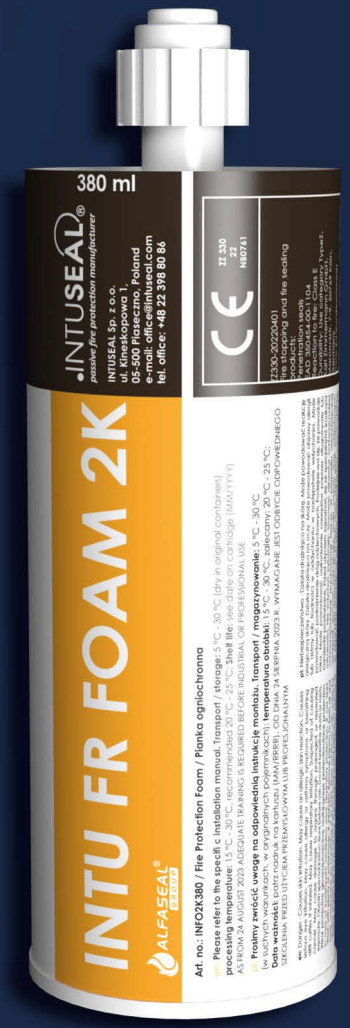
# INTU FR FOAM 2K

## *Fire protection foam*

## TECHNICAL DATA SHEET




CE

ALFASEAL® GROUP

*Bierna Ochrona Przeciwpożarowa*

ETA

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# INTU FR FOAM 2K

Fire protection foam

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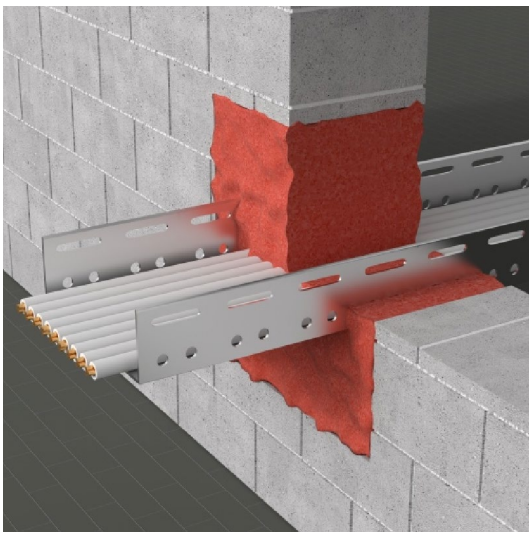
## PRODUCT DESCRIPTION

**INTU FR FOAM 2K** is a polyurethane-based intumescent fire protection foam. After application, it reacts and increases in volume. During a fire, it expands to prevent the spread of fire, creating a barrier that ensures the partition remains tight and insulated up to EI 120.


## APPLICATION

**INTU FR FOAM 2K** foam is designed for protecting installation penetrations, cables (and cable support structures), cable bundles, metal pipes, plastic pipes, copper pipe bundles and Tubolit®Split.

| | |
|---|---|
| **Flexible wall:** | The wall should be at least 94 mm thick. It should be made of double-sided cladding consisting of at least two plasterboard panels. |
| **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 450 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 450 kg/m$^3$. |



## AVAILABILITY

| Product | Type | Delivery form | Product number |
|---|---|---|---|
| INTU FR FOAM 2K | 380 ml | 1 pcs. | 3203800000 |
| **Complementary product** | | | |
| INTU FR BANDAGE | 150 mm x 5 m | 1 pcs. | 3315050000 |
| **Complementary product** | | | |
| Foam gun 2K | Manual | 1 pcs. | 3401380000 |
| Foam gun 2K | Rechargeable | 1 pcs. | 3402380000 |
| INTU FR FOAM 2K MIXING NOZZLE | Mixing nozzle | 1 pcs. | 3403380000 |

## COMPLIANCE

European Technical Assessment:
**ETA-11/0206**
Declaration of performance:
**DoPZZ330-20180701**
Certificate of constancy of performance:
**0761-CPR-0208**

## TRANSPORT AND STORAGE

Transport and store in a dry and cool place at a temperature between +5°C and +30°C.

