INTU FR UNIBOARD

Fire rated board

TDS Technical Data Sheet

CE

ETA

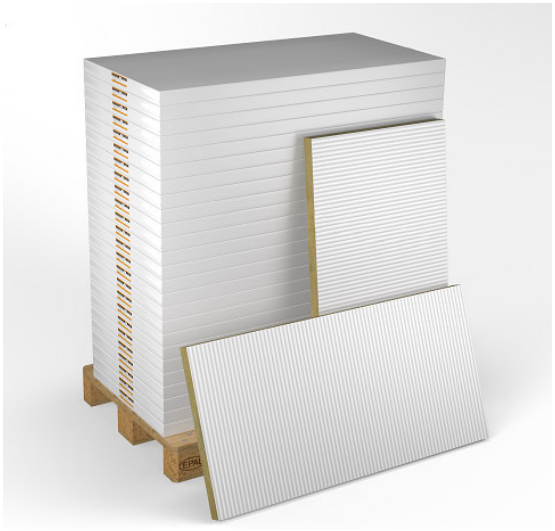
.INTUSEAL®

passive fire protection manufacturer

www.intuseal.com

PRODUCT DESCRIPTION

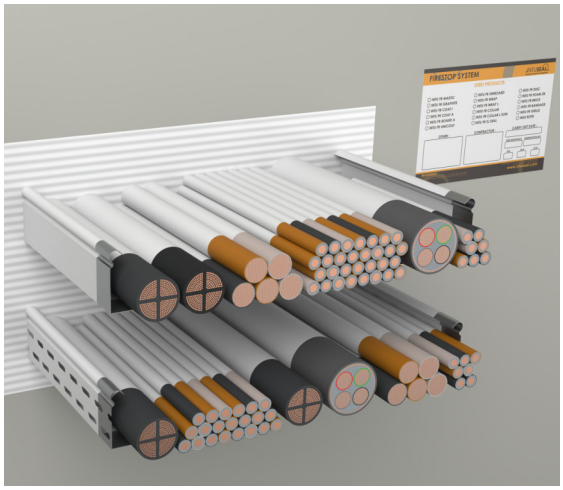
The intended use of **INTU FR UNICOAT P**, **INTU FR UNIBOARD 1S** and **INTU FR UNIBOARD 2S** is to reinstate the fire resistance performance of flexible wall, rigid wall or rigid floor constructions, where they are penetrated by services: large penetration of cables or multiple penetration of pipes. **INTU FR UNIBOARD** is mineral wool board with minimum nominal density of 140,0 kg/m^3. The mineral wool board is painted with **INTU FR UNICOAT P.**



APPLICATION

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

Flexible walls:	The wall must have a minimum thickness 100 mm, must comprise timber or steel studs lined on both faces with minimum two layers (with overall board layer thickness on one side equal to or greater than 25 mm) of gypsum plasterboards.
Rigid walls:	The wall must have a minimum thickness 100 mm, must comprise concrete or masonry separating elements, with a minimum density 450 kg/m^3.
Rigid floor:	The floor must have a minimum thickness 150 mm, must comprise aerated or reinforced concrete, concrete, with a minimum density 550 kg/m^3.



AVAILABILITY

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

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

COMPLIANCE

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

TRANSPORT AND STORAGE

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

INTUSEAL Sp. z o.o.
Ul. Kineskopowa 1, 05-500 Piaseczno, Polska
E-mail: sales@intuseal.com

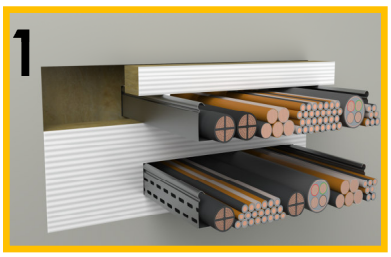
NIP 5223031827 | REGON 361758444 | Nr KRS 0000562502

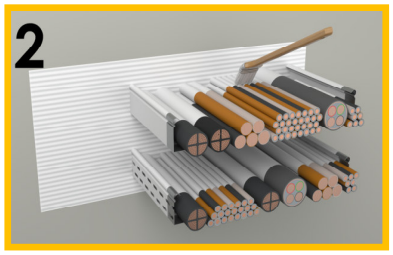
INSTALLATION METHOD

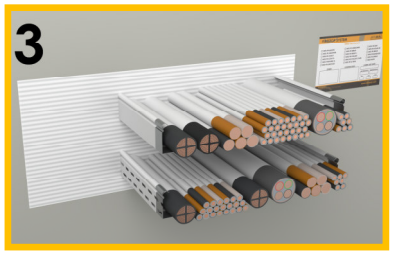
1. PREPARATION
Clean the surfaces of the opening and the installations of grease and other contaminants before the protection is performed. Fill the space in penetration with mineral wool board **INTU FR UNIBOARD**.

