



# TECBOR<sup>®</sup> BOARDS

- **TECBOR<sup>®</sup> A & B BOARDS:** • METAL STRUCTURE: COLUMNS AND BEAMS • CABLE TRAY
- VENTILATION DUCTS: HORIZONTAL AND VERTICAL • NON-STRUCTURAL ELEMENTS. WALLS
- SUSPENDED CEILING AND SLABS PROTECTION • CURTAIN WALLS • TUNNELS

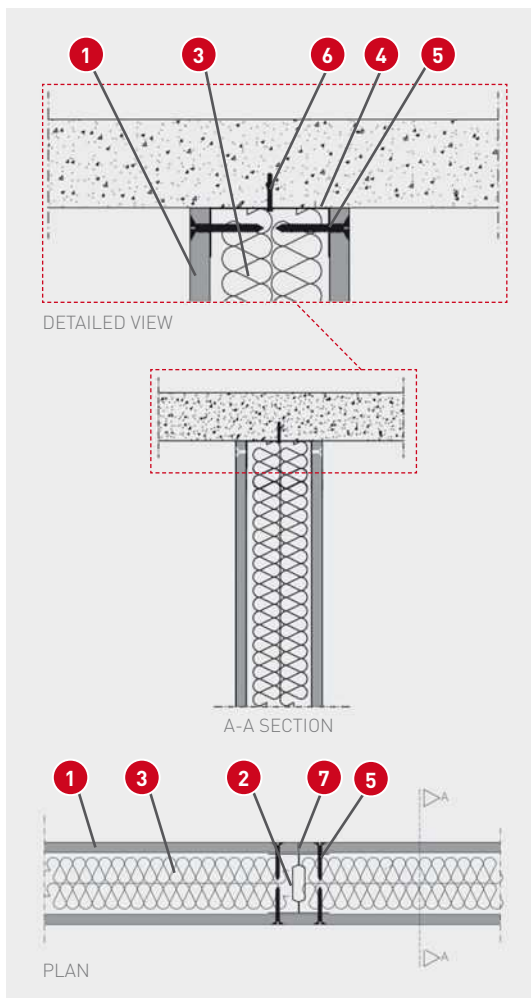
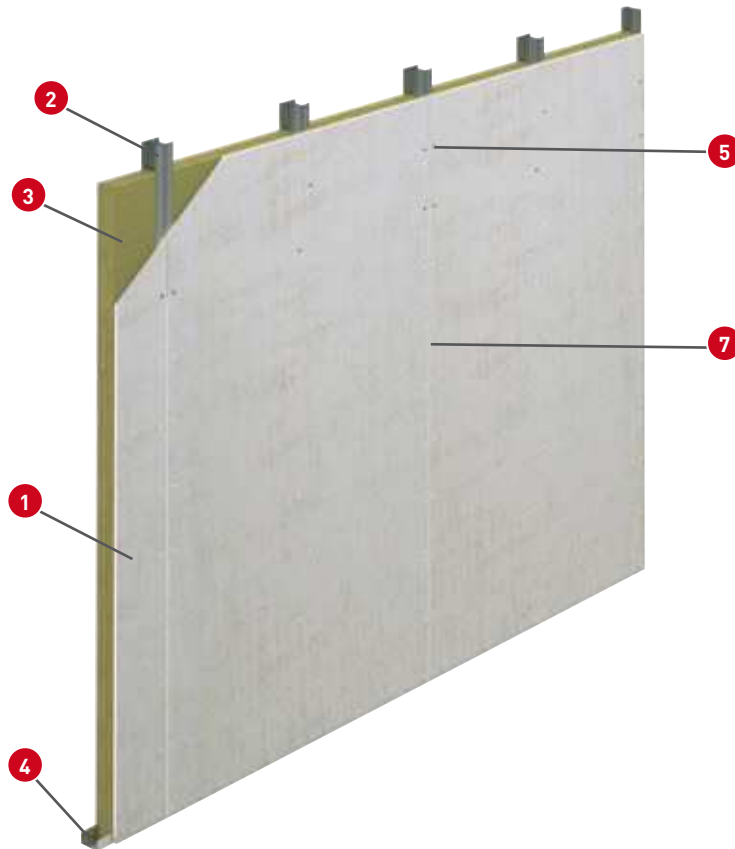


## 4 – Non-structural Elements – Walls

Non-structural walls, which separate fire sectors, must be fire resistant as stipulated in standard EN 1364-1.

When in fire, the edge is left free (Part 1: Walls), the standard allows increasing the width. With regard to increasing the height, the standard is clear and precise. When the test is run at least at 3 metres high, it may be increased up to 4 metres.

Very often, internal partitions are higher than 4 metres. We have been the fire-resistant solution for this type of works. Besides, penetrations produced between different fire sectors must be sealed off; for example, in the case of crossing installations.



