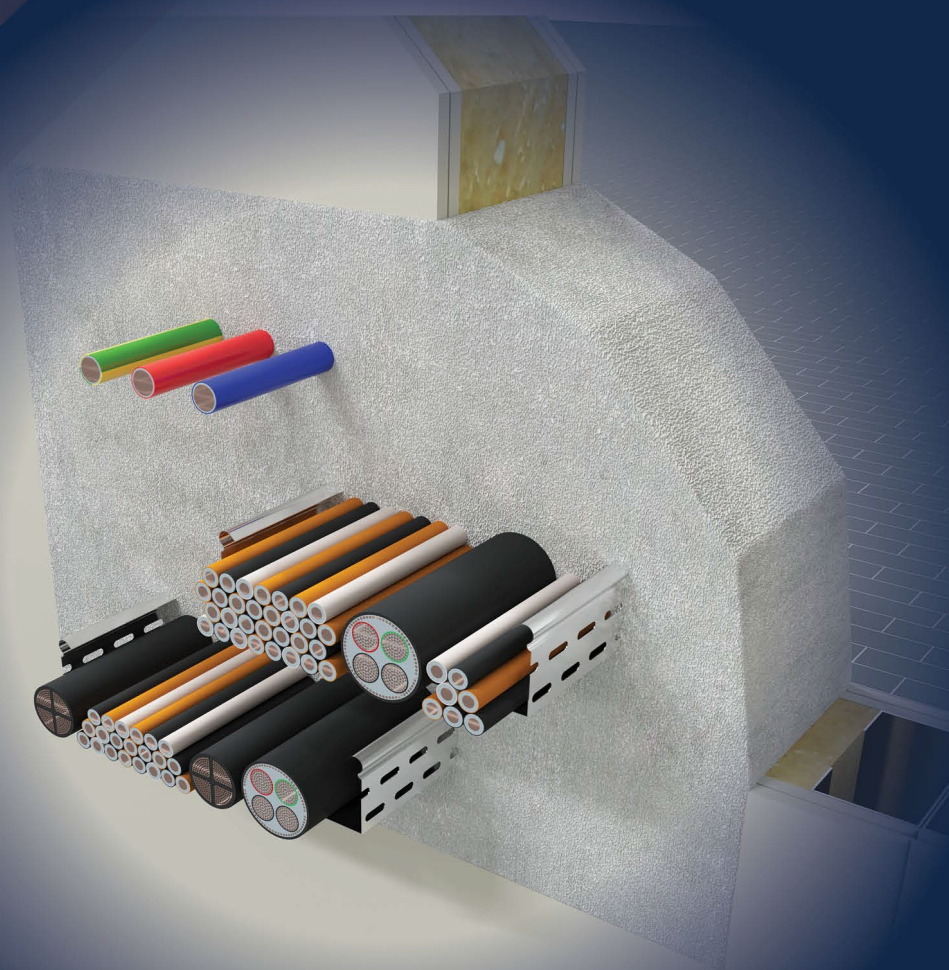


INTU FR MORTAR

Firestop mortar

TECHNICAL DATA SHEET



INTU FR MORTAR

Firestop mortar

PRODUCT DESCRIPTION

INTU FR MORTAR is a gypsum-based fire protection mortar. The product is used to restore the fire resistance of partitions in areas where installations are present: cable penetrations, non-combustible pipe penetrations or mixed penetrations.

INTU FR MORTAR mortar is supplied as a dry material that must be mixed with water in the required proportions before installation. The mortar effectively fills the gaps around the penetration, ensuring that the partition retains its tightness and insulation up to EI 240.