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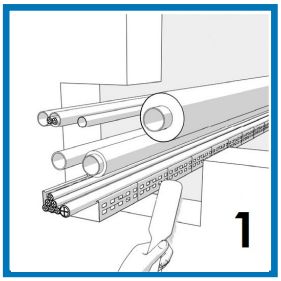
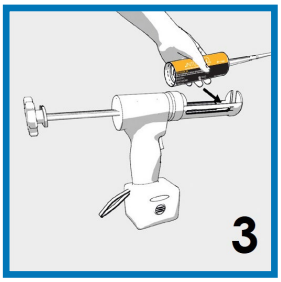
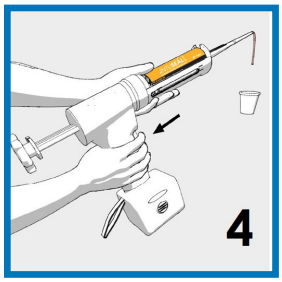
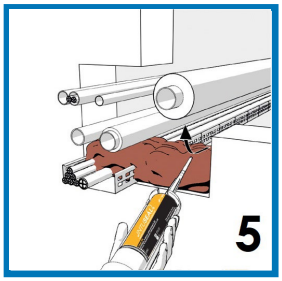
## INSTALLATION

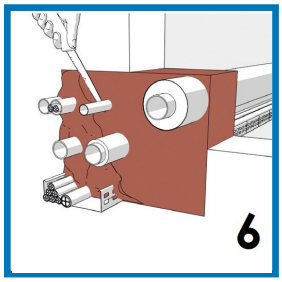


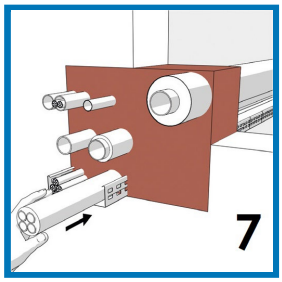


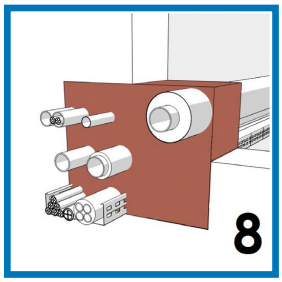



**1.** Clean the hole and installations from dust, dirt and grease.

**2.** Holding the cartridge vertically, with the tip pointing upwards, unscrew the nut and tighten the mixing nozzle.

**3.** Insert the cartridge into the dispensing gun.

**4.** Start the extrusion process. Discard any uneven material (approximately 2-3 extrusions).

**5.** Fill the opening from bottom to top. Always keep the mixing nozzle tip above the foam to prevent the material from sticking. After a break of more than approx. 50 seconds, the foam hardens in the mixing nozzle, which must then be replaced. Before replacing the mixing nozzle, relieve the pressure from the dispensing gun and carefully replace the mixing nozzle.

**6.** After approx. 2 minutes, the excess foam can be cut off with a knife, observing personal protective equipment and health and safety regulations.

**7.** Installations fitted later can be routed through the existing foam.

**8.** Mark the passage with an information sign.

**Note:** If the mixing nozzle is blocked, do not use force to squeeze out the material: force may damage the cartridge or the dispensing gun! Wear protective gloves and protective clothing when working.

| Additional products | |
|---|---|
| **2K foam gun - manual** | **2K foam gun - battery-powered** |
|  |  |

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TECHNICAL DATA SHEET

## TECHNICAL DATA

Table 1 Properties of **INTU FR FOAM 2K**

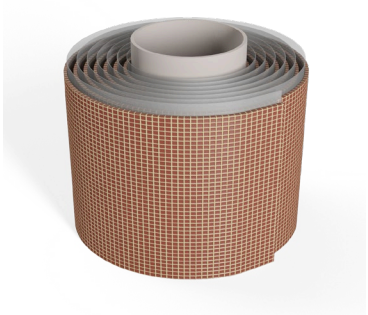
| | |
|---|---|
| **Color** | Red / brown |
| **Shelf life** | 12 months in unopened packaging at temperatures between 5°C and 30°C. |
| **Installation temperature** | +15°C do +30°C |
| **Foam performance** | ~ 2.1 litres (at 22°C material and ambient temperature) |
| **Work interruption** | Approximately 50 seconds |
| **Cutting option** | After approximately 2 minutes (at 22°C material and ambient temperature) |
| **Density** | ρ = 215 kg/m³ |
| **Paintable** | Yes |