### TESTS

Standard: EN 1364-1

Laboratory: CIDEMCO

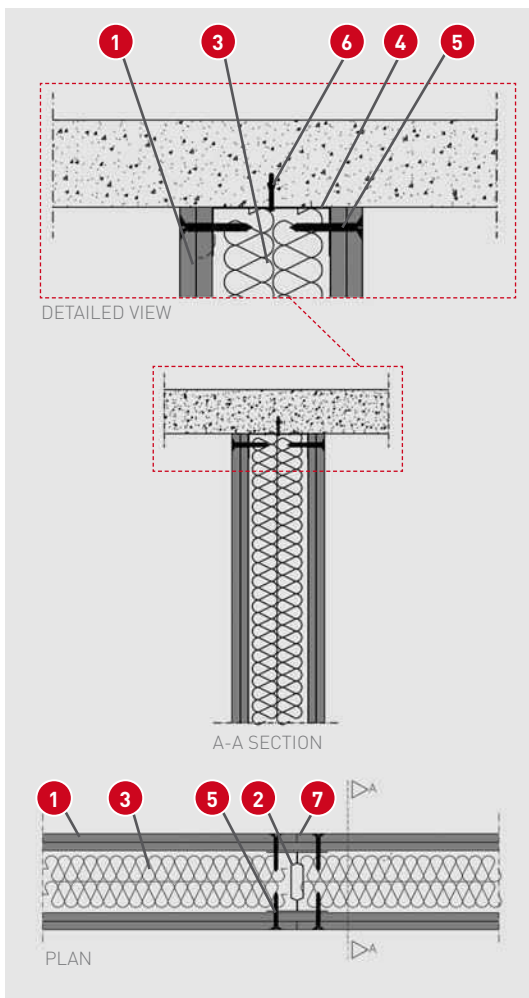
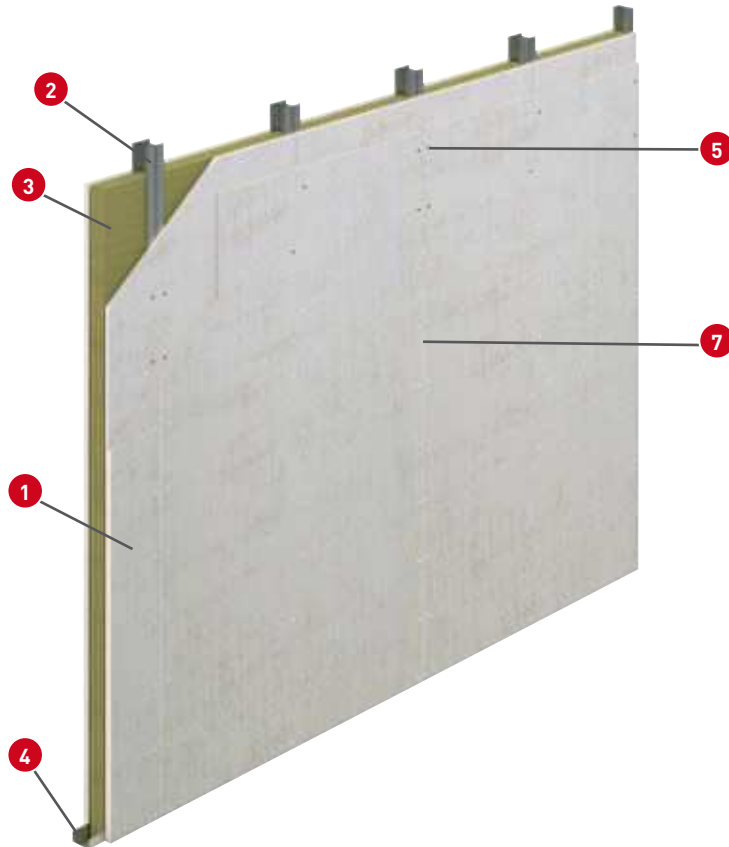
Test No: 17826-1/-2 M1

### SOLUTION

- 1 Tecbor® A 12 mm boards.
- 2 70x36x0.6 mm double metal stud H-shaped.
- 3 70 mm (40+30) and 100 kg/m<sup>3</sup> density rock wool.
- 4 73x30x0.5 mm metal runner.
- 5 3.5x35 mm self-tapping screw.
- 6 M6 metal plug.
- 7 Tecbor® joint paste.

### DESCRIPTION OF ASSEMBLY

Fix 73x30x0.5 mm runners with M6 metal plug every 250-300 mm. Finish off the metal structure with 70x36x0.6 mm double studs arranged in "H" position with a 610 mm inter-axial distance. Place rock wool panels between studs. Then fix Tecbor® A 12 mm boards to both sides with 3.5x35 mm self-tapping screws every 200-250 mm. Finally, cover board joints and screw heads with Tecbor® joint paste.



### TESTS

Standard: EN 1364-1

Laboratory: CIDEMCO

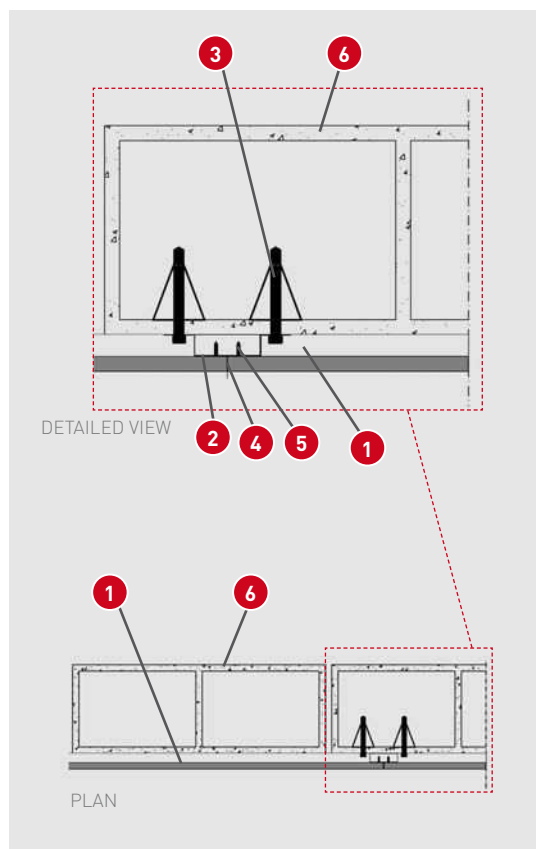
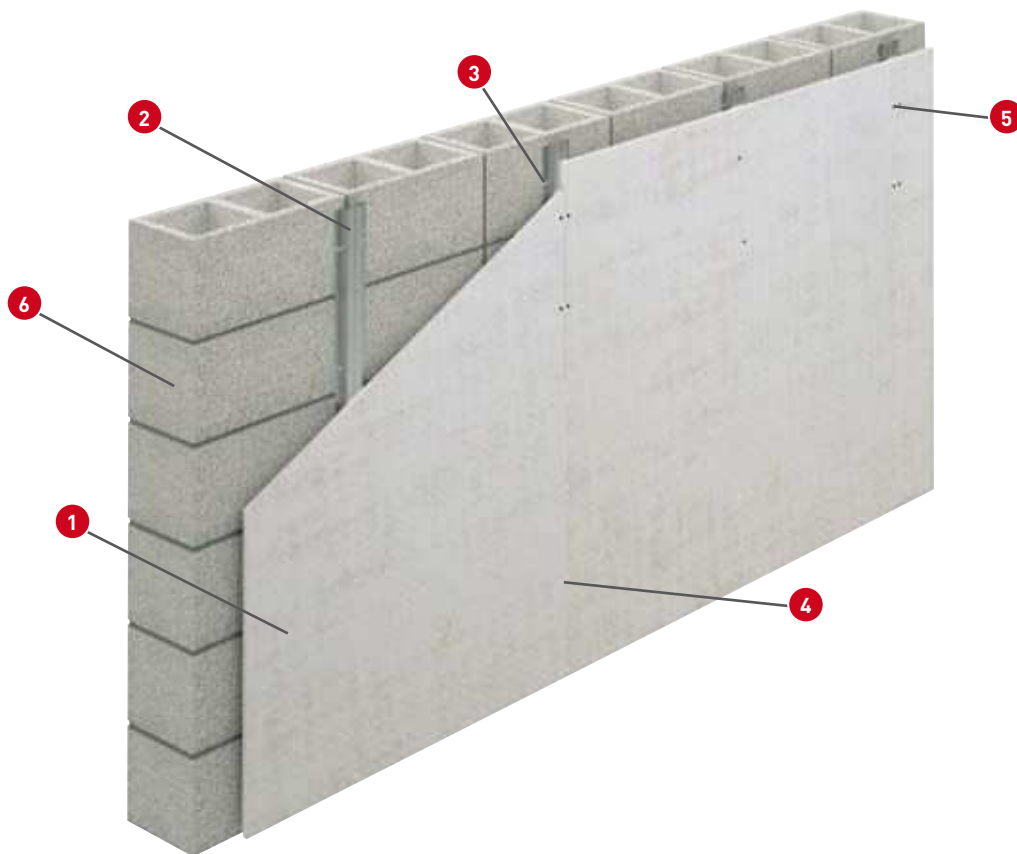
Test No: 16876-1/-2 M1

### SOLUTION

- 1 Tecbor® A 10 mm boards.
- 2 70x36x0.6 mm double stud H-shaped.
- 3 60 mm (30+30) and 100 kg/m<sup>3</sup> density rock wool.
- 4 73x30x0.5 mm runner.
- 5 3.5x35 mm self-tapping screw.
- 6 M6 metal plug.
- 7 Tecbor® joint paste.