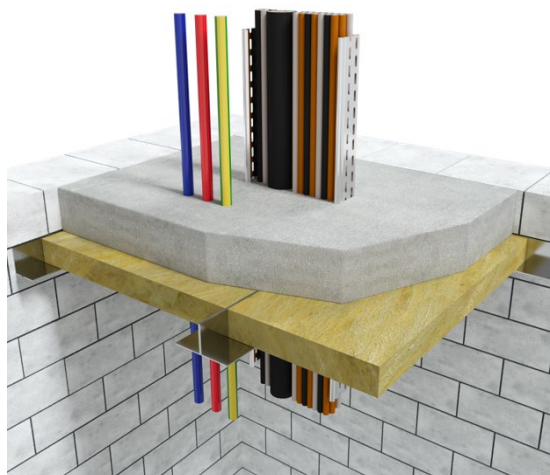
APPLICATION

INTU FR MORTAR fire protection mortar is especially good for penetrations with insulated and uninsulated metal pipes, plastic pipes, electrical cables, cable bundles, cable trays, cable ladders, unshielded cables, telecommunication cables, and copper pipe bundles. It is suitable for use in both small and large installation openings (the consistency of the mortar can be easily adjusted to be stiff or pourable, depending on the needs and size of the penetration).

Flexible wall:	The wall should be at least 100 mm thick. It should be made of double-sided cladding consisting of at least two plasterboard panels (total cladding thickness on one side of the wall not less than 25 mm).
Rigid wall:	The wall should be at least 100 mm thick. It should be made of concrete or masonry elements with a density of not less than 650 kg/m ³ .
Rigid ceiling:	The ceiling should be at least 150 mm thick. It should be made of concrete, reinforced concrete or aerated concrete with a density of at least 550 kg/m ³ .

AVAILABILITY

Product	Type	Delivery form	Item number
INTU FR MORTAR	bag 20 kg	1 pcs.	3600200000
INSULWRAP	6 mm x 610 mm x 5500 mm	1 pcs.	3605500616



COMPLIANCE

European Technical Assessment:

ETA-24/1229

Declaration of performance:

DoP 9/2024

Certificate of constancy of performance:

2821-CPR-0338

TRANSPORT AND STORAGE

Store in a dry place, avoid direct contact with the ground. The shelf life of an unopened bag of mortar is 12 months from the date of manufacture.

INSTEELLATION

1. PREPARATION

Clean the surface of the hole and the inSteellation from grease and dirt..

2. MIXING

Gradually add **INTU FR MORTAR** to clean water in a container, mixing by hand or mechanically. Continue mixing until a smooth consistency is achieved, without lumps. The recommended mixing ratios are as follows:

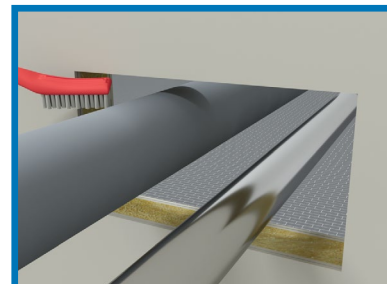
Filling the hole with INTU FR MORTAR	Mortar / water (volume ratio)	Compressive strength [N/mm ²]	Destruction module [N/mm ²]
CEILING	2,5 : 1	10,37	3,00
WALL	3,0 : 1	14,51	3,98

The setting time depends on the amount of mixture used, the amount of water and the ambient temperature.

- Typical setting time is approximately: 45 to 90 minutes.
- Yield: two 20 kg bags of mortar are sufficient to fill an empty space measuring 1.0 m x 1.0 m and 50 mm deep.

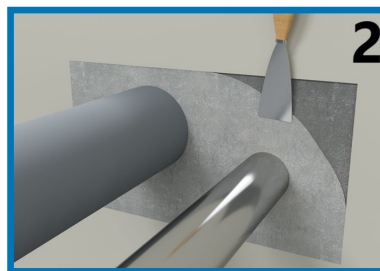
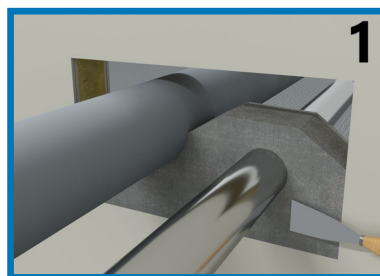
3. APPLICATION

Apply at temperatures between +5°C and +40°C. If necessary, protect the hole and inastallations with standard masking tape. Moisten contact surfaces with water to ensure good adhesion with the mortar. For small holes, apply the mixture directly into the hole, completely filling the spaces between the Inastallations. Clean application tools and mixing equipment with clean water immediately after use..