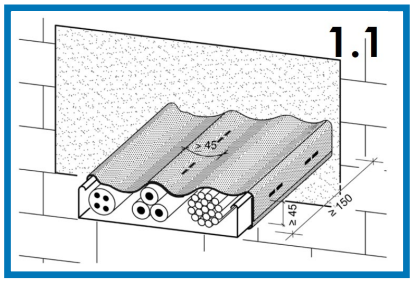
Table 2 Maximum dimensions of the hole filled with **INTU FR FOAM 2K**

| **Partition design** | **Mixed transitions** | **Cable transitions** |
|---|---|---|
| | Max W x H [mm] | Max W x H [mm] |
| **Walls:** aerated concrete, concrete, reinforced concrete or masonry (e.g. silicate blocks, aerated concrete blocks, bricks) | 450 x 500 | 270 x 270 lub Ø300 |
| **Lightweight partition walls:** wooden or steel construction with cladding on both sides | 450 x 500 | 270 x 270 lub Ø300 |
| **Ceilings:** aerated concrete, concrete or reinforced concrete | 450 x 450 | 270 x 270 lub Ø300 |

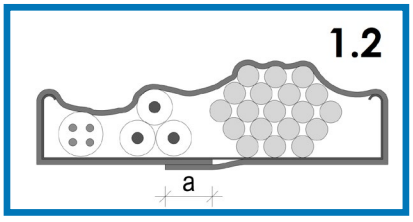
## COMPLEMENTARY PRODUCT

The **INTU FR BANDAGE** fire protection bandage is a non-shrink, self-adhesive safety tape with a nominal width of 150 mm and a thickness of 3 mm. The **INTU FR BANDAGE** tape swells during a fire, preventing the spread of fire.
The bandage, as a complementary product to **INTU FR FOAM 2K** foam, is used to wrap cables. Its use makes it possible to increase the fire resistance class to EI 120.






**1.1** Wrap cables/cable bundles/cable trays with **INTU FR BANDAGE** with a minimum width of 150 mm on both sides of the partition. The adhesive side must lie on the cables or cable support systems. The glass fabric used to protect the tape must be on the outside.




**1.2** The ends of the braid must be secured with at least two steel clips or steel wire (Ø1 mm). The tape layers must overlap with an overlap of ≥ 45 mm.



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## FIRE CLASSIFICATION

| Installation type | External diameter [mm] | Minimum sealing depth in WALLS AND CEILINGS | | |
|---|---|---|---|---|
| | | b ≥ 144 mm | b ≥ 200 mm | b ≥ 250 mm |
| Electrical/telecommunications/fibre optic cables | ≤ 21 | Wall: EI 120<br>Ceiling: EI 90 | EI 120 | EI 120 |
| | 21 < Ø ≤ 50 | EI 60 | EI 90 / EI 120[1)] | EI 120 |
| | 50 < Ø ≤ 80 | EI 60 | EI 90 / EI 120[1)] | EI 90 |
| Bundles containing electrical/telecommunications/fibre optic | Ø**BUNDLES** ≤ 100<br>Ø**CABLE** ≤ 21 | EI 60 | Wall: EI 90<br>Ceiling: EI 90 / EI 120[1)] | Wall: EI 90<br>Ceiling: EI 120 |
| Uninsulated cables (wires) | Ø ≤ 24 | Wall: EI 45<br>Ceiling: EI 30 | Wall: EI 90<br>Ceiling: EI 60 | Wall: EI 90<br>Ceiling: EI 60 |
| Steel pipes/tubes with or without cables | ≤ 16 | EI 60 | Wall: EI 120<br>Ceiling: EI 90 | EI 120 |
| Plastic conduits / pipes with or without cables | ≤ 16 | EI 120 | EI 120 | EI 120 |
| Plastic pipes | ≤ 50 | EI 60 | EI 120 | EI 120 |
| Plastic pipes and bundles consisting of plastic pipes with or without cables | Ø**BUNDLES** ≤ 80<br>Ø**CONDUCTOR** ≤ | EI 120 | EI 120 | EI 120 |
| | Ø**BUNDLES** ≤ 100<br>Ø**CONDUCTOR** ≤ | Wall: EI 120<br>Ceiling: EI 90 | Wall: EI 120<br>Ceiling: EI 90 | Wall: EI 120<br>Ceiling: EI 90 |
| Speed•pipe ® and bundles consisting of speed•pipe ® with or without fibre optic cables | Ø**BUNDLES** ≤ 80<br>ØPIPE ≤ 12 | Wall: EI 120<br>Ceiling: EI 90 | Wall: EI 120<br>Ceiling: EI 90 | Wall: EI 120<br>Ceiling: EI 90 |
| Copper pipes | ≤ 28 | EI 60 | EI 90 | EI 90 |
| Steel pipes | ≤ 35 | Wall: EI 60<br>Ceiling: EI 90 | EI 90 | EI 90 |
| Tubolit®Split /Tubolit® DuoSplit | ≤ 12,7 | EI 60 | EI 90 | EI 90 |
| | ≤ 22,2 | | | |