### DESCRIPTION OF ASSEMBLY

Fix 73x30x0.5 mm runners with M6 metal plug every 250-300 mm. Finish off the metal structure with 70x36x0.5 mm double studs arranged in "H" position with a 610 mm inter-axial distance. Place rock wool panels between studs. Then fix the two layers of Tecbor® A 10 mm boards to both sides with 3.5x35 mm self-tapping screws every 200-250 mm, overlapping boards of each layer. Finally, cover board joints and screw heads with Tecbor® joint paste.



### TESTS

Standard: EN 1364-1

Laboratory: CIDEMCO

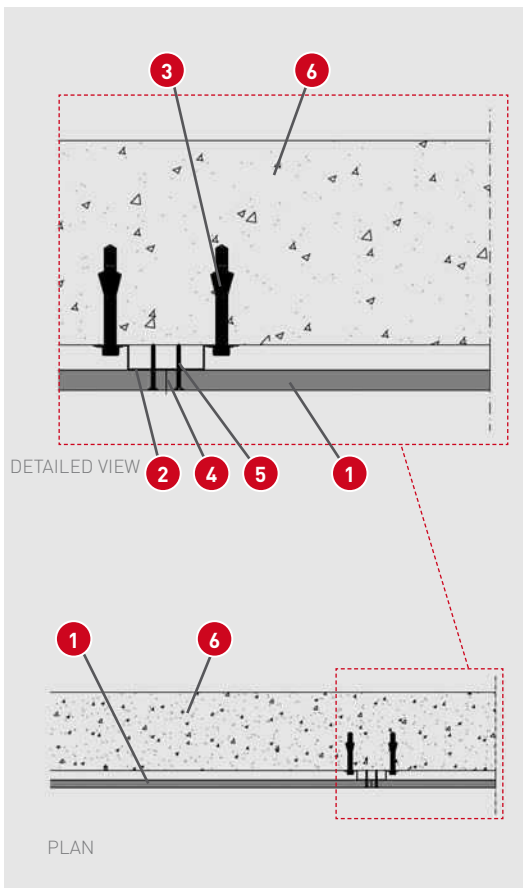
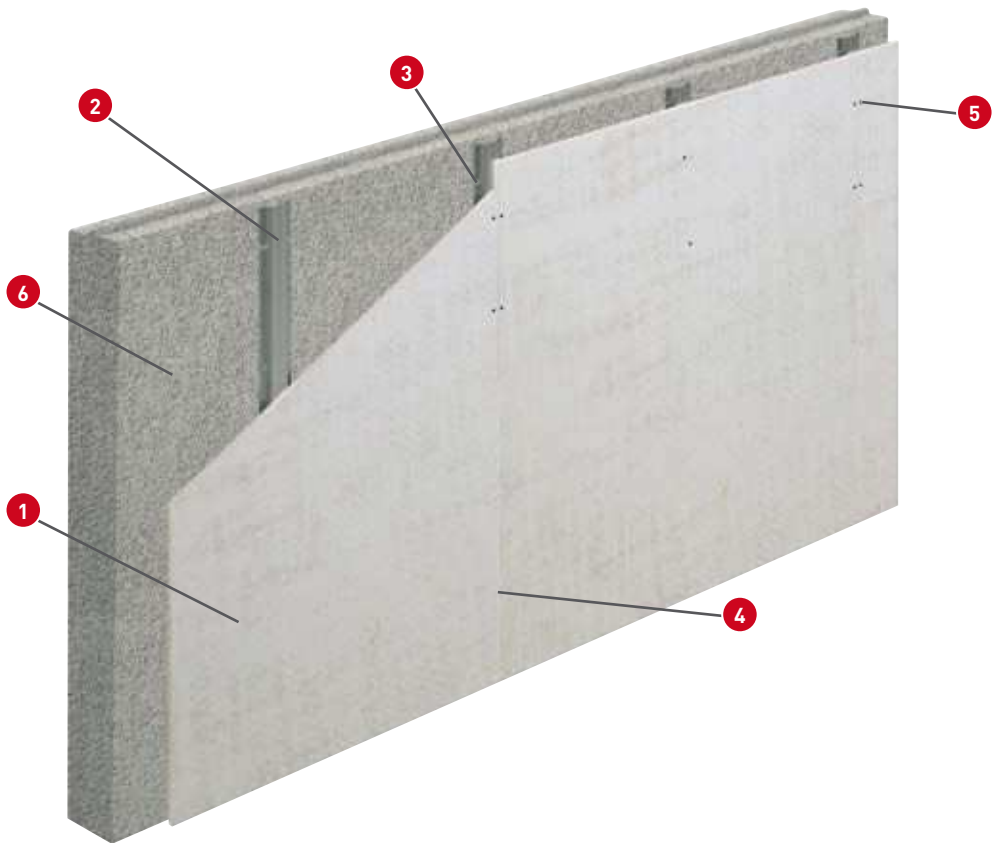
Test No: 14736-1/-2 M1

### SOLUTION

- 1 Tecbor® A 10 mm boards.
- 2 15x45x0.5 mm omega sections.
- 3 5x65 mm umbrella type metal plug.
- 4 Tecbor® joint paste.
- 5 3.5x25 mm self-drilling screw.
- 6 Concrete block wall.

### DESCRIPTION OF ASSEMBLY

On a 15 cm hollow concrete block, attach the 15x45x0.5 mm omega metal profiles every 610 mm using umbrella-type 5x65 mm anchors. Then fix Tecbor® A 10 mm boards with 3.5x25 mm self-drilling screws. Use Tecbor® joint paste in screw heads and between boards. Distance between screws should be 250-300 mm approximately.



