

A1 COREX

Non-combustible gypsum boards

TDS TECHNICAL DATA SHEET



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A1 COREX

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TECHNICAL DOCUMENTATION

→ PRODUCT DESCRIPTION

The **A1 COREX** fire-resistant, non-combustible plasterboard has a reinforced core, covered on both sides with fibreglass mats. This construction ensures that the fire-resistant board offers high structural and fire resistance despite its slim profile.

→ APPLICATION

A1 COREX boards can be classified as fire protection products based on their application:

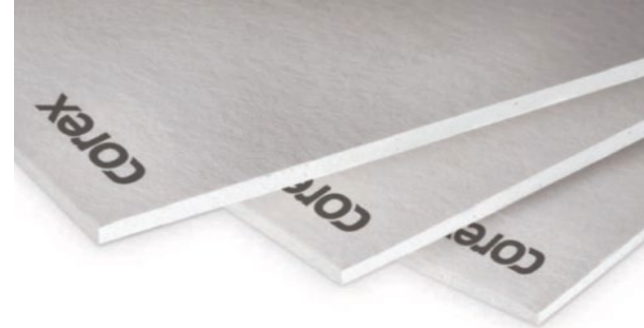
- protection of load-bearing steel elements for up to 240 minutes; cladding of steel columns and beams does not require an additional substructure
- providing fire resistance for partitions without load-bearing requirements for up to 120 minutes, e.g. cladding of service risers, installations in the form of partition walls and suspended ceilings. The boards are dimensionally stable and resistant to shrinkage. Environmentally neutral and breathable.

→ AVAILABILITY

Product	Type dimensions [mm]	Form Delivery	Quantity per pallet [pcs]	Item number
A1 COREX	12.5 x 1200 x 2000	Pallet	40	5812200120
	15.0 x 1200 x 2000		32	5815200120
	20.0 x 1200 x 2000		24	5820200120
	25.0 x 1200 x 2000		20	5825200120

→ TECHNICAL DATA

Panel thickness	12.5	15.0	20.0	25.0	
Weight [kg/m ²]	11.5	13.5	17.6	21.9	
Quantity per pallet [m ²]	96	76.8	57.6	48	
Bending strength	Vertical	≥ 725 N	≥ 870 N	≥ 1160 N	≥ 1450 N
	Horizontal	≥ 300 N	≥ 360 N	≥ 450 N	≥ 600 N
Cutting capacity	Yes				
Colour	White				
Fire reaction	Class A1				
Durability	Z ₂				
Thermal conductivity	λ = 0.25 W/(m·K)				



European Technical Assessment:

ETA 18/0050

Declaration of performance:

2018-DOP-01/A1

Certificate of performance:

1020-CPR-010040265

EPD

→ TRANSPORT AND STORAGE

Transport and store in a dry and cool place. Protect from moisture. The boards are delivered on pallets.

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→ INSTALLATION

Fire-resistant protection for steel structures

1. Clean the surface of the steel element of dust and dirt.
2. Select the appropriate thickness of **A1 COREX** board. The cladding should be made from a single or double layer of board. Check the dimensions of the steel component to be protected.
3. Cut the board to the required size – allowing for 2 times the board thickness in the linear dimension. Use power tools to cut the boards. Only boards up to 15 mm thick may be cut with a knife. The cut edges should be straight.
4. **A1 COREX** panels can be fixed to wedge bolts. The width of the wedge bolts should not be less than 120 mm. Bolt dimensions are given in the table below.

Thickness A1 COREX [mm]	Wedge thickness [mm]	Staple length [mm]	Distance between staples on the axis [mm]
12.5	20	30	≤100
15	20	40	
20	20	40	
25	25	50	



A wedge of the appropriate thickness should be cut at an angle of approximately 5° and placed between the wedge bolt and the steel profile as shown in the diagram. The upper part of the bolt (wedge) is struck with a hammer in the direction of the arrow and adjusts to the height of the profile. The centre-to-centre distance between bolts is ≤ 1200 mm. The distance between the edge of the bolt and the end of the steel profile is ~50 mm.

