Aeropanel

Installation instructions

Contents

About AEROPANEL

Fibre cement sheets are a modern building material that embodies an engineering concept and an innovative approach to construction. Made from carefully selected components - cement, water, reinforcing fibres and mineral fillers - they demonstrate exceptional strength and durability.

The sheets are used in a wide range of applications: in civil, military and industrial construction; in architecture and interior decoration; and even in furniture production.

Advantages

- ENVIRONMENTAL FRIENDLINESS
- AESTHETICS
- FIRE RESISTANCE
- FROST RESISTANCE
- HEAT AND SOUND INSULATION
- DURABILITY

Physical and mechanical characteristics

Features	Unit	Indicator
Dimentions		
Width	mm	1220
Length	mm	3050
Thickness	mm	8
Physical properties		
Density in the dry state	kg/m³	1700
Weight	kg/m³	16,9
Mechanical properties		
Flexural strength in bending	MPa	18 at least
Thermal characteristics		
Thermal conductivity coefficient	w/mK	0,18
Coefficient of thermal expansion	mm/mK	0,005
Temperature use	°C	max. 80
Frost resistance	cycles	>150
Tolerances		
Thickness	%	10
Length	mm	±8
Width	%	±0,5
Other features		
Flammability class	A1, A1 fl	
Asbestos content	Asbestos-free	
Emission of other harmful substances	Does not contain harmful substances, has no harmful fumes	

Pallets must be protected against rising damp and weathering. Damp products must not be installed, or damage may occur. The cover of the pallets can be reused for dry storage.

Tools and Accessories

Tape

UV-resistant joint tape for protection against permanent moisture penetration of the wooden subframes.

Saw Blade

Diamond-tipped saw blade.
For outdoor use only.

Screws

A2 stainless steel screws for fastening cladding to wood framing.

Rivet Spacer Nosepiece

Used to set the rivet off the panel face by 0.3mm

Rivet

Rivet with rivet mandrel A2 made of stainless steel for fastening cladding to subframes.

Centralising Tool

Used on pre-drilled panel to ensure a concentric hole is drilled in the metal subframe behind the sheet.