#### TESTS

Standard: EN 1364-1

Laboratory: CIDEMCO

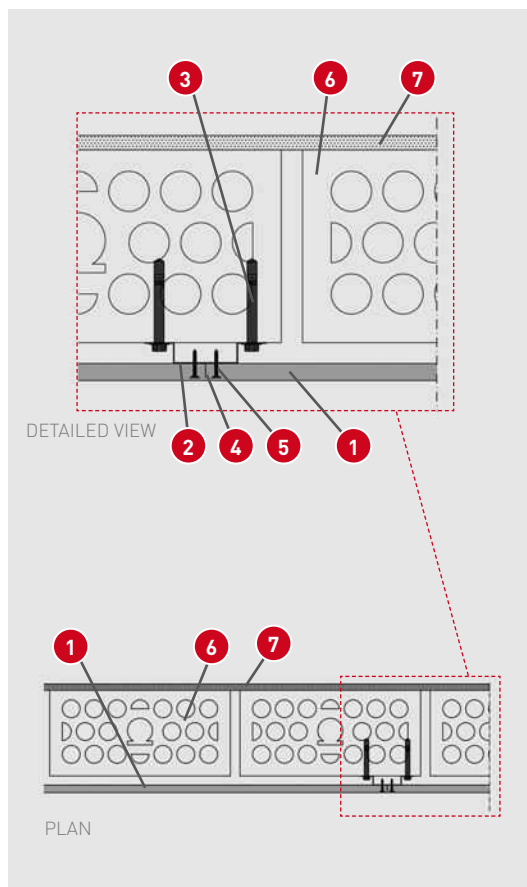
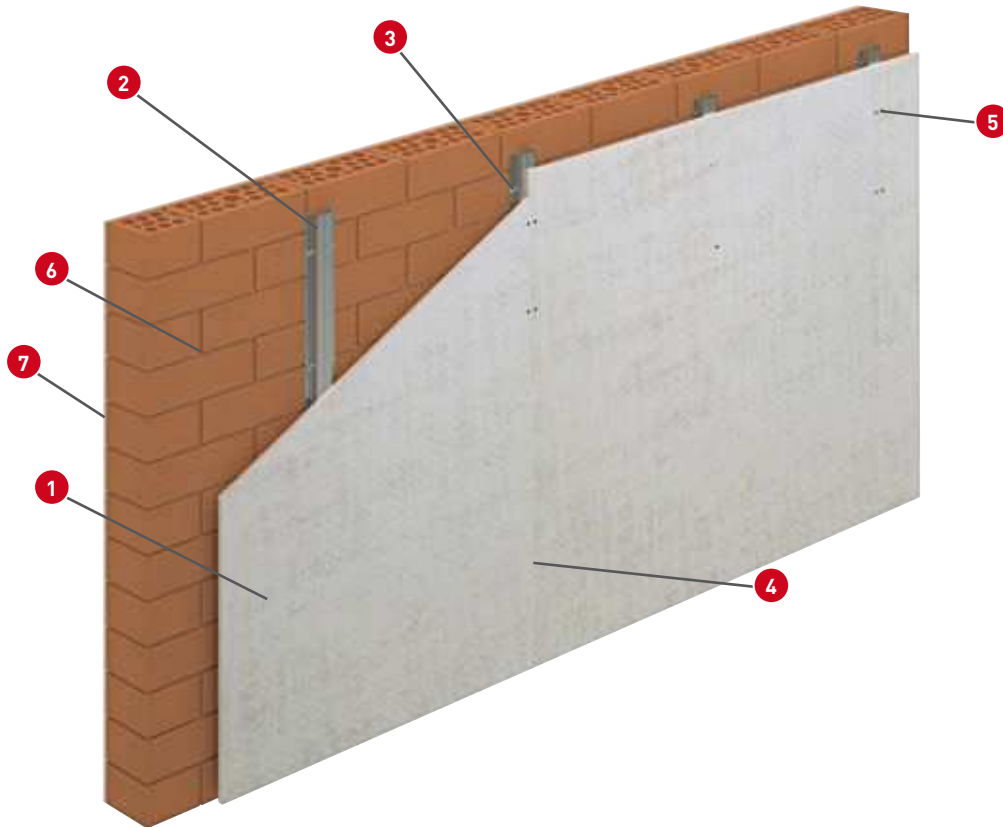
Test No: 16149-1/-2 M1

#### SOLUTION

- 1 Tecbor® A 12 mm boards.
- 2 15x45x0.5 mm omega sections.
- 3 5x65 mm metal plug.
- 4 Tecbor® joint paste.
- 5 3.5x25 mm self-drilling screw.
- 6 Precast concrete.

#### DESCRIPTION OF ASSEMBLY

On a 12 cm precast concrete wall, attach the 15x45x0.5 mm omega metal profile. Then fix Tecbor® A 12 mm boards with 3.5x25 mm self-drilling screws. Use Tecbor® joint paste in screw heads and between boards. Distance between screws should be 250-300 mm approximately.



### TESTS

Standard: EN 1364-1

Laboratory: APPLUS

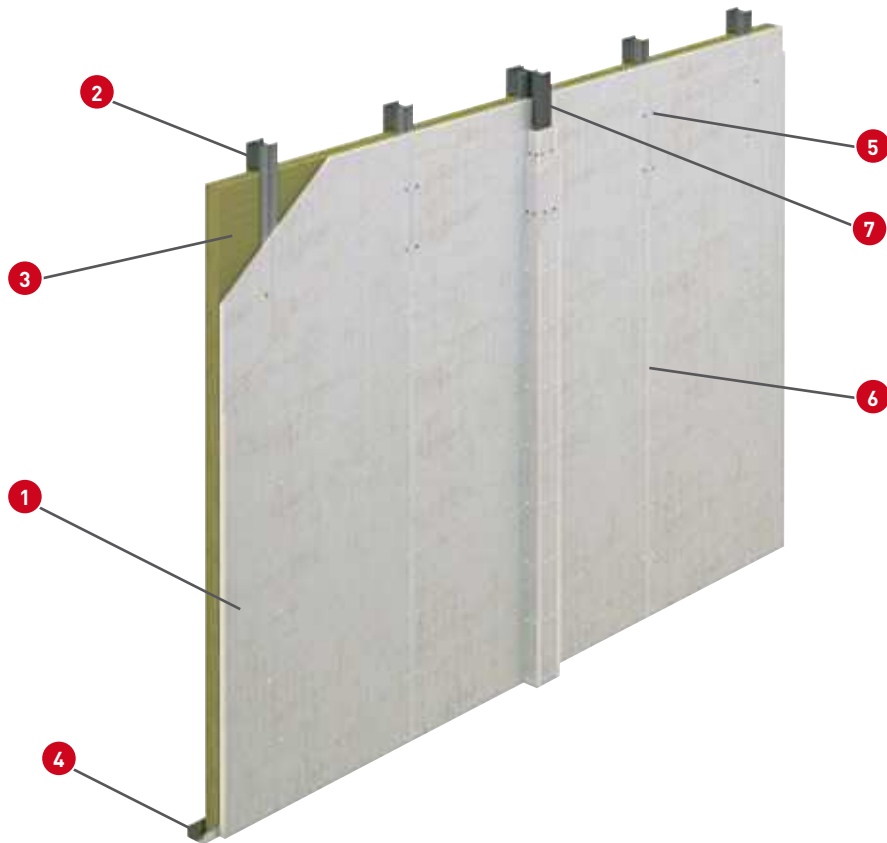
Test No: 07/32302900

### SOLUTION

- 1 Tecbor® A 12 mm boards.
- 2 15x45x0.5 mm omega sections.
- 3 10x60 mm anchor.
- 4 Tecbor® joint paste.
- 5 3.5x25 mm self-drilling screw.
- 6 ≥ 2.3 cm ceramic brick wall.
- 7 10 mm plastering.

