paint on combining wool with a barrier, dry layer thickness min 1mm, overlapping the 10mm partition
5 – INTU FR COAT I intumescent paint on the length of min 300mm from the partition, thickness of 1mm.
6 – gaps filled with loose mineral wool and intumescent acrylic mastic INTU FR MASTIC

Penetration seal of electric cables in floor

1 – a partition (floor) with a thickness of A≥150mm
2 – single cable / bundle of cables / cable trays
3 – mineral wool filling with a density of min. 150 kg/m3, thickness min. 60 mm, g≤50mm painted ablative paint INTU FR COAT A (or INTU FR BOARD A)
4 – INTU FR COAT A ablative paint on combining wool with a barrier, dry layer thickness min 1mm, overlapping the 10mm partition
5 – INTU FR COAT I intumescent paint on the length of min 500mm from the partition, thickness of 2mm.
6 – gaps filled with loose mineral wool and intumescent acrylic mastic INTU FR MASTIC

INTU FR BOARD A

FIRE RATED ABLATIVE BOARD



EI 240

non-combustible pipes

mixed services penetrations

linear joint seals

PRODUCT DESCRIPTION

Firestop board INTU FR BOARD A is composed of a mineral wool board with a density of 150kg/m3 and a thickness of 60mm, 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.

COMPLIANCE:

• Reference standard:
penetration seals:
EN 1366-3 / ETAG 026-2 /
EAD 350454-00-1104
linear joint seals:
EN 1366-4 / ETAG 026-3 /
EAD 350141-00-1106
• DoP 5/2019
• Penetration seals: ETA 19/0038;
Linear joint seals: ETA 19/0037
• Penetration seals: CoC 1488-CPR-0756/W
Linear joint seals: CoC 1488-CPR-0763/W
• TDS
• SDS

APPLICATION

INTU FR BOARD A is used for:
• fire protection of penetrations with single non-flammable pipes or groups 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 in walls
Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3

INSTALLATION METHOD

1. Prior to sealing, clean the hole surface and system components from grease and other contaminants thoroughly.
2. Cut the INTU FR BOARD A to the correct size.
3. Place the INTU FR BOARD A in the hole/gap.
4. In the case of non-flammable pipes:
a) mineral wool insulation with a density of min 50kg/m3 should be placed.
b) all gaps between system components and the junction of the partition with mineral wool should be filled with INTU FR COAT A.
5. In the case of expansion joints, cover the mineral wool board with INTU FR COAT A ablative paint on one side of the partition. Prepare a partition overlap min 5mm.

AVAILABILITY

Pno.	Type	MOQ	Unit
INBA601SI	1200X600X60 Coated one side	1	PCS

INTU FR GUARD

FIRE RETARDANT IMPREGNATE

EUROPEAN TECHNICAL APPROVAL

fabrics

PRODUCT DESCRIPTION

The impregnate INTU FR GUARD is intended for fire protection of fabrics, decorations and clothing not exposed to wetting. The product gives cotton, wool, polyester, polyamide and decorative mosses a non-flammability feature. INTU FR GUARD has the form of a white-gray powder granulate. The impregnate is used in the form of an aqueous solution. It contains phosphorus and ammonium compounds and surfactants that help wetting impregnated fabrics.

COMPLIANCE:

- DoP 14/2019
- Fire classification: 01928/18/Z00NZP
- Fire classification: 02957/19/Z00NZP
- TDS
- SDS

APPLICATION

- Schools, kindergartens,
- Public administration buildings,
- Residential buildings, companies,
- Theaters, cinemas, hotels,
- Congress centers,
- Shopping centers
- Other objects

INSTALLATION METHOD

Preparation for impregnation:
INTU FR GUARD LIQUID - is a ready to use preparation containing phosphorus and ammonium compounds and surfactants that help wetting impregnated fabrics. The works should be carried out in the temperature range 15-30°C. INTU FR GUARD GRANULATE – the product should be poured gradually into heated water up to approx. 50°C in the proportion of 1kg of impregnate to 4 liters of water – stirring constantly, until the granules dissolve completely. The solution should be prepared a few hours before use.
Impregnation:
- Method of bath - the expanded fabric should be immersed in impregnation for a period of 5 minutes. After removal, the fabric dried. You can not impregnate materials rolled into bales.
- Spray or lubrication method - fabrics that can not be soaked (carpers, pavements, decorative mosses) are impregnated by spraying or lubricating the fabric for complete hydration.

Drying fabrics after impregnation:
Impregnated fabrics should be dried at room temperature. The process can be accelerated by raising the temperatureto max 50° C.
Cleaning fabrics after impregnation:
After washing or soaking the fabric should be impregnated again because the impregnation is washable.

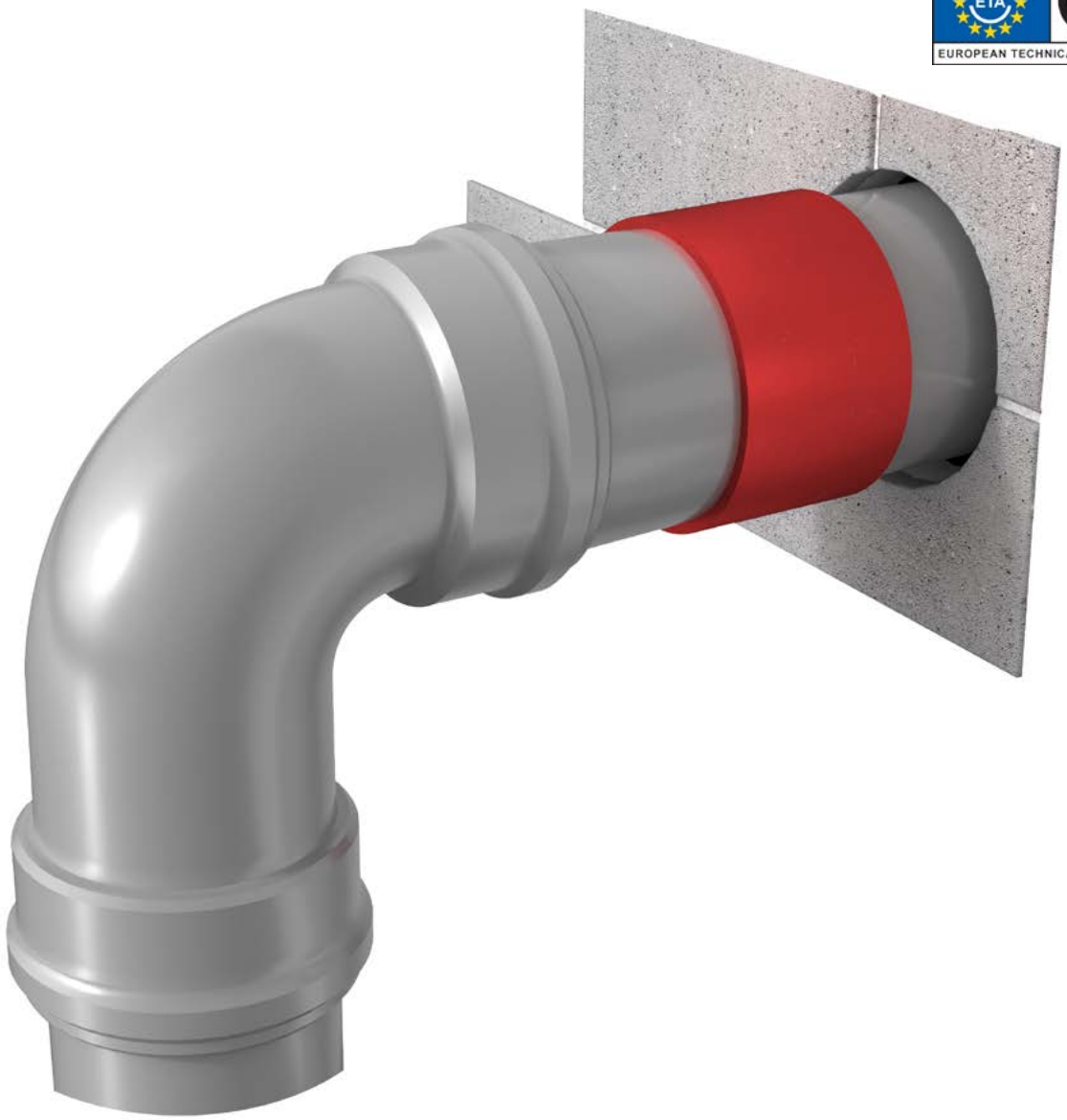
AVAILABILITY

Pno.	Type	MOQ	Unit
INGU500ML	500ml spray	25	BOX (25 pcs)
INGU5L	5L liquid	1	PAIL
INGU1G	0,8 kg granulate	1	PAIL
INGU8G	6,4 kg granulate	1	PAIL

Type of fabric	Approximate intake g / m2
Wool	100 ÷ 140
Cotton	50 ÷ 60
Polyamide	15 ÷ 30
Polyester	10 ÷ 40
Moss	150 ÷ 170

INTU FR WRAP

INTUMESCENT PIPE WRAP



up to
EI 240

140°C

combustible
pipes

non-combustible
pipes with
flammable insulation

mixed services
penetrations

PRODUCT DESCRIPTION

Firestop wrap INTU FR WRAP is made of graphite-based material. The material swells under the influence of high temperature (about 140°C), and fills the entire space created after burned flammable installations.

COMPLIANCE:

• Reference standard:
EN 1366-3 / ETAG 026-2 /
EAD 350454-00-1104
• ETA-18/0593
• DoP 1/2019
• CoC 1488-CPR-0722/W
• TDS
• SDS

APPLICATION

INTU FR WRAPS are used for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE, PEX/Al/PEX, PE-RT/Al/PE-RT, PP-R/Al/PP-R, PP-R GLASS) running through fire partitions.
• protection of flammable pipes
• fire resistance up to 240 minutes
• availability: from 32mm to 200mm
• high swelling ratio
• ideal for installation in very tight spaces

Rigid walls: The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors: The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3
Flexible walls: The wall must be at least 125mm thick and have a steel profile structure covered on both sides with a minimum of 2 layers of boards with a thickness of 12.5mm.

AVAILABILITY

Pno.	Type	MOQ	Unit
INWR32	32	50	BOX (50pcs)
INWR40	40	50	BOX (50pcs)
INWR55	55	50	BOX (50pcs)
INWR63	63	50	BOX (50pcs)
INWR75	75	50	BOX (50pcs)
INWR82	82	50	BOX (50pcs)
INWR90	90	40	BOX (40pcs)
INWR110	110	40	BOX (40pcs)
INWR125	125	30	BOX (30pcs)
INWR160	160	20	BOX (20pcs)
INWR200	200	20	BOX (20pcs)

FIRE RESISTANCE CLASSIFICATION												
IN WALL 150 mm	DIAMETER	32mm	40mm	50mm	55mm	63mm	75mm	90mm	110mm	125mm	160mm	200mm
	PVC-U, PVC-C	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 120
	PP	EI 240	EI 240	EI 240	EI 180	EI 180	EI 180	EI 180	EI 180	EI 120	EI 120	EI 60
	HDPE, PE	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 120	EI 120	EI 120	EI 120	EI 90
	PEX/AL/PEX	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x	x	x
	PE-RT/AL/PE-RT	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	x	x	x	x	x
	PP-R/AL/PP-R	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 240	x	x	x
	PP-R GLASS	EI 120	EI 120	EI 120	EI 120	EI 120	EI 240	EI 120	EI 120	x	x	x
	PP-R	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x
	PE-Xa	EI 240	EI 120	EI 120	EI 120	EI 120	EI 180	x	x	x	x	x

FIRE RESISTANCE CLASSIFICATION											
IN FLOOR 150 MM	**DIAMETER**	**32mm**	**40mm**	**50mm**	**55mm**	**63mm**	**75mm**	**90mm**	**110mm**	**125mm**	**160mm**	**200mm**
	PVC-U, PVC-C	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240
	PP	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 120	EI 120	EI 45
	HDPE, PE	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 120
	PEX/AL/PEX	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	x	x	x	x	x
	PE-RT/AL/PE-RT	EI 240	EI 180	EI 180	EI 180	EI 180	EI 180	x	x	x	x	x
	PP-R/AL/PP-R	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	x	x	x
	PP-R GLASS	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	EI 240	x	x	x
	PP-R	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x
	PE-Xa	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x	x	x	x

FIRE RESISTANCE CLASSIFICATION								
IN FLEXIBLE WALL 125mm	**DIAMETER**	**32mm**	**40mm**	**50mm**	**55mm**	**63mm**	**75mm**	**90mm**	**110mm**
	PVC-U, PVC-C	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120
	PP	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120
	HDPE, PE	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120
	PEX/AL/PEX	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x
	PE-RT/AL/PE-RT	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x
	PP-R/AL/PP-R	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120
	PP-R GLASS	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120
	PP-R	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120	EI 120
	PE-Xa	EI 120	EI 120	EI 120	EI 120	EI 120	x	x	x

* Outside of ETA, result based on the test report.

FIRE RESISTANCE CLASSIFICATION FOR FLAMABLE PIPES WITH NON-FLAMABLE INSULATION									
PP-R in mineral wool	**Partition**	**INSULATION mineral wool**	**Material**	**Ø20**	**Ø32**	**Ø40**	**Ø50**	**Ø63**	**Ø75**
	Flexibile Wall	20	PP-R	EI 120	x	x	x	x	x
	Flexibile Wall	30		x	EI 120	EI 120	EI 120	EI 120	EI 120
	Floor	20		EI 120	x	x	x	x	x
	Floor	30		x	EI 120	EI 120	EI 120	EI 120	EI 120

FIRE RESISTANCE CLASSIFICATION FOR NON-FLAMABLE PIPES WITH FLAMABLE INSULATION						
Cooper pipes in synthetic rubber Insulation	**Partition**	**INSULATION mineral wool**	**Material**	**Ø15**	**Ø54**	**Ø108**
	Wall	9	Copper	EI 180	EI 240	EI 30
	Wall	50		EI 180	EI 120	EI 60
	Floor	9		EI 240	EI 120	x
	Floor	50		EI 240	EI 180	x
	Flexibile Wall	9		EI 120	x	x
	Flexibile Wall	50		EI 120	EI 90	x

FIRE RESISTANCE CLASSIFICATION FOR A BUNDLE OF COOPER PIPES

	Partition	Type	EI	Numbers of wrap
Cooper pipes with insulation PE, FEF	Wall, Flexibile Wall, Floor	Copper in PE (1,2" i 7,8")+cable 4x1,5mm2 + PVC Ø 25	120	2
		Copper in FEF (1,2" i 7,8")+cable 4x1,5mm2 + PVC Ø 25	120	2
	Wall	Copper in PE (1,4" i 5,8")+cable Ø21mm + PP Ø 25	120	4
	Floor	Copper in PE (1,4" i 5,8")+cable Ø21mm + PP Ø 32	240	4

FIRE RESISTANCE CLASSIFICATION FOR NON-FLAMABLE PIPES WITH FLAMABLE INSULATION FEF

	Partition	THICKNESS FEF (mm)	Material	Ø28x1,5	Ø66,7x1,5	Ø108x2	Ø168,3x4	Ø219x4	Ø355,6x5,6
Steel pipes in synthetic rubber insulation	PVC-U, PVC-C	9	steel	EI 120	EI 120	x	x	x	x
	PP	25		EI 120	EI 120	EI 120	x	x	x
	HDPE, PE	50		x	EI 120	EI 120	EI 120	EI 120	EI 120
	PEX/AL/PEX	9		EI 120	EI 120	x	x	EI 60	x
	PE-RT/AL/PE-RT	25		EI 120	EI 120	EI 120	x	x	x
	PP-R/AL/PP-R	50		x	EI 120	EI 120	EI 120	EI 90	EI 90
	PP-R GLASS	9		EI 120	EI 60	EI 30	x	x	x
	PP-R	25		EI 120	EI 120	EI 60	x	x	x
	PE-Xa	50		x	EI 90	EI 90	x	x	x

FIRE RESISTANCE CLASSIFICATION FOR NON-FLAMABLE PIPES WITH FLAMABLE INSULATION FEF

	Partition	THICKNESS PE (mm)	Material	42,4mm	88,9mm	108mm
Steel pipes in synthetic rubber insulation	Floor	20	steel	EI 120	x	x
	Floor	25		x	EI 120	EI 60

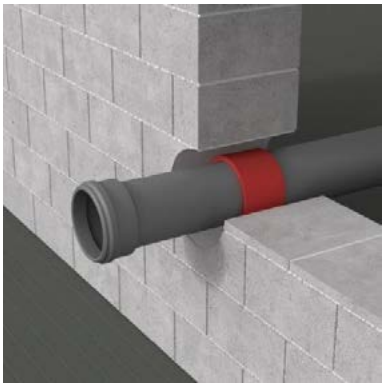
FIRE RESISTANCE CLASSIFICATION FOR FLAMABLE PIPES WITH FEF

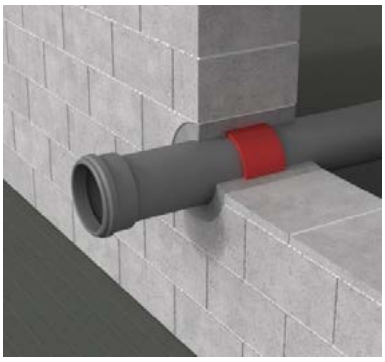
TYPE	Ø	THICKNESS RUBBER (mm)	PARTITION	EI
HDPE	110	9	wall	240
		13	wall	120
	160	13	wall	90
PP	110	9 - 13	wall	120
	160	13	wall	120
PP-R GLASS	110	9	wall	120
PP-R	110	9	wall	120
HDPE	110	9 - 13	floor	120
	160	13	floor	90
	160	23	floor	120
PP	110	9	floor	120
	160	13	floor	60
PP-R GLASS	110	9	floor	120
PP-R	110	9	floor	120

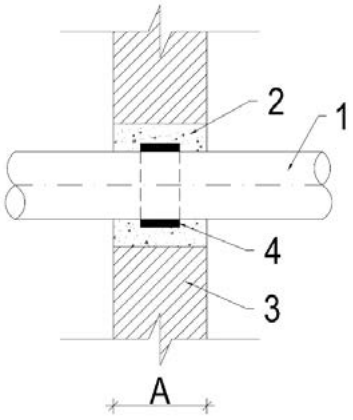
FIRE RESISTANCE CLASSIFICATION FOR FLAMABLE PIPES WITH FEF				
TYPE	**Ø**	**TUBOLIT DG (mm)**	**PARTITION**	**EI**
PP	75	9	wall	120
	110	13	wall	60
PP-R GLASS	20	9	wall	120
	50	9	wall	120
PEX/AL/PEX	20	9	wall	120
	32	9	wall	120
PE-RT/AL/PE-RT	20	9	wall	120
	32	9	wall	120
PP	75	9	floor	240
PP-R GLASS	20	9	floor	120
	50	13	floor	120
PEX/AL/PEX	20	9	floor	120
	32	9	floor	120
PE-RT/AL/PE-RT	20	9	floor	120
	32	9	floor	120

INSTALLATION METHOD IN WALL

USED TYPE OF THE WRAP MUST BE COMPATIBLE WITH FIRE CLASSIFICATION.