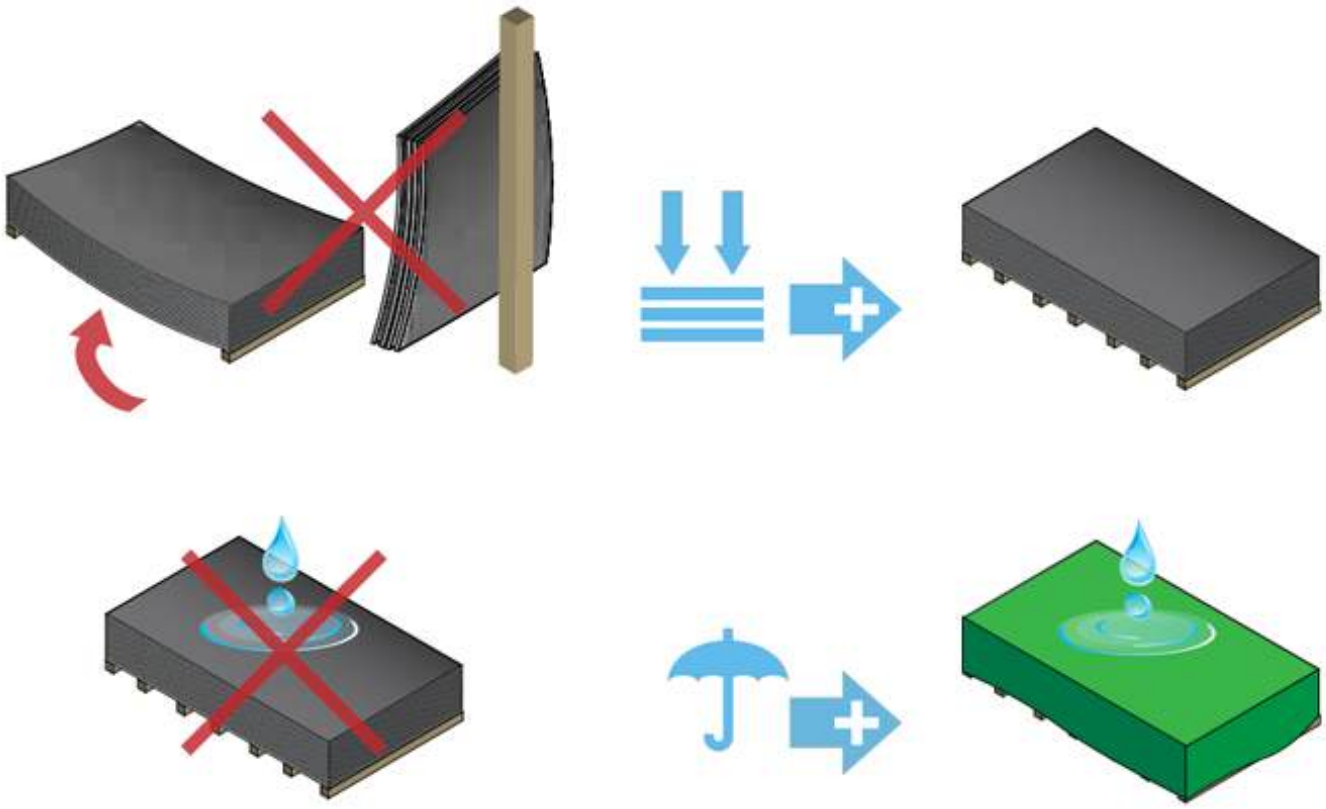
Edge Sealer

An acrylic coating, available in matching colours, required to seal the cut ends of the facade cladding.

Storage

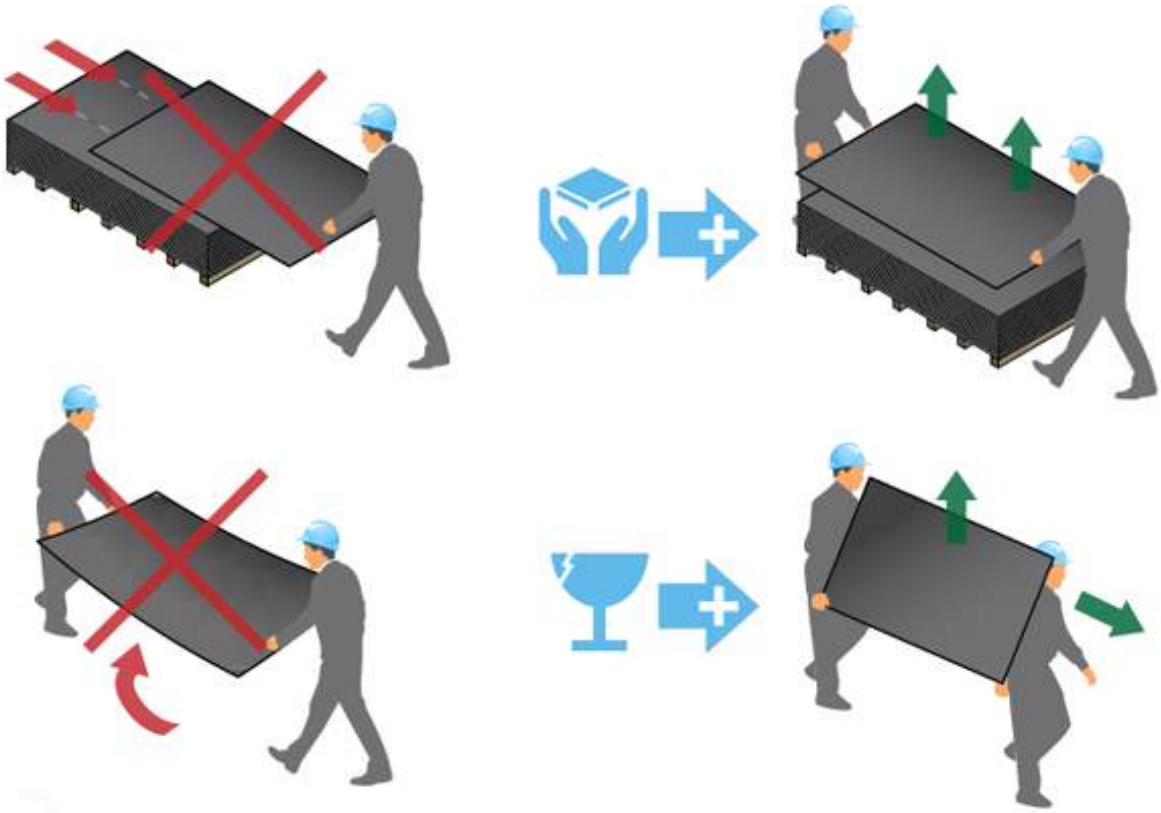
Fibre cement sheets should be stored horizontally on pallets indoors and under cover in dry conditions, protected from weather and other influences.

