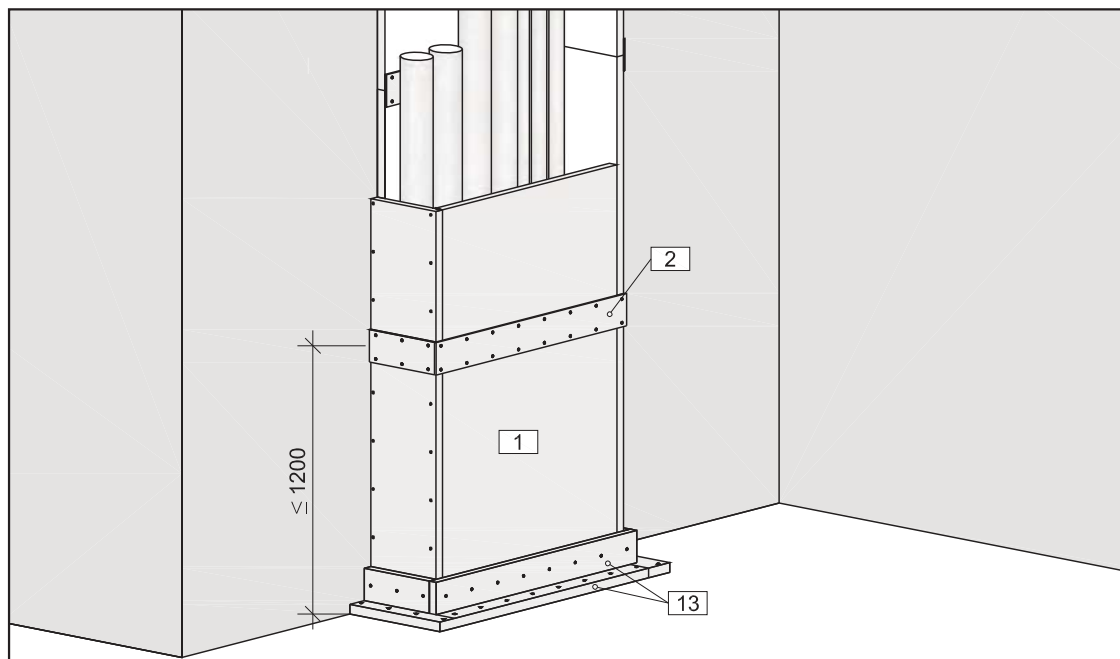


INSTALLATION DUCTS and SHAFTS EI 60 • EI 90 • EI 120

Fire protection



Design description I1090_AT

Single-layer clothing of all common installations in case of fire exposure from the inside for a fire resistance up to 120 minutes made of **THERMAX SL** fire protection boards.

The type and thickness of the clothing depends on the respective fire resistance class.

The installation ducts or shafts are made by means of butt-jointed **THERMAX SL** fire protection boards, which are to be glued and screwed or stapled together.

The joints of the ducts are to be covered all-round with a **THERMAX A** cover strip, $th \geq 10$ mm, $w \geq 100$ mm. The cover strips can optionally be made on the inside or outside.

The maximum length of a duct section is ≤ 1200 mm. The installation ducts are used for all usual installations, not for cable trays.

Suspended construction

4-sided installation ducts are supported on traverses, which are suspended by threaded rods. The attachment to solid floors are done with approved dowels with fire protection technical suitability certificate.

Vertical installations ducts are settled at each storey max. every 5 m on solid floors.

Threaded rods over 1,50 m in length are to be protected by fire protection using **THERMAX SL**.

At the penetration of solid components with at least the same fire resistance as the installation duct or shaft, the remaining opening $E \leq 20$ mm has to be sealed with mineral wool (noncombustible, melting point ≥ 1000 °C) and covered on both sides with an L-shaped angle made of **THERMAX SL**. The L-angles are attached to the massive wall with metal dowels.

