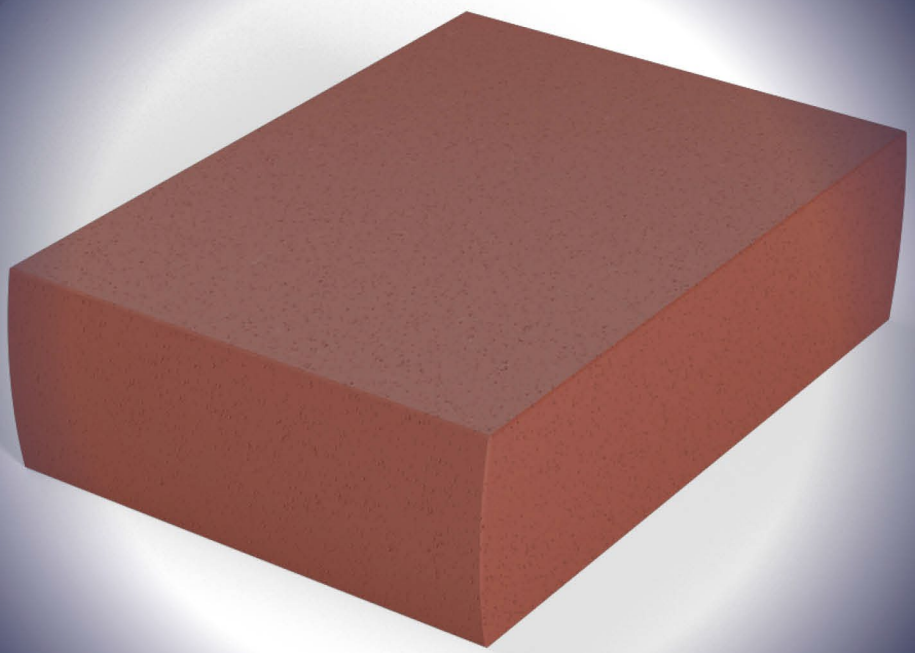
INTU FR BRICK

Intumescent fire stop brick

TECHNICAL DATA SHEET



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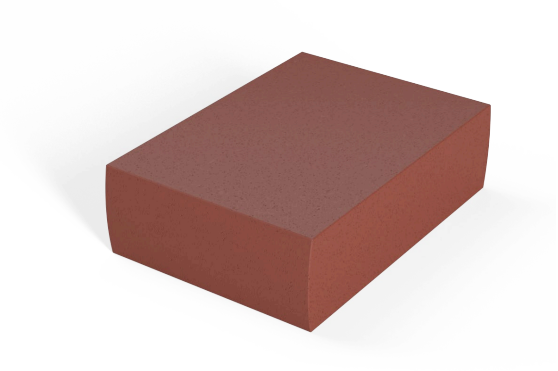
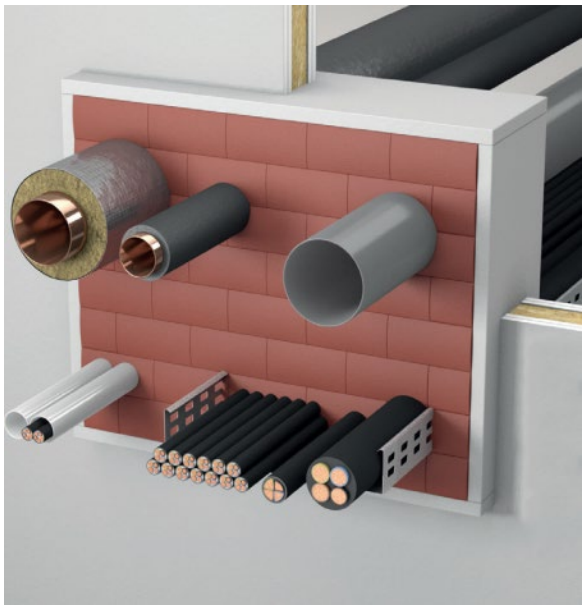
PRODUCT DESCRIPTION



INTU FR BRICK polyurethane-based intumescent block for fire protection. 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

The **INTU FR BRICK** fire protection block is designed to protect installation passages, cables (and cable support structures), cable bundles, metal pipes, plastic pipes, and Tubolit®Split copper pipe bundles. **INTU FR BRICK** is used to temporarily or permanently achieve fire resistance of flexible walls, rigid walls and rigid ceilings.