1) To achieve the specified fire resistance class, wrap the installation with **INTU FR BANDAGE** on both sides of the partition.

| METAL PIPES WITH INSULATION MADE OF MINERAL WOOL | Outer diameter of the pipe [mm] | Pipe wall thickness [mm] | Insulation length [mm] | Insulation thickness [mm] | Minimum sealing depth in WALLS AND CEILINGS | |
|---|---|---|---|---|---|---|
| | | | | | b ≥ 144 mm | b ≥ 200 mm |
| Metal pipes insulated with mineral wool<br>Wool density<br>ρ ≥ 90 kg/m³ | ≤ 35,0 | 1,0 – 14,2 | L ≥ 430 | ≥ 30 | Wall: EI 90<br>Ceiling: EI 60 | EI 90 |
| | ≤ 54,0 | 1,0 – 14,2 | L ≥ 430 | ≥ 30 | | EI 90 |
| | ≤ 88,9 | 1,0 – 14,2 | L ≥ 530 | ≥ 30 | | Wall: EI 90, Ceiling: EI 120 |
| | ≤168,3 | 1,0 – 14,2 | L ≥ 600 | ≥ 50 | Wall: EI 120, Ceiling: EI 60 | Wall: EI 120, Ceiling: EI 90 |
| FEF insulated metal pipes | ≤ 35,0 | 1,0 – 14,2 | L ≥ 500 | 9,0 – 35,0 | Wall: EI 90<br>Ceiling: EI 60 | EI 90 |
| | ≤ 42,0 | 1,5 – 14,2 | | 9,0 – 36,5 | | |
| | ≤ 54,0 | 2,0 – 14,2 | | 9,0 – 38,0 | | |
| | ≤ 88,9 | 2,0 – 14,2 | | 41,5 | | EI 120 |