MATERIAL:

- Fire protection boards **THERMAX® SL**
th = acc. to table and the required classification
- Cover strips **THERMAX® A**
th ≥ 10 mm, w ≥ 100 mm
- **THERMAX® Brandschutzkleber**
Fire protection glue

GENERAL INFORMATION:

- Classification:
EI 60 (ve ho i ↔ o)
EI 90 (ve ho i ↔ o)
EI 120 (ve ho i ↔ o)
- 4-sided installation duct or shaft, self-supporting, made of **THERMAX® SL** fire protection boards
- max. internal duct section:
 200×200 mm $\leq 1250 \times 1000$ mm (WxH)



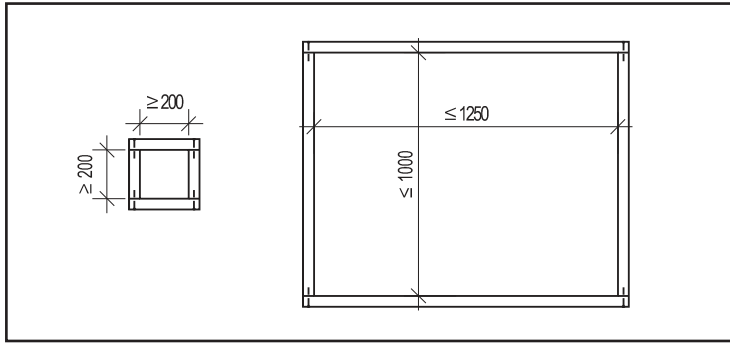
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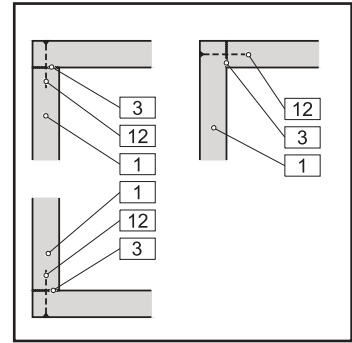
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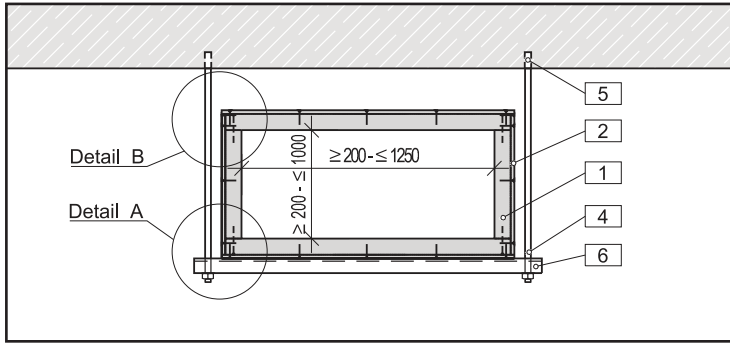
CONSTRUCTION DETAILS