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	Item number
INTU FR BRICK	200 x 144 x 60 mm	1 pcs.	3220014460
Complementary product			
INTU FR BANDAGE	150 mm x 5 m	1 pcs.	3315050000

COMPLIANCE

European Technical Assessment:
ETA-10/0431
Declaration of performance:
DoPZZ230-20170701
CE Certificate of conformity:
0761-CPR-0187

TRANSPORT AND STORAGE

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

ALFASEAL GROUP Sp. z o.o.
ul. Kineskopowa 1
05-500 Piaseczno, Polska
NIP 1231274821

T: + 48 22 498 7 498
E: sprzedaz@alfaseal.pl

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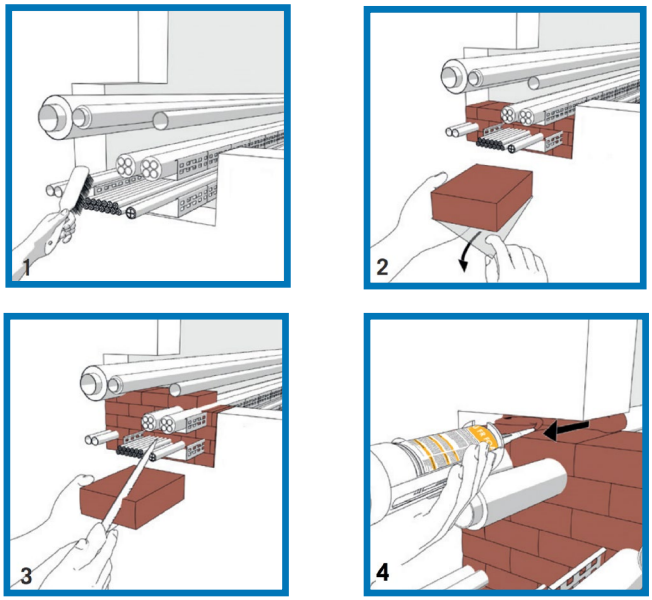
INSTALLATION



1. Clean the installations of dust and dirt.
2. Remove the protective film from **INTU FR BRICK.** Arrange the blocks in layers (as in brickwork – with offset vertical joints) so that they fit tightly against the opening.
3. Cut **INTU FR BRICK** to the required size in the transition area.
4. Fill any remaining gaps with INTU FR FOAM 2K fire-resistant foam. The depth of the filling must be equal to the minimum thickness of the seal. The maximum area that can be filled with INTU FR FOAM 2K is 450 mm x 500 mm (width x height).
5. Fill the gaps between the cables and open joints with fire-resistant compound, e.g. **INTU FR MASTIC**, to a depth of 20 mm on both sides. The joints between the **INTU FR BRICK** blocks and between the edge of the opening and the **INTU FR BRICK** do not require additional sealing.

TECHNICAL DATA

Table 1 Properties of **INTU FR BRICK**

Colour	Red / brown
Shelf life	12 months in unopened packaging at temperatures between 5°C and 30°C
Installation temperature	+15°C to +30°C
Cutting option	Yes
Density	ρ = 240 kg/m³ - 300 kg/m³
Usage category	Type Z_1 in accordance with EAD 350454-00-1104
Paintable	Yes

Table 2 Maximum dimensions of the opening covered with **INTU FR BRICK**

Partition	**Minimum sealing depth**	
	b ≥ 144 mm	**b ≥ 200 mm**
	Width W x Height H [mm]	
Rigid wall	600 x 1000	600 x 1000
	1000 x 1000	1000 x 1000
Rigid ceiling	unlimited x 375	unlimited x 375
	6000 x 400	unlimited x 400
	2250 x 450	4800 x 450
	1000 x 600	1300 x 600
	---	1000 x 700
Susceptible wall	600 x 1000	
	1000 x 600	