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## SOLUTION DETAILS

**Wall susceptible with a thickness of c ≥ 94 mm**

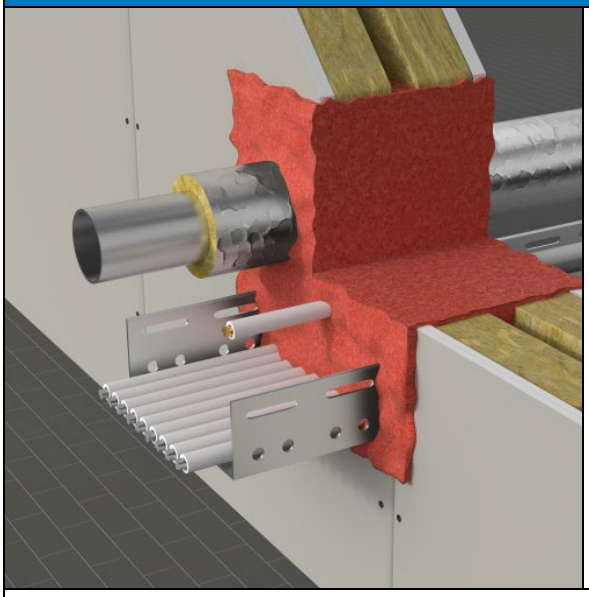


**Fig. 1 Mixed transition in a yielding wall**

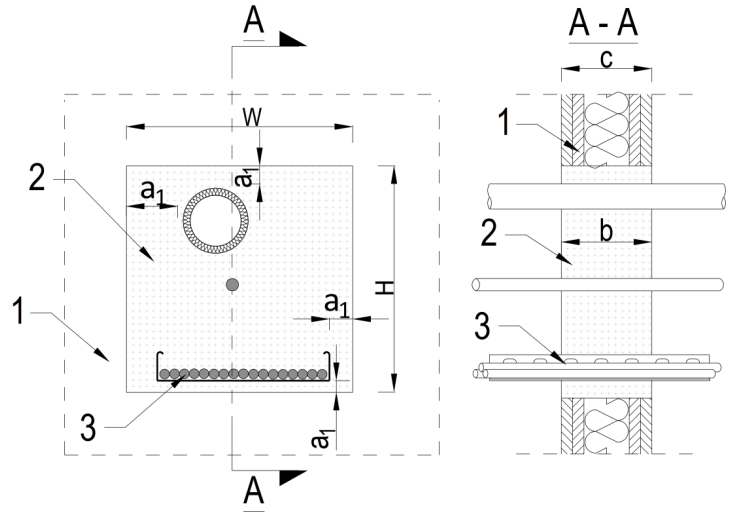
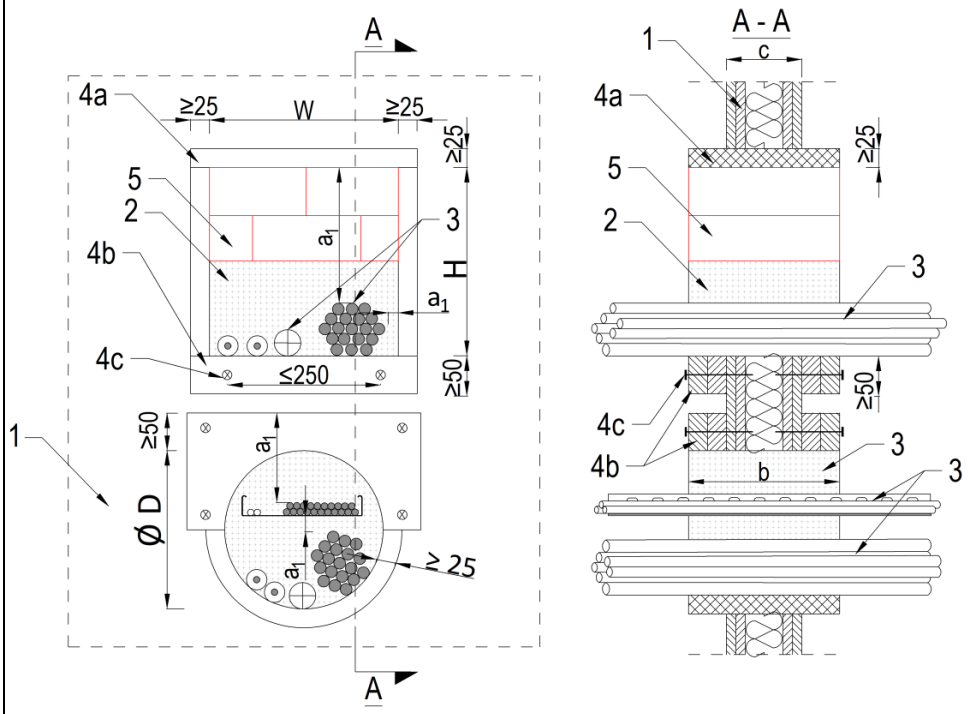



**Fig. 2 Cable passage in a flexible wall – detail with increased wall thickness**




**1.** Susceptible wall, c ≥ 94 mm
**2. INTU FR FOAM 2K** filling to depth b according to the tables above
**3.** Cable transitions / **BUNDLES** of cables / cables in trays / mixed transitions
**4a.**Cladding made of two layers of gypsum board (min. thickness 2 x 12.5 mm) or silicate board (min. thickness 25 mm)
**4b.** Increase the wall thickness on one / both sides to at least the minimum thickness of the passage protection (install the board around the opening, board width ≥ 50 mm)
**4c.** Fasten with screws for gypsum / silicate boards
**5.** Fill with **INTU FR BRICK**
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably
Minimum installation clearance:
$a_1 \geq 0$ mm

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## Wall thickness c ≥ 100 mm