Filling a hole in a WALL

- In the case of a wall, you can start applying the mortar immediately in the opening.
- 1) Starting from the bottom, apply the mortar in the hole to form a complete seal. For larger holes, repeat the mixing procedure and apply further layers of **INTU FR MORTAR** to each previous layer to close the hole and achieve the required minimum seal depth and an even surface finish.
 - 2) Smooth the mortar on the surface of the hole using a suitable tool.



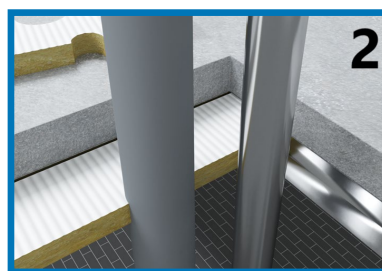
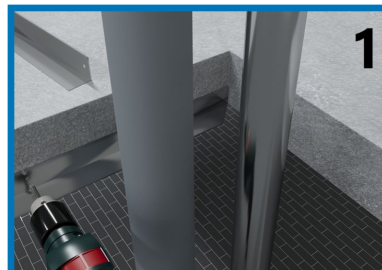
Filling a hole in the CEILING

- For ceilings, prepare permanent formwork in the form of hard mineral wool boards.

1) Cut the steel angle bar with dimensions 50 x 50 x 2 mm to the appropriate lengths and fasten it around the inner surface of the opening in the ceiling using steel screws (screw spacing max. 250 mm). The angle brackets should be positioned at a depth in the ceiling that allows for the installation of a single layer of 50 mm thick mineral wool board covered with a layer of mortar with a minimum thickness of 90 mm.

2) Cut the wool board to the required size and install it in the opening to form a complete layer of permanent formwork for the **INTU FR MORTAR**.

3) Pour the mixture into the opening and spread it evenly between the installations to completely seal the opening. Smooth the mortar on the surface of the opening using a suitable tool.



TECHNICAL DATA

Colour		Broken white
Density		~660 kg/m³ in powder form / ~860 kg/m³ one month after use
Reaction to fire		A1
Sound insulation		57 dB
Chloride content		Zero
Shelf life		12 months from the date of manufacture
Storage		Store in a dry place in the original packaging.
Category of use		Type Y₂: designed for use at temperatures below 0°C, but without exposure to rain or UV radiation. Includes lower service categories.
Compliance		EAD 350454-00-1104
European Technical Assessment		ETA-24/1229 z dnia 2024/12/16
Service life		25 years
The necessity of formwork	Wall	No, in wall orientation, INTU FR MORTAR is self-supporting.
	Ceiling	Yes, a structure consisting of angle brackets supporting a wool board with a thickness of 50 mm and a density of ≥ 140 kg/m³

Minimum mortar thickness INTU FR MORTAR in the partition	Partition	Maximum size of the seal for inSteellation passages
100 mm	Wall	Unlimited - in wall orientation, the mortar is self-supporting
150 mm		
90 mm	Ceiling	1400 x 1200 mm
50 mm		700 x 600 mm

COMPLEMENTARY PRODUCT

INSULWRAP is a fibre-structured mat made from high-purity raw materials. The mat is coated on one side with aluminium foil, making it an effective, lightweight and easy-to-inSteell insulation that is resistant to high temperatures and mechanical damage.

The **INSULWRAP** mat is used to increase the fire resistance of cables protected with **INTU FR MORTAR** mortar.



FIRE CLASSIFICATION

CABLES

Inastallations	FLEXIBLE / RIGID WALL	RIGID WALL
	Depth INTU FR MORTAR ≥ 100 mm	Depth INTU FR MORTAR ≥ 150 mm
	Fire resistance class	Fire resistance class
Electrical cables $\varnothing \leq 21$ mm	EI 60	EI 60
Electrical cables $\varnothing \leq 80$ mm	EI 45	EI 45
	EI 120 ¹⁾	EI 120 ¹⁾
Steel cable trays for 150 x 50 x 1,5 mm	EI 60	EI 60
Steel cable trays for 300 x 25 x 1,5 mm	EI 120	EI 120
Telecommunication cables $\varnothing_{BUNDLES} \leq 100$ mm, $\varnothing_{CABLE} \leq 21$ mm	EI 120 ¹⁾	EI 120 ¹⁾
Conductor without sheath $\varnothing \leq 24$ mm	EI 90	EI 90
	EI 120 ¹⁾	EI 180 ¹⁾
Electrical cables: C1, C2, C3	EI 60	EI 60
Electrical cables: A1, A2, A3	EI 90	EI 90
Electrical cables: D1, D2	EI 120	EI 120