Stack pallets in such a way that the panels are ventilated. If moisture penetrates between the stored sheets, the surface may be permanently stained in the form of fading. Condensation may also occur inside the packaging in warm conditions. An external plastic cover without ventilation can lead to condensation.



Transport

- Two people are required to carry a sheet of standard dimensions 1220x3050 mm;
- hold the sheets vertically during the transfer to prevent the material from bending;
- if it is not possible to carry the material vertically, use a stretcher;
- it is unacceptable to carry more than two sheets by hand at the same time. when stacking sheets in a pallet, it is necessary to lay the packaging film on the front side;
- disassemble stacks with painted sheets carefully, avoiding friction of the sheet on the sheet;
- when stacking the sheets, stack them exactly one above the other, forming an even bundle, the height of which should not exceed one metre.



Handling

Cutting

The optimum cutting speed for industrial saws should be 40–50 m/s. In general, higher cutting speeds allow for better cutting-edge quality.

Use a jigsaw or a hole saw equipped with carbide, bi-metal, or diamond tipped. Cut-outs should always take place before installation on the facade.

Edge sealing

All trimmed/cut edges must be sealed with edge sealer. The edge sealant protects the panel from moisture absorption.
Before applying the edge sealer, make sure that the edges are clean, dry, and dust-free.

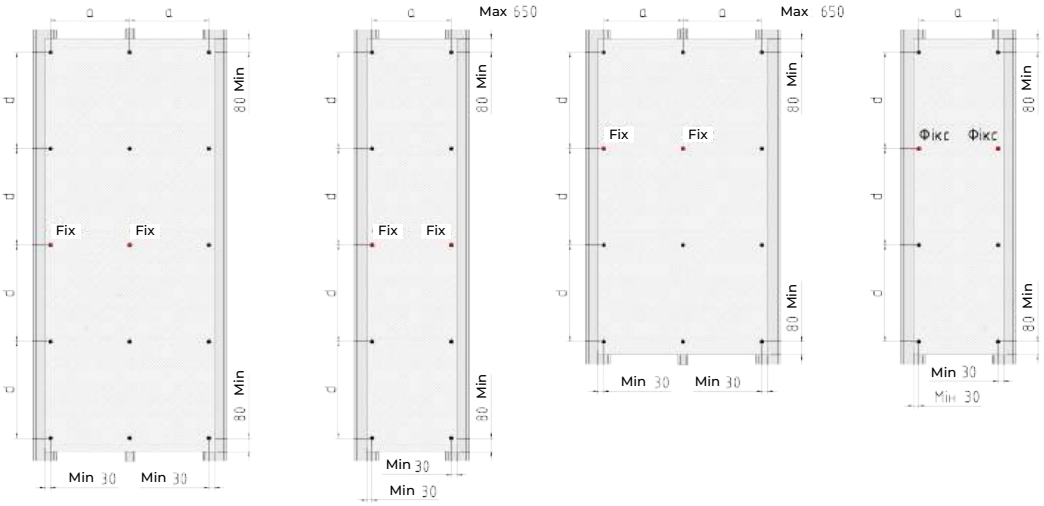
The temperature must be between + 5° C and + 35°C.

A paint applicator with a small sponge, if available with a triangular tip, or a fine paint roller is suitable for application, as this is the best way to work in a controlled manner.
Do not apply the paint over a large area on the front of the facade panels. Wipe off excess paint immediately from the factory coated surface.

Pre-drilling

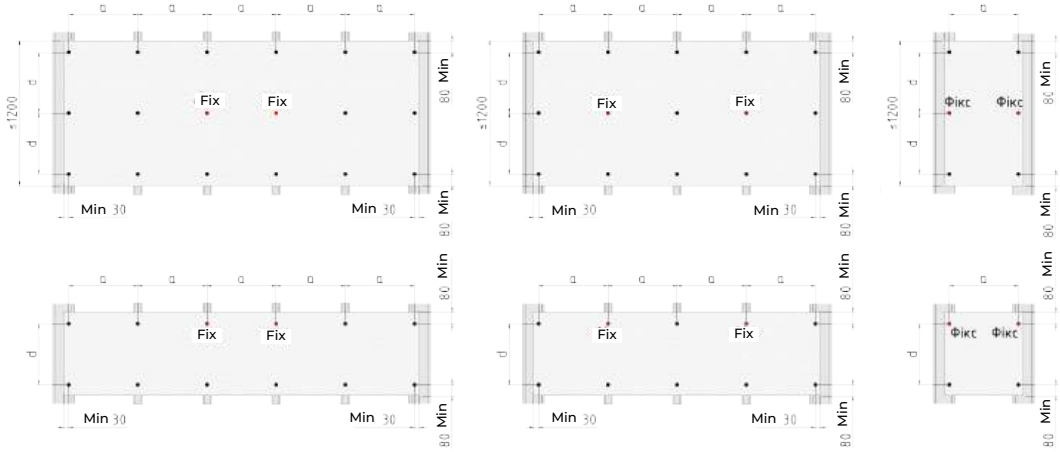
When fixing fibre cement sheets to an aluminium subframe, the cladding panels are pre-drilled lying flat on a level, pressure-resistant substrate.
Dust from drilling must be removed immediately with a soft cloth, otherwise traces may remain on the surface.

Schemes for fixing different sizes of sheets



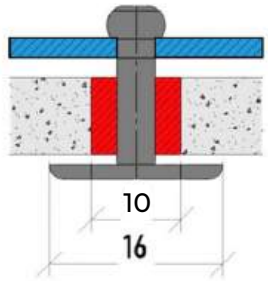
The minimum width of the intermediate support is 35 mm;
The minimum width of the support at the joint is 80 mm.

The minimum distance from the edge of the sheet to the centre of the fastener is 30 mm, the maximum is 120 mm.



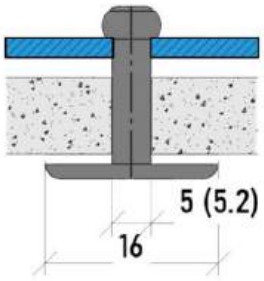
Fixing to a subsystem

Fixed with sleeve



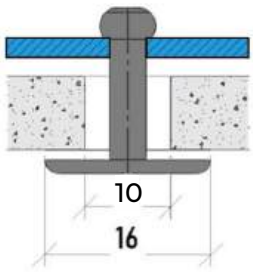
Drill a hole in the sheet with a diameter of 10 mm and a diameter of 5° (5.2) mm in the profile.
The bushing for a fixed attachment point is used in the attachment used in combination

Fixed with hole



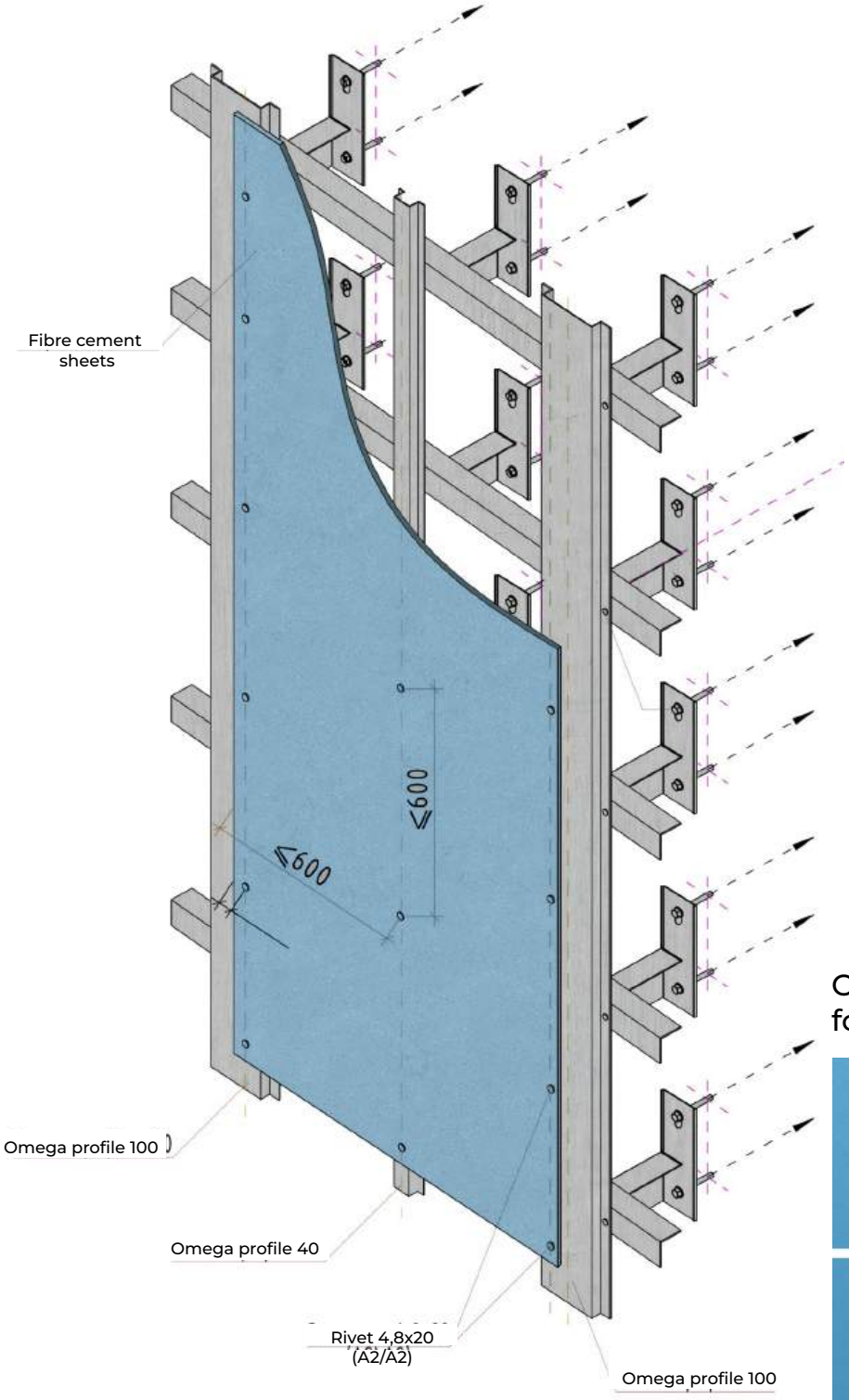
Drill a hole in the sheet with a diameter of 5(5.2) mm and a diameter of 5(5.2) mm in the profile.
The fixed assembly is made without the use of a sleeve.

Sliding (floating)

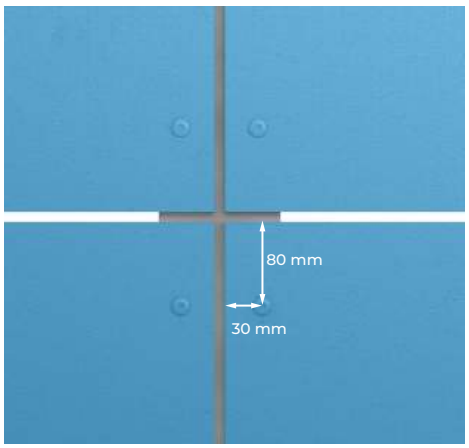


Drill a hole in the sheet with a diameter of 10 mm and a diameter of 5(5.2) mm in the profile. Fixed assembly Performed without using a i sleeve.

Frame diagram and principles of fastening fibre cement sheets

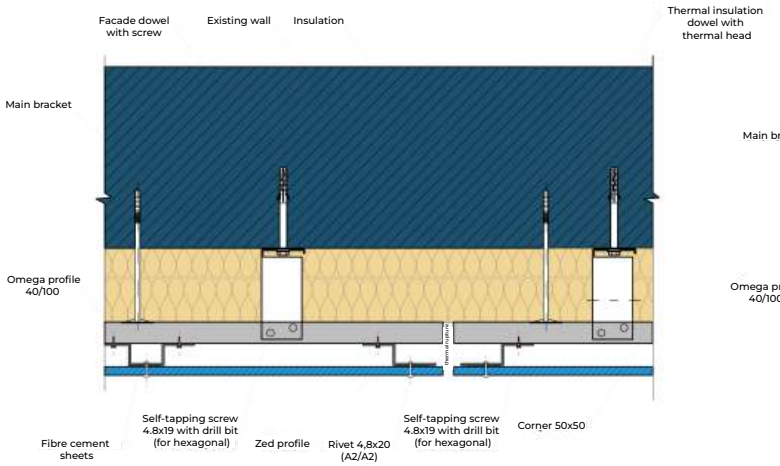


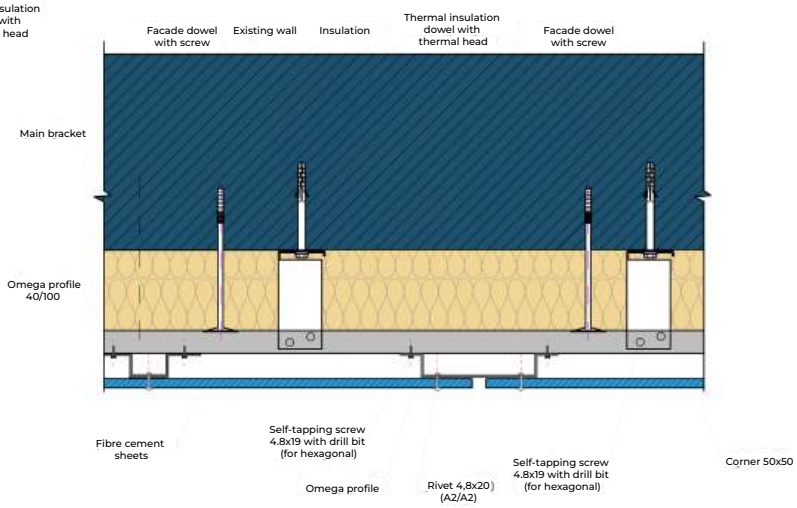
Optimal distances for corner fixings



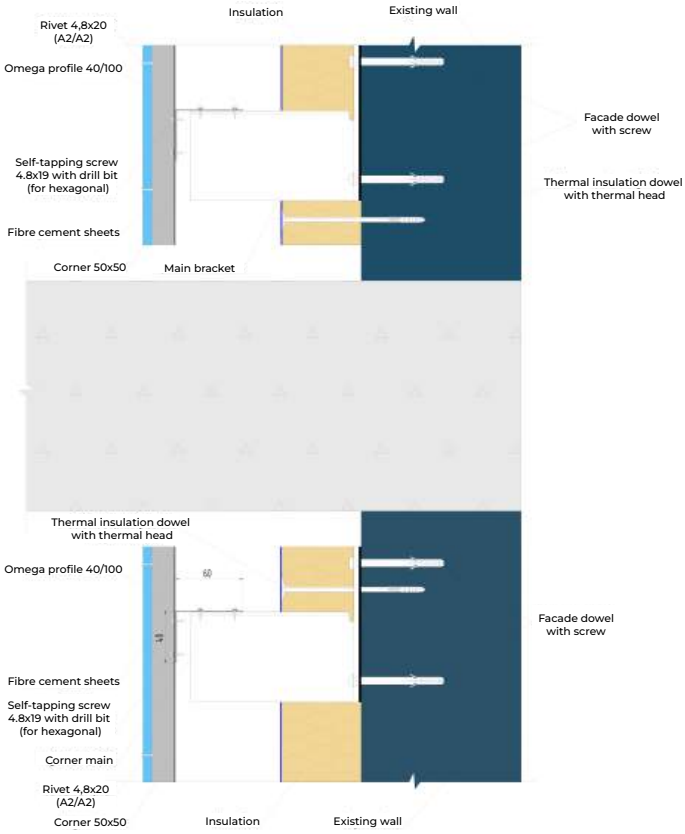
Typical fixing points for fibre cement sheets with rivets

Scheme of fixing fibre cement sheets on a straight section

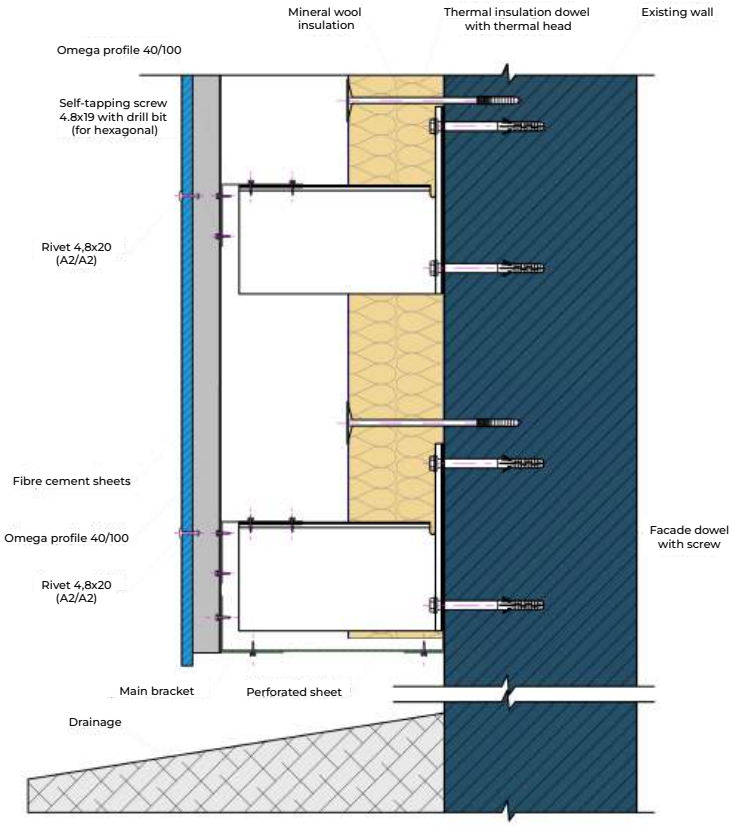




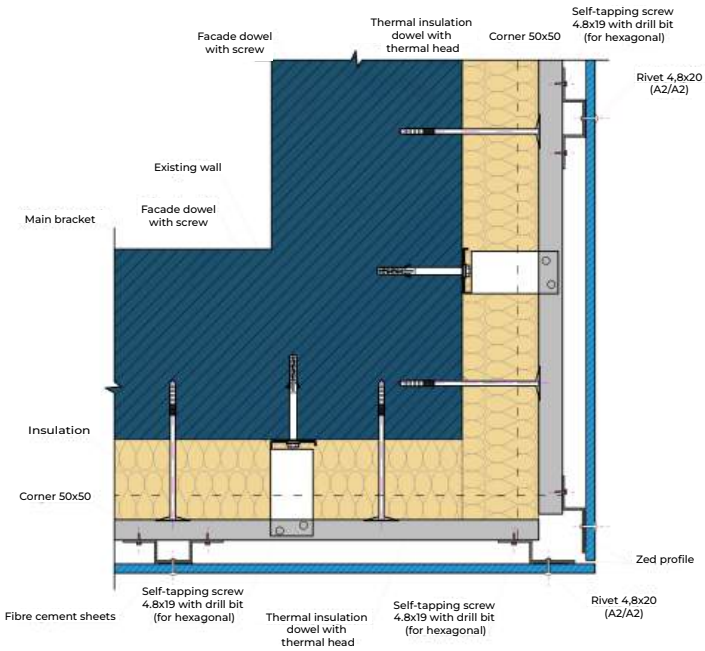
Scheme of adjacency to cantilever/protruding areas of the building

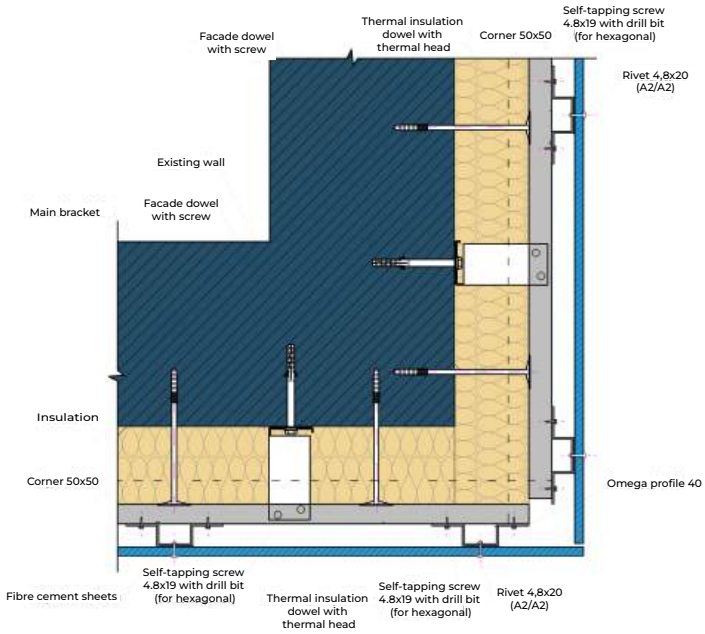


Scheme of fixing fibre cement sheets on the basement

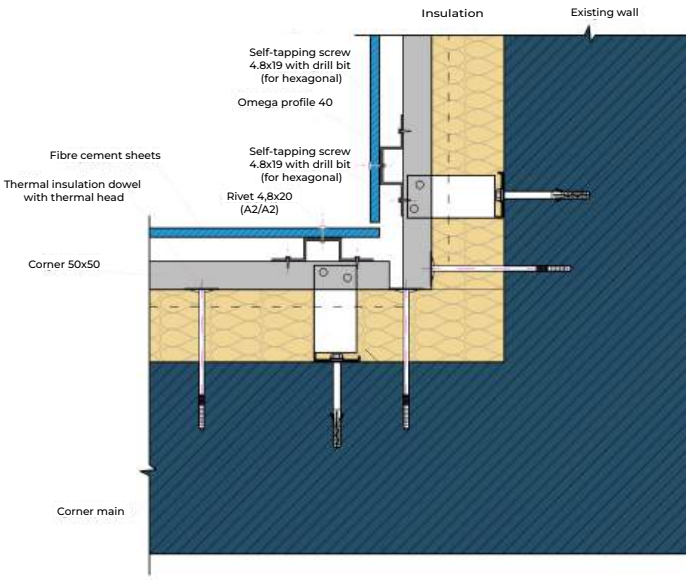


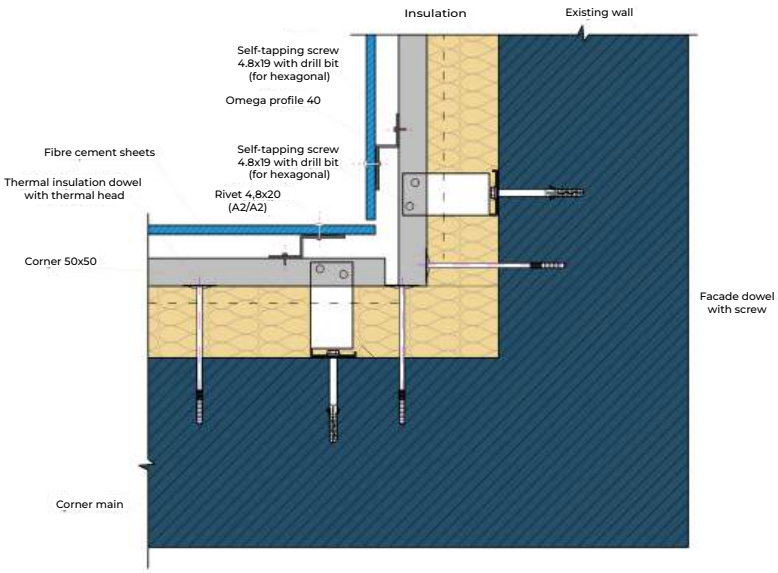
Scheme of fixing fibre cement sheets on the outer corner