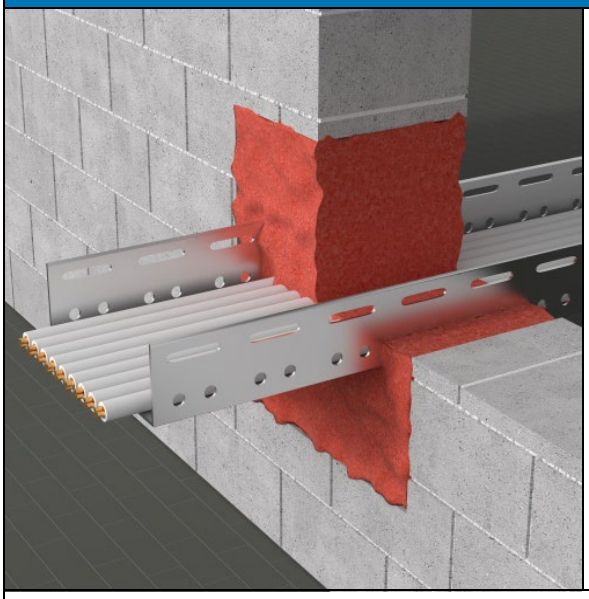


**Fig. 3 Cable passage in a partition wall**

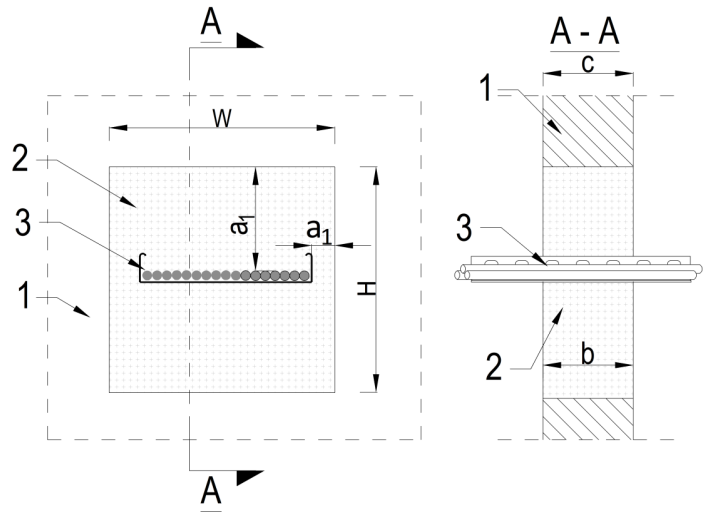
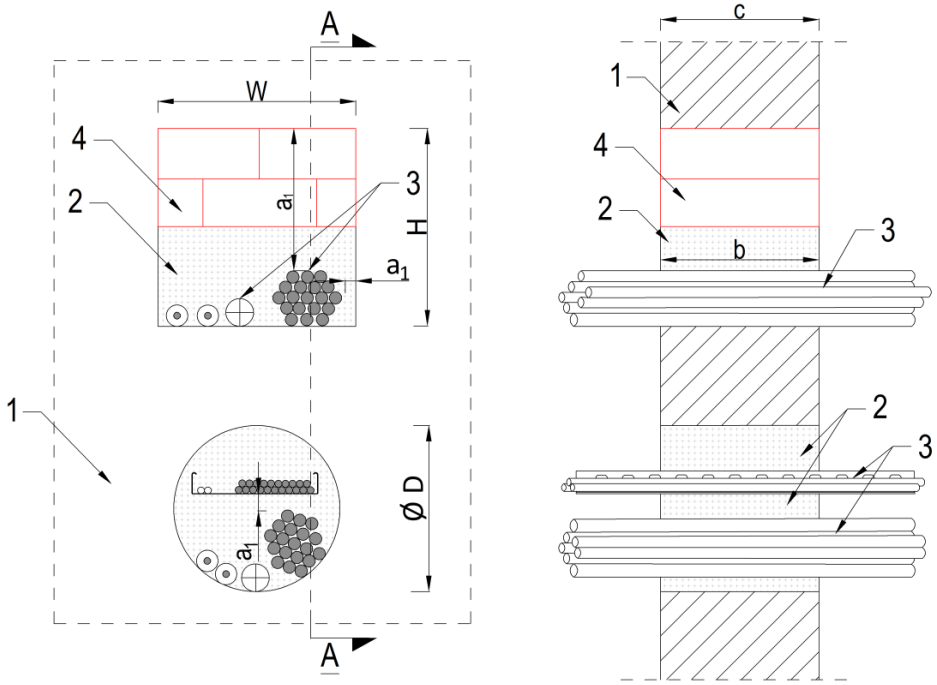