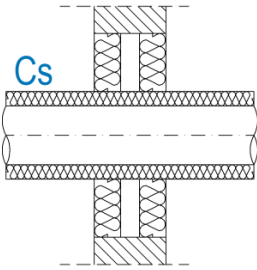
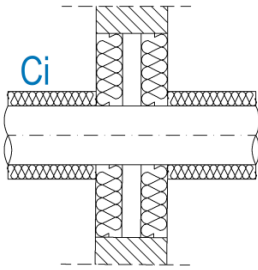
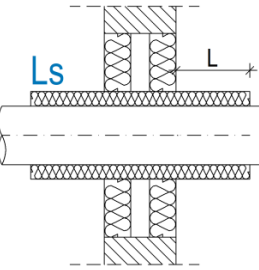
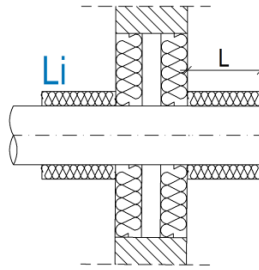
1) To achieve the specified fire resistance class, wrap the inSteellation once with **INSULWRAP** mat on one side of the partition.

Installations	CEILING	
	Depth INTU FR MORTAR ≥ 90 mm	Depth INTU FR MORTAR ≥ 50 mm
	Fire resistance class	Fire resistance class
Electrical cables $\varnothing \leq 21$ mm	EI 90	EI 30
	EI 120 ¹⁾	EI 90 ¹⁾
Electrical cables $\varnothing \leq 80$ mm	EI 60	-
	EI 90 ¹⁾	EI 60 ¹⁾
Conductor without sheath $\varnothing \leq 24$ mm	EI 30	-
	EI 60 ¹⁾	EI 90 ¹⁾
Telecommunication cables $\varnothing_{\text{BUNDLES}} \leq 100$ mm, $\varnothing_{\text{CABLE}} \leq 21$ mm	EI 60	EI 30
	EI 90 ¹⁾	EI 90 ¹⁾
Steel ladders and non-perforated steel trays for 500 x 60 x 1,5 mm	EI 120	EI 120
Perforated steel trays for 500 x 60 x 1,5 mm	EI 90	EI 90
Telecommunication cables $\varnothing_{\text{BUNDLES}} \leq 100$ mm, $\varnothing_{\text{CABLE}} \leq 21$ mm	EI 60	EI 30
	EI 90 ¹⁾	EI 90 ¹⁾
Electrical cables: A2	EI 120	EI 120
Electrical cables: A1, A2, A3	EI 120 ¹⁾	EI 120 ¹⁾

1) To achieve the specified fire resistance class, wrap the installation once with **INSULWRAP** mat on one side of the partition.

Non-combustible pipes with or without insulation

Table 1. Insulation configuration in inSteellation penetrations

CONTINUOUS INSULATION		INSULATION BROKEN	
 Cs Ciągła Continued sustained	 Ci Ciągła przerwana Continued interrupted	 Ls Lokalna Local sustained	 Li Lokalna przerwana Local interrupted