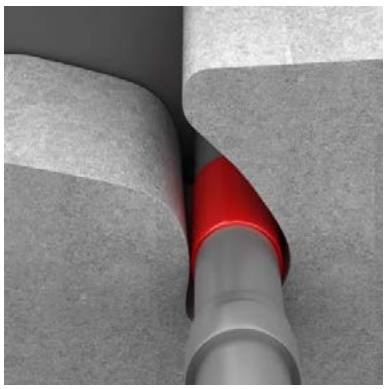


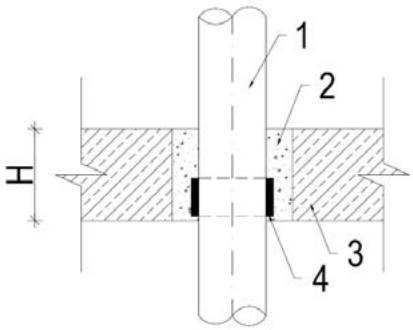
A single pipe in a wall

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

INSTALLATION METHOD IN FLOOR

USED TYPE OF THE WRAP MUST BE COMPATIBLE WITH FIRE CLASSIFICATION.

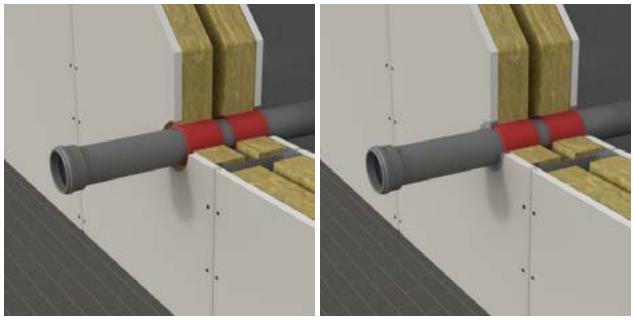


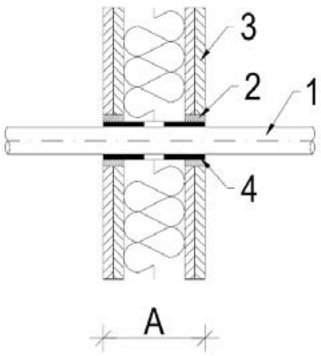


A single pipe in a floor
1 – flammable pipe
2 – cement mortar filling
3 – floor
4 – INTU FR WRAP installed 1cm from the floor bottom

INSTALLATION METHOD IN FLEXIBLE WALL

USED TYPE OF THE WRAP MUST BE COMPATIBLE WITH FIRE CLASSIFICATION.





A single pipe in a drywall

1 – flammable pipe
2 – cement mortar filling
3 – drywall
4 – 2 x INTU FR WRAP installed next to each other

PRODUCT SPECIFICATION

Wrap type	Art. No.	Number of inserts in a wrap [pcs.]	Insert dimensions		
			Thickness [mm]	Width [mm]	Length [mm]
32mm	INWR32	1	2,0	60	110
40mm	INWR40	1	2,0	60	135
55mm	INWR55	1	2,0	60	183
63mm	INWR63	1	2,0	60	210
75mm	INWR75	1	2,0	60	245
82mm	INWR82	2	2 x 2,0	60	268/280
110mm	INWR110	2	2 x 2,0	60	355/365
125mm	INWR125	4	4 x 2,0	100	402/413/425/438/452
160mm	INWR160	5	5 x 2,0	100	510/525/540/550/565
200mm	INWR200	8	8 x 2,0	100	640/655/665/680/690/700/710/725

INTU FR WRAP L

INTUMESCENT PIPE ROLL

up to EI 240

140°C

easy to use

combustible pipes

non-combustible pipes with flammable insulation

mixed services penetrations

PRODUCT DESCRIPTION

Firestop tape INTU FR WRAP L is made of graphite-based material. The material swells under the influence of high temperature (about 140°C), and fills the entire space created after burned flammable systems.

COMPLIANCE:

• Reference standard:
EN 1366-3 / ETAG 026-2 /
EAD 350454-00-1104
• DoP 1/2019
• ETA-18/0593
• CoC 1488-CPR-0722/W
• TDS
• SDS

APPLICATION

INTU FR WRAP L is used for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE, PEX/Al/PEX, PE-RT/Al/PE-RT, PP-R/Al/PP-R, PP-R GLASS) running through fire partitions.
It is also possible to protect non-flammable pipes with insulation made of synthetic Armaflex /K-flex or PE foam, penetrating floors or walls.
• protection of flammable and non-flammable pipes insulated with synthetic rubber Armaflex / K-Flex or PE foam
• fire resistance up to 240 minutes
• availability: roll length: 10, 25 or 50 meters; width: 60mm and 100mm
• installation on pipes with large diameters is possible
• easy to cut
• high swelling ratio
• ideal for installation in very tight spaces

Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3
Flexible walls:
The wall must be at least 125mm thick and have a steel profile structure covered on both sides with a minimum of 2 layers of boards with a thickness of 12.5mm.

AVAILABILITY

Pno.	Type	MOQ	Unit
INWRL60X10	60MMX10M	1	BOX (1pcs)
INWRL100X10	100MMX10M	1	BOX (1pcs)
INWRL60X10AT	60MMX10M (AT)	1	BOX (1pcs)
INWRL100X10AT	100MMX10M (AT)	1	BOX (1pcs)
INWRL60X25	60MMX25M	1	BOX (1pcs)
INWRL100X25	100MMX25M	1	BOX (1pcs)
INWRL60X25AT	60MMX25M (AT)	1	BOX (1pcs)
INWRL100X25AT	100MMX25M (AT)	1	BOX (1pcs)

FIRE RESISTANCE CLASSIFICATION

IN WALL

DIAMETER	32mm	40mm	50mm	55mm	63mm	75mm	90mm	110mm	125mm	160mm	200mm
PVC	EI240	EI240	EI240	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120
PP	EI240	EI240	EI240	EI120	EI120	EI120	EI120	EI120	EI60	EI60	EI60
HDPE	EI240	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI90
PEX/AL./PEX	EI120	EI120	EI120	EI120	EI120	EI120	x	x	x	x	x
PE-RT/AL./PE-RT	EI240	EI240	EI240	EI240	EI240	EI240	x	x	x	x	x
PP-R/AL./PP-R	EI240	EI240	EI240	EI240	EI240	EI240	EI240	EI240	x	x	x
PP-R GLASS	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120	x	x	x

IN FLOOR

DIAMETER	32mm	40mm	50mm	55mm	63mm	75mm	90mm	110mm	125mm	160mm	200mm
PVC	EI240	EI240	EI240	EI240	EI240	EI240	EI120	EI120	EI120	EI120	EI120
PP	EI240	EI240	EI240	EI240	EI240	EI240	EI240	EI240	EI90 EI120*	EI90 EI120*	x
HDPE	EI240	EI240	EI240	EI240	EI240	EI240	EI120	EI120	EI120	EI120	EI90 EI120*
PEX/AL./PEX	EI240	EI240	EI240	EI240	EI240	EI240	x	x	x	x	x
PE-RT/AL./PE-RT	EI120	EI120	EI120	EI120	EI120	EI120	x	x	x	x	x
PP-R/AL./PP-R	EI240	EI240	EI240	EI240	EI240	EI240	EI240	EI240	x	x	x
PP-R GLASS	EI240	EI240	EI240	EI240	EI240	EI240	EI240	EI240	x	x	x

IN FLEXIBLE WALL

DIAMETER	32mm	40mm	50mm	55mm	63mm	75mm	90mm	110mm
PVC	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120
PP	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120
HDPE	EI120	EI120	EI120	EI120	EI120	EI120	EI120	EI120

FIRE RESISTANCE CLASSIFICATION for non-flammable pipes with flammable insulation

Steel pipes in synthetic rubber insulation

Partition	INSULATION synthetic rubber	Material	42,4mm	88,9mm	159,0mm	219,0mm
Wall	9mm	steel	EI120	EI240	EI60	EI60
Wall	50mm		EI120	EI120	EI120	EI90
Floor	9mm		EI240	EI120	EI120	EI60
Floor	50mm		EI240	EI120	EI120	EI90
Flexible wall	9mm		EI120	EI90	EI60*	x
Flexible wall	50mm		EI120	EI120	x	x

FIRE RESISTANCE CLASSIFICATION for non-flammable pipes with flammable insulation

Copper pipes in synthetic rubber insulation

Partition	INSULATION synthetic rubber	Material	15mm	54,0mm	108,0mm
Wall	9mm	copper	EI120	EI240	EI60
Wall	50mm		EI120	EI120	EI60
Floor	9mm		EI240	EI120	x
Floor	50mm		EI240	EI120	x
Flexible wall	9mm		EI120	x	x
Flexible wall	50mm		EI120	EI60*	x

FIRE RESISTANCE CLASSIFICATION for a bundle of copper pipes								
Copper pipes in PE foam insulation	Partition	INSULATION PE foam	Material	1/4”	5/8"	bundle (separate wrapping) 1/4” 1/4” 5/8”	bundle (collective wrapping) 1/4” 1/4” 5/8”	Numbers of wrap
	Wall	9mm	copper	EI240	EI120	EI120	EI120	2
	Floor	9mm		EI120	EI120	EI120	EI120	2

FIRE RESISTANCE CLASSIFICATION for a bundle of copper pipes				
Copper pipes in PE foam insulation	Partition	Type	EI	Numbers of wrap
	Wall	Copper in PE (1/4” i 5/8”) + cable Ø 21mm + PP pipe Ø 25mm	EI120*	4
	Floor	Copper in PE (1/4” i 5/8”) + cable Ø 21mm + PP pipe Ø 32mm	EI240*	4

* Outside of ETA, result based on the test report

FIRE RESISTANCE CLASSIFICATION – outside ETA					
TYPE	DN	THICKNESS RUBBER [mm]	PARTITION	EI	Numbers of wrap
HDPE	110	2x9	wall	EI 120	4
PP-R GLASS	110	2x9	wall	EI 120	4
PP-R	110	2x9	wall	EI 120	4
HDPE	110	2x9	floor	EI 120	4
PP	110	2x9	floor	EI 120	4
HDPE	110	2x13	floor	EI 120	4
PP-R	110	2x9	floor	EI 120	4
PP-R GLASS	110	2x9	floor	EI 120	4
HDPE	160	2x23	floor	EI 120	4

Combustible insulated pipes (rubber)*

FIRE RESISTANCE CLASSIFICATION – outside ETA					
TYPE	DN	Tubolit DG Plus [mm]	PARTITION	EI	Numbers of wrap
PP	75	2x9	wall	EI 60	2
PP	110	2x13	wall	EI 60	4
PP	75	2x9	floor	EI 240	2

Combustible insulated pipes (rubber)*

* Outside of ETA, result based on the test report

FIRE RESISTANCE CLASSIFICATION – outside ETA				
TYPE	DN	PARTITION	EI	Numbers of wrap
PP Basalt	110	wall	EI 240	2
PP Basalt	110	floor	EI 90	2

Other combustible pipes*

FIRE RESISTANCE CLASSIFICATION – outside ETA				
TYPE	DN	PARTITION	EI	Numbers of wrap
PP + PP	110	wall	EI 120	2
PP + HDPE	110	floor	EI 120	2
3x HDPE	3x32	wall	EI 240	1
3x HDPE	3x32	floor	EI 120	1

Other combustible pipes next to each other*

FLAMMABLE PIPES

Wrap type [width]	Diameters [mm]	Pipe type	Number of wraps	Amount from a roll 10m [pcs.]
60mm	≤32	PVC, PP, PE, HDPE	1	88,5
	≤40		1	72,4
	≤50		1	59,0
	≤55		1	54,0
	≤63		1	47,5
	≤75		1	40,3
	≤82		2	18,1
	≤90		2	16,6
	≤110		2	13,7
100mm	≤125		4	5,9
	≤160		5	3,7
	≤200		8	1,8

LAYERED FLAMMABLE PIPES

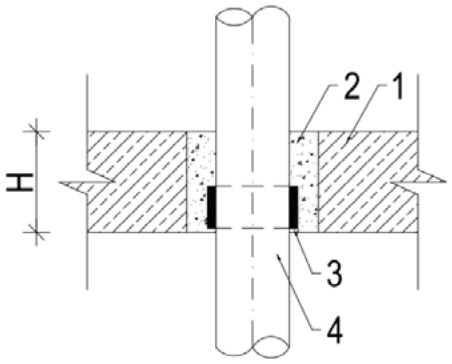
Wrap type [width]	Diameters [mm]	Pipe type	Number of wraps	Amount from a roll 10m [pcs.]
60mm	≤20	PP STABI (Aluminium/Glass)	1	132,7
	≤25		1	109,8
	≤32		1	88,5
	≤40		1	72,4
	≤50		1	59,0
	≤63		1	47,5
	≤75		1	40,3
	≤90		2	16,6
	≤110		2	13,7
60mm	≤20	PEX/AL/PEX	1	132,7
	≤25		1	109,8
	≤32		1	88,5
	≤40		1	72,4
	≤50		1	59,0
	≤63		1	47,5
	≤75		1	40,3
60mm	≤20	PE-RT/AL/PE-RT	1	132,7
	≤25		1	109,8
	≤32		1	88,5
	≤40		1	72,4
	≤50		1	59,0
	≤63		1	47,5
	≤75		1	40,3

NON-FLAMMABLE PIPES IN SYNTHETIC RUBBER INSULATION

Wrap type [width]	Diameters [mm]	Pipe type	Number of wraps	Amount from a roll 10m [pcs.]
60mm	≤159,0 mm	2,0 - 14,2	9	1
			10	2
			13	2
			16	2
			19	2
			25	3
			32	3
			40	4
			50	4

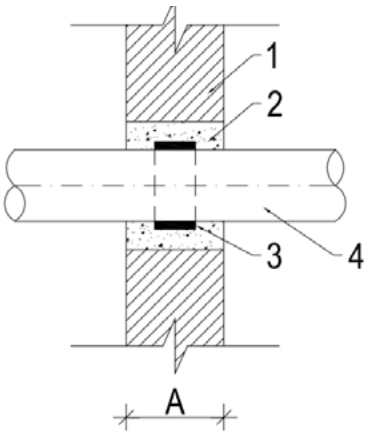
INSTALLATION METHOD – FLAMMABLE PIPES IN MASSONARY WALL

THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.



A single pipe in a floor

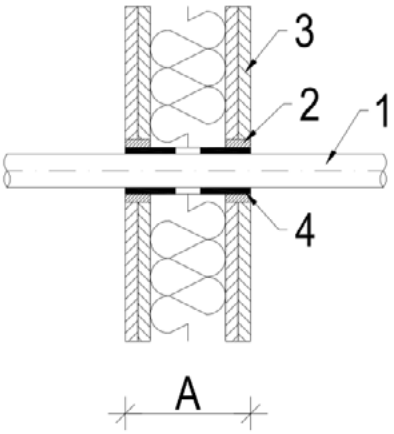
1 – floor
2 – cement mortar filling
3 – INTU FR WRAP L firestop tape max 1 cm above floor
4 – flammable pipe



1 – wall
2 – cement mortar filling
3 – INTU FR WRAP L firestop tape
4 – flammable pipe

INSTALLATION METHOD – FLAMMABLE PIPES IN FLEXIBLE WALL

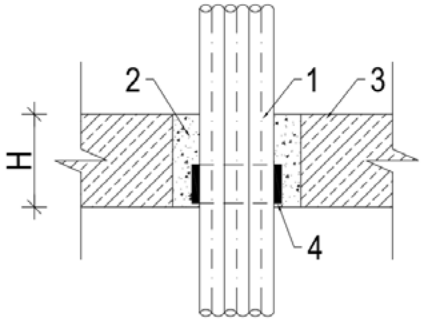
THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.