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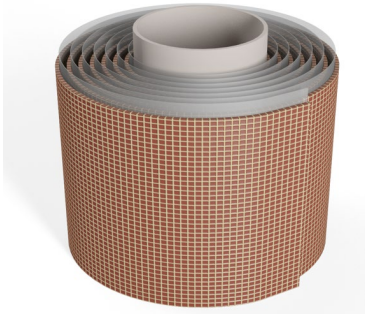
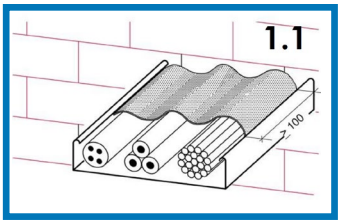
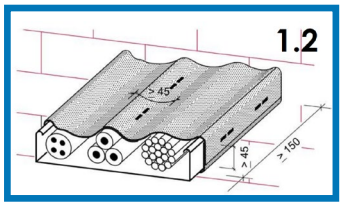
COMPLEMENTARY PRODUCT

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 the **INTU FR BRICK** block, is used to wrap cables. Its use allows the fire resistance class to be increased to EI 120.

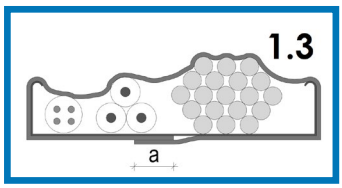




1.1 Apply a layer of **INTU FR BANDAGE** at least 100 mm wide on the cables passing through the partition.



1.2 Wrap elements passing through the partition with a layer of at least 150 mm thick **INTU FR BANDAGE** on both sides of the wall or ceiling. 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.



1.3 The ends of the braid must be secured with at least two steel clips or steel wire (Ø1 mm). The layers of tape must overlap by a minimum of 45 mm.

FIRE CLASSIFICATION

Installation type	External diameter [mm]	Minimum sealing depth in WALLS AND CEILINGS	
		b ≥ 144 mm	b ≥ 200 mm
Electrical/telecommunications/fibre optic cables	≤ 21	EI 60	EI 90 / EI 120[1)]
	21 < Ø ≤ 50		
	50 < Ø ≤ 80		
Bundles containing electrical/telecommunications/fibre optic cables	ØBUNDLES ≤ 100 ØCABLE ≤ 21		
Uninsulated cables (wires)	Ø ≤ 24	Wall: EI 45 Ceiling: EI 30	Wall: EI 90 Ceiling: EI 60
Steel pipes/tubes with or without cables	≤ 16	EI 90	EI 90
Plastic conduits / pipes with or without cables	≤ 16	EI 120	EI 120
Plastic pipes	≤ 50	EI 120	EI 120

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

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ul. Kineskopowa 1
05-500 Piaseczno, Polska
NIP 1231274821
T: + 48 22 498 7 498
E: sprzedaz@alfaseal.pl
www.alfaseal.pl

Installation type	External diameter [mm]	Minimum sealing depth in WALLS AND CEILINGS	
		b ≥ 144 mm	b ≥ 200 mm
Plastic cables and assemblies consisting of plastic cables with or without cables	ØBUNDLES ≤ 80 ØCONDUCTOR ≤ 40	EI 60	EI 120
	ØBUNDLES ≤ 100 ØCONDUCTOR ≤ 63		EI 90
Wave guides:	CELLFLEX® ≤ 59,9	-	EI 120
	CELLFLEX® Lite ≤ 50,2		
	RADIAFLEX® ≤ 48,2		
	HELIAX® ≤ 51,1		
	RADIAX® ≤ 49,8		
Speed•pipe ® and bundles consisting of speed•pipe ® with or without fibre optic cables	ØBUNDLES ≤ 80 Ø PIPE ≤ 12	EI 60	EI 90
Copper pipes	≤ 28	EI 60	EI 60
Steel doors	≤ 35	EI 90	EI 90
Tubolit®Split /Tubolit® DuoSplit	≤ 12,7	EI 60	EI 120
	≤ 22,2		