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

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



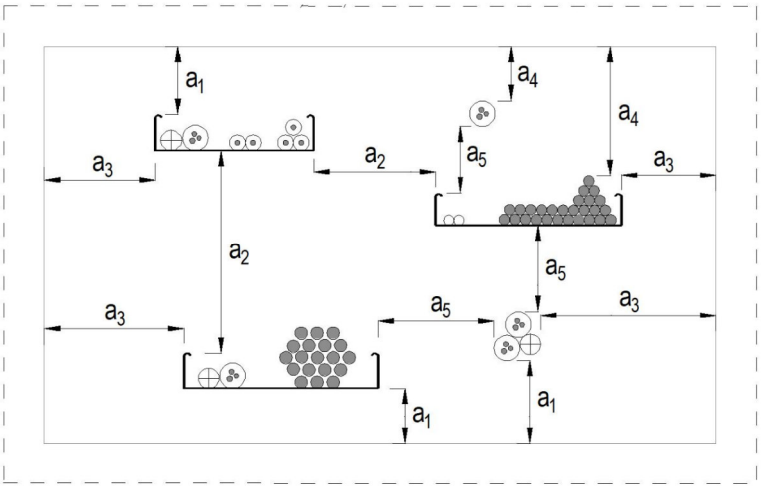




Colour		Mineral wool with white coating
Shelf life		Not applicable
Transportation storage temperature		-5 °C to +35 °C (store dry in the original packaging)
Usage category		Type Z_2: intended for use in internal conditions with humidity lower than 85% RH, excluding temperatures below 0°C, without exposure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

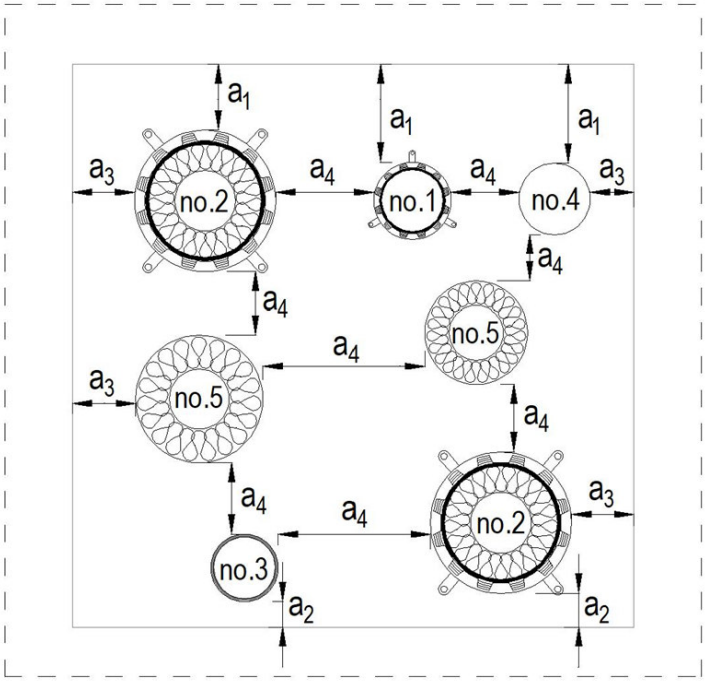
Filling the partition	Supporting construction	Maximum size penetration seals		
		Large cable	Multiple horizontal	Multiple vertical
1 x INTU FR UNIBOARD 2S	Wall	600 x 600 mm	1000 x 600 mm	
	Floor	625 x 1000 mm	600 x 1200 mm	
2 x INTU FR UNIBOARD 1S	Wall	1000 x 600 mm	1000 x 600 mm	400 x 1000 mm
	Floor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

Large cable penetration seal



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

Multiple penetration seal



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

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

➔ FIRE RESISTANCE CLASSIFICATION

COMBUSTIBLE PIPES WITH **INTU FR COLLAR L SLIM**

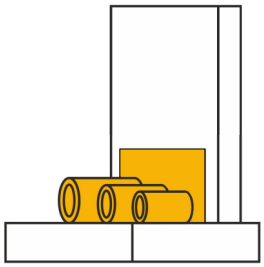
. COMBUSTIBLE PIPES without insulation

Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS • collar on both sides of the partition			FLOORS • collar from the bottom of the floor		
			Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C	Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C
PP	2 x INTU FR UNIBOARD 1S	Ø ≤ 75	1,9 – 12,5	2 x 2	EI 120	1,9 – 12,5	1 x 2	EI 120
		75 < Ø ≤ 90	2,2 – 15,0	2 x 4		2,2 – 15,0	1 x 4	
		90 < Ø ≤ 110	2,7 – 18,3	2 x 5		2,7 – 18,3	1 x 5	
		110 < Ø ≤ 125				3,1 – 14,0	2 x 7	
		125 < Ø ≤ 160				3,9	2 x 9	

Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS • collar on both sides of the partition			FLOORS • collar from the bottom of the floor		
			Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C	Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C
PP-R	2 x INTU FR UNIBOARD 1S	Ø ≤ 25	≥ 2,3	2 x 2	EI 120	≥ 2,3	1 x 2	EI 120
		20 < Ø ≤ 25	≥ 2,7			≥ 2,7		
		25 < Ø ≤ 32	3,3 – 12,5			3,3 – 12,5		
		32 < Ø ≤ 40	3,9 – 12,5			3,9 – 12,5		
		40 < Ø ≤ 50	4,8 – 12,5			4,8 – 12,5		
		50 < Ø ≤ 63	5,8 – 12,5			5,8 – 12,5		
		63 < Ø ≤ 75	6,8 – 12,5			6,8 – 12,5		
		75 < Ø ≤ 90	8,2 – 15,0	2 x 4		8,2 – 15,0	1 x 4	
		90 < Ø ≤ 110	10,0 – 18,3	2 x 5		10,0 – 18,3	1x 5	

Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS • collar on both sides of the partition			FLOORS • collar from the bottom of the floor		
			Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C	Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C
PE-HD /PE / PE-X / ABS / SAN + PVC	1 x INTU FR UNIBOARD 2S	Ø ≤ 75	3,0 – 6,8	2 x 2	EI 60	3,0 – 6,8	1 x 2	EI 90
		75 < Ø ≤ 90	3,5 – 8,2	2 x 4		3,5 – 8,2	1 x 4	
		90 < Ø ≤ 110	4,2 – 10,0	2 x 5		4,2 – 10,0	1 x 5	

Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS • collar on both sides of the partition			FLOORS • collar from the bottom of the floor		
			Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C	Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C
PVC-U / PVC-C	2 x INTU FR UNIBOARD 1S	Ø ≤ 75	1,8 – 5,6	2 x 2	EI 120	1,8 – 5,6	1 x 2	EI 120
		75 < Ø ≤ 90	1,9 – 6,7	2 x 4		1,9 – 6,7	1 x 4	
		90 < Ø ≤ 110	2,0 – 8,1	2 x 5		2,0 – 8,1	1 x 5	
PE-HD PE PE-X ABS SAN + PVC	2 x INTU FR UNIBOARD 1S	63 < Ø ≤ 75	3,0 – 6,8	2 x 2	EI 120	3,0 – 6,8	1 x 2	EI 120
		75 < Ø ≤ 90	3,5 – 8,2	2 x 4		3,5 – 8,2	1 x 4	
		90 < Ø ≤ 110	4,2 – 10,0	2 x 5		4,2 – 10,0	1 x 5	
		110 < Ø ≤ 125				5,8 – 9,9	1 x 7	
		125 < Ø ≤ 160				9,5	1 x 9	



Pipe material	Filling the partition	Pipe diameter Ø [mm]	PE insulation thickness [mm]	RIGID WALLS • pipes on the floor / pipes in insulation		
				Pipe wall thickness [mm]	Number of collars x intumescent material layers	Fire resistance U/C and C/C
PP - R	2 x INTU FR UNIBOARD 1S	Ø ≤ 20	9	2,3	2 x 5	EI 120
			25	6,9		
			25	7,0 – 12,5		EI 90
		20 < Ø ≤ 50	25	6,9		EI 120
			25	7,0 – 12,5		EI 90
		50 < Ø ≤ 75	25	12,5		
Wiązka: 2 x PP-R	2 x INTU FR UNIBOARD 1S	1) Ø ≤ 20	9	2,3	2 x 5	EI 120
		2) Ø ≤ 50	9	6,9		

COMBUSTIBLE PIPES WITH **INTU FR GRAPHITE**

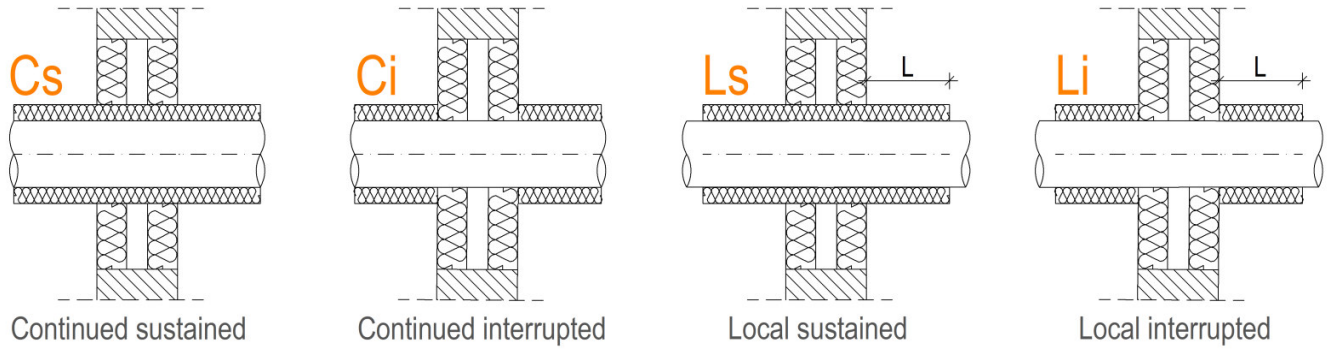
Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS		
			Pipe wall thickness [mm]	INTU FR GRAPHITE number of application sides x depth x width [mm]	Fire resistance U/C and C/C
PP	2 x INTU FR UNIBOARD 1S	Ø ≤ 75	1,9 – 12,4	2 x 25 x 10,0 – 20,0	EI 45
			12,5 – 18,3		EI 90
		75 < Ø ≤ 90	2,2 – 14,9		EI 45
			15,0 – 18,3		EI 90
		90 < Ø ≤ 110	2,7 – 18,2		EI 45
			18,3		EI 90

Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS			FLOORS		
			Pipe wall thickness [mm]	INTU FR GRAPHITE number of application sides x depth x width [mm]	Fire resistance U/C and C/C	Pipe wall thickness [mm]	INTU FR GRAPHITE number of application sides x depth x width [mm]	Fire resistance U/C and C/C
PP-R	2 x INTU FR UNIBOARD 1S	Ø ≤ 20	≥ 2,8	2 x 25 x 10,0 – 20,0	EI 45	≥ 2,3	1 x 50 x 10,0 – 20,0	EI 90
		20 < Ø ≤ 25	≥ 3,2			≥ 2,7		
		25 < Ø ≤ 32	≥ 3,8			3,3 – 12,5		
		32 < Ø ≤ 40	4,4 – 18,2			3,9 – 12,5		
			18,3		EI 90			
		40 < Ø ≤ 50	5,2 – 18,2		EI 45	4,8 – 12,5		
			18,3		EI 90			
		50 < Ø ≤ 63	6,2 – 18,2		EI 45	5,8 – 12,5		
			18,3		EI 90			
		63 < Ø ≤ 75	7,2 – 18,2		EI 45	6,8 – 12,5		
			18,3		EI 90			
		75 < Ø ≤ 90	8,4 – 18,2		EI 45	8,2 – 15,0		
			18,3		EI 90			
		90 < Ø ≤ 110	10,0 – 18,2		EI 45	10,0 – 18,3		
			18,3		EI 90			
PVC	2 x INTU FR UNIBOARD 1S	Ø ≤ 75	1,5 – 1,9	2 x 25 x 10,0 – 20,0	EI 45	1,5 – 8,1	1 x 50 x 10,0 – 20,0	EI 90
			2,0		EI 60			
			2,1 – 8,1		EI 45			
		75 < Ø ≤ 90	1,7 – 1,9		EI 60	1,7 – 8,1		
			2,0		EI 45			
			2,1 – 8,1		EI 60			
		90 < Ø ≤ 110	2,0		EI 45	2,0 – 8,1		
			2,1 – 8,1		EI 60			