A single pipe in a drywall
1 – flammable pipe
2 – cement mortar filling
3 – drywall
4 – 2 x INTU FR WRAP L firestop tape flush with the partition

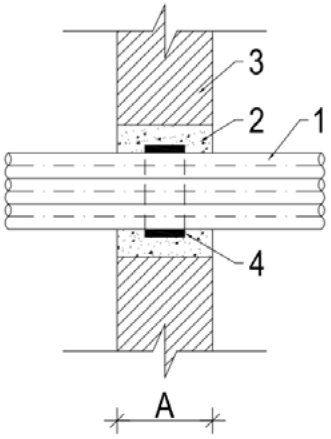
INSTALLATION METHOD – BUNDLE OF FLAMMABLE PIPES

THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.



A bundle of pipes in a floor

1 – a bundle of flammable pipes
2 – cement mortar filling
3 – floor
4 – INTU FR WRAP L firestop tape max 1 cm above bottom of the floor

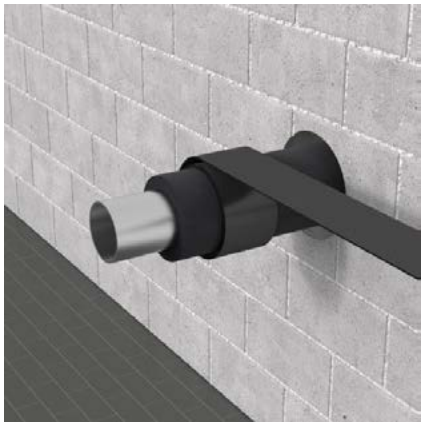


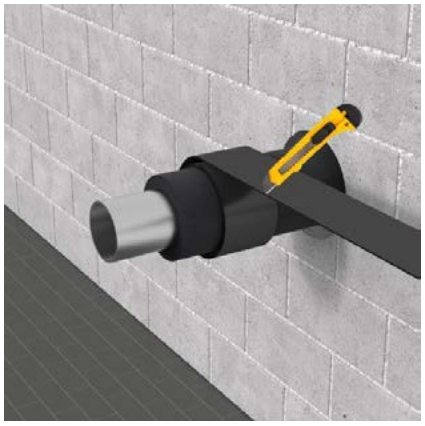
A bundle of pipes in a wall

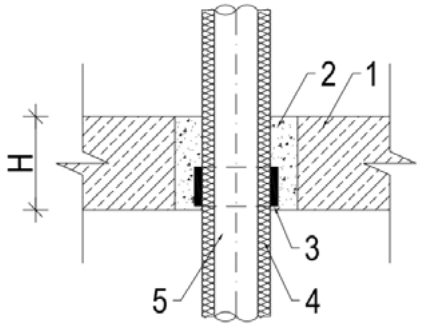
1 – a bundle of flammable pipes
2 – cement mortar filling
3 – wall
4 – INTU FR WRAP L firestop tape

INSTALLATION METHOD – NON-COMBUSTABLE PIPE WITH FLAMMABLE INSULATION IN MASSONARY WALL

THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.

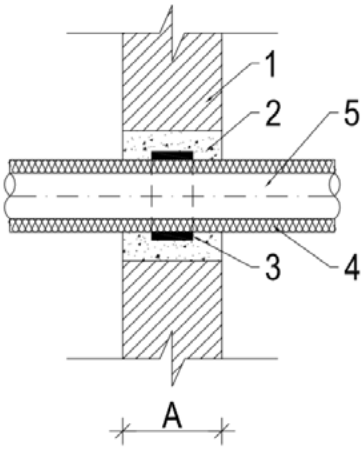






A single pipe with rubber in a floor

1 – floor
2 – cement mortar filling
3 – INTU FR WRAP L firestop tape max 1 cm above floor
4 – rubber (flammable insulation)
5 – non-flammable pipe

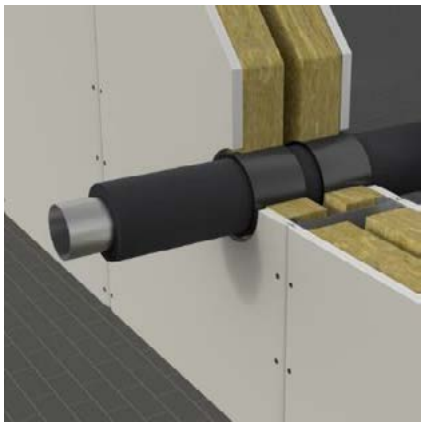


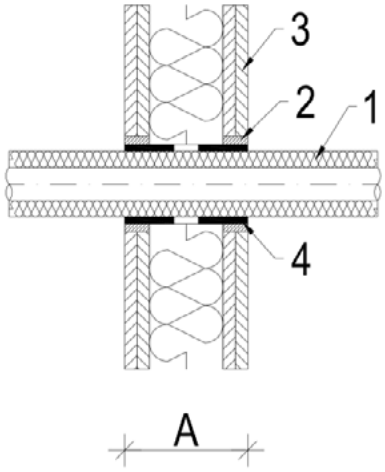
A single pipe with rubber in a wall

1 – wall
2 – cement mortar filling
3 – INTU FR WRAP L firestop tape
4 – rubber (flammable insulation)
5 – non-flammable pipe

INSTALLATION METHOD – NON-FLAMMABLE PIPES WITH FLAMMABLE INSULATION IN FLEXIBLE WALL

THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.





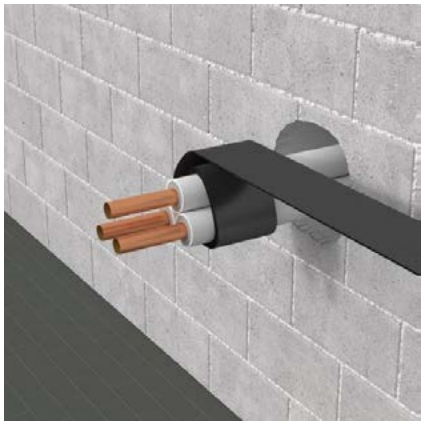
A single pipe with rubber in a drywall

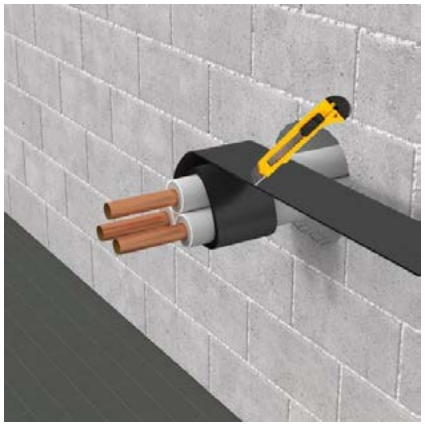
1 – rura niepalna w izolacji palnej
2 – wypełnienie zaprawą cementową
3 – ściana G/K
4 – 2 x INTU FR WRAP L firestop tape flush with the partition

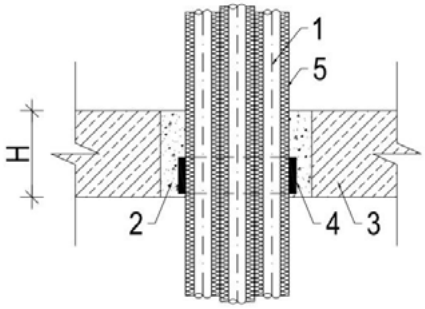
TRANSLATOR

INSTALLATION METHOD – BUNDLE OF COPPER PIPES

THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.







A bundle of copper pipes insulated with PE foam in a floor

1 – a bundle of copper pipes ≤ ø 5/8” in PE foam insulation
2 – cement mortar filling
3 – floor
4 – INTU FR WRAP L firestop tape max 1 cm above floor
5 - PE foam insulation

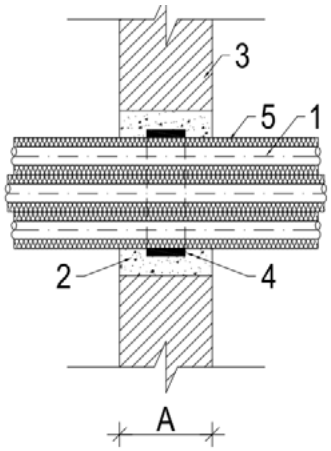
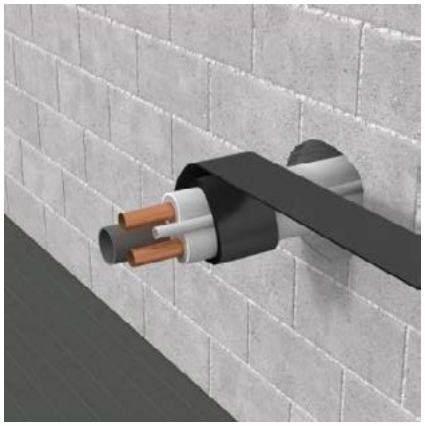


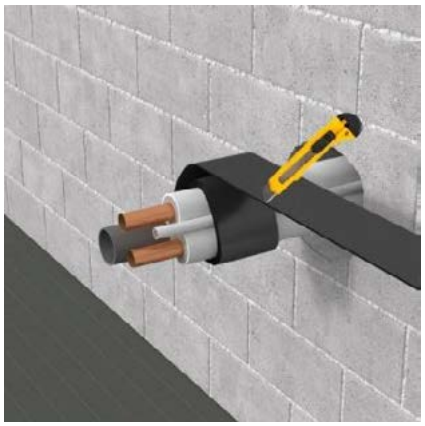
Fig. 10. A bundle of copper pipes insulated with PE foam in a wall

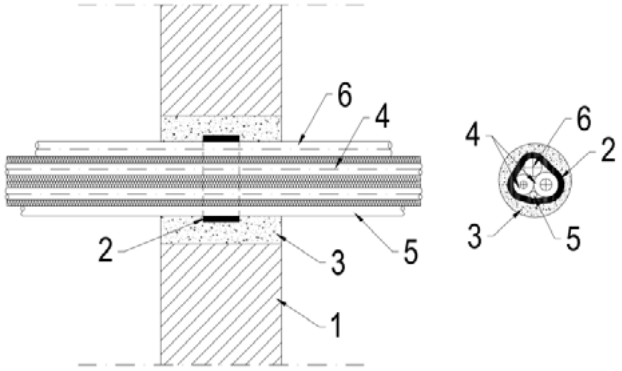
1 – a bundle of copper pipes ≤ ø 5/8” in PE foam insulation
2 – cement mortar filling
3 – wall
4 – INTU FR WRAP L firestop tape
5 - PE foam insulation

INSTALLATION METHOD – BUNDLE OF COPPER / FLAMMABLE PIPES AND CABLES

THE NUMBER OF WRAPS MUST MATCH WITH FIRE CLASSIFICATION.

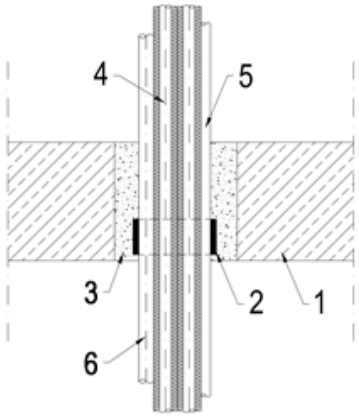






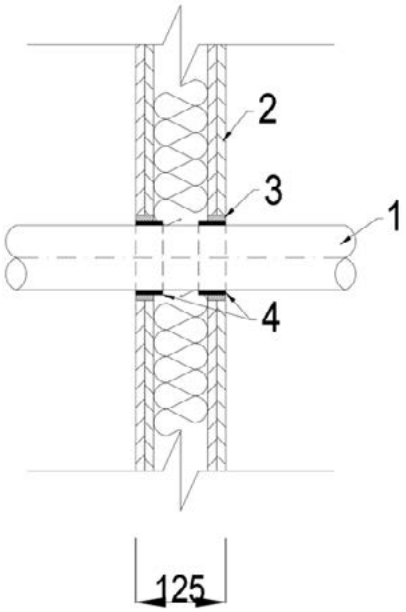
A bundle of copper pipes insulated with PE foam, electric cables, combustible pipe in a wall

1 – wall
2 – INTU FR WRAP L firestop tape
3 – cement mortar filling
4 – a bundle of copper pipes Ø 1/4” and Ø 5/8” in PE foam
insulation
5 – single or bundled electric cable max. Ø21mm
6 – combustible pipe PP max. Ø32mm



A bundle of copper pipes insulated with PE foam, electric cables, combustible pipe in a floor
1 – floor
2 – INTU FR WRAP L firestop tape max 1 cm above floor
3 – cement mortar filling
4 – a bundle of copper pipes Ø 1/4” and Ø 5/8” in PE foam
insulation
5 – single or bundled electric cable max. Ø21mm
6 – combustible pipe PP max. Ø32mm

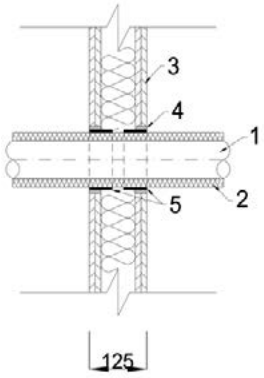
SOLUTION DETAILS – FLEXIBLE WALLS FLAMMABLE PIPE



1 - Combustible pipe
2 - Flexible wall
3 - Cement mortar
4 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø110 x 4,2mm	2	120	
PE-HD Ø90 x 3,5mm	2	120	
PP Ø110 x 2,7mm	2	120	
PP Ø110 x 18,3mm	2	120	
PVC-U Ø110 x 3,2mm	2	120	
PP-R Ø110 x 10,0mm	2	120	
PP-R Ø110 x 18,3mm	2	120	WRAP L 60
PP-R Ø75 x 6,8mm	1	120	
PP-R Ø75 x 12,5mm	1	120	
PP-R Ø20 x 2,3mm	1	120	
PP-R ⍰20 x 3,4mm	1	120	
PP-R/AL/PP-R Ø110 x 15,1mm	2	120	
PP-R/AL/PP-R Ø110 x 18,3mm	2	120	
PP-R/AL/PP-R Ø75 x 10,3mm	1	120	
PP-R/AL/PP-R Ø75 x 12,5mm	1	120	
PP-R/AL/PP-R Ø20 x 2,8mm	1	120	
PP-R/AL/PP-R Ø20 x 3,4mm	1	120	
PP-R/PP-RGF/PP-R Ø110 x 15,1mm	2	120	
PP-R/PP-RGF/PP-R Ø75 x 10mm	1	120	
PP-R/PP-RGF/PP-R Ø75 x 12,5mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 2,8mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 3,4mm	1	120	
PE-RT/Al/PE-RT Ø63 x 6,0mm	1	115	
PE-RT/Al/PE-RT Ø32 x 3,0mm	1	120	
PE-RT/Al/PE-RT Ø20 x 2,0mm	1	120	
PE-X/AL/PE-X Ø63 x 6mm	1	120	
PE-X/AL/PE-X Ø32 x 3mm	1	120	
PE-Xa Ø63 x 5,8mm	1	120	
PE-Xa Ø20 x 2mm	1	120	

SOLUTION DETAILS – FLEXIBLE WALLS FLAMMABLE PIPES IN PE INSULATION

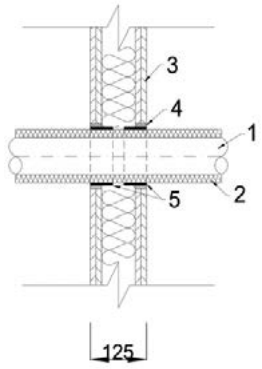


1 - Combustible pipe
2 - PE Insulation
3 - Flexible wall
4 - Cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PP-R/PP-RGF/PP-R Ø50 x 8,9mm + PE 9mm	1	120	
PP-R/PP-RGF/PP-R Ø50 x 6,9mm + PE 9mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 3,4mm + PE 9mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 2,8mm + PE 9mm	1	120	
PE-RT/Al/PE-RT Ø32 x 3,0mm + PE 9mm	1	120	WRAP L 60
PE-RT/Al/PE-RT Ø20 x 2,0mm + PE 9mm	1	120	
PE-X/Al/PE-X Ø32 x 3mm+ otulina PE 9mm	1	120	
PE-X/Al/PE-X Ø20 x 2mm+ otulina PE 9mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 25mm

SOLUTION DETAILS – FLEXIBLE WALL STEEL PIPES IN WOOL INSULATION

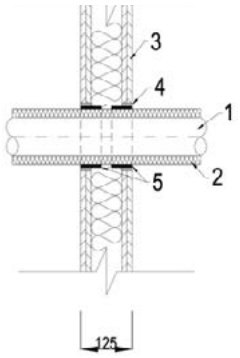


1 - metal pipe with / without heating cable
2 - mineral wool insulation
3 - flexible wall
4- cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
Ø42 x 1,5 mm + lamella 20 x 300	1	120	WRAP L 60
Ø66,7 x 1,5 mm + lamella 30 x 500	1	120	
Ø108 x 2mm + lamella 40 x 600 + heat cable	1	120	
Ø114,3 x 3,6mm + lamella 40 x 600	1	120	
Ø168,3 x 4mm + lamella 50 x 600 + heat cable	1	116	
Ø355,6 x 5,6mm + lamella 50 x 750	1	120	
PE-X/Al/PE-X Ø32 x 3mm+ otulina PE 9mm	1	120	
PE-X/Al/PE-X Ø20 x 2mm+ otulina PE 9mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 25mm