Pipe material	Minimum mortar depth INTU FR MORTAR	Pipe diameter Ø [mm]	RIGID WALL with a thickness of ≥ 150 mm				
			Pipe wall thickness [mm]	Type of insulation	Insulation thickness	Insulation configuration	Fire resistance class
Copper	≥ 150 mm	Ø ≤ 22,0	≥ 1,0	-	-	-	EI 90
			≥ 1,0	FEF	20	Ci, Li	EI 240
		22 < Ø ≤ 38,0	≥ 1,0	FEF	19	Ci, Li	EI 120
		38,0 < Ø ≤ 93,0	≥ 1,6	FEF	25		
		Ø ≤ 93,0	≥ 1,0	Mineral wool	25	Cs, Ls	
Steel	≥ 150 mm	Ø ≤ 38,0	≥ 1,9	-	-	-	EI 180
		Ø ≤ 19,0	≥ 1,2	FEF	20	Ci, Li	EI 240
		19,0 < Ø ≤ 38,0	≥ 1,9	FEF	25	Ci, Li	EI 240
		38,0 < Ø ≤ 193,7	≥ 5,0	FEF	25	Ci	EI 240
			≥ 1,2	FEF	25	Ci, Li	EI 90
Pipe material	Minimum mortar depth INTU FR MORTAR	Pipe diameter Ø [mm]	RIGID / FLEXIBLE WALL with a thickness of ≥ 100 mm				
			Pipe wall thickness [mm]	Type of insulation	Insulation thickness	Insulation configuration	Fire resistance class
Copper	≥ 100 mm	Ø ≤ 22,0	≥ 1,0	-	-	-	EI 90
		Ø ≤ 38,0	≥ 1,0	FEF	19	Ci, Li	EI 120
		38,0 < Ø ≤ 93,0	≥ 1,6	FEF	25		
		Ø ≤ 93,0	≥ 1,0	Mineral wool	25	Cs, Ls	
Steel	≥ 100 mm	Ø ≤ 19,0	≥ 1,2	-	-	-	EI 120
		19,0 < Ø ≤ 38,0					EI 60
		Ø ≤ 19,0		FEF	19	Ci, Li	EI 120
		19,0 < Ø ≤ 38,0			25	Ci, Li	EI 120
		38,0 < Ø ≤ 193,7			25	Ci, Li	EI 90
Pipe material	Minimum mortar depth INTU FR MORTAR	Pipe diameter Ø [mm]	CEILING with a thickness of ≥ 150 mm				
			Pipe wall thickness [mm]	Type of insulation	Insulation thickness	Insulation configuration	Fire resistance class
Copper	≥ 90 mm	Ø ≤ 22,0	≥ 1,0	-	-	-	EI 240
		22,0 < Ø ≤ 42,0	≥ 1,6				EI 90
		Ø ≤ 22,0	≥ 1,0	FEF	20	Ci	EI 240
		22,0 < Ø ≤ 42,0	≥ 1,6	FEF	25	Ci, Li	EI 240
		42,0 < Ø ≤ 89,0	≥ 1,6	FEF	25	Ci	EI 240
Steel	≥ 90 mm	Ø ≤ 19,0	≥ 1,2	FEF	19	Ci, Li	EI 180
		19,0 < Ø ≤ 38,0	≥ 1,9		25	Ci, Li	EI 180
		38,0 < Ø ≤ 193,7	≥ 5,0		25	Ci, Li	EI 60
Copper	≥ 50 mm	Ø ≤ 22,0	≥ 1,0	FEF	19	Ci, Li	EI 120
		22,0 < Ø ≤ 42,0	≥ 1,2	FEF	25	Ci, Li	EI 120
		42,0 < Ø ≤ 89,0	≥ 1,6	FEF	25	Ci	EI 120
Steel	≥ 50 mm	Ø ≤ 19,0	≥ 1,2	FEF	-	-	EI 60
		Ø ≤ 19,0	≥ 1,0		19	Ci, Li	EI 120
		19,0 < Ø ≤ 40,0	≥ 1,2		25	Ci, Li	EI 120