### DESCRIPTION OF ASSEMBLY

On a 12 cm ceramic brick wall with 10 mm plastering on the unexposed side, attach 15x45x0.5 mm omega metal profile 610 mm using 10x60 mm anchors. Then fix Tecbor® A 12 mm boards with 3.5x25 mm self-drilling screws. Use Tecbor® joint paste in screw heads and between boards. Distance between screws should be 250-300 mm approximately.



#### TESTS

Standard: EN 1364-1

Laboratory: CIDEMCO

Test No: 19216-1/-2 M1

#### SOLUTION

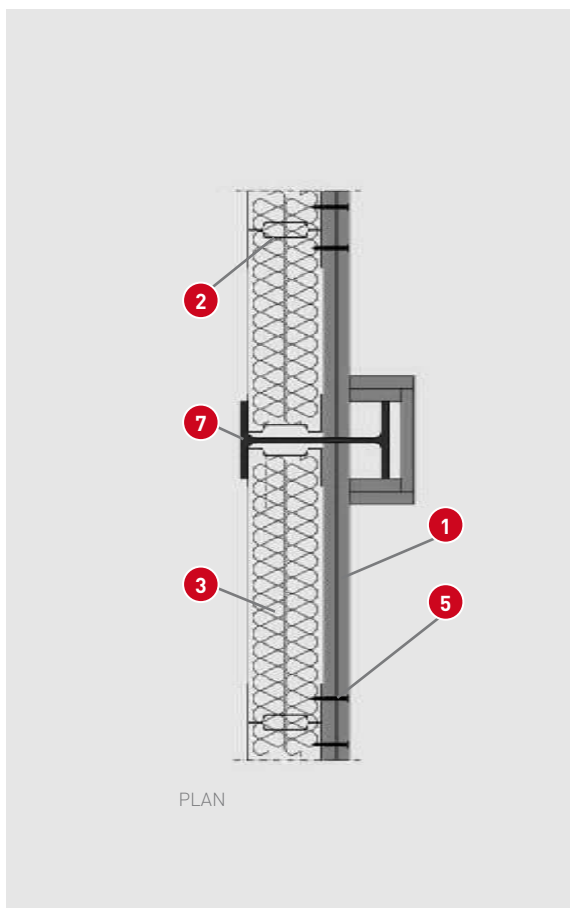
- ① Tecbor® A 12 mm boards.
- ② 70x36x0.6 mm H-shaped stud.
- ③ 60 mm (30+30) and 100 kg/m<sup>3</sup> density rock wool.
- ④ 73x30x0.5 mm runner.
- ⑤ 3.5x35 mm self-tapping screw.
- ⑥ Tecbor® joint paste.
- ⑦ Steel profi

#### DESCRIPTION OF ASSEMBLY

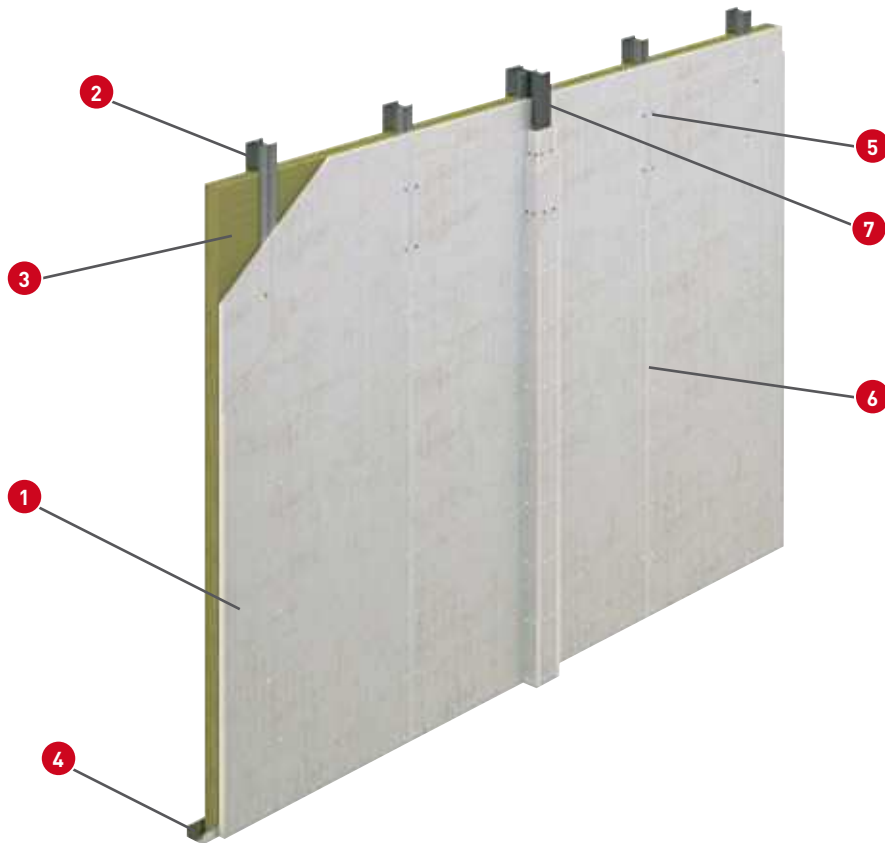
Attach 73x30x0.5 mm runners and assemble 70x36x0.6 mm studs every 610 mm. Fill in frame with 60 mm (30+30 mm) and 100 kg/m<sup>3</sup> rock wool panels.

Attach both Tecbor® A 12 mm board layers with 3.5x35 mm self-tapping screws every 200-250 mm alternating the layers. Use Tecbor® joint paste in screw heads and between boards.

Upon running the test, a 0.6 mm thick galvanised sheet was mounted on the unexposed surface, fixed to the studs with 13 mm sheet-metal screws. This sheet is not fi can be replaced in the fi was placed in the test furnace frame centre.