SOLUTION DETAILS – FLEXIBLE WALL STEEL PIPES IN RUBBER INSULATION FEF

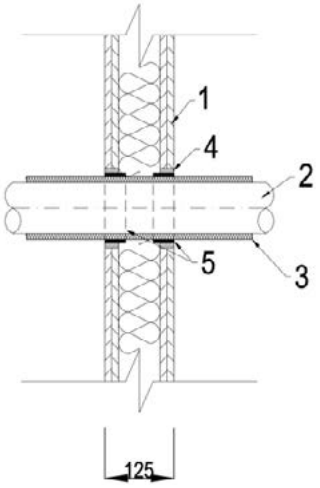


1 - metal tube with / without heating cable
2 - FEF isolation
3 - flexible wall 2x plasterboard
4 - gypsum mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
Ø18 x 1,2 mm + (FEF) gr.9mm	1	120	WRAP L 60
Ø18 x 1,2 mm + (FEF) gr.25mm	2	120	
Ø28 x 1,5 mm + (FEF) gr.9mm	1	120	
Ø28 x 1,5 mm + (FEF) gr.25mm	2	120	
Ø66,7 x 1,5 mm + (FEF) gr.9mm	1	81	
Ø66,7 x 1,5 mm + (FEF) gr.25mm	2	120	
Ø66,7 x 1,5 mm + (FEF) gr.50mm	4	111	
Ø108 x 2 mm + (FEF) gr.13mm + heat cable	2	45	
Ø108 x 2 mm + (FEF) gr.25mm+ heat cable	4	71	
Ø108 x 2 mm + (FEF) gr.50mm+ heat cable	4	112	

The distance of the pipe from the edge of the hole is 10 to 25mm

SOLUTION DETAILS – FLEXIBLE WALL FLAMMABLE PIPES IN WOOL INSULATION

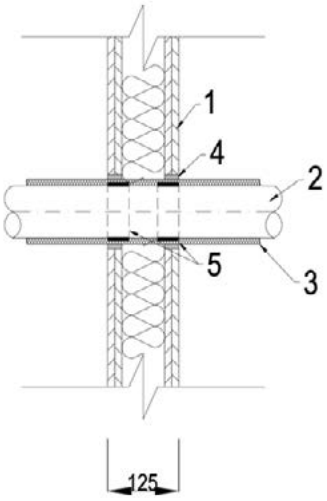


1 - Flexible wall
2 - Flammable pipe
3 - Mineral wool
4 - Cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PP-R Ø75 x 6,8 mm + lamela 30mm	3	120	
PP-R Ø75 x 12,5 mm + lamela 30mm	3	120	WRAP L 60
PP-R Ø20 x 2,3 mm + lamela 20mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 25mm

SOLUTION DETAILS – FLEXIBLE WALL FLAMMABLE PIPES IN WOOL INSULATION

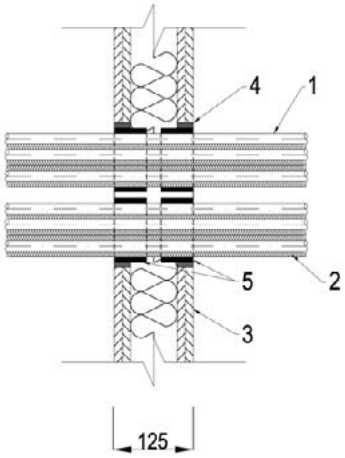


1 - Flexible wall
2 - Flammable pipe
3 - Mineral wool
4 - Cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PP-R Ø75 x 6,8 mm + lamela 30mm	1	120	
PP-R Ø75 x 12,5 mm + lamela 30mm	1	120	WRAP L 60
PP-R Ø20 x 2,3 mm + lamela 20mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 25mm

SOLUTION DETAILS – FLEXIBLE WALL AIR CONDITIONING HARNESS

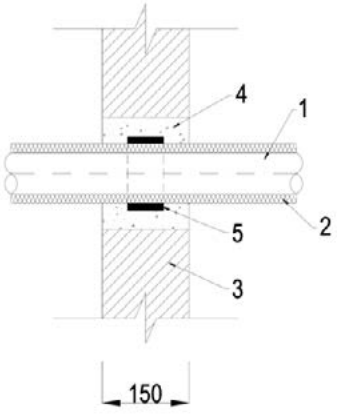


1 - Two bundles
2 - FEF / PE insulation
3 - flexible wall
4 - cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation PE 9mm (TUBOLIT DG PLUS) + PVC-U Ø3/4" x 1,5mm cable 4x1,5mm2	2	88	WRAP L 60
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation FEF 9mm + PVC-U Ø3/4" x 1,5mmcable 4x1,5mm2	2	70	
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation PE 9mm (TUBOLIT DG PLUS) + PVC-U Ø3/4" x 1,5mm cable 4x1,5mm2 + insulation lamella 20 x 200mm	2	120	
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation FEF 9mm + PVC-U Ø3/4" x 1,5mm cable4x1,5mm2 + insulation lamella 20 x 200mm	2	120	

The distance of the pipe from the edge of the hole is 10 to 25mm

SOLUTION DETAILS – MASSIVE WALL STEEL IN WOOL INSULATION

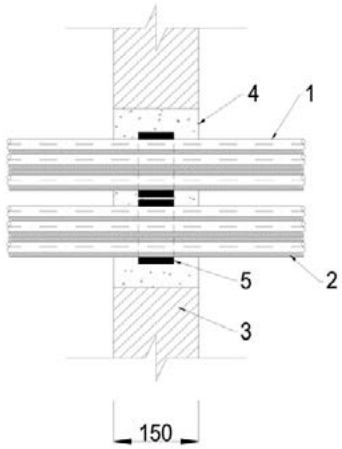


1 - metal pipe with / without heating cable
2 - mineral wool insulation
3 - brick / concrete / reinforced concrete wall
4 - cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
Ø42 x 1,5mm + lamella 20 x 300mm	1	120	WRAP L 60
Ø66,7 x 1,5mm + lamella 30 x 400mm	1	120	
Ø108 x 2mm + lamela 40 x 600mm + heating cable	1	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE WALL AIR CONDITIONING HARNESS

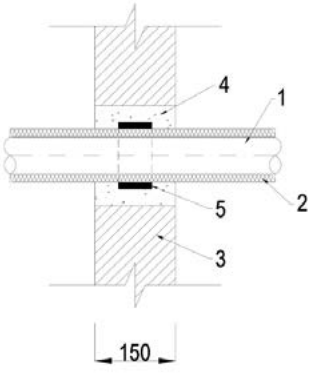


1 - Two bundles
2 - FEF / PE insulation
3 - massive wall
4 - cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation PE 9mm + PVC-U Ø3/4" x 1,5mm cable4x1,5mm2	2	85	WRAP L 60
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation FEF 9mm+ PVC-U Ø3/4" x 1,5mm cable 4x1,5mm2	2	120	
2x cable harness: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation PE 9mm + PVC-U Ø3/4" x 1,5mm cable 4x1,5mm2 + insulation lamella 20 x 200mm	2	120	
Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation PE 9mm + PVC-U Ø3/4" x 1,5mm cable 4x1,5mm2	2	120	

The distance of the pipe from the edge of the hole is 10 to 25 mm

SOLUTION DETAILS – MASSIVE WALL STEEL IN RUBBER INSULATION FEF

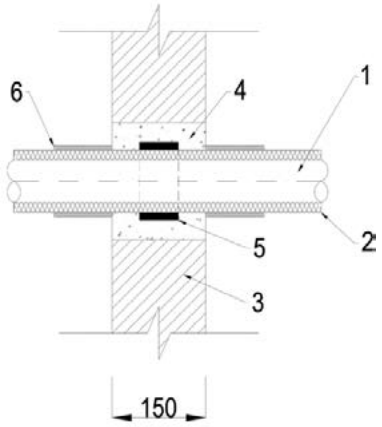


Pipe diameter and material	The number of layers	EI	Product
Ø18 x 1,2 mm + (FEF) gr.9mm	1	120	WRAP L 60
Ø18 x 1,2 mm + (FEF) gr.25mm	2	120	
Ø28 x 1,5 mm + (FEF) gr.9mm	1	120	
Ø28 x 1,5 mm + (FEF) gr.25mm	2	120	
Ø66,7 x 1,5 mm + (FEF) gr.9mm	1	120	
Ø66,7 x 1,5 mm + (FEF) gr.25mm	2	120	
Ø66,7 x 1,5 mm + (FEF) gr.50mm	4	120	
Ø108 x 2 mm + (FEF) gr.25mm + heating cable	2	120	
Ø108 x 2 mm + (FEF) gr.50mm + heating cable	4	120	
Ø168,3 x 4 mm + (FEF) gr.50mm	4	120	

1 - Steel pipe
2 - FEF isolation
3 - massive wall
4 - cement mortar
5 - INTU FR WRAP L

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE WALL STEEL IN RUBBER INSULATION FEF

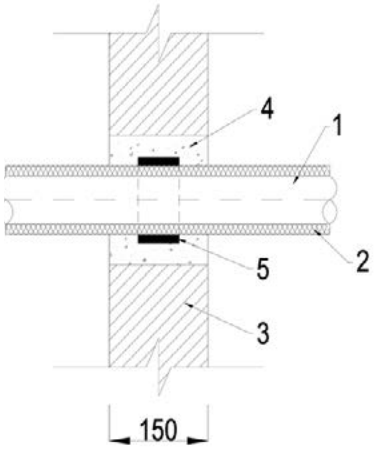


1 - metal pipe
2 - FEF isolation
3 - brick / concrete / reinforced concrete wall
4 - cement mortar
5 - INTU FR WRAP L fireproof tape
6 - additional insulation with wool lamella

Pipe diameter and material	The number of layers	EI	Product
Ø355,6 x 5,6 mm + 50 FEF + lamella 50 x 500 mm	4	120	WRAP L 60
2 x Ø219,1 x 4 mm + 50 FEF + lamella 40 x 500 mm	4	120	

Pipes up to 219.1 mm in diameter with zero distance between insulations
The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE WALL FLAMMABLE PIPES IN PE / FEF INSULATION

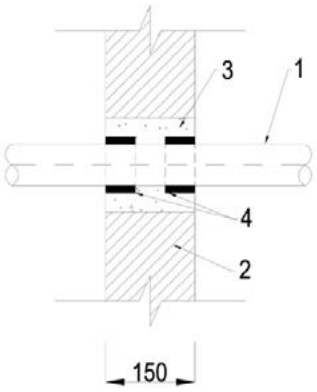


1 - flammable pipe with / without heating cable
2 - PE / FEF insulation
3 - massive wall
4 - cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø160 x 6,2mm heating cable + (FEF) gr.13mm	6	71	WRAP L 100
PE-HD Ø160 x 14,6mm z kablem grzejnym+ (FEF) gr.13mm	6	95	
PE-HD Ø110 x 10mm z kablem grzejnym + (FEF) gr.13mm	3	120	
PE-HD Ø110 x4,2mm z kablem grzejnym + (FEF) gr.13mm	3	120	
PP Ø110 x 2,7mm z kablem grzejnym + (FEF) gr.13mm	3	120	
PP Ø110 x 18,3mm z kablem grzejnym + (FEF) gr.13mm	3	120	
PE-X/Al/PE-X Ø32 x 3mm+ insulation PE 9mm	1	120	
PE-X/Al/PE-X Ø20 x 2mm+ otulina PE 9mm	1	120	WRAP L 60
PP-R/PP-RGF/PP-R Ø50 x 8,3mm + PE 9mm	1	120	
PP-R/PP-RGF/PP-R Ø50 x 6,9mm + PE 9mm	1	120	
PE-RT/Al/PE-RT Ø32 x 3,0mm + PE 9mm	1	120	
PE-RT/Al/PE-RT Ø20 x 2,0mm + PE 9mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 3,4mm + PE 9mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 2,8mm + PE 9mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 50mm

SOLUTION DETAILS – MASSIVE WALL FLAMMABLE PIPES

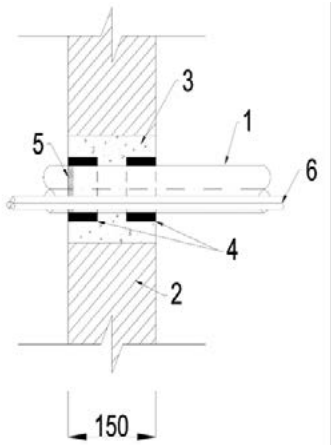


1 - Combustible pipe
2 - Massive wall
3 - Cement mortar
4 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PP Ø160 x 4,9 mm	5	86	WRAP L 60
PP Ø160 x 14,6 mm	5	120	

The distance of the pipe from the edge of the hole is 10 to 50mm

SOLUTION DETAILS – MASSIVE WALL CABLES IN AROT PIPES

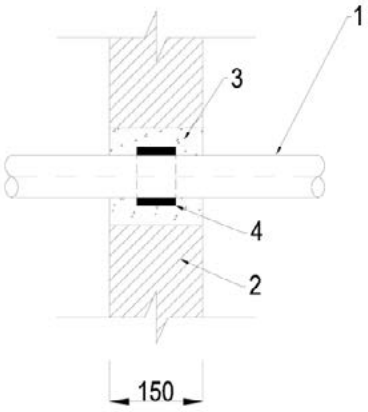


1 - AROT pipe
2 - massive wall
3 - cement mortar
4 - INTU FR WRAP L
5 - weight ALFA FR MASTIC, depth. 15mm
6 - cable, cable harness up to Ø21

Pipe diameter and material	The number of layers	EI	Product
AROT ø 110 + cable, cable harness	2	120	WRAP L 60

AROT can be cut from either side

SOLUTION DETAILS – MASSIVE WALL FLAMMABLE PIPES

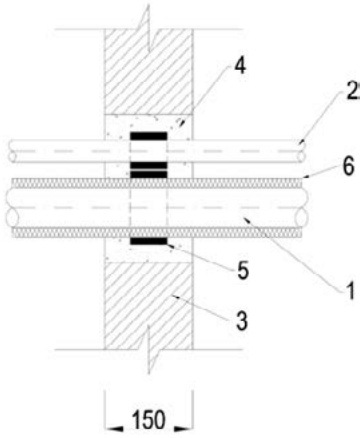


1 - Combustible pipe
2 - Massive wall
3 - Cement mortar
4 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø200 x 7,7mm	8	21	WRAP L 100
PE-HD Ø200 x 11,9mm	8	35	
PE-HD Ø90 x 3,5mm	2	120	
PVC-U Ø110 x 8,1mm	2	120	
PP-R /PP-RGF/PP-R Ø110 x 10,0mm	2	120	
PP-R/PP-RGF/PP-R Ø75 x 10,3mm	1	120	
PP-R/PP-RGF/PP-R Ø75 x 12,5mm	1	120	
PE-RT/Al/PE-RT Ø63 x 6,0mm	1	120	
PP-R Ø110 x 10,0mm	2	120	
PP-R Ø110 x 18,3mm	2	120	
PP-R Ø75 x 6,8mm	1	120	
PP-R Ø20 x 2,3mm	1	120	WRAP L 60
PP-R/AL/PP-R Ø110 x 15,1mm	2	120	
PP-R/AL/PP-R Ø75 x 10mm	1	120	
PP-R/AL/PP-R Ø75 x 12,5mm	1	120	
PP-R/AL/PP-R Ø20 x 3,2mm	1	120	
PP-R/AL/PP-R Ø20 x 3,4mm	1	120	
PE-X/AL/PE-X Ø63 x 6mm	1	120	
PE-X/AL/PE-X Ø32 x 3mm	1	120	
PE-Xa Ø63 x 5,8mm	1	120	
PE-Xa Ø20 x 2mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE WALL FLAMMABLE / NON-FLAMMABLE PIPES IN FEF

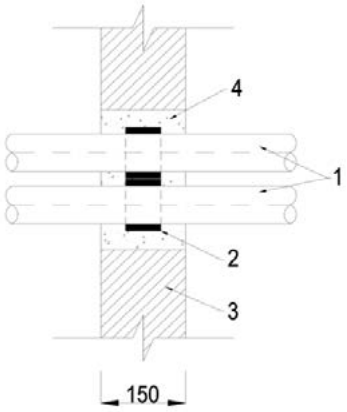


1 - Combustible pipe
3 - Massive wall
4 - Cement mortar
5 - INTU FR WRAP L
6 - FEF insulation;

Pipe diameter and material	The number of layers	EI	Product
Ø168,3 x 4,0mm steel + (FEF)gr. 50mm	4	120	WRAP L 60
Ø110 x 8,1mm PVC	2	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm.
All flammable pipes up to Ø110 at a distance of 0mm from the steel pipes in the FEF

SOLUTION DETAILS – MASSIVE WALL FLAMMABLE PIPES

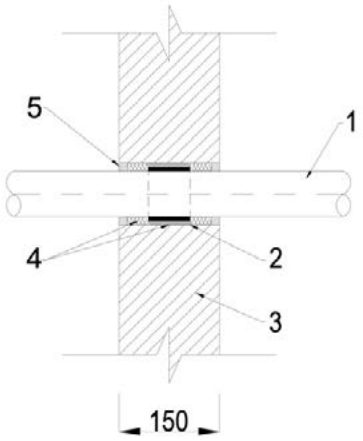


1 - Flammable pipe
2 - INTU FR WRAP L
3 - Massive wall
4 - Cement mortar;

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø110 x 10mm + PVC-U Ø110 x 3,2mm	2	120	WRAP L 60
PE-HD Ø160 x 10mm + PVC-U Ø160 x 4mm	5	120/ 89	WRAP L 100

The distance of the pipe from the edge of the hole is 25 to 100mm.
All combustible pipes up to ⍰110 may be 0mm apart.