→ SOLUTION DETAILS AND FIRE CLASSIFICATION

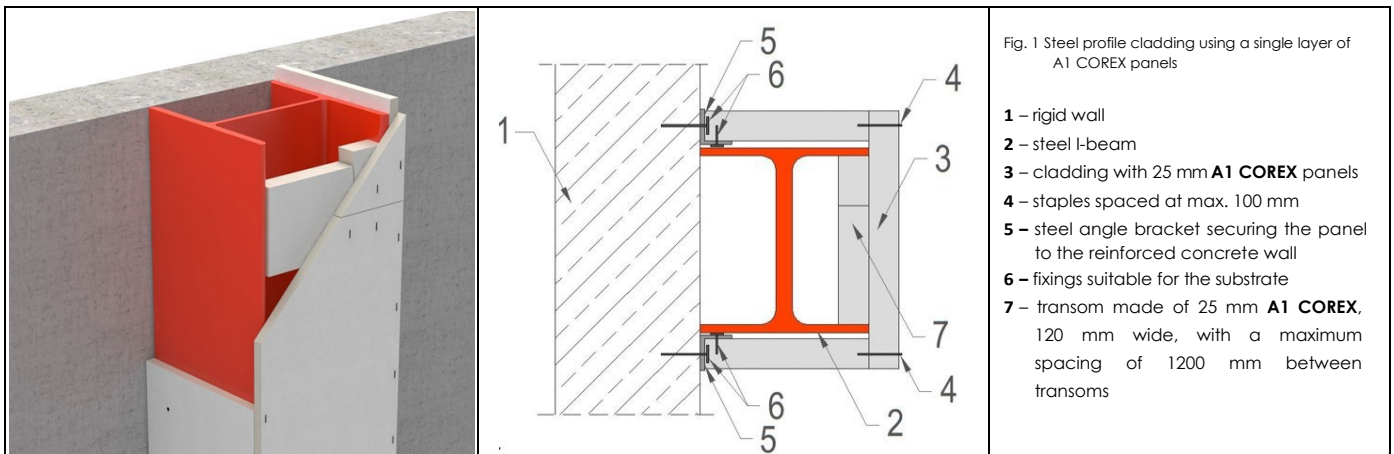


Fig. 1 Steel profile cladding using a single layer of A1 COREX panels

- 1 – rigid wall
- 2 – steel I-beam
- 3 – cladding with 25 mm **A1 COREX** panels
- 4 – staples spaced at max. 100 mm
- 5 – steel angle bracket securing the panel to the reinforced concrete wall
- 6 – fixings suitable for the substrate
- 7 – transom made of 25 mm **A1 COREX**, 120 mm wide, with a maximum spacing of 1200 mm between transoms

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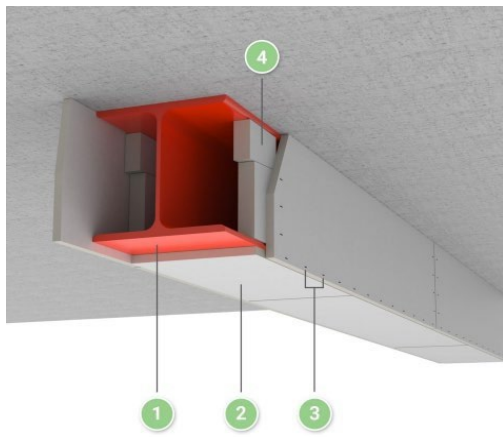
<p>Example of steel profile cladding using two layers of A1 COREX panels - designed fire resistance up to R240</p>	<p>Example of steel profile cladding using two layers of A1 COREX panels - design fire resistance up to R240</p>	<p>Example of cladding a steel profile with a single layer of A1 COREX panels and additional insulation</p>
<p>Steel beam in the ceiling encased in two layers of A1 COREX panels - designed fire resistance up to R240</p>	<p>Steel beam in the ceiling encased in a single layer of A1 COREX panels - design fire resistance up to R120</p>	<p>Example of steel profile cladding using a single layer of A1 COREX panels - design fire resistance up to R120</p>
<p>Example of a steel column encased in two layers of A1 COREX panels - design fire resistance up to R240</p>	<p>Example of a steel column cladding using a single layer of A1 COREX panels - design fire resistance up to R120</p>	<p>Example of cladding a steel beam/lintel using A1 COREX panels - designed fire resistance up to R120</p>