#### TESTS

Standard: EN 1364-1

Laboratory: CIDEMCO

Test No: 19319-1/-2 M1

#### SOLUTION

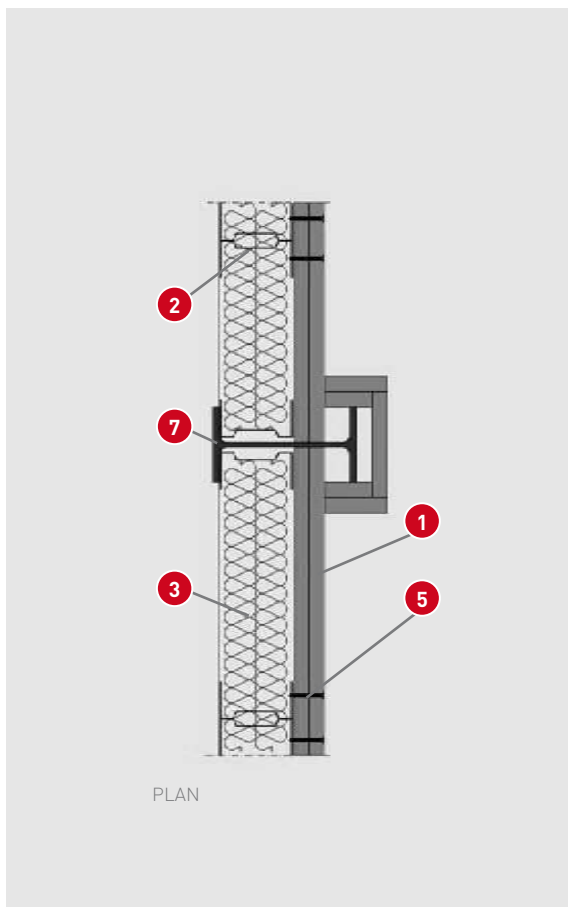
- 1 Tecbor® A 15 mm boards.
- 2 70x36x0.6 mm double stud H-shaped.
- 3 60 mm (30+30) and 100 kg/m<sup>3</sup> density rock wool.
- 4 73x30x0.5 mm runner.
- 5 3.5x35 mm self-tapping screw.
- 6 Tecbor® joint paste.
- 7 Metal profi

#### DESCRIPTION OF ASSEMBLY

Attach 73x30x0.5 mm runners and assemble 70x36x0.6 mm studs every 610 mm. Fill in frame with 60 mm (30+30 mm) and 100 kg/m<sup>3</sup> rock wool panels. Attach both Tecbor® A 15 mm board layers with 3.5x35 mm self-tapping screws every 200-250 mm alternating the layers.

Use Tecbor® joint paste in screw heads and between boards.

Upon running the test, a 0.6 mm thick galvanised sheet was mounted on the unexposed surface, fi sheet-metal screws. This sheet is not fi can be replaced in the fi was placed in the test furnace frame centre.



If partitions are above 4 m high, additional reinforcement must be provided.

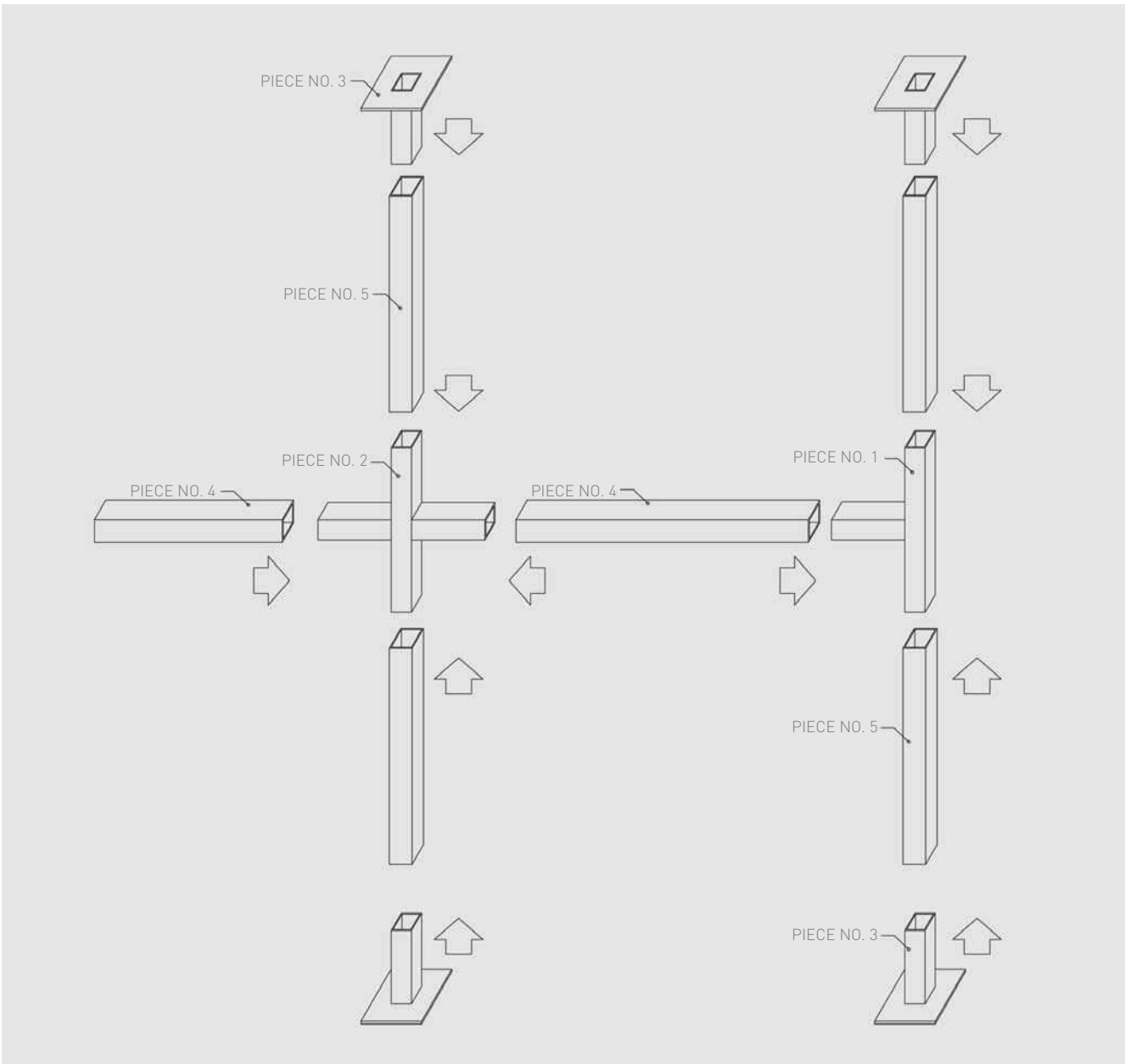
This structural solution consists of 5 easy-to-install pieces protecting the partition against the stress caused by dilation and temperature variations, and the masonry seating itself.