SOLUTION DETAILS – MASSIVE WALL FLAMMABLE PIPES

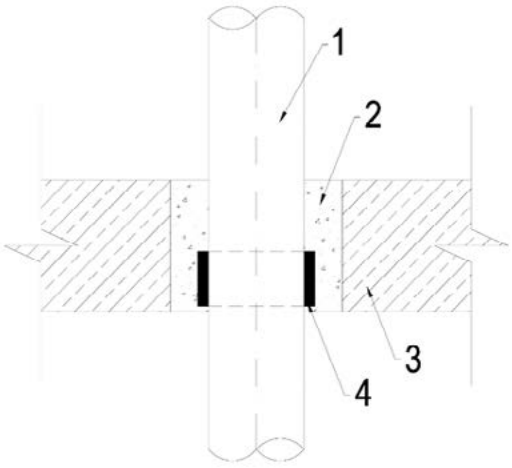


1 - Combustible pipe
2 - INTU FR WRAP L
3 - Massive wall;
4 - Mineral wool 100 kg / m3;
5 - ALFA FR MASTIC, depth 15mm;

Pipe diameter and material	The number of layers	EI	Product
PE-HD Ø110 x 4,2mm	2	120	WRAP L 60
PVC-U Ø110 x 4mm	2	120	
PP Ø110 x 2,7mm	2	92	
PP-R Ø110 x 18,3mm	2	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm

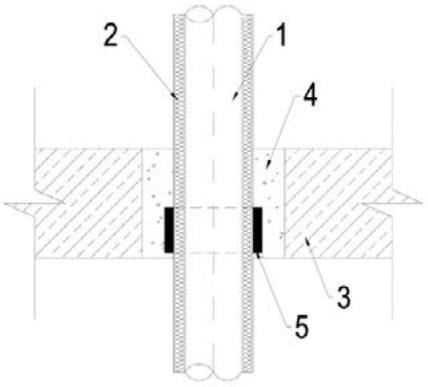
SOLUTION DETAILS – MASSIVE FLOOR FLAMMABLE PIPES



1 - Combustible pipe
2 - Cement mortar
3 - Reinforced concrete ceiling
4 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PP Ø160 x 4,9mm	5	49	WRAP L 100
PP Ø160 x 14,6mm	5	120	
PE-HD Ø90 x 3,5mm	2	120	
PP-R Ø75 x 6,8mm	1	120	
PP-R Ø75 x 12,5mm	1	120	
PP-R Ø110 x 10,0mm	2	120	
PP-R Ø110 x 18,3mm	2	120	
PP-R Ø20 x 2,3mm	1	120	
PP-R Ø20 x 3,4mm	1	120	
PE-Xa Ø20 x 2,0mm	1	120	
PE-Xa Ø63 x 5,8mm	1	120	
PP-R/Al/PP-R Ø110 x 15,1mm	2	120	WRAP L 60
PP-R/Al/PP-R Ø75 x 10,3mm	1	120	
PP-R/PP-RGF/PP-R Ø110 x 12,3mm	2	120	
PP-R/PP-RGF/PP-R Ø20 x 3,4mm	1	120	
PE-X/AL/PE-X Ø63 x 6mm	1	120	
PE-X/AL/PE-X Ø32 x 3mm	1	120	
PE-RT/Al/PE-RT Ø63 x 6mm	1	120	
PP-HT Ø50 x 1,8mm	1	?	
PP-HT Ø75 x 1,9mm	1	?	
PP-HT Ø110 x 2,7mm	2	?	
PP-HT Ø160 x 3,9mm	5	?	WRAP L 100
Magnaplast Ultra dB Ø50 x 1,8mm	1	?	WRAP L 60
Magnaplast Ultra dB Ø110 x 3,4mm	2	?	
Magnaplast Ultra dB Ø160 x 4,9mm	5	?	WRAP L 100

SOLUTION DETAILS – MASSIVE FLOOR FLAMMABLE PIPES IN FEF / PE INSULATION

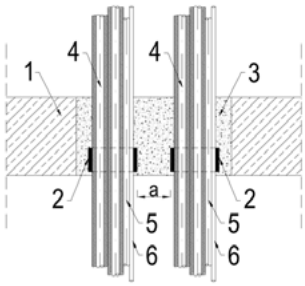


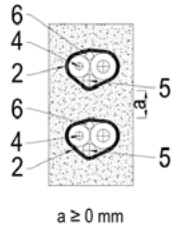
Pipe diameter and material	The number of layers	EI	Product
PP Ø160 x 4,9mm + (FEF) gr.13mm	6	32	WRAP L 100
PP Ø160 x 14,6mm + (FEF) gr.13mm	6	65	
PE HD Ø160 x 6,2mm + (FEF) gr.13mm	6	57	
PE HD Ø160 x 14,6mm + (FEF) gr.13mm	6	91	
PE HD Ø110 x 4,2mm + (FEF) gr.13mm	3	120	
PE HD Ø110 x 10mm + (FEF) + gr.13mm	3	120	
PP-R/PP-RGF/PP-R Ø50 x 6,9mm + PE gr.13mm	1	120	
PP-R/PP-RGF/PP-R Ø50 x 8,3mm + PE gr.13mm	1	120	
PP-R/PP-RGF/PP-R Ø20 x 2,8mm + PE gr.9mm	1	120	WRAP L 60
PE-RT/Al/PE-RT Ø32 x 3mm + PE gr.9mm	1	120	
PE-RT/Al/PE-RT Ø20 x 2mm + PE gr.9mm	1	120	
PE-X/AL/PE-X Ø32 x 3mm + PE gr.9mm	1	120	
PE-X/AL/PE-X Ø20 x 2mm + PE gr.9mm	1	120	

1 - steel pipe
2 - FEF insulation
3 - reinforced concrete ceiling
4 - cement mortar
5 - INTU FR WRAP L

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE FLOOR AIR CONDITIONING IN FEF / PE INSULATION

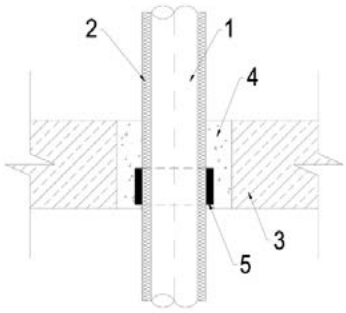




Pipe diameter and material	The number of layers	EI	Pro-duct
2x bundle: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm insulation PE 9mm + PVC-U Ø3/4" x 1,5mm cable 4x1,5mm2	2	120	WRAP L 60
2x wiązka: Cu Ø12,7mm x 0,8mm + Ø22,23mm x 1mm w izolacji FEF 9mm + PVC-U Ø3/4" x 1,5mm kabel 4x1,5mm2	2	120	

1 - Reinforced concrete ceiling
2 - INTU FR WRAP L
3 - Cement mortar
4 - PE / FEF insulation
5 - PVC condensate Ø25
6 - 4 x 1.5mm2 power cable

SOLUTION DETAILS – MASSIVE FLOOR STEEL IN RUBBER INSULATION FEF

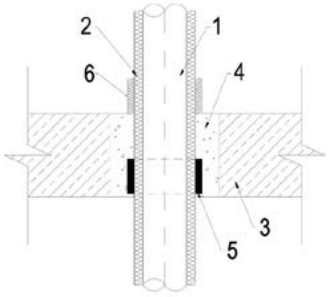


1 - steel pipe
2 - FEF insulation
3 - reinforced concrete ceiling
4 - cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
Ø18 x 1,2 mm + (FEF) gr.9mm	1	120	
Ø18 x 1,2 mm + (FEF) gr.25mm	2	120	
Ø28 x 1,5 mm + (FEF) gr.9mm	1	120	
Ø28 x 1,5 mm + (FEF) gr.25mm	2	120	
Ø66,7 x 1,5 mm + (FEF) gr.9mm	1	120	
Ø66,7 x 1,5 mm + (FEF) gr.25mm	2	120	
Ø66,7 x 1,5 mm + (FEF) gr.50mm	4	120	WRAP L 60
Ø108 x 2 mm + (FEF) gr.25mm + heating cable	2	120	
Ø108 x 2 mm + (FEF) gr.50mm+ kabel grzejny	4	120	
Ø168,3 x 4 mm + (FEF) gr.50mm	4	120	
PE-RT/Al/PE-RT Ø20 x 2mm + PE gr.9mm	1	120	
PE-X/AL/PE-X Ø32 x 3mm + PE gr.9mm	1	120	
PE-X/AL/PE-X Ø20 x 2mm + PE gr.9mm	1	120	

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE FLOOR STEEL IN RUBBER INSULATION FEF

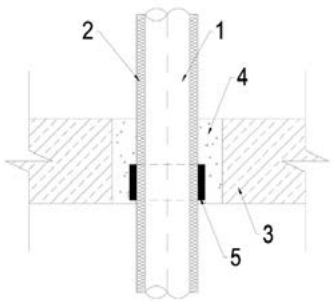


1 - metal pipe
2 - FEF isolation
3 - reinforced concrete ceiling
4 - cement mortar
5 - INTU FR WRAP L
6 - additional insulation made of mineral wool

Pipe diameter and material	The number of layers	EI	Product
Ø355,6 x 5,6 mm + 50 FEF + lamela 50 x 700 mm	4	99	WRAP L 60

The distance of the pipe from the edge of the hole is 10 to 50 mm

SOLUTION DETAILS – MASSIVE FLOOR FLAMMABLE IN WOOL INSULATION



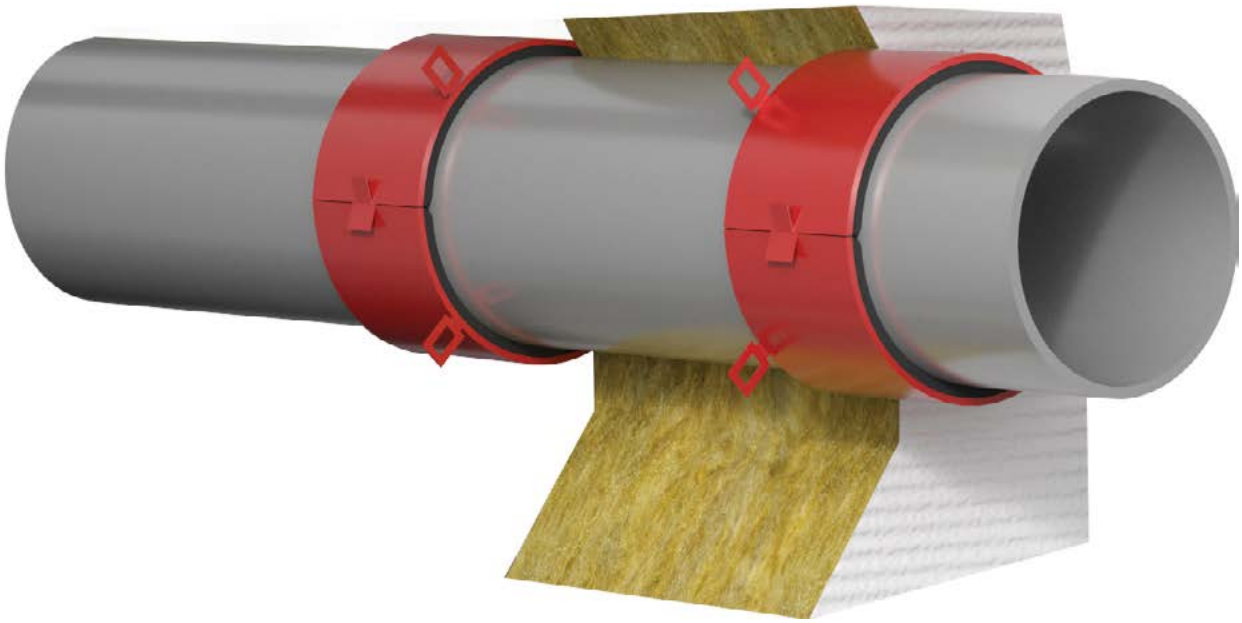
1 - flammable pipe
2 - mineral wool
3 - ceiling 550 kg / m3
4 - cement mortar
5 - INTU FR WRAP L

Pipe diameter and material	The number of layers	EI	Product
PP-R Ø75 x 6,8 mm + lamela 30mm	3	?	WRAP L 60
PP-R Ø75 x 12,5 mm + lamela 30mm	3	?	
PP-R Ø20 x 2,3 mm + lamela 20mm	1	?	
PP-R Ø20 x 3,4 mm + lamela 20mm	1	?	

The distance of the pipe from the edge of the hole is 10 to 25 mm

INTU FR COLLAR

INTUMESCENT PIPE COLLAR



up to EI 240

140°C

easy to use

combustible pipes

mixed services penetrations

PRODUCT DESCRIPTION

The firestop collar INTU FR COLLAR is composed of a flexible insert made of graphite-based material that swells under the influence of temperature above 140°C 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.

COMPLIANCE:

• Reference standard:
EN 1366-3 / ETAG 026-2 /
EAD 350454-00-1104
• DoP 2/2019
• ETA-19/0844
• CoC 1488-CPR-0825/W
• TDS
• SDS
• Classification of fire resistance
FIRES-CR-241-19-AUPE

APPLICATION

INTU FR COLLAR is used for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE) running through fire partitions (flexible walls, rigid walls, floors)

INSTALLATION METHOD

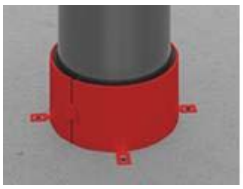
The gaps between the hole in a wall or a floor and the pipe wall should be filled with acrylic intumescent mastic.

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 the gaps with intumescent acrylic mastic.



AVAILABILITY

Pno.	Type	MOQ	Unit
INCO32	32	50	BOX (50pcs)
INCO40	40	50	BOX (50pcs)
INCO55	55	30	BOX (30pcs)
INCO63	63	30	BOX (30pcs)
INCO75	75	30	BOX (30pcs)
INCO82	82	30	BOX (30pcs)
INCO90	90	30	BOX (30pcs)
INCO110	110	20	BOX (20pcs)
INCO125	125	15	BOX (15pcs)

PE-HD, PE, ABS, SAN+PVC - penetration seals in flexible and rigid wall (thickness 100mm ≤ s < 125mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	2,0	31	EI 120	EI 120	-	-
	2,1 – 6,8	31	EI 60 / E 90	EI 60 / E 90	-	-
32 < D ≤ 40	2,2 – 6,8	31	EI 60 / E 90	EI 60 / E 90	-	-
40 < D ≤ 50	2,5 – 6,8	31	EI 60 / E 90	EI 60 / E 90	-	-
50	3,0 – 4,6	31	-	-	EI 90*	EI 90*
50 < D ≤ 55	2,6 – 6,8	31	EI 60 / E 90	EI 60 / E 90	-	-
	3,0 – 5,0	31	-	-	EI 30*	EI 30*
55 < D ≤ 63	2,8 – 6,8	31	EI 60 / E 90	EI 60 / E 90	-	-
	3,0 – 5,7	31	-	-	EI 30*	EI 30*
63 < D ≤ 75	3,0 – 6,8	31	EI 60 / E 90	EI 60 / E 90	EI 30*	EI 30*
75	3,0	31	-	-	EI 60*	EI 60*
75 < D ≤ 90	3,6 – 8,2	31	EI 60	EI 60	-	-
90 < D ≤ 110	4,2 – 10,0	31	EI 60	EI 60	-	-
110 < D ≤ 125	4,8 – 9,9	41	EI 60	EI 60	-	-
125 < D ≤ 160	6,2 -9,5	41	EI 60	EI 60	-	-

PE-HD, PE, ABS, SAN+PVC - penetration seals in flexible and rigid wall (thickness 100mm ≤ s < 125mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8	31	EI 90	EI 90	-	-
	1,9 – 12,5	31	EI 60	EI 60	-	-
32 < D ≤ 40	1,8	31	EI 90	EI 90	-	-
	1,9 – 12,5	31	EI 60	EI 60	-	-
40 < D ≤ 50	1,8	31	EI 90	EI 90		
	1,9 – 12,5	31	EI 60	EI 60	-	-
50	1,8	31	-	-	EI 60*	EI 60*
50	1,9 – 8,3	31	-	-	EI 30*	EI 30*
50 < D ≤ 55	1,9 – 12,5	31	EI 60	EI 60	-	-
55 < D ≤ 63	1,9 – 12,5	31	EI 60	EI 60	-	-
63 < D ≤ 75	1,9 – 12,5	31	EI 60	EI 60	-	-
75	1,9	31	-	-	E 60*	E 60*
75 < D ≤ 90	2,3 – 15,1	31	EI 60	EI 60	-	-
90 < D ≤ 110	2,7 – 18,4	31	EI 60	EI 60	-	-
110	2,7	31	-	-	EI 45*	EI 45*
110 < D ≤ 125	4,1 – 15,1	41	EI 60	EI 60	-	-
125 < D ≤ 160	7,3	41	EI 60	EI 60	-	-