Fig.1-3

Non-combustible cables and pipes, insulated or uninsulated

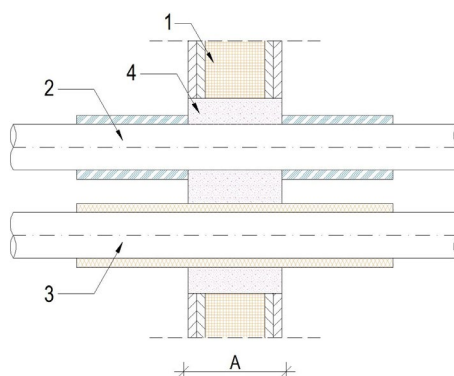
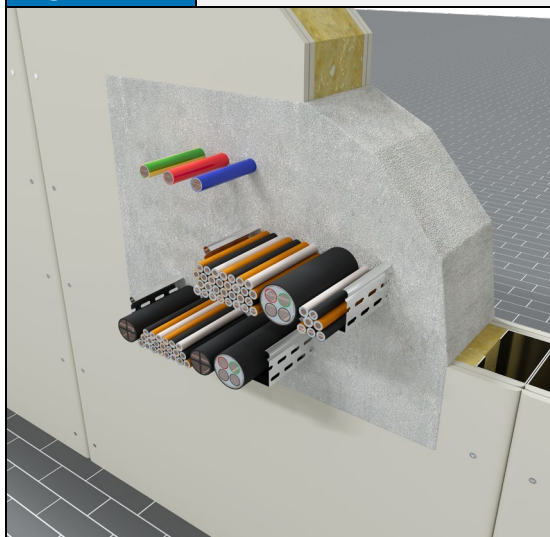


Fig. 1 Insulated non-combustible pipes in flexible/rigid wall

- 1 – wall $A \geq 100$ mm
- 2 – metal pipe in insulation FEF
- 3 – metal pipe in insulation made of mineral wool
- 4 – **INTU FR MORTAR** with a thickness of at least 100 mm

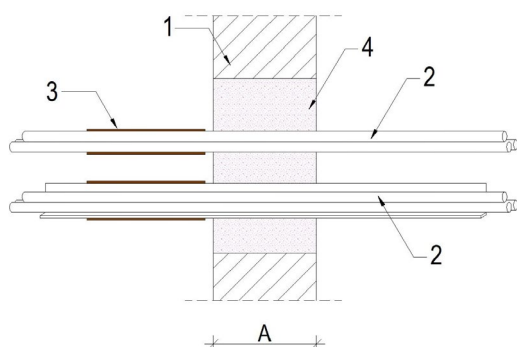


Fig. 2 Cables / cables in ducts in rigid wall

- 1 – rigid wall $A \geq 150$ mm
- 2 – electrical cables, cable harnesses, cables in cable trays
- 3 – **INSULWRAP** on one side of the partition
- 4 – **INTU FR MORTAR** with a minimum depth of 150 mm in the partition

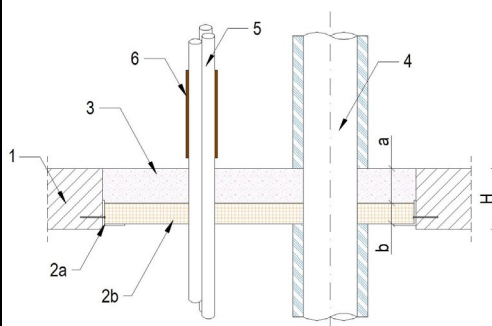
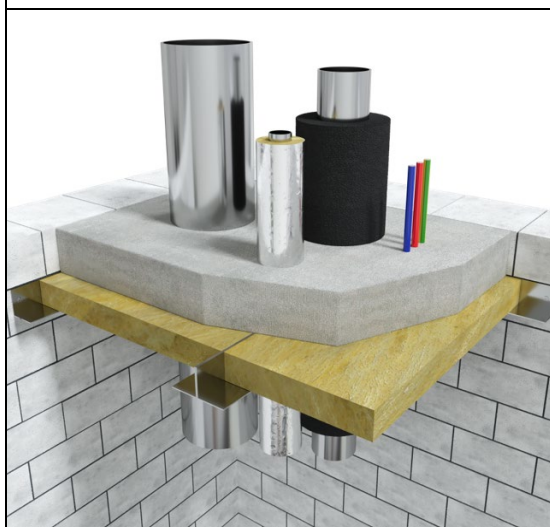


Fig. 3 Insulated non-flammable pipe and cables / cable harness

- 1 – ceiling $H \geq 150$ mm
- 2a – Steel angle
- 2b – Mineral wool board
- 3 – **INTU FR MORTAR**
- 4 – Metal pipe in fire-resistant insulation FEF
- 5 – Electrical cables, cables in bundles, cables in trays
- 6 – **INSULWRAP** on one side of the partition
- 7 – **INTU FR MORTAR**