**1. System scheme**

The structural solution includes 5 standard pieces, assembled as shown in the picture.

Pieces no.3 have four slot holes; therefore, they are attached to the substrate with metal plugs or anchors. Such slot holes allow the partition to move perpendicularly in case of deformation.

The rest of the pieces are assembled as shown in the picture following standard dimensions, except for the last section where pieces no.5 will be cut 100mm less than the required size to allow for the absorption of movements due to dilation/expansion.



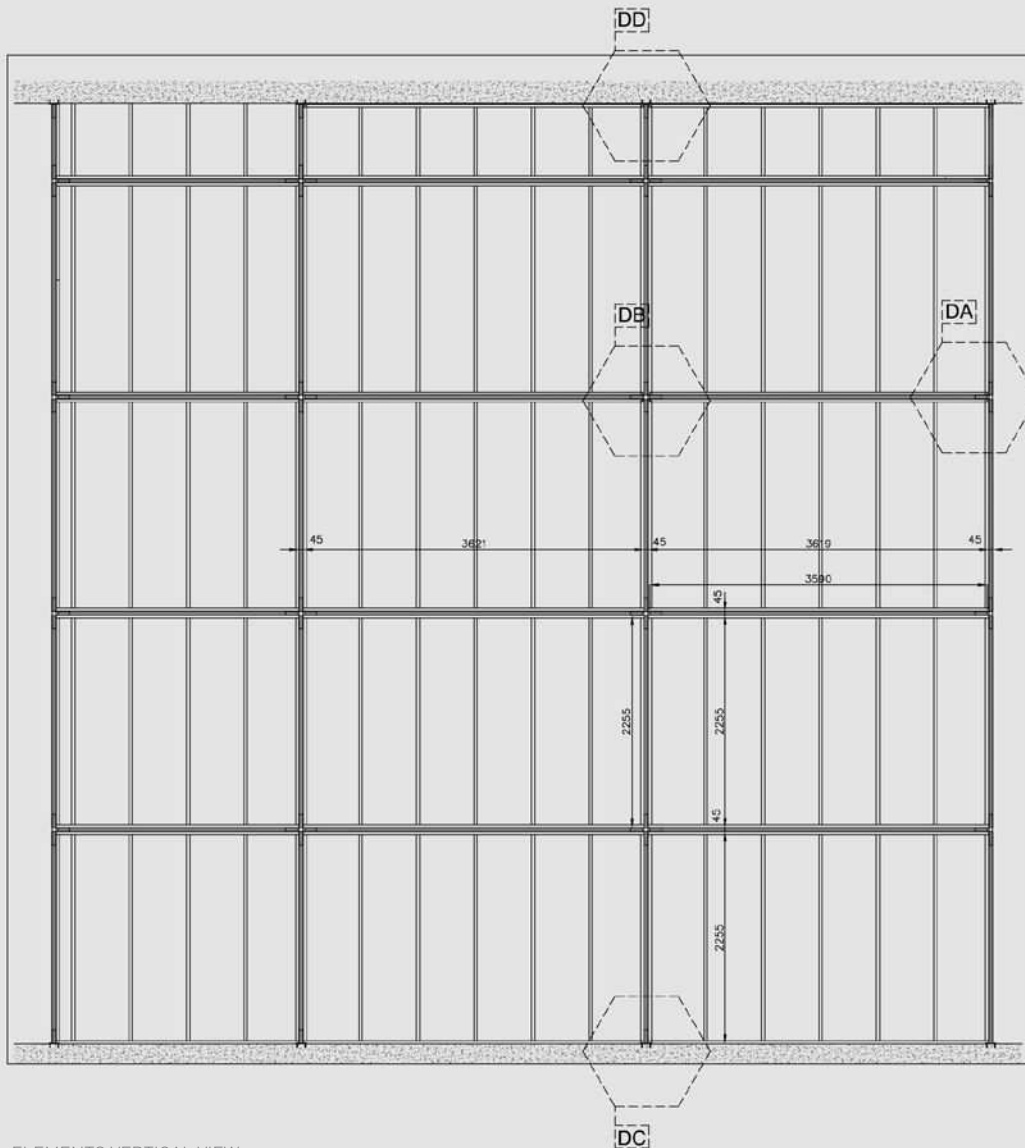
## 2. System assembly and details

The mesh-shaped structure has the size indicated in the diagram and includes independent areas of 8.41 m<sup>2</sup> (formed by 3 Tecbor® boards each). Piece no. 4 represents the crossbeam and piece no. 5 the main stud.

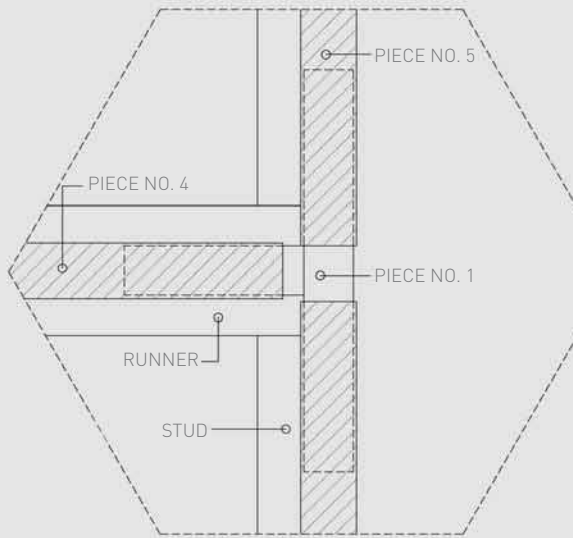
Piece no. 2 is a three point connection used to join pieces 4 and 5 on the partition end edge.

Once the primary metal structure is placed, the secondary framing (runners and studs) will be mounted on said structure. Runners and studs are fixed with nails placed at a distance of 250-300 mm.

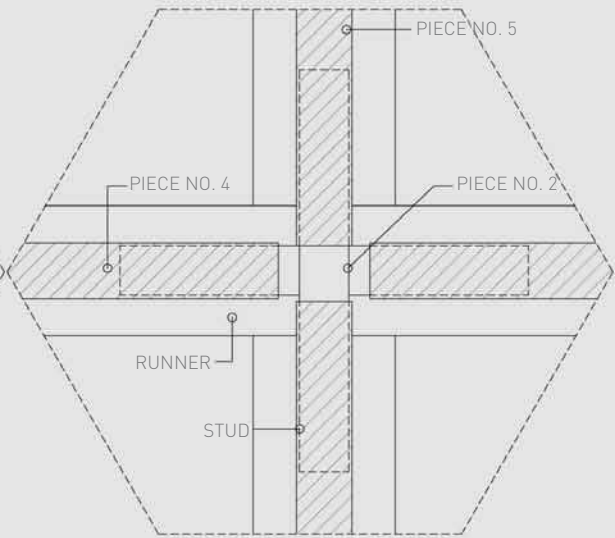
Tecbor® boards are fixed to the secondary sections (runners and studs) and never to the metal structure using Hi-lo screws (sized according to partition used).