* Outside of ETA, result based on the test report

PE-HD, PE, ABS, SAN+PVC - penetration seals in flexible and rigid wall (thickness 100mm ≤ s < 125mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 3,6	31	EI 120	EI 120	-	-
32 < D ≤ 40	1,8 – 3,6	31	EI 120	EI 120	-	-
40 < D ≤ 50	1,8 – 3,6	31	EI 120	EI 120	-	-
50	1,8 – 3,6	31	-	-	EI 60*	EI 60*
50	3,7	31	-	-	EI 90*	EI 90*
50 < D ≤ 55	1,9 – 3,5	31	EI 90	EI 90	-	-
	3,6	31	EI 120	EI 120	-	-
	1,8 – 4,0	31	-	-	EI 45*	EI 45*
55 < D ≤ 63	1,9 – 3,5	31	EI 90	EI 90	-	-
	3,6	31	EI 120	EI 120	-	-
	1,8 – 4,7	31	-	-	EI 45*	EI 45*
63 < D ≤ 75	1,9 – 3,5	31	EI 90	EI 90	-	-
	3,6	31	EI 120	EI 120	-	-
	1,8 – 5,6	31	-	-	EI 45*	EI 45*
75	1,9	31	-	-	EI 60*	EI 60*
75	5,6	31	-	-	EI 45*	EI 45*
75 < D ≤ 90	2,1 – 2,2	31	EI 90	EI 90	-	-
	2,3 – 3,9	31	EI 60	EI 60	-	-
75 < D ≤ 82	1,9 – 4,8	31	-	-	EI 30*	EI 30*
82 < D ≤ 90	2,0 – 4,7	31	-	-	EI 30*	EI 30*
90 < D ≤ 110	2,2	31	EI 90	EI 90	-	-
	2,3 – 4,2	31	EI 60	EI 60	-	-
	2,0 – 4,2	31	-	-	EI 30*	EI 30*
110	2,2	31	-	-	EI 60*	EI 60*
110	2,3 – 4,2	31	-	-	EI 30*	EI 30*
110 < D ≤ 125	2,5 – 3,2	41	EI 90	EI 90	-	-
125 < D ≤ 160	3,2 – 6,2	41	EI 90	EI 90	-	-

* Outside of ETA, result based on the test report

PE-HD, PE, ABS, SAN+PVC - penetration seals in flexible and rigid wall (thickness 125mm ≤ s < 150mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	2,0 – 4,6	31	EI 120	EI 120	-	-
32 < D ≤ 40	2,2 – 6,8	31	EI 90	EI 90	-	-
40 < D ≤ 50	2,5 – 6,8	31	EI 90	EI 90	-	-
50 < D ≤ 55	2,6 – 6,8	31	EI 90	EI 90	-	-
55 < D ≤ 63	2,8 – 6,8	31	EI 90	EI 90	-	-
63 < D ≤ 75	3,0 – 6,8	31	EI 90	EI 90	-	-
75 < D ≤ 90	3,6 – 4,2	31	EI 90	EI 90	-	-
	4,3 – 8,2	31	EI 60	EI 60	-	-
90 < D ≤ 110	4,2	31	EI 90	EI 90	-	-
	4,3 – 10,0	31	EI 60	EI 60	-	-
110 < D ≤ 125	4,8 – 9,9	41	EI 60	EI 60	-	-
125 < D ≤ 160	6,2	41	EI 120	EI 120	-	-
	6,3 – 9,5	41	EI 60	EI 60	-	-

PP- penetration seals in flexible and rigid wall (thickness 125mm ≤ s < 150mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 8,3	31	EI 120	EI 120	-	-
32 < D ≤ 40	1,8 – 8,3	31	EI 120	EI 120	-	-
40 < D ≤ 50	1,8 – 8,3	31	EI 120	EI 120	-	-
50 < D ≤ 55	1,9 – 12,5	31	EI 120	EI 120	-	-
55 < D ≤ 63	1,9 – 12,5	31	EI 120	EI 120	-	-
63 < D ≤ 75	1,9 – 12,5	31	EI 120	EI 120	-	-
75 < D ≤ 90	2,3 – 8,3	31	EI 120	EI 120	-	-
	8,4 – 15,1	31	EI 90 / E 120	EI 90 / E 120	-	-
90 < D ≤ 110	2,7	31	EI 120	EI 120	-	-
	2,8 – 18,4	31	EI 90 / E 120	EI 90 / E 120	-	-
110 < D ≤ 125	4,1 – 15,1	41	EI 60 / E 90	EI 60 / E 90	-	-
125 < D ≤ 160	7,3	41	EI 60 / E 90	EI 60 / E 90	-	-

PVC-U or PVC-C- penetration seals in flexible and rigid wall (thickness 125mm ≤ s < 150mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 3,6	31	EI 120	EI 120	-	-
32 < D ≤ 40	1,8 – 3,6	31	EI 120	EI 120	-	-
40 < D ≤ 50	1,8 – 3,6	31	EI 120	EI 120	-	-
50 < D ≤ 55	1,9 – 3,6	31	EI 120	EI 120	-	-
55 < D ≤ 63	1,9 – 3,6	31	EI 120	EI 120	-	-
63 < D ≤ 75	1,9 – 3,6	31	EI 120	EI 120	-	-
75 < D ≤ 90	2,1 – 3,9	31	EI 120	EI 120	-	-
90 < D ≤ 110	2,2 – 4,2	31	EI 120	EI 120	-	-
110 < D ≤ 125	2,5 – 3,9	41	EI 120	EI 120	-	-
	4,0 – 4,8	41	EI 90 / E 120	EI 90 / E 120	-	-
125 < D ≤ 160	3,2	41	EI 120	EI 120	-	-
	3,3 – 6,2	41	EI 90 / E 120	EI 90 / E 120	-	-

PE-HD, PE, ABS, SAN+PVC - penetration seals in rigid floor (thickness h ≥ 150mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
170 < D ≤ 185	7,2 – 8,4	61	EI 120	EI 120	-	-
	8,5 – 11,0	61	EI 90	EI 90	-	-
	11,1 – 11,3	61	EI 60	EI 60	-	-
185 < D ≤ 200	7,7	61	EI 120	EI 120	-	-
	7,8 – 11,0	61	EI 90	EI 90	-	-
	11,1 – 11,3	61	EI 60	EI 60	-	-

PE-HD, PE, ABS, SAN+PVC - penetration seals in rigid wall (thickness s ≥ 150mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	2,0	31	EI 240	EI 240	-	-
	2,1 – 4,8	31	EI 120	EI 120	-	-
32 < D ≤ 40	2,5 – 4,8	31	EI 120	EI 120	-	-
40 < D ≤ 50	3,0 – 4,8	31	EI 120	EI 120	-	-
50 < D ≤ 55	3,0 – 3,5	31	EI 90	EI 90	-	-
	3,6	31	EI 240	EI 240	-	-
	3,7 – 6,8	31	EI 120	EI 120	-	-
55 < D ≤ 63	3,0 – 3,5	31	EI 90	EI 90	-	-
	3,6	31	EI 240	EI 240	-	-
	3,7 – 6,8	31	EI 120	EI 120	-	-
63 < D ≤ 75	3,0 – 3,5	31	EI 90	EI 90	-	-
	3,6	31	EI 240	EI 240	-	-
	3,7 – 6,8	31	EI 120	EI 120	-	-
75 < D ≤ 90	3,6 – 3,8	31	EI 90	EI 90	-	-
	3,9 – 8,2	31	EI 120	EI 120	-	-
90 < D ≤ 110	4,2 – 9,9	31	EI 120	EI 120	-	-
	10,0	31	EI 240	EI 240	-	-
110 < D ≤ 125	4,8 – 6,1	41	EI 90	EI 90	-	-
	6,2 – 9,0	41	EI 120	EI 120	-	-
125 < D ≤ 160	6,2 – 9,4	41	EI 120	EI 120	-	-
	9,5	41	EI 180	EI 180	-	-
160 < D ≤ 170	6,6 – 9,1	61	EI 60	EI 60	-	-
170 < D ≤ 185	7,2 – 8,4	61	EI 60	EI 60	-	-
185 < D ≤ 200	7,7	61	EI 60	EI 60	-	-

PP- penetration seals in rigid wall (thickness s ≥ 150mm)						
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8	31	EI 240		-	-
	1,9 – 8,3	31	EI 120		-	-
32 < D ≤ 40	1,8	31	EI 240		-	-
	1,9 – 8,3	31	EI 120		-	-
40 < D ≤ 50	1,8	31	EI 240		-	-
	1,9 – 8,3	31	EI 120		-	-
50 < D ≤ 55	1,9 – 12,5	31	EI 120		-	-
55 < D ≤ 63	1,9 – 12,5	31	EI 120		-	-
63 < D ≤ 75	1,9 – 12,5	31	EI 120		-	-
75 < D ≤ 90	2,3 – 15,1	31	EI 120		-	-
90 < D ≤ 110	2,7 – 18,3	31	EI 120		-	-
	18,4	31	EI 240		-	-
110 < D ≤ 125	3,8 – 14,8	41	EI 120		-	-
	14,9 – 15,2	41	EI 60		-	-
125 < D ≤ 160	6,2	41	EI 180		-	-
	6,3 – 7,7	41	EI 60		-	-
160 < D ≤ 170	6,6 – 7,6	61	EI 60		-	-
	7,7	61	EI 180		-	-
170 < D ≤ 185	7,2 – 7,6	61	EI 60		-	-
	7,7	61	EI 180		-	-
185 < D ≤ 200	7,7	61	EI 180		-	-

PVC-U or PVC-C- penetration seals in rigid wall (thickness s ≥ 150mm)

Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 3,6	31	EI 240	EI 240	-	-
32 < D ≤ 40	1,8 – 3,6	31	EI 240	EI 240	-	-
40 < D ≤ 50	1,8 – 3,6	31	EI 240	EI 240	-	-
50 < D ≤ 55	1,9 – 3,6	31	EI 180	EI 180	-	-
55 < D ≤ 63	1,9 – 3,6	31	EI 180	EI 180	-	-
63 < D ≤ 75	1,9 – 3,6	31	EI 180	EI 180	-	-
75 < D ≤ 90	2,1 – 3,9	31	EI 180	EI 180	-	-
90 < D ≤ 110	2,2	31	EI 240	EI 240	-	-
	2,3 – 4,2	31	EI 180	EI 180	-	-
110 < D ≤ 125	2,5 – 4,8	41	EI 120	EI 120	-	-
125 < D ≤ 160	3,2	41	EI 240	EI 240	-	-
	3,3 – 6,2	41	EI 120 / E 180	EI 120 / E 180	-	-
160 < D ≤ 170	3,4 – 5,4	61	EI 90	EI 90	-	-
	5,5	61	EI 180 / E 240	EI 180 / E 240	-	-
	5,6 – 7,7	61	EI 180	EI 180		
170 < D ≤ 185	3,7 – 5,4	61	EI 90	EI 90	-	-
	5,5	61	EI 180 / E 240	EI 180 / E 240	-	-
	5,6 – 7,7	61	EI 180	EI 180	-	-
185 < D ≤ 200	3,9 – 5,4	61	EI 90	EI 90		
	5,5	61	EI 180 / E 240	EI 180 / E 240	-	-
	5,6 – 7,7	61	EI 180	EI 180	-	-
200 < D ≤ 225	4,8 – 8,0	220	EI 120	EI 120	-	-
225 < D ≤ 250	5,7 – 8,0	220	EI 120	EI 120	-	-
250 < D ≤ 275	6,6 – 8,0	220	EI 120	EI 120	-	-
275 < D ≤ 300	7,5 – 8,0	220	EI 120	EI 120	-	-
300 < D ≤ 315	8,0	220	EI 120	EI 120	-	-

PE-HD, PE, ABS, SAN+PVC - penetration seals in rigid floor (thickness h ≥ 150mm)

Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 4,8	31	EI 240	EI 240	-	-
32 < D ≤ 40	2,4 – 4,8	31	EI 240	EI 240	-	-
40 < D ≤ 50	3,0 – 4,8	31	EI 240	EI 240	-	-
50 < D ≤ 55	2,8 – 3,5	31	EI 180	EI 180	-	-
	3,6	31	EI 240	EI 240	-	-
	3,7 – 6,8	31	EI 180	EI 180	-	-
55 < D ≤ 63	3,1 – 3,5	31	EI 180	EI 180	-	-
	3,6	31	EI 240	EI 240	-	-
	3,7 – 6,8	31	EI 180	EI 180	-	-
63 < D ≤ 75	3,6	31	EI 240	EI 240	-	-
	3,7 – 6,8	31	EI 180	EI 180	-	-
75 < D ≤ 90	3,9 – 8,2	31	EI 120	EI 120	-	-
90 < D ≤ 110	4,2 – 10,0	31	EI 120	EI 120	-	-
110 < D ≤ 125	4,8 –9,9	41	EI 120	EI 120	-	-
125 < D ≤ 160	6,2 – 9,4	41	EI 120	EI 120		
	9,5	41	EI 180 / E 240	EI 180 / E 240	-	-
160 < D ≤ 170	6,6 – 9,1	61	EI 120	EI 120	-	-
	9,2 – 11,0	61	EI 90	EI 90	-	-
	11,1 – 11,3	61	EI 60	EI 60		

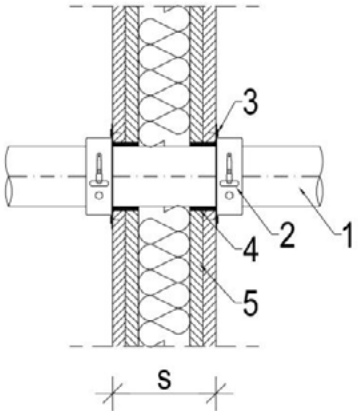
PP - penetration seals in rigid floor (thickness h ≥ 150mm)

Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 8,3	31	EI 240	EI 240	-	-
32 < D ≤ 40	1,8 – 8,3	31	EI 240	EI 240	-	-
40 < D ≤ 50	1,8 – 8,3	31	EI 240	EI 240	-	-
50 < D ≤ 55	1,9	31	EI 180	EI 180	-	-
	2,0 – 12,5	31	EI 120	EI 120	-	-
55 < D ≤ 63	1,9	31	EI 180	EI 180	-	-
	2,0 – 12,5	31	EI 120	EI 120	-	-
63 < D ≤ 75	1,9	31	EI 180	EI 180	-	-
	2,0 – 12,5	31	EI 120	EI 120	-	-
75 < D ≤ 90	2,3 – 15,1	31	EI 120	EI 120	-	-
90 < D ≤ 110	2,7	31	EI 180	EI 180	-	-
	2,8 –18,4	31	EI 120	EI 120	-	-
110 < D ≤ 125	3,8 – 15,1	31	EI 120	EI 120	-	-
125 < D ≤ 160	6,2 – 7,3	41	EI 120	EI 120	-	-
160 < D ≤ 170	6,3 – 6,5	41	EI 60	EI 60	-	-
	6,6 – 7,4	61	EI 120	EI 120	-	-
170 < D ≤ 185	6,3 – 7,1	61	EI 60	EI 60	-	-
	7,2 – 7,6	61	EI 120	EI 120	-	-
185 < D ≤ 200	6,3 – 7,6	61	EI 60	EI 60	-	-
	7,7	61	EI 120	EI 120	-	-

PVC-U or PVC-C - penetration seals in rigid floor (thickness h ≥ 150mm)

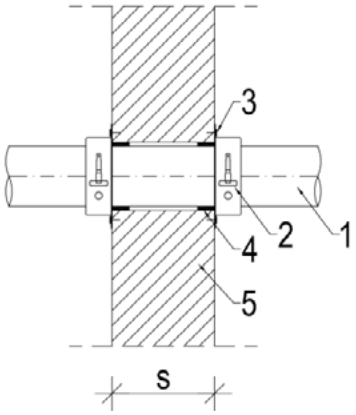
Diameter [mm]	Pipe wall thickness [mm]	Collar height [mm]	Fire resistance classification			
			C/C	U/C	C/U	U/U
D ≤ 32	1,8 – 2,5	31	EI 240	EI 240	-	-
32 < D ≤ 40	1,8 – 2,5	31	EI 240	EI 240	-	-
40 < D ≤ 50	1,8 – 2,5	31	EI 240	EI 240	-	-
50 < D ≤ 55	1,9	31	EI 240	EI 240	-	-
	2,0 – 3,6	31	EI 180	EI 180	-	-
55 < D ≤ 63	1,9	31	EI 240	EI 240	-	-
	2,0 – 3,6	31	EI 180	EI 180	-	-
63 < D ≤ 75	1,9	31	EI 240	EI 240	-	-
	2,0 – 3,6	31	EI 180	EI 180	-	-
75 < D ≤ 90	2,1 – 3,1	31	EI 120	EI 120	-	-
	3,2 – 4,2	31	EI 180	EI 180		
90 < D ≤ 110	2,1 – 3,1	31	EI 120	EI 120	-	-
	3,2 – 4,2	31	EI 180	EI 180	-	-
110 < D ≤ 125	2,5 – 3,1	41	EI 120	EI 120	-	-
	3,2 – 7,7	41	EI 240	EI 240		
125 < D ≤ 160	3,2 – 7,7	41	EI 240	EI 240	-	-
160 < D ≤ 170	3,4 – 7,7	61	EI 120	EI 120	-	-
170 < D ≤ 185	3,7 – 7,7	61	EI 120	EI 120	-	-
185 < D ≤ 200	3,9 – 7,7	61	EI 129	EI 129	-	-
200 < D ≤ 225	4,8 – 8,0	61	EI 120	EI 120	-	-
	8,1 – 12,1		EI 90	EI 90		
225 < D ≤ 250	5,7 – 8,0	61	EI 120	EI 120	-	-
	8,1 – 12,1	61	EI 90	EI 90	-	-

SOLUTION DETAILS – WALL



Wall penetration

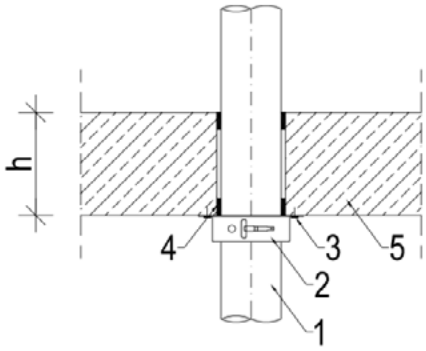
1 – flexible wall (s ≥ 100 mm)
2 – plastic pipe
3 – INTU FR COLLAR installed on both sides of the wall
4 – a gap around the collar, on both sides of the partition, filled with INTU FR MASTIC
5 – steel screw



Wall penetration

1 – rigid wall (s ≥ 100 mm)
2 – plastic pipe
3 – INTU FR COLLAR installed on both sides of the wall
4 – a gap around the collar, on both sides of the partition, filled with INTU FR MASTIC
5 – steel screw

SOLUTION DETAILS – FLOOR



Floor penetration

1 – rigid floor (h ≥ 150 mm)
2 – plastic pipe
3 – INTU FR COLLAR installed from the bottom of the floor
4 – a gap filled with INTU FR MASTIC
5 – steel screw

INTU FR COLLAR L

INTUMESCENT PIPE COLLAR ROLL

up to EI 240

140°C

non-combustible pipes with flammable insulation

PRODUCT DESCRIPTION

Firestop collar INTU FR COLLAR L is composed of:
1) a flexible insert (INTU FR WRAP L) made of graphite-based material that swells under the influence of temperature above 140°C

2) an external casing made of 0.5 mm stainless steel sheet delivered in 2.5 m sections. The steel collar casing is equipped with mounting brackets for attaching the collar to the partition. The universal size enables installation of the collar on various pipe diameters.