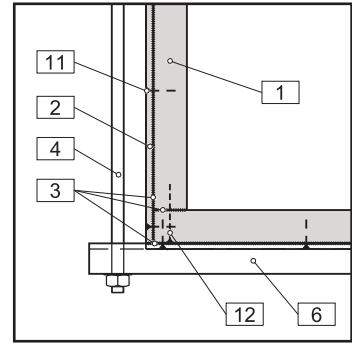
[1] Dimensions



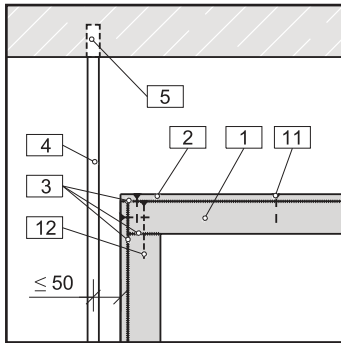
[2] Corner connection



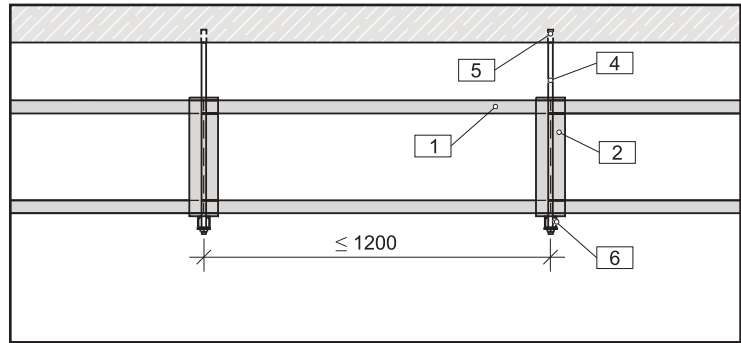
[3] Cross-section



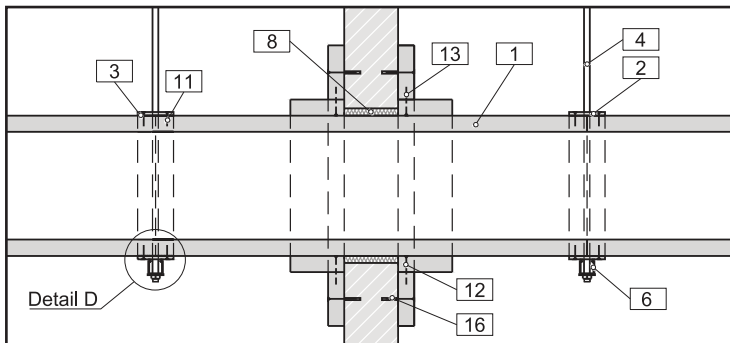
[4] Detail A: Corner formation, bottom



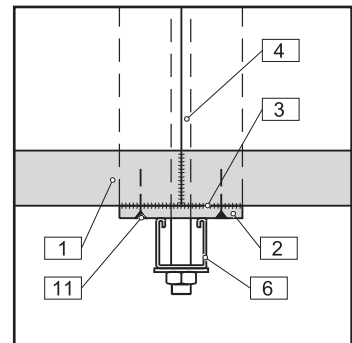
[5] Detail B: Corner formation, top



[6] Longitudinal section



[7] Wall penetration



[8] Detail D: Suspension in the joint area



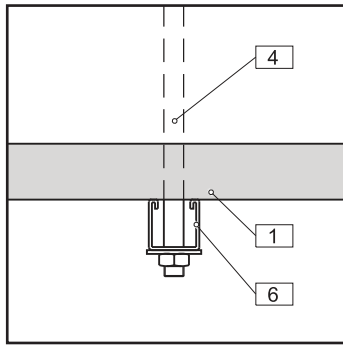
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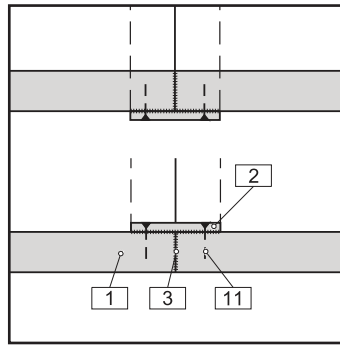
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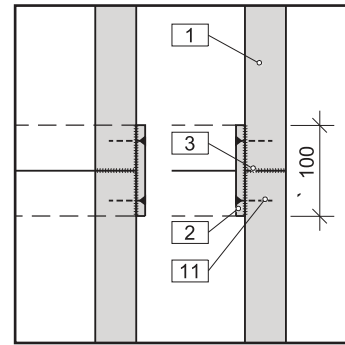
CONSTRUCTION DETAILS



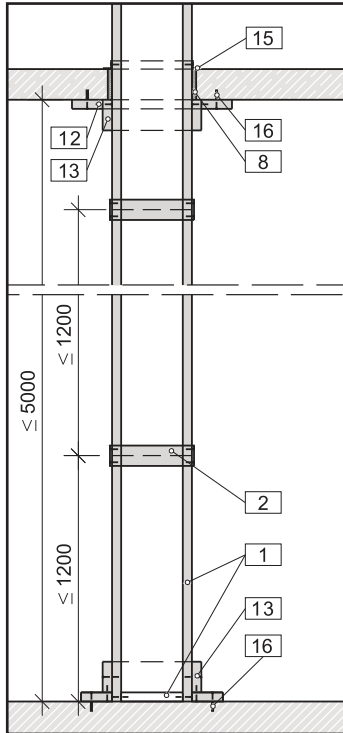
[9] Detail D: Suspension, Var. 1



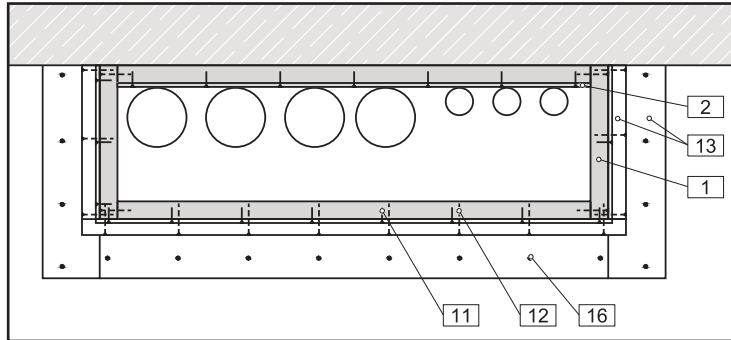
[10] Cover strip horizontal, inside or outside