METAL PIPES WITH INSULATION MADE OF MINERAL WOOL	Diameter [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 Wool density ρ ≥ 90 kg/m³	≤ 35,0	1,0 – 14,2	L ≥ 430	≥ 30	EI 60	Wall: EI 90 Ceiling: EI 120
	≤ 54,0		L ≥ 430	≥ 30		
	≤ 88,9		L ≥ 530	≥ 30		
	≤168,3		L ≥ 600	≥ 50	EI 60	Wall:: EI120 Ceiling: EI 90
FEF insulated metal pipes	≤ 35,0	1,0 – 14,2	L ≥ 500	9,0 – 35,0	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			41,5		
Foamglas® - PSH insulated metal pipes	≤ 28,0	1,0 – 14,2	L ≥ 500	25,0 – 50,0	-	EI 120
	≤ 54,0			25,0 – 50,0		Wall:: EI 90 Ceiling: EI 120
				50,0		EI 120
	≤ 88,9	2,0 – 14,2		40,0		Wall:: EI120 Ceiling: EI 90

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05-500 Piaseczno, Polska
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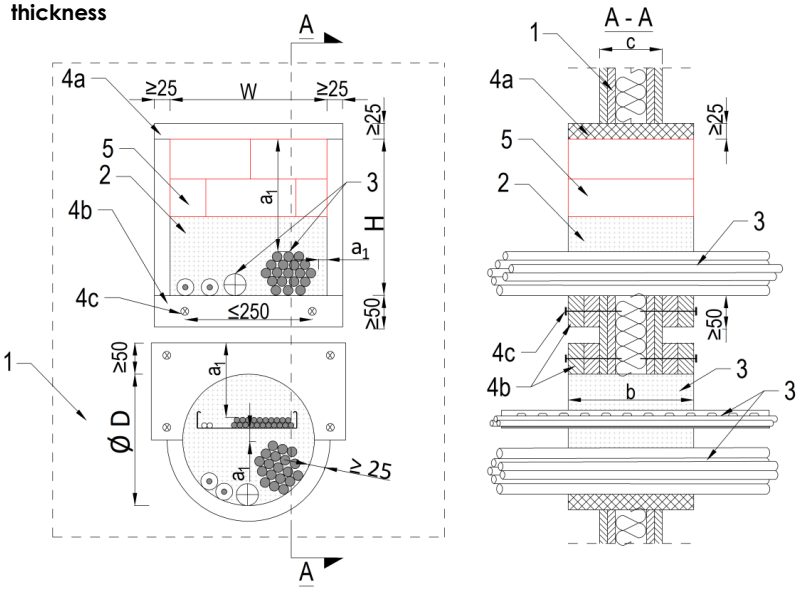
SOLUTION DETAILS

Flexible wall with a thickness of c ≥ 94 mm

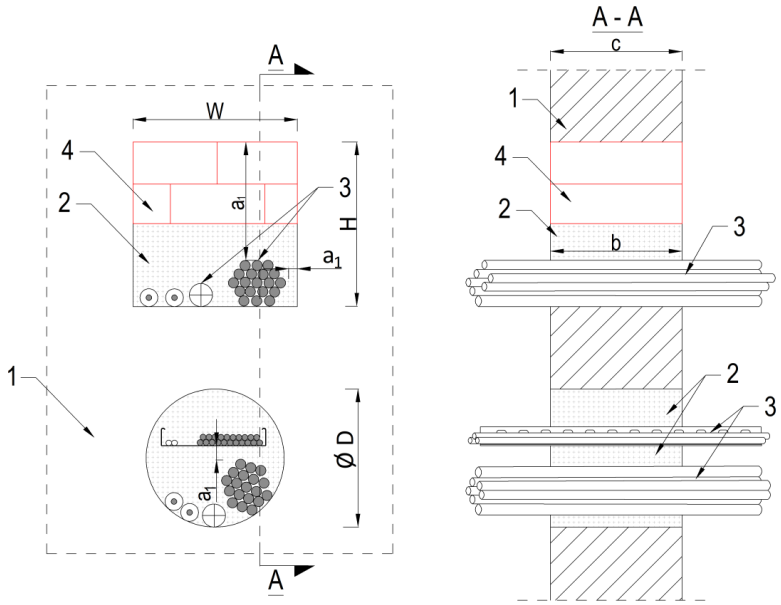
Fig. 1 Cable penetration in a flexible wall – detail with increased wall thickness