COMPLIANCE:

• Reference standard:
EN 1366-3 / ETAG 026-2 /
EAD 350454-00-1104
• DoP 3/2019
• ETA-19/0844
• CoC 1488-CPR-0825/W
• TDS
• SDS
• Fire classification 03777/18/Z00NZP

APPLICATION

INTU FR COLLAR L is used for fire protection of penetrations with non-combustible pipes with flammable synthetic rubber insulation running through fire partitions.
Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3

INSTALLATION METHOD

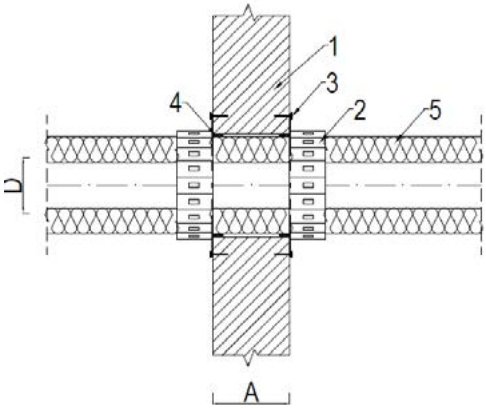
1. Set number of wraps for diameter/type of the pipe and partition parameters.
2. Fill the gaps with the fire-resistant acrylic INTU FR MASTIC, then wrap the pipe with INTU FR WRAP L tape with the appropriate number of wraps.
3. Cut appropriate length of the steel casing.
4. Put the collar on the intumescent tape already placed on the pipe.
5. Attach the collar to the partition using steel screws.

AVAILABILITY

Pno.	Type	MOQ	Unit
INCOL2500	metal collar 2500mm and intumescent pipe wrap in roll 10m	1	BOX (1pcs)

FIRE RESISTANCE CLASSIFICATION				
COLLAR	**DN**	**Insulation thickness**	**Wall**	**Floor**
STEEL + SYNTHETIC RUBBER	42,4mm	9mm	EI240	EI240
		50mm	EI120	EI120
	88,9mm	9mm	EI90	EI120
		23mm	EI120	EI90
		50mm	EI90	EI120
	159,0mm	9mm	-	EI120
		50mm	-	EI90
COPPER + SYNTHETIC RUBBER	15,0mm	9mm	EI240	EI120
		50mm	EI240	EI90
	54,0mm	9mm	EI60	EI120
		50mm	-	EI90

SOLUTION DETAILS – PROTECTION IN WALLS



Wall penetration
D — pipe diameter, A — wall thickness

1 – rigid wall (A ≥ 150 mm)
2 – INTU FR COLLAR L, installed on both sides of the wall
3 – steel screw
4 – a gap around the collar, on both sides of the partition, filled with intumescent acrylic mastic
5 – non- combustible pipe insulated with synthetic rubber
* - number of wraps according to TDS INTU FR WRAP L

SOLUTION DETAILS – PROTECTION IN FLOORS

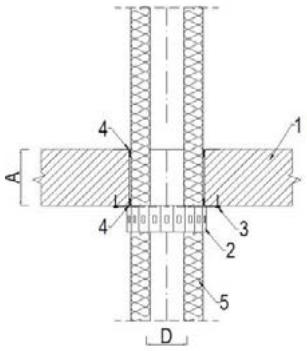


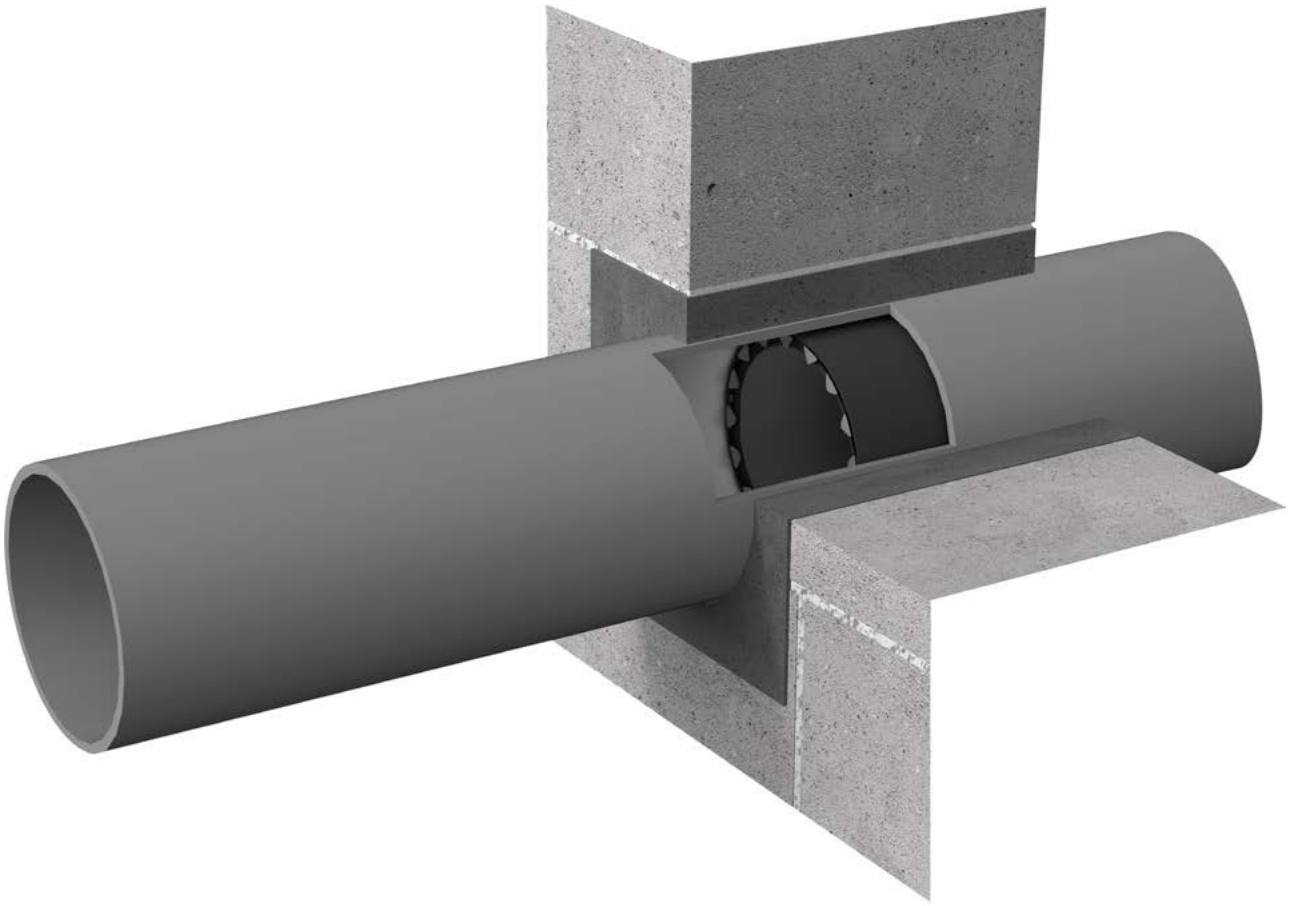
Fig. 2. Floor penetration
D — pipe diameter, A — wall thickness

1 – floor (A ≥ 150 mm)
2 – INTU FR COLLAR L, installed from the bottom of the floor
3 – steel screw
4 – a gap around the collar, on both sides of the partition, filled with intumescent acrylic mastic
5 – non- combustible pipe insulated with synthetic rubber
* - number of wraps according to TDS INTU FR WRAP L

INTU FR SLEEVE

INTUMESCENT INTERNAL PIPE SLEEVE

EUROPEAN TECHNICAL APPROVAL



140°C

combustible pipes

PRODUCT DESCRIPTION

Internal sleeve INTU FR SLEEVE is composed of a flexible insert made of graphitebased material that swells under the influence of temperature above 140°C and a metal ring-shaped cartridge made of 1.0 mm thick sheet metal protected with anti-corrosion coating.

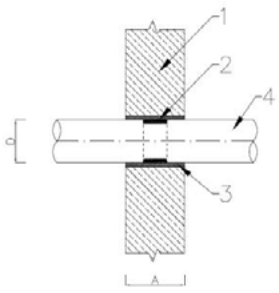
COMPLIANCE:

• Reference standard: EN 1366-3 /
ETAG 026-2 / EAD 350454-00-1104
• DoP 4/2019
• ETA-19/0844
• CoC 1488-CPR-0825/W
• TDS
• SDS
• Fire classification 03777/18/Z00NZP

APPLICATION

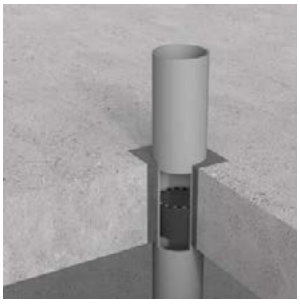
INTU FR SLEEVE is used for fire protection of penetrations with plastic pipes (PVC, PP, PE, HDPE) running through fire partitions. For installation inside the pipe.
Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3

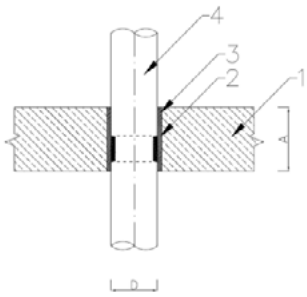
SOLUTION DETAILS – PROTECTION OF FLAMMABLE PIPES



Wall penetration

1 – rigid wall (A ≥ 150 mm)
2 – INTU FR SLEEVE intumescent inner collar installed in the wall axis
3 – cement mortar filling
4 – flammable pipe





Floor penetration

1 – rigid floor (A ≥ 150 mm)
2 – INTU FR SLEEVE intumescent inner collar installed 1cm from the floor bottom
3 – cement mortar filling
4 - flammable pipe

AVAILABILITY

Pno.	Type	MOQ	Unit
ININS110	110	1	PCS
ININS125	125	1	PCS
ININS160	160	1	PCS

INTU FR EJ SEAL

FIRE RATED EXPANSION JOINT SEAL

EUROPEAN TECHNICAL APPROVAL

up to EI 120

easy to use

weatherproof

linear joint seals

PRODUCT DESCRIPTION

- 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

The flexible gap filler INTU FR EJ SEAL is composed non-flammable foams of different thicknesses, with layers of raphite-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.

COMPLIANCE:

• Reference standard: EN 1366-4 /
ETAG 026-3 / EAD 350141-00-1106
• DoP 10/2019
• ETA-20/0330
• CoC 1488-CPR-0865/W
• TDS
• SDS

APPLICATION

Fire retardant sealing of gaps and fire rated expansion joints in walls and floors with fire resistance class max EI 120 up to 50mm gap width.
Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3.
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3.

INSTALLATION METHOD

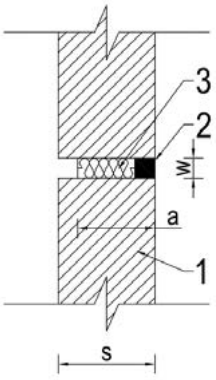
1. The surface of the joint must be clean, dry and free of dust before installation.
2. Choose the right size of the filler depending on the width of the gap.
3. Compress the INTU FR EJ SEAL flexible filler and insert it into the gap so that the intumescent material adheres to the partition.
4. Fill the remaining gap with mineral wool with a density of min. 50 kg/m3.
5. INTU FR EJ SEAL should be placed on either side of a wall or a floor, flush with the partition.

AVAILABILITY

Pno.	Type	MOQ	Unit
INEJS10/120	10mm EI120/1m	100	BOX (100 pcs)
INEJS20/120	20mm EI120/1m	80	BOX (40 pcs)
INEJS30/120	30mm EI120/1m	80	BOX (80 pcs)
INEJS40/120	40mm EI120/1m	60	BOX (60 pcs)
INEJS50/120	50mm EI120/1m	50	BOX (50 pcs)
INEJS60/120	60mm EI120/1m	40	BOX (40 pcs)
INEJS70/120	70mm EI120/1m	40	BOX (40 pcs)
INEJS80/120	80mm EI120/1m	30	BOX (30 pcs)
INEJS90/120	90mm EI120/1m	25	BOX (25 pcs)
INEJS100/120	100mm EI120/1m	25	BOX (25 pcs)

Gap width	TYPE	Dimensions width x depth	Art. No.	Fire resistance class		
				FLOOR	WALL	
					Horizontal	Vertical
up to 10 mm	10	14 x 25 mm	INEJS10/120			
from 11 to 20 mm	20	34 x 30 mm	INEJS20/120			EI 120
from 21 to 30 mm	30	44 x 35 mm	INEJS30/120	EI 120	EI 120	
from 31 to 40 mm	40	54 x 40 mm	INEJS40/120			EI 120*
from 41 to 50 mm	50	64 x 40 mm	INEJS50/120			
from 51 to 60 mm	60	78 x 40 mm	INEJS60/120	EI 120*	EI 120*1 / E 120*2	EI 30*1 / E 120*1 EI 90*2 / E 120*2
from 61 to 70 mm	70	88 x 40 mm	INEJS70/120			
from 71 to 80 mm	80	98 x 40 mm	INEJS80/120			
from 81 to 90 mm	90	118 x 40 mm	INEJS90/120			
from 91 to 100 mm	100	128 x 40 mm	INEJS100/120			

SOLUTION DETAILS – EXPANSION JOINT IN A WALL

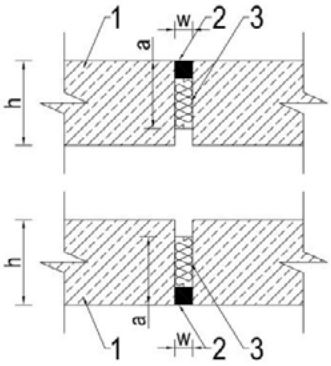


Gap in a wall

1 – wall at least 150mm thick
2 – flexible filler INTU FR EJ SEAL, from exposed or unexposed side
3 – mineral wool with a density of min. 50kg/m3

a - minimum depth of INTU FR EJ SEAL and mineral wool is 150 mm
w - gap width

SOLUTION DETAILS – EXPANSION JOINT IN A FLOOR

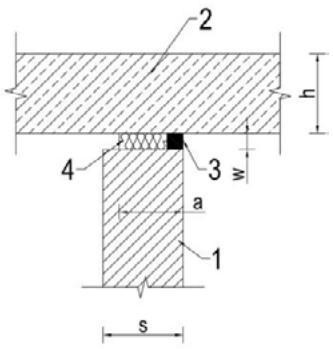


Gap in a floor

1 – floor at least 150mm thick
2 – flexible filler INTU FR EJ SEAL applied from the bottom or top of the floor
3 – mineral wool with a density of min. 50kg/m3

a - minimum depth of INTU FR EJ SEAL and mineral wool is 150 mm
w - gap width

SOLUTION DETAILS – EXPANSION JOINT BETWEEN THE WALL AND THE FLOOR



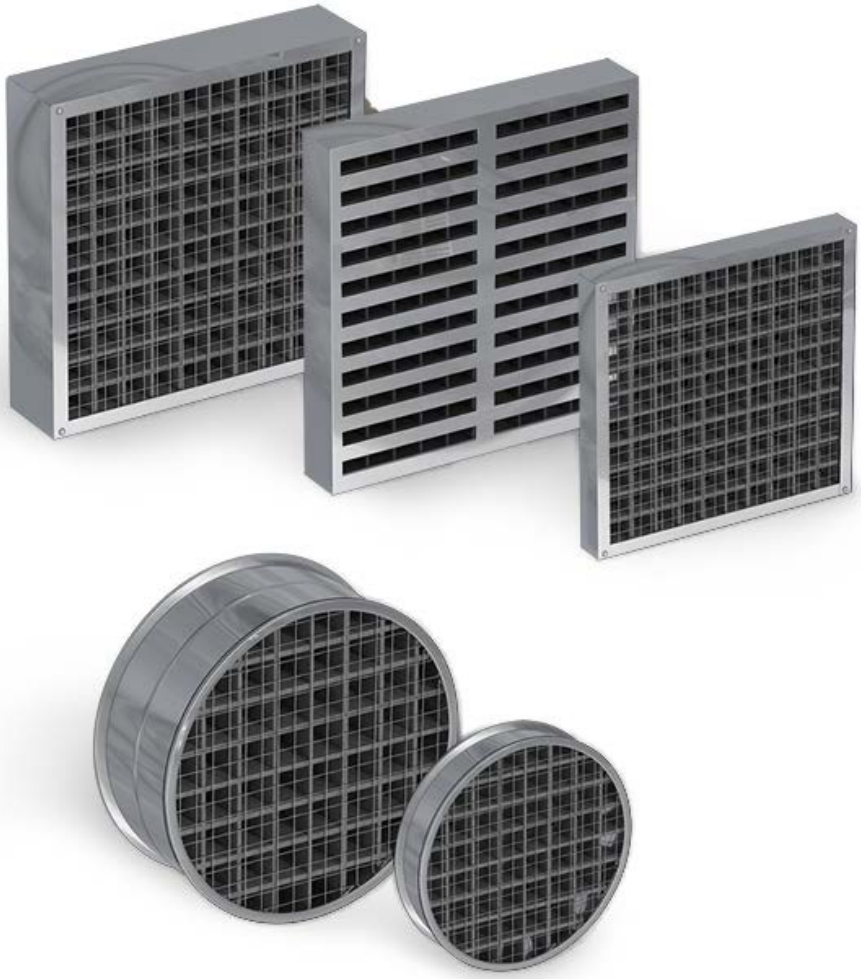
Gap between wall and the floor

1 – wall at least 150mm thick
2 – floor at least 150mm thick
3 – flexible filler INTU FR EJ SEAL applied on either side of the wall
4 – mineral wool with a density of min. 50kg/m3

a - minimum depth of INTU FR EJ SEAL and mineral wool is 150 mm
w - gap width

INTU FR GRILLE

INTUMESCENT FR GRILLE



up to
EI 240

140°C

high airflow

ventilation

PRODUCT DESCRIPTION

- fire resistance: 60, 120 and 240 minutes
- air flow up to 80%
- maximum dimensions:

single round grille - Ø 400 [mm];
single rectangular grille - 600 x 600 [mm]

- not standard sizes

Firestop ventilation grilles INTU FR GRILLE are made from material that expands under the influence of temperature above 140°C. Intumescent inserts close the ventilation holes during a fire, preventing the spread of flame and smoke.