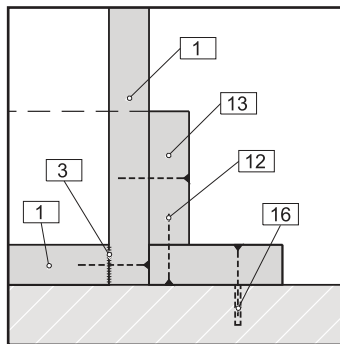
[11] Cover strip vertical, inside or outside



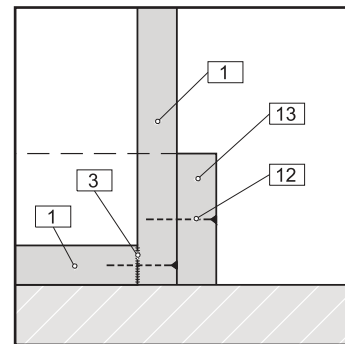
[12] Longitudinal section, vertical



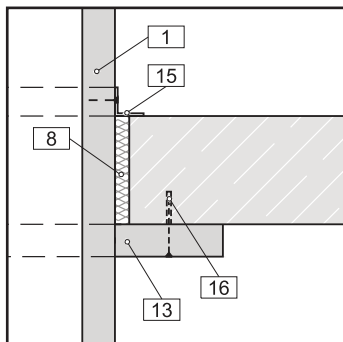
[13] Cross section, horizontal



[14] Detail: Floor connection



[15] Detail: Floor connection, Var. 1



[16] Detail: Ceiling penetration



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TABLE

Thickness of the board clothing and mechanical fixings of the installation ducts and shafts depending on the required fire resistance:

Classification	THERMAX fire protection board board thickness th [mm]		Screws	Staples
	Duct/ shaft 4-sided	cover strips w ≥ 100 mm	Distance ≤ 200 mm	Distance ≤ 100 mm
EI 60	THERMAX® SL 35 mm	THERMAX® A 10 mm	5 x 70 mm	70/11,2/1,2 mm
EI 90	THERMAX® SL 45 mm	THERMAX® A 10 mm	5 x 80 mm	80/11,2/1,2 mm
EI 120	THERMAX® SL 55 mm	THERMAX® A 10 mm	5 x 90 mm	90/11,2/1,2 mm

MATERIAL LIST

- 1 THERMAX® SL fire protection board, th = see Table
- 2 Cover strips THERMAX® A th ≥ 10 mm, w ≥ 100 mm verklebt und verklammert oder verschraubt
- 3 THERMAX® Brandschutzkleber fire protection glue
- 4 Threaded rod ≥ M8 with nut and washer acc. to static calculation
- 5 Metal dowel/ steel expansion dowel ≥ 8 mm (with fire protective technical suitability approval) acc. to static calculation
- 6 Mounting rails/ traverse as suspension device, distance ≤ 1200 mm, e.g. Hilti MQ41, or statically equivalent
- 8 Mineral wool A1, melting point ≥ 1000 °C, density ≥ 40 kg/m³; gap [E] ≤ 20 mm
- 11 Steel wire staple 38/10/1 mm (distance ≤ 100 mm) or drywall-/ chipboard screws 4 x 40 mm (distance ≤ 200 mm) for cover strips
- 12 Steel wire staples or drywall-/ chipboard screws acc. to table
- 13 THERMAX® SL board strips, th = acc. to table, w ≥ 150 mm
- 15 Steel angle ≥ 40 x 40 x 4 mm at ceiling penetration with drywall screws 4 x 40 mm (distance ≤ 100 mm)
- 16 Steel expansion dowel with screw ≥ M6, distance ≤ 250 mm (with fire protective technical suitability approval)



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