**Fig. 4 Cable passage in a partition wall**




**1.** Wall thickness, c ≥ 100 mm
**2.** Fill with **INTU FR FOAM 2K** to a depth of b according to the tables above
**3.** Cable transitions / **BUNDLES** of cables / cables in trays / mixed transitions **4.** Fill with **INTU FR BRICK**
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably
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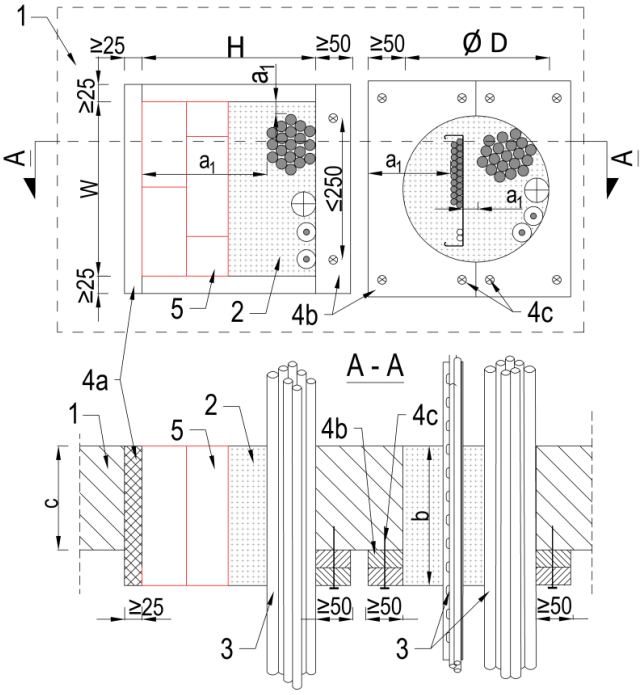
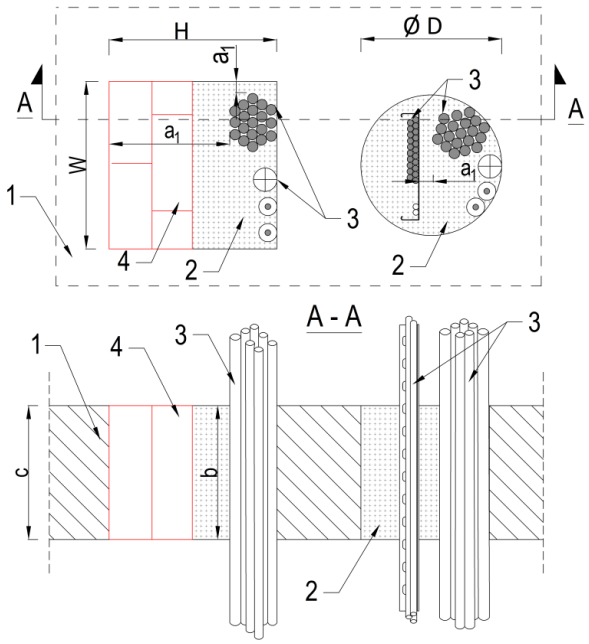
## Rigid ceiling with a thickness of c ≥ 150 mm

**Fig. 5 Cable passage in the ceiling – detail with increased ceiling thickness**




**1.** Rigid ceiling c ≥ 150 mm
**2.** Filling with **INTU FR FOAM 2K** to a depth of b according to the tables above
**3.** Cable transitions / **BUNDLES** of cables / cables in trays / mixed transitions
**4a.**Cladding made of two layers of gypsum board (min. thickness 2 x 12.5 mm) or silicate board (min. thickness 25 mm)
**4b.**Increase the thickness of the ceiling to at least the minimum thickness of the transition protection (install the board around the opening, board width ≥ 50 mm)
**4c.** Fastening with screws for gypsum/silicate boards
**5.** Filling **INTU FR BRICK**
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably
Minimum installation clearance:
$a_1 \geq 0$ mm

**Fig. 6 Cable passage in the ceiling – detail with sufficient ceiling thickness**




**1.** Rigid ceiling, c ≥ 150 mm
**2.** Filling with **INTU FR FOAM 2K** to a depth of b according to the tables above
**3.** Cable transitions / **BUNDLES** of cables / cables in trays / mixed transitions
**4.** Filling with **INTU FR BRICK**
***INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably
Minimum installation clearance:
$a_1 \geq 0$ mm

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