COMPLIANCE:

Reference standard: ETAG 026-4
- Fire classification: 01245/18/Z00NZP
- TDS
- SDS

APPLICATION

INTU FR GRILLES are installed in the ventilation holes in walls and floors. The material swelling during a fire fills the hole completely, preventing flame and smoke from entering adjacent rooms.
Rigid walls:
The wall must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 600kg/m3
Rigid floors:
The floor must be at least 150mm thick and have concrete, cellular concrete structure or masonry structure, with a minimum density of 1700kg/m3

AVAILABILITY

Height [mm]	R40A / Width [mm] / Art. No.											
	100	150	200	225	250	300	350	400	450	500	550	600
100	NGRR60/ 100x100	INGRR60/ 150x100	INGRR60/ 200x100	INGRR60/ 225x100	NGRR60/ 250x100	INGRR60/ 300x100	INGRR60/ 350x100	INGRR60/ 400x100	INGRR60/ 450x100	INGRR60/ 500x100	INGRR60/ 550x100	INGRR60/ 600x100
150		INGRR60/ 150x150	INGRR60/ 200x150	INGRR60/ 225x150	INGRR60/ 250x150	INGRR60/ 300x150	INGRR60/ 350x150	INGRR60/ 400x150	INGRR60/ 450x150	INGRR60/ 500x150	INGRR60/ 550x150	INGRR60/ 600x150
200			INGRR60/ 200x200	INGRR60/ 225x200	INGRR60/ 250x200	INGRR60/ 300x200	INGRR60/ 350x200	INGRR60/ 400x200	INGRR60/ 450x200	INGRR60/ 500x200	INGRR60/ 550x200	INGRR60/ 600x200
225				INGRR60/ 225x225	INGRR60/ 250x225	INGRR60/ 300x225	INGRR60/ 350x225	INGRR60/ 400x225	INGRR60/ 450x225	INGRR60/ 500x225	INGRR60/ 550x225	INGRR60/ 600x225
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	NGRR60/ 600x550
600												INGRR60/ 600x600

Height [mm]	R80 / Width [mm] / Art. No.											
	100	150	200	225	250	300	350	400	450	500	550	600
100	INGRR240/ 100x100	INGRR240/ 150x100	INGRR240/ 200x100	INGRR240/ 225x100	INGRR240/ 250x100	INGRR240/ 300x100	INGRR240/ 350x100	INGRR240/ 400x100	INGRR240/ 450x100	INGRR240/ 500x100	INGRR240/ 550x100	INGRR240/ 600x100
150		INGRR240/ 150x150	INGRR240/ 200x150	INGRR240/ 225x150	INGRR240/ 250x150	INGRR240/ 300x150	INGRR240/ 350x150	INGRR240/ 400x150	INGRR240/ 450x150	INGRR240/ 500x150	INGRR240/ 550x150	INGRR240/ 600x150
200			INGRR240/ 200x200	INGRR240/ 225x200	INGRR240/ 250x200	INGRR240/ 300x200	INGRR240/ 350x200	NGRR240/ 400x200	INGRR240/ 450x200	INGRR240/ 500x200	INGRR240/ 550x200	INGRR240/ 600x200
225				INGRR240/ 225x225	INGRR240/ 250x225	INGRR240/ 300x225	INGRR240/ 350x225	INGRR240/ 400x225	INGRR240/ 450x225	INGRR240/ 500x225	INGRR240/ 550x225	INGRR240/ 600x225
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	NGRR240/ 500x450	INGRR240/ 550x450	INGRR240/ 600x450
500										INGRR240/ 500x500	INGRR240/ 550x500	INGRR240/ 600x500
550											INGRR240/ 550x550	INGRR240/ 600x550
600												INGRR240/ 600x600

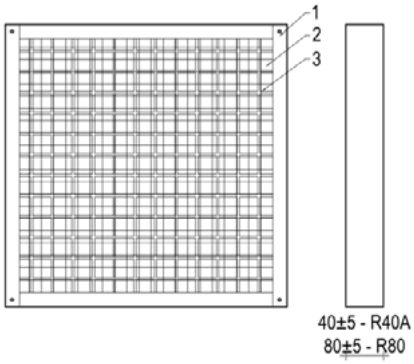
Height [mm]	R40B / Width [mm] / Art. No.				
	100	150	200	250	300
100	INGRR120/ 100x100	INGRR120/ 150x100	INGRR120/ 200x100	INGRR120/ 250x100	INGRR120/ 300x100
150	INGRR120/ 100x150	INGRR120/ 150x150	INGRR120/ 200x150	INGRR120/ 250x150	INGRR120/ 300x150
200	INGRR120/ 100x200	INGRR120/ 150x200	INGRR120/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

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

Fire resistance class	Diameter [mm] / Art. No.										
	100	125	150	160	200	225	250	300	315	350	400
C50	INGRC 60/100	INGRC 60/125	INGRC 60/150	INGRC 60/160	INGRC 60/200	INGRC 60/225	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 120/225	INGRC 120/250	INGRC 120/300	INGRC 120/315	INGRC 120/350	INGRC 120/400

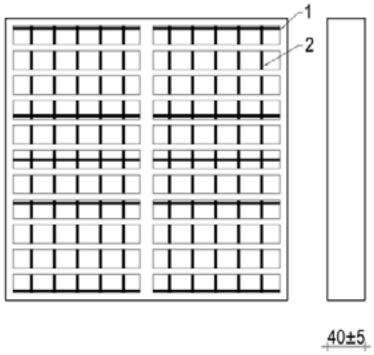
Grille type	Grille dimensions [mm]	Grille thickness [mm]	Fire resistance class	Scope of application
INTU FR GRILLE R40A	100 x 100 ÷ 300 x 300	40	EI 60	wall and floor
INTU FR GRILLE R40B	100 x 100 ÷ 300 x 300	40	EI 120	wall and floor
INTU FR GRILLE R80	100 x 100 ÷ 300 x 300	80	EI 240	wall
			EI 180	floor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

AVAILABILTY, FIRE RESISTANCE CLASS – RECTANGULAR GRILLE



Rectangular grille R40A, R80

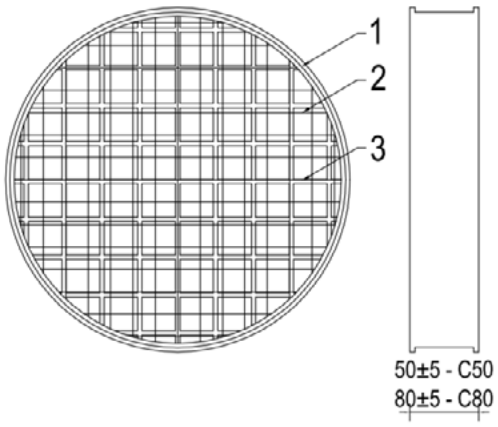
1 – metal casing
2 – steel wire mesh
3 – intumescent insert
(dimensions in mm)



Rectangular grille R40B

1 – metal casing
2 – intumescent insert
(dimensions in mm)

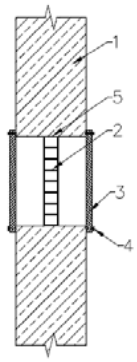
AVAILABILTY, FIRE RESISTANCE CLASS – ROUND GRILLE)



Round grille C50 / C80

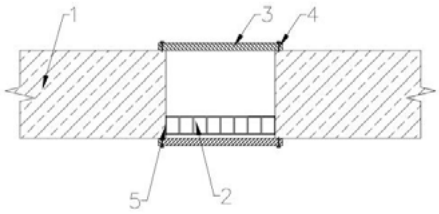
1 - metal casing
2 - steel wire mesh
3 - intumescent insert
(dimensions in mm)

SOLUTION DETAILS



Wall cross-section

1 – wall
2 – INTU FR GRILLE ventilation grille
3 – masking plate (eg INTU ATP)
4 – steel screws
5 – intumescent acrylic mastic eg INTU FR MASTIC



Floor cross-section

1 –floor
2 – INTU FR GRILLE ventilation grille
3 – masking plate (eg INTU ATP)
4 – steel screws
5 – intumescent acrylic mastic eg INTU FR MASTIC

CONNECTOR FOR INTU FR GRILLE

Connector – model T

Connector – model X

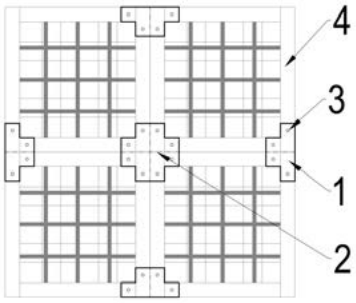


Fig. 6. The method of connection INTU FR GRILLE
1 – Connector – model T
2 – Connector – model X
3 – steel rivet – Ø3mm
4 – intumescent grille INTU FR GRILLE

Apply a small amount of intumescent acrylic mastic (eg INTU FR MASTIC) for a grill along its edge. Remove all other joints and cavities with intumescent acrylic mastic (eg INTU FR MASTIC)

AVAILABILITY

INTU FR GRILLE CONNECTOR			
Pno.	**Type**	**MOQ**	**Unit**
INFRGCT	CONNECTOR T	1	PCS
INFRGCX	CONNECTOR X	1	PCS

INTU ATP

AIR TRANSFER FACEPLATE

EUROPEAN TECHNICAL APPROVAL

easy to use

ventilation

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.

Colors:
Standard color: satin.
Color on request (no extra cost): white.
Color on request (extra cost): any RAL; the price is agreed individually.

Dimensions:
The standard size [WIDTH x HIGHT] where the width is larger than the height [LARGER x SMALLER]. It is possible to order a „reverse dimension" i.e. height is larger than the width; in this case, please provide additional information in the order.

APPLICATION

In walls and floors as well as doors with installed intumescent ventilation grilles (eg INTU FR GRILLE).

INSTALLATION METHOD

INTU AIR TRANSFER PLATE is installed using commonly available steel screws through the holes in the flange.

AVAILABILITY

AVAILABILTY TABLE, LOUVER FREE AREA

Height [mm]	Width [mm] Free area [cm2] Item No. = INTAP/S + „width x height"									
	102	152	203	254	305	356	406	457	508	610
102	63 cm2 INATP/ S102x102	98 cm2 INATP/ S152x102	125 cm2 INATP/ S203x102	161 cm2 INATP/ S254x102	197 cm2 INATP/ S305x102	232 cm2 INATP/ S356x102	241 cm2 INATP/ S406x102	295 cm2 INATP/ S457x102	322 cm2 INATP/ S508x102	393 cm2 INATP/ S610x102
152		152 cm2 INATP/ S152x152	193 cm2 INATP/ S203x152	249 cm2 INATP/ S254x152	304 cm2 INATP/ S305x152	359 cm2 INATP/ S356x152	373 cm2 INATP/ S406x152	456 cm2 INATP/ S457x152	497 cm2 INATP/ S508x152	608 cm2 INATP/ S610x152
203			262 cm2 INATP/ S203x203	336 cm2 INATP/ S254x203	411 cm2 INATP/ S305x203	486 cm2 INATP/ S356x203	505 cm2 INATP/ S406x203	617 cm2 INATP/ S457x203	673 cm2 INATP/ S508x203	823 cm2 INATP/ S610x203
254				424 cm2 INATP/ S254x254	519 cm2 INATP/ S305x254	613 cm2 INATP/ S356x254	636 cm2 INATP/ S406x254	778 cm2 INATP/ S457x254	849 cm2 INATP/ S508x254	1037 cm2 INATP/ S610x254
305					626 cm2 INATP/ S305x305	740 cm2 INATP/ S356x305	768 cm2 INATP/ S406x305	939 cm2 INATP/ S457x305	1024 cm2 INATP/ S508x305	1252 cm2 INATP/ S610x305
356						866 cm2 INATP/ S356x356	900 cm2 INATP/ S406x356	1100 cm2 INATP/ S457x356	1200 cm2 INATP/ S508x356	1466 cm2 INATP/ S610x356
406							1031 cm2 INATP/ S406x406	1261 cm2 INATP/ S457x406	1375 cm2 INATP/ S508x406	1681 cm2 INATP/ S610x406
457								1422 cm2 INATP/ S457x457	1551 cm2 NATP/ S508x457	1895 cm2 INATP/ S610x457
508									1726 cm2 INATP/ S508x508	2110 cm2 INATP/ S610x508
610										2539 cm2 INATP/ S610x610

INTU STRIP F

INTUMESCENT SEALS

EUROPEAN TECHNICAL APPROVAL

up to
EI 240

door seals

PRODUCT DESCRIPTION

The firestop seal INTU STRIP F is made of graphite-based material. The material swells under the influence of high temperature, increasing its volume 35 times. The expanding product prevents the spread of fire through joints and gaps in the fire door. Fire resistance class up to EI 240*.

- rolls with a length of 50/100 m
- thickness from 2 to 2.5 mm
- width from 10 to 58 mm

COMPLIANCE:

• Tested to
EN1364-1:2014-03 + Ap1:2016 10P
• Door fire test report
LZP43-02580/16/Z00NZP
• Swell pressure report
LZP08-2580/16/Z00NZP
• Swell height report
LZP09-2580/16/Z00NZP
• Thermal conductivity test report
LZF00-03116/20/Z00NZF
• TDS
• SDS

APPLICATION

The INTU STRIP F is designed for sealing gaps in fire doors.

INSTALLATION METHOD

The seal is installed around the door in previously prepared grooves. In order to install the seal, use your own gluing technology; fit it exactly to the milled groove along its entire length. Seals should not be cut after applying to surface.

AVAILABILITY

INTU FR STRIP F - Intumescent door seal (without adhesive tape)			
Pno.	**Type (thicnkess/width/length)**	**MOQ**	**Unit**
INSTF10x2/50	2mm/10mm/50m	1000m	ROLL
INSTF10x2/100	2mm/10mm/100m	1000m	ROLL
INSTF15x2/50	2mm/15mm/50m	600m	ROLL
INSTF15x2/100	2mm/15mm/100m	600m	ROLL
INSTF20x2/50	2mm/20mm/50m	500m	ROLL
INSTF20x2/100	2mm/20mm/100m	500m	ROLL
INSTF22x2/50	2mm/22mm/50m	500m	ROLL
INSTF22x2/100	2mm/22mm/100m	500m	ROLL
INSTF25x2/50	2mm/25mm/50m	500m	ROLL
INSTF25x2/100	2mm/25mm/100m	500m	ROLL
INSTF30x2/50	2mm/30mm/50m	400m	ROLL
INSTF30x2/100	2mm/30mm/100m	400m	ROLL
INSTF40x2/50	2mm/40mm/50m	300m	ROLL
INSTF40x2/100	2mm/40mm/100m	300m	ROLL
INSTF58x2/50	2mm/58mm/50m	200m	ROLL
INSTF58x2/100	2mm/58mm/100m	200m	ROLL

Color	black
Self-adhesive tape	NO
INTU FR GRILLE C80	Ø100 ÷ Ø400
Thickness [mm]	2,0; 2,5
Width [mm]	10 ÷ 58
Length [m]	50; 100
Density [g/cm3]	1,2 ± 15%
Swelling temperature [°C]	Ca. 150
Swelling ratio	≤ 35,97
Swelling pressure [N/mm2]	Ca. 0,815
Fire resistance	Max 240 minutes
Thermal conductivity λ [W/mK]	0,4049

.INTUSEAL®

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