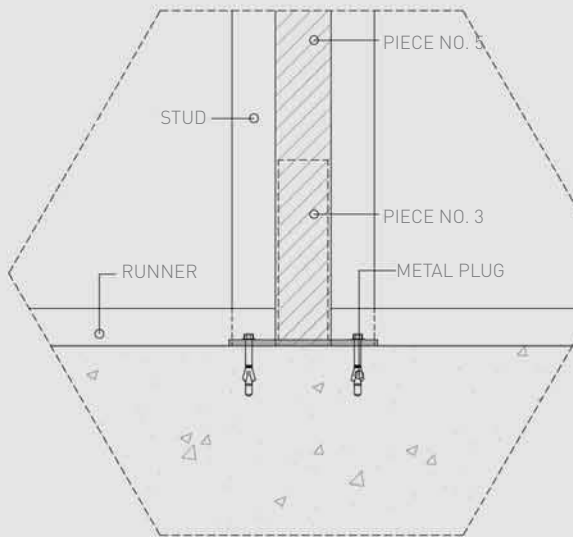
STRUCTURAL ELEMENTS VERTICAL VIEW



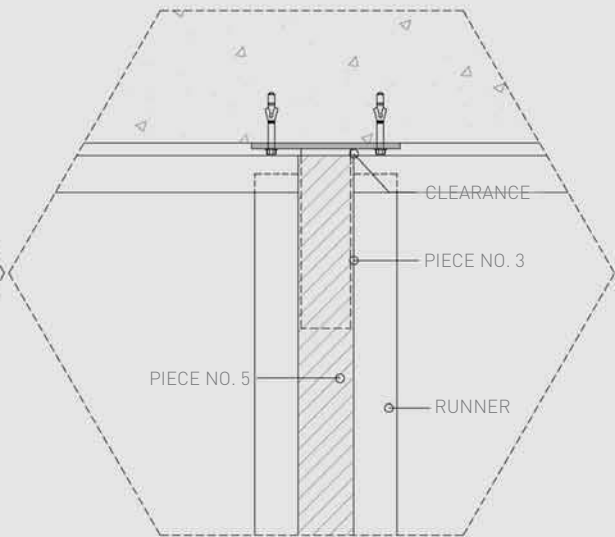
DETAILED VIEW (DA)



DETAILED VIEW (DB)



DETAILED VIEW (DC)



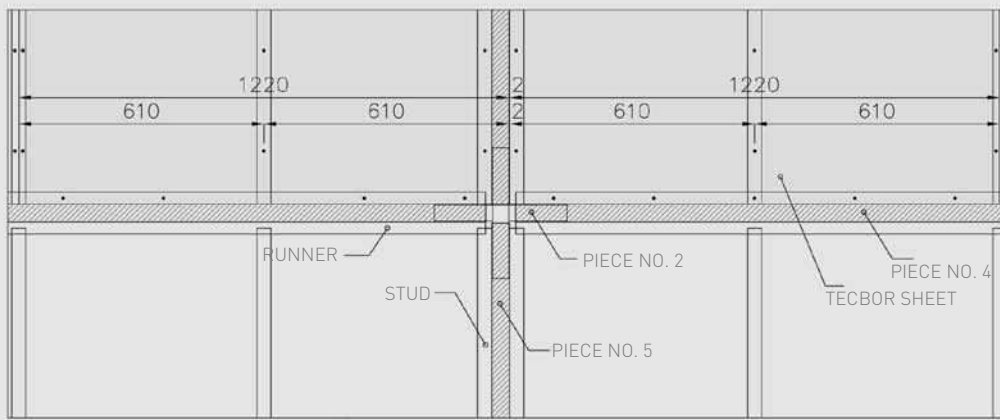
DETAILED VIEW (DD)

**3. Tecbor® boards fi**

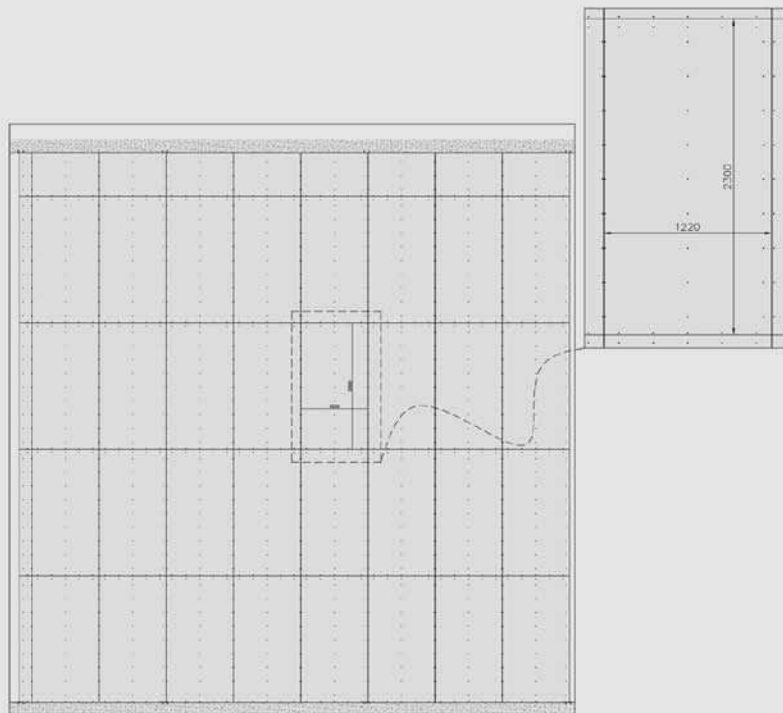
Tecsel® Intumescent Mastic for indoor use will be applied on a 2 mm joints between 8.41 m<sup>2</sup> boards sections. Tecsel® Intumescent Mastic will absorb any inter-board dilation.

A free edge of about 50-70 mm will be left on top of the partition (according to partition's size) to enable it to move in harmony with the structural work. This edge will be sealed off using either an outer 100 mm wide skirting board or Tecsel® Intumescent Mastic.

For additional information, please contact our Technical Department.



PANEL CENTRE SKETCH



INSTALLED SHEET SKETCH

## FIRE PROTECTION SYSTEMS

- ▶ fireproof partitions
- ▶ smoke and heat exhaust systems
- ▶ fire ventilation systems
- ▶ fire protection of building structures



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