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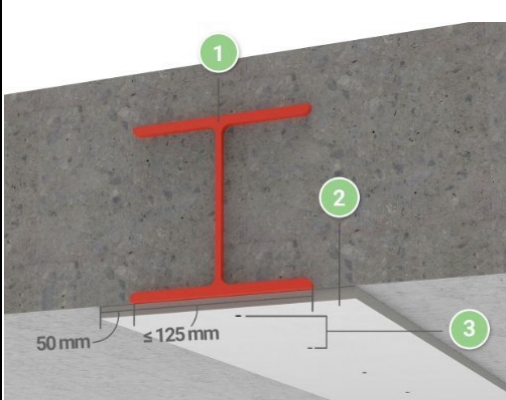
Example of an HEB steel beam enclosure



- 1 – HEB 140 steel section
- 2 – A1 COREX board, thickness depending on the fire resistance class
- 3 – distance between nails for direct fixing ≤ 100 mm (fixing distance from the edge ≤ 50 mm)
- 4 – transom made of A1 COREX board, spacing between transom centres ≤ 1200 mm, transom width ≤ 120 mm

Fire resistance	Thickness
R 60	1 x 12,5 mm
R 90	1 x 20 mm
R 120	1 x 25 mm

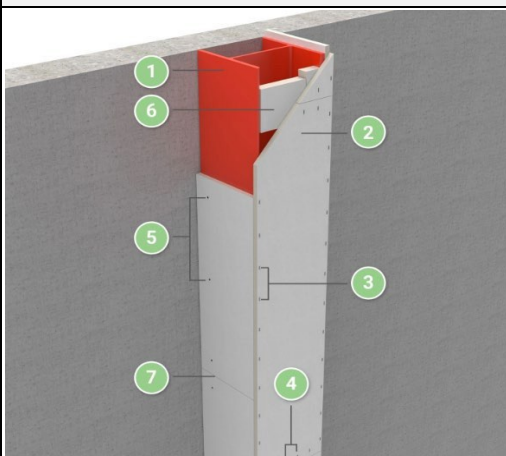
Example of HEB steel beam encasement in a floor



- 1 – HEB 140 steel section
- 2 – A1 COREX board, thickness depending on fire resistance class
- 3 – distance between nails for direct fixing ≤ 300 mm (distance at the edge ≤ 50 mm)

Fire resistance	Thickness
R 60	1 x 12,5 mm
R 90	1 x 12,5 mm
R 120	1 x 15 mm

Example of a steel HEB column casing



- 1 – HEB 140 steel profile
- 2 – cladding made of A1 COREX panels, thickness depending on the fire resistance class
- 3 – distance between nails for direct fixing ≤ 100 mm (fixing distance from the edge ≤ 50 mm)
- 4 – distance between nails for direct fixing
- 5 – distance between nails for direct fixing ≤ 300 mm (distance from the edge ≤ 50 mm)
- 6 – transom made of A1 COREX board, spacing between transom centres ≤ 1200 mm, transom width ≤ 120 mm
- 7 – minimum offset between panels 300 mm