1. Susceptible wall, c ≥ 94 mm
2. Filling **INTU FR FOAM 2K**
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably
3. Cable transitions / cable bundles / 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 transition protection (install the board around the opening, board width ≥ 50 mm)
4c. Fasten with screws for gypsum/silicate boards
5. Filling **INTU FR BRICK**
Minimum installation clearance: $a_1 \geq 0$ mm

Rigid wall with a thickness of c ≥ 100 mm

Fig.2 Cable transition in a rigid wall



1. Rigid wall, c ≥ 100 mm
2. Filling **INTU FR FOAM 2K**
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably
3. Cable transitions / cable bundles / cables in trays / mixed transitions
4. Filling **INTU FR BRICK**
Minimum installation clearance: $a_1 \geq 0$ mm

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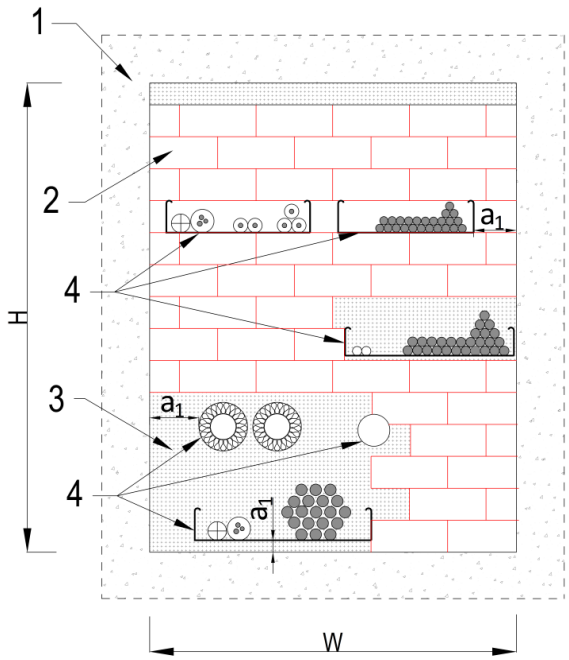
Rigid wall with a thickness of c ≥ 100 mm

Fig.3 Mixed transition in a rigid wall



1. Rigid wall, c ≥ 100 mm

2. INTU FR BRICK filling

3. INTU FR FOAM 2K filling

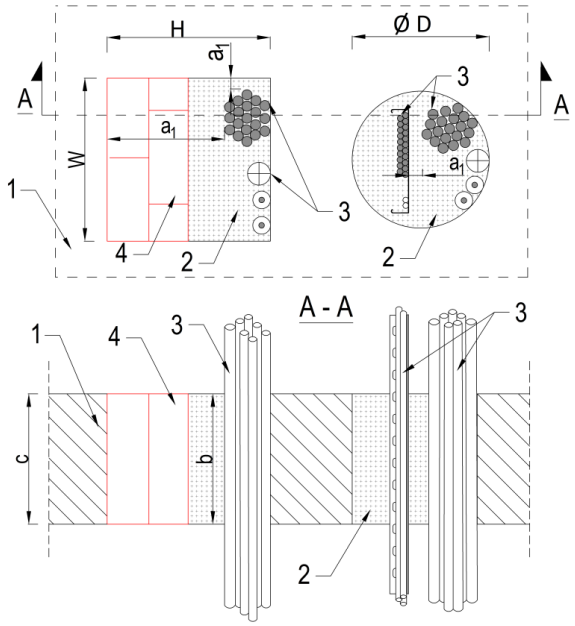
* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably

4. Cable transitions / cable bundles / cables in cable trays / mixed transitions

Minimum installation clearance: $a_1 \geq 0$ mm

Rigid ceiling with a thickness of c ≥ 150 mm

Fig.4 Cable transition in the ceiling – detail with sufficient ceiling thickness



1. Rigid ceiling, c ≥ 150 mm

2. Filling **INTU FR FOAM 2K**

* **INTU FR FOAM 2K** and **INTU FR BRICK** products can be used interchangeably

3. Cable transitions / cable bundles / cables in trays / mixed transitions

4. Filling **INTU FR BRICK**

Minimum installation clearance: $a_1 \geq 0$ mm

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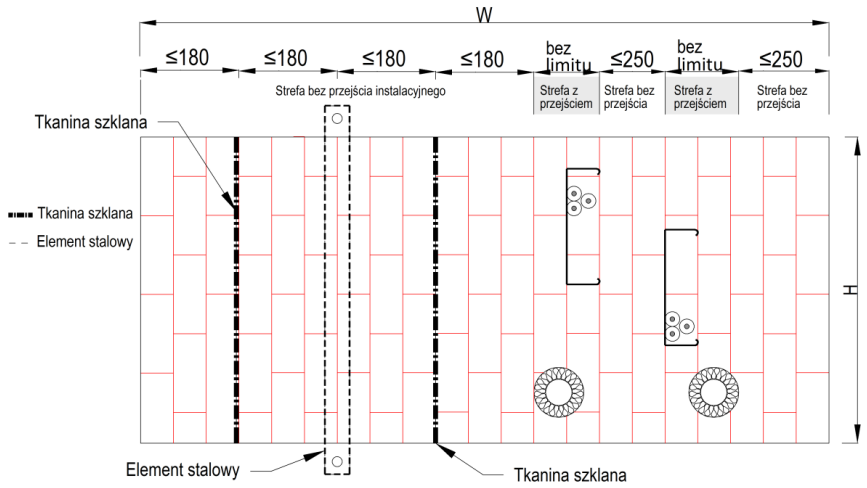
Support for rigid floor slabs

Fig.5 Support for rigid floor passages, b = 144 mm

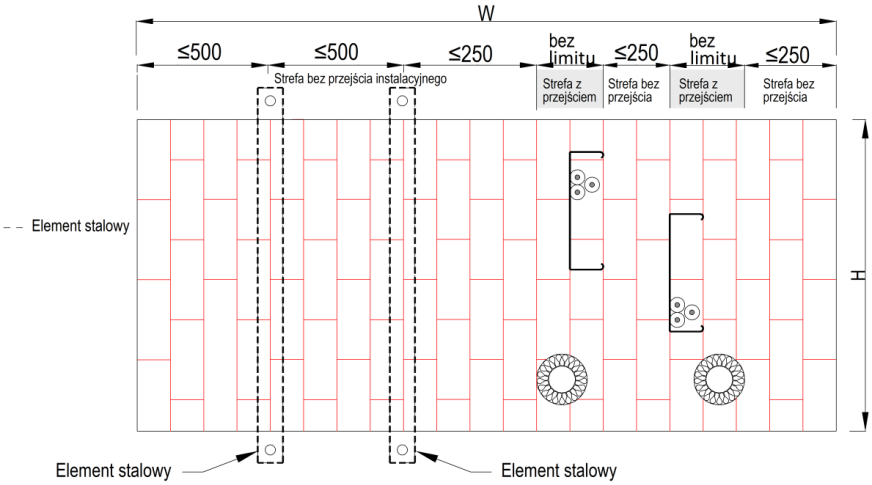


Installation of glass fabric or structural steel element

When installing **INTU FR BRICK** in ceiling openings, free spaces (without elements passing through the installation passage seal) must be supported with a steel element (minimum width 40 mm and minimum thickness 2 mm) from the underside of the ceiling.
Alternatively, glass fabric can be installed every 180 mm between **INTU FR BRICK** (glass fabric width ≥ b).

Fig.6 Support for rigid floor slabs, b = 200 mm

area without installation passage/ (no limit) passageway/no-pass zone



steel element

Assembly of structural steel elements

When installing **INTU FR BRICK** in ceiling openings, free spaces (without elements passing through the installation passage seal) must be supported with a steel element (minimum width 40 mm and minimum thickness 2 mm) from the bottom of the ceiling.

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