NON-COMBUSTIBLE PIPES WITH **MINERAL WOOL LAMELLA**

Pipe insulation configuration

Continuous | **Local**



Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS			
			Pipe wall thickness [mm]	Mineral wool lamella on metal pipe, minimum length x thickness [mm]	Isolation configuration	Fire resistance C/U and C/C
Copper	2 x INTU FR UNIBOARD 1S	Ø ≤ 28,0	≥ 1,0	20 x 500	Cs, Ls	EI 120
		28,0 < Ø ≤ 33,7	≥ 1,1	50 x 700		EI 90
		33,7 < Ø ≤ 42,4	≥ 1,2			
		42,4 < Ø ≤ 54,0	≥ 1,4			
		54,0 < Ø ≤ 66,7	≥ 1,6			
		66,7 < Ø ≤ 76,1	≥ 1,8			
		76,1 < Ø ≤ 88,9	≥ 2,0			
Steel	2 x INTU FR UNIBOARD 1S	Ø ≤ 67,0	1,5 – 3,9	50 x 700	Cs, Ls	EI 60
			≥ 4,0			EI 90
		67,0 < Ø ≤ 76,1	1,6 – 3,9			EI 60
			≥ 4,0			EI 90
		76,1 < Ø ≤ 88,9	1,8 – 3,9			EI 60
			≥ 4,0			EI 90
		88,9 < Ø ≤ 108,0	2,0 – 3,9			EI 60
			≥ 4,0			EI 90
		108,0 < Ø ≤ 114,3	2,1 – 3,9			EI 60
			≥ 4,0			EI 90
		114,3 < Ø ≤ 139,7	2,6 – 3,9			EI 60
			≥ 4,0			EI 90
		139,7 < Ø ≤ 159,0	2,9 – 3,9			EI 60
			≥ 4,0			EI 90
		159,0 < Ø ≤ 168,3	3,1 – 3,9			EI 60
			≥ 4,0			EI 90
		168,3 < Ø ≤ 177,8	3,3 – 3,9			EI 60
			≥ 4,0			EI 90
		177,8 < Ø ≤ 193,7	3,5 – 3,9			EI 60
			≥ 4,0			EI 90
		193,7 < Ø ≤ 219,1	≥ 4,0			
Steel	2 x INTU FR UNIBOARD 1S	Ø ≤ 114,3	≥ 3,6	50 x 500	Ci, Li	EI 90
Copper	1 x INTU FR UNIBOARD 2S	Ø ≤ 28,0	≥ 1,0	20 x 500	Cs, Ls	EI 60
		28,0 < Ø ≤ 33,7	≥ 1,2	30 x 500	Cs, Ls	
		33,7 < Ø ≤ 42,4	≥ 1,6			
		42,4 < Ø ≤ 54,0	≥ 2,0			
Steel	1 x INTU FR UNIBOARD 2S	Ø ≤ 67,0	1,5 – 3,5	30 x 500	Cs, Ls	EI 60
			≥ 3,6	50 x 500		
		67,0 < Ø ≤ 76,1	1,9 – 3,5			
			≥ 3,6			
		76,1 < Ø ≤ 88,9	2,5 – 3,5			
			≥ 3,6			
		88,9 < Ø ≤ 108,0	3,3 – 3,5			
			≥ 3,6			
		108,0 < Ø ≤ 114,3	≥ 3,6			

Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLOOR			
			Pipe wall thickness [mm]	Mineral wool lamella on metal pipe, minimum length x thickness [mm]	Isolation configuration	Fire resistance C/U and C/C
Copper	2 x INTU FR UNIBOARD 1S	Ø ≤ 28,0	≥ 1,0	20 x 500	Cs, Ls	EI 120
		28,0 < Ø ≤ 33,7	≥ 1,1	50 x 700		EI 90
		33,7 < Ø ≤ 42,4	≥ 1,2			
		42,4 < Ø ≤ 54,0	≥ 1,4			
		54,0 < Ø ≤ 66,7	≥ 1,6			
		66,7 < Ø ≤ 76,1	≥ 1,8			
		76,1 < Ø ≤ 88,9	≥ 2,0			
Steel	2 x INTU FR UNIBOARD 1S	Ø ≤ 67,0	≥ 1,5	30 x 500	Cs, Ls	EI 120
		67,0 < Ø ≤ 76,1	1,6 – 3,9	50 x 700		EI 90
			≥ 4,0			EI 120
		76,1 < Ø ≤ 88,9	1,8 – 3,9			EI 90
			≥ 4,0			EI 120
		88,9 < Ø ≤ 108,0	2,0 – 3,9			EI 90
			≥ 4,0			EI 120
		108,0 < Ø ≤ 114,3	2,1 – 3,9			EI 90
			≥ 4,0			EI 120
		114,3 < Ø ≤ 139,7	2,6 – 3,9			EI 90
			≥ 4,0			EI 120
		139,7 < Ø ≤ 159,0	2,9 – 3,9			EI 90
			≥ 4,0			EI 120
		159,0 < Ø ≤ 168,3	3,1 – 3,9			EI 90
			≥ 4,0			EI 120
		168,3 < Ø ≤ 177,8	3,3 – 3,9			EI 90
			≥ 4,0			EI 120
		177,8 < Ø ≤ 193,7	3,5 – 3,9			EI 90
			≥ 4,0			EI 120
		193,7 < Ø ≤ 219,1				
Copper	1 x INTU FR UNIBOARD 2S	Ø ≤ 28,0	≥ 1,0	20 x 500	Cs, Ls	EI 45
		28,0 < Ø ≤ 33,7	≥ 1,2	30 x 500		
		33,7 < Ø ≤ 42,4	≥ 1,6			
		42,4 < Ø ≤ 54,0	≥ 2,0			
Steel	1 x INTU FR UNIBOARD 2S	Ø ≤ 67,0	1,5 – 3,5	30 x 500	Cs, Ls	EI 45
			≥ 3,6	50 x 500		EI 60
		67,0 < Ø ≤ 76,1	1,9 – 3,5			EI 45
			≥ 3,6			EI 60
		76,1 < Ø ≤ 88,9	2,5 – 3,5			EI 45
			≥ 3,6			EI 60
		88,9 < Ø ≤ 108,0	3,3 – 3,5			EI 45
			≥ 3,6			EI 60
		108,0 < Ø ≤ 114,3				

NON-COMBUSTIBLE PIPES WITH **INTU FR UNICOAT P**

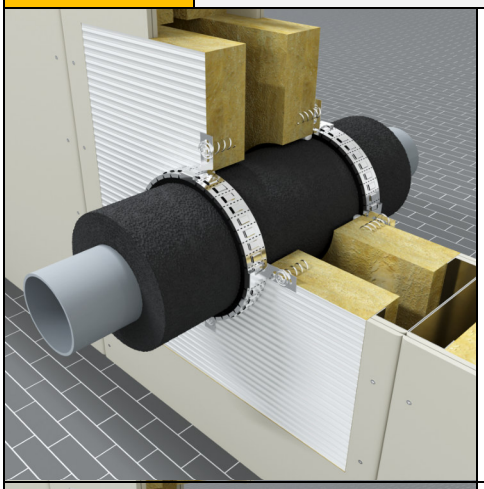
Pipe material	Filling the partition	Pipe diameter Ø [mm]	FLEXIBLE / RIGID WALLS			FLOORS		
			Pipe wall thickness [mm]	INTU FR UNICOAT P paint, thickness x width [mm]	Fire resistance C/U and C/C	Pipe wall thickness [mm]	INTU FR UNICOAT P paint thickness x width [mm]	Fire resistance C/U and C/C
Copper	2 x INTU FR UNIBOARD 1S	Ø ≤ 28,0	≥ 1,0	1,0 x 500	EI 20	≥ 1,0	1,0 x 500	EI 45
		28,0 < Ø ≤ 33,7	≥ 1,2			≥ 1,2		EI 30
		33,7 < Ø ≤ 42,4	≥ 1,6			≥ 1,6		
		42,4 < Ø ≤ 54,0	≥ 2,0			≥ 2,0		
Steel	2 x INTU FR UNIBOARD 1S	Ø ≤ 42,4	≥ 1,5	1,0 x 500	EI 60	≥ 1,5	1,0 x 500	EI 90

CABLES

Pipe material	Filling the partition	Cable diameter Ø [mm]	FLEXIBLE / RIGID WALLS		FLOORS	
			INTU FR UNICOAT P paint, thickness x width [mm]	Fire resistance C/U and C/C	INTU FR UNICOAT P paint thickness x width [mm]	Fire resistance C/U and C/C
Small cables	2 x INTU FR UNIBOARD 1S	Ø ≤ 21	1,0 x 160	EI 120	1,0 x 160	EI 120
Medium cables		21 < Ø ≤ 50		EI 90		
Large cables		50 < Ø ≤ 80				
Cable bundle		$Ø_{CABLE}$ ≤ 21 $Ø_{BUNDLE}$ ≤ 100		EI 120		
Non-sheathed cables (wires)		Ø ≤ 24				
Small cables	1 x INTU FR UNIBOARD 2S	Ø ≤ 21	1,0 x 200	EI 60	1,0 x 200	EI 60
Medium cables		21 < Ø ≤ 50				
Large cables		50 < Ø ≤ 80				
Cable bundle		$Ø_{CABLE}$ ≤ 21 $Ø_{BUNDLE}$ ≤ 100				
Non-sheathed cables (wires)		Ø ≤ 24				

➔ SOLUTION DETAILS

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



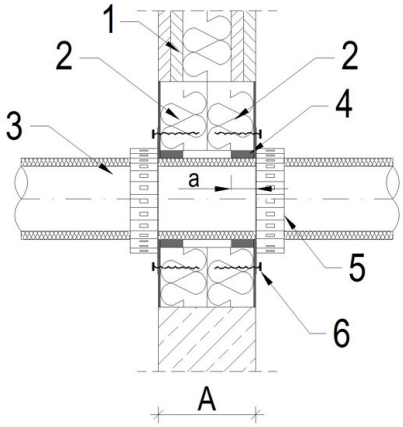
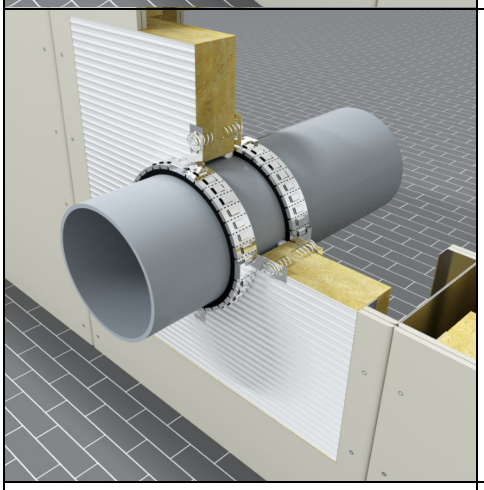


Fig. 1 Isolated combustible pipe, double mineral wool board

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



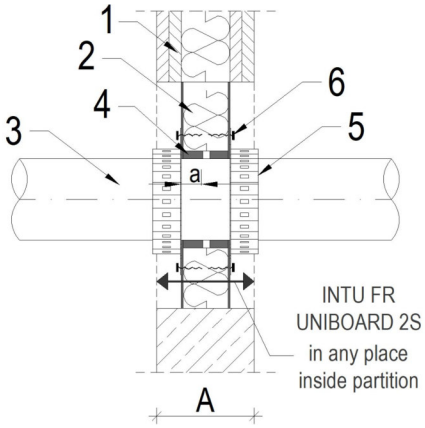
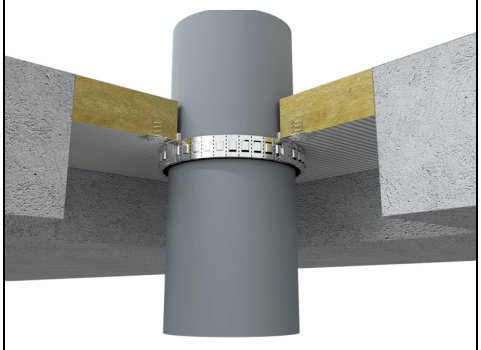


Fig. 2 Combustible pipe, single mineral wool board

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



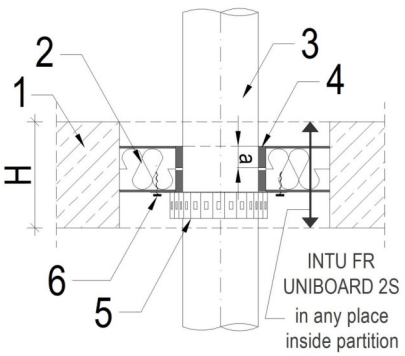
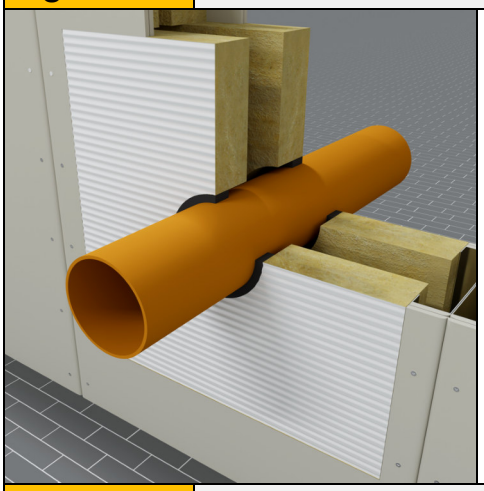


Fig. 3 Combustible pipe, single mineral wool board

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

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



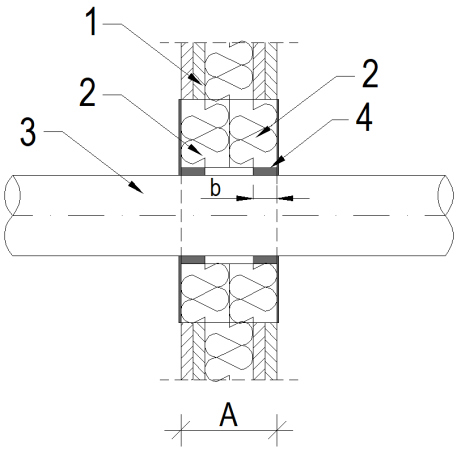
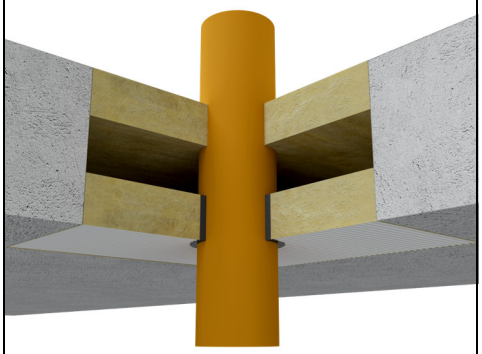


Fig. 4 Combustible pipe with INTU FR GRAPHITE penetration seal, double mineral wool board

1 – flexible / rigid wall A ≥ 100 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – combustible pipe
4 – **INTU FR GRAPHITE** on minimum depth:
- b ≥ 25 mm from both sides of the wall

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



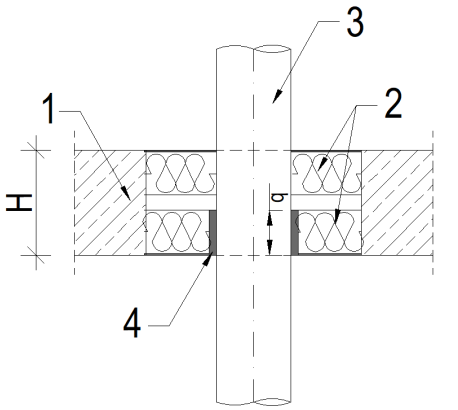
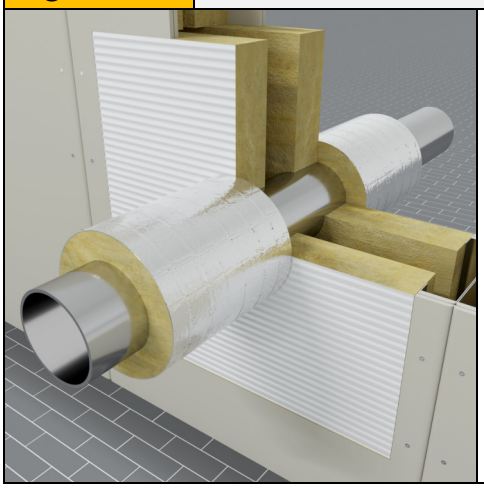


Fig. 5 Combustible pipe with INTU FR GRAPHITE penetration seal, double mineral wool board

1 – rigid floor H ≥ 150 mm
2 – 2 x board **INTU FR UNIBOARD 1S**
3 – combustible pipe
4 – **INTU FR GRAPHITE** on minimum depth:
- b ≥ 50 mm from the bottom of the floor

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



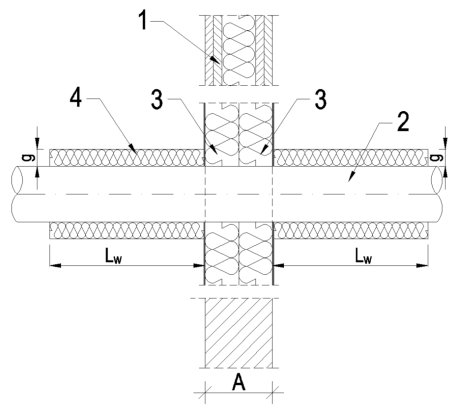
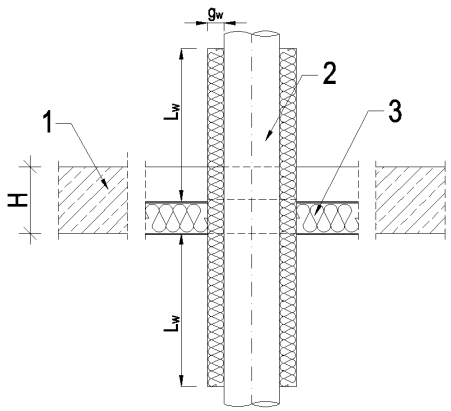


Fig. 6 Non-combustible pipe with mineral wool lamella, double mineral wool board

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

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



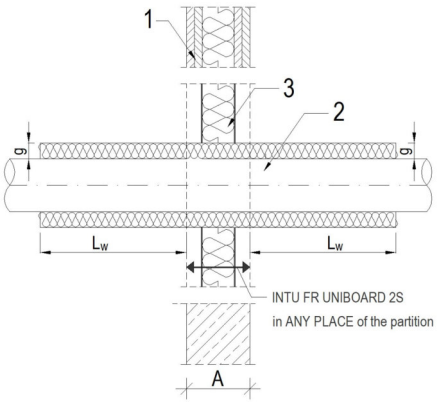
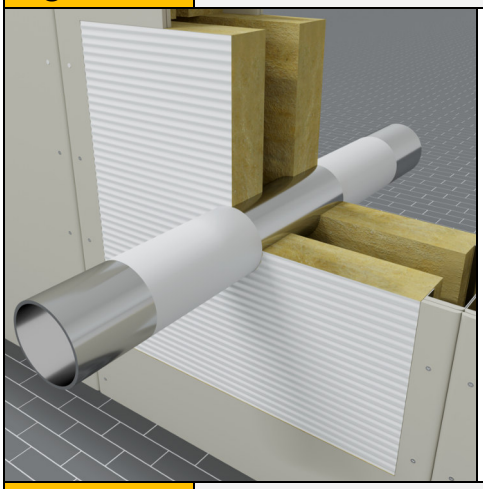


Fig. 7-8 Non-combustible pipe with mineral wool lamella, single mineral wool board

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

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



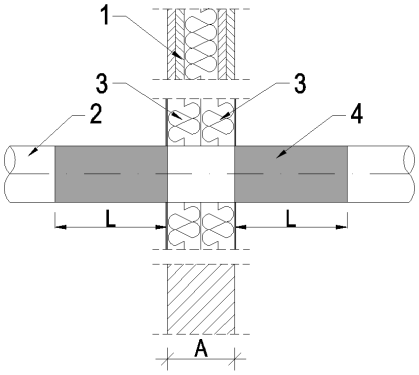
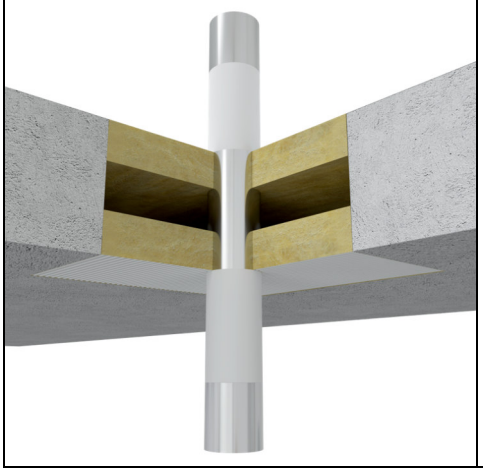


Fig. 9 Non-combustible pipe painted by **INTU FR UNICOAT P**, double mineral wool board

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

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



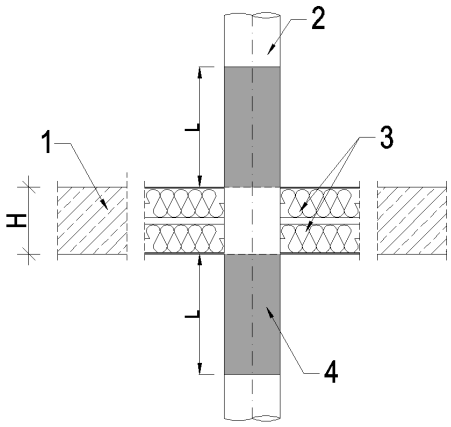
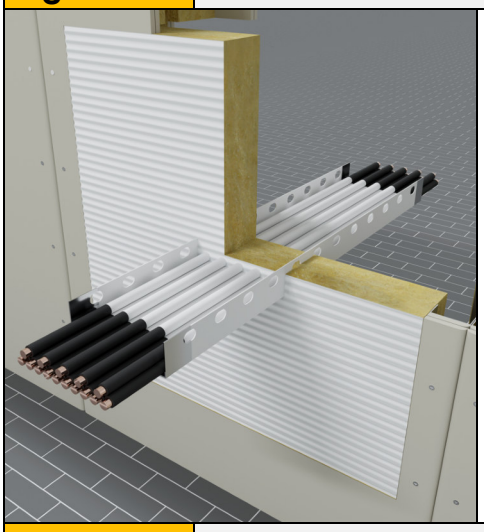


Fig. 10 Non-combustible pipe painted by **INTU FR UNICOAT P**, double mineral wool board

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

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



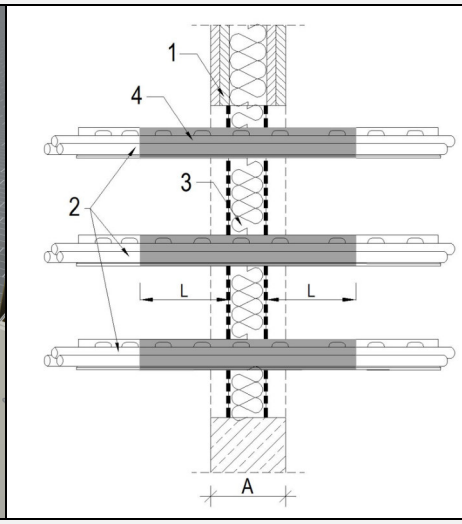
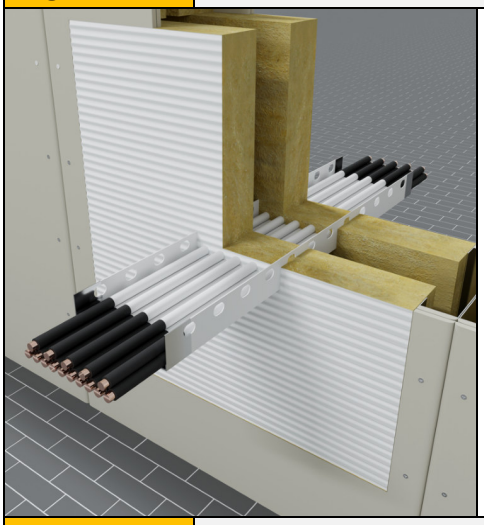


Fig. 11 Large cables penetration seal, single mineral wool board

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

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



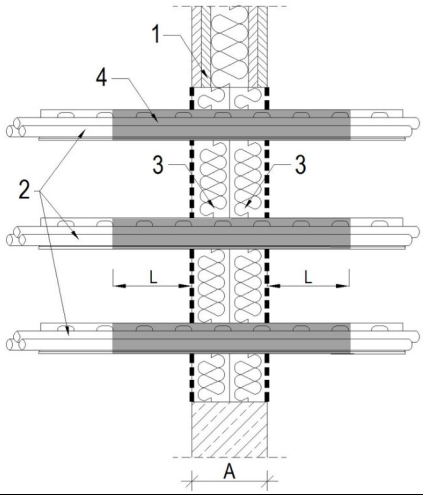
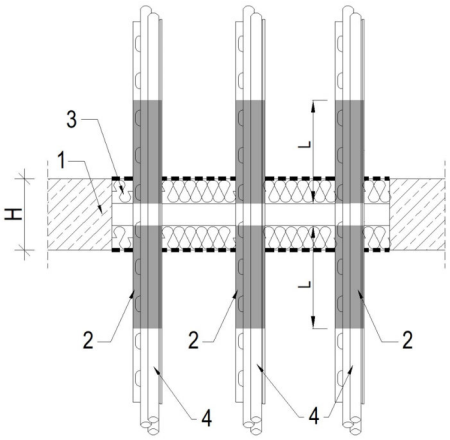


Fig. 12 Large cables penetration seal, double mineral wool board

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

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



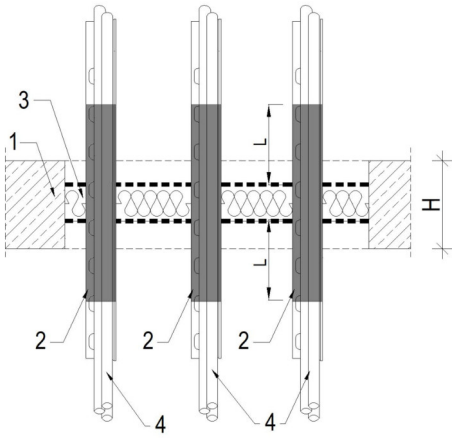


Fig. 13-14 Large cables penetration seal, single or double mineral wool board

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