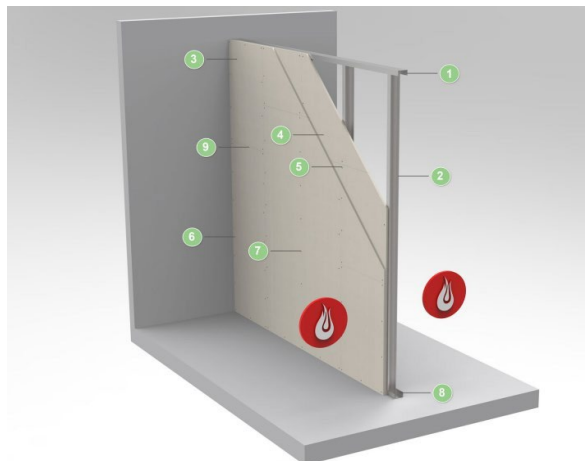
Fire resistance	Thickness
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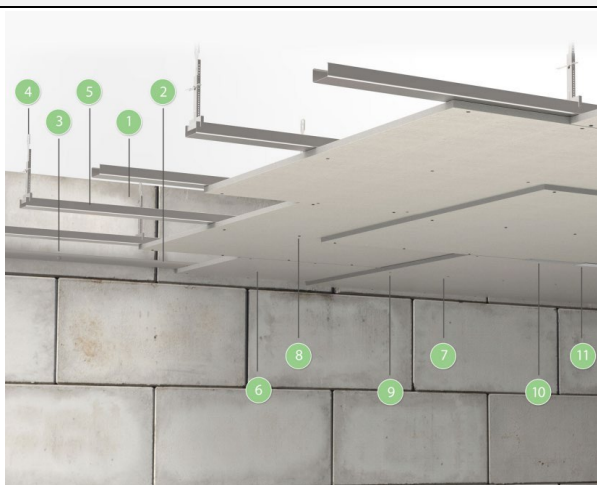
Partition walls / Shaft enclosures



- 1 – metal U-profile, fixed using metal connectors at 600 mm intervals
- 2 – metal C-profile, between the metal U-profiles, spaced at 600 mm
- 3 – **A1 COREX** board, thickness depending on the fire resistance class
- 4 – **A1 COREX** board, with the joint between boards offset by 300 mm from the first layer
- 5 – 3.5 x 45 mm screws, spaced 400 mm apart
- 6 – C-shaped metal profile, fixed to the structural wall using fasteners, spaced 600 mm apart
- 7 – screws, 3.5 x 70 mm, 300 mm centre-to-centre
- 8 – metal U-profile, fixed using metal fasteners at 600 mm intervals
- 9 – the joint between the boards should be finished with fibreglass tape and filler

Fire resistance	Thickness
EI 60	2 x 15 mm
EI 90	2 x 20 mm
EI 120	2 x 25 mm

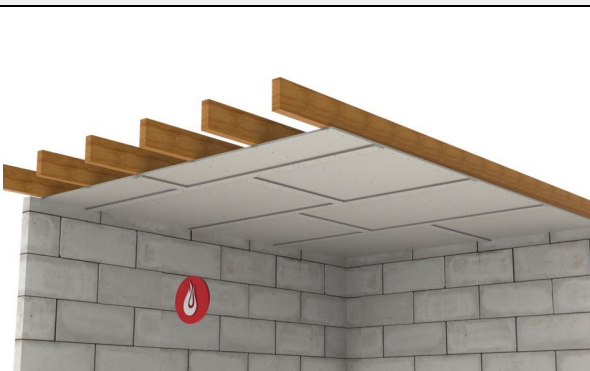
Suspended ceilings



- 1 – solid wall
- 2 – U-shaped ceiling profile
- 3 – steel connector for fixing the U-profile
- 4 – ceiling hanger
- 5 – CD ceiling profile
- 6 – first layer: **A1 COREX** board, thickness depending on the EI class
- 7 – second layer: **A1 COREX** board
- 8 – fixing of the first layer of **A1 COREX**: drywall screws
- 9 – fixing of the second layer of **A1 COREX**: drywall screws
- 10 – joints to be made using fibreglass joint tape (traditional tape commonly used for joining plasterboards)
- 11 – use a joint filler (traditional filler for joining plasterboards)

Fire resistance	Thickness
EI 60	2 x 15 mm
EI 90	2 x 20 mm
EI 120	2 x 25 mm

Wooden ceiling construction



- **A1 COREX** board 1 x 15 mm
- joints covered with 75 mm strips of 15 mm **A1 COREX** board
- fastened with 3.5 x 45 mm screws at 200 mm intervals

Fire resistance	Thickness
EI 30	1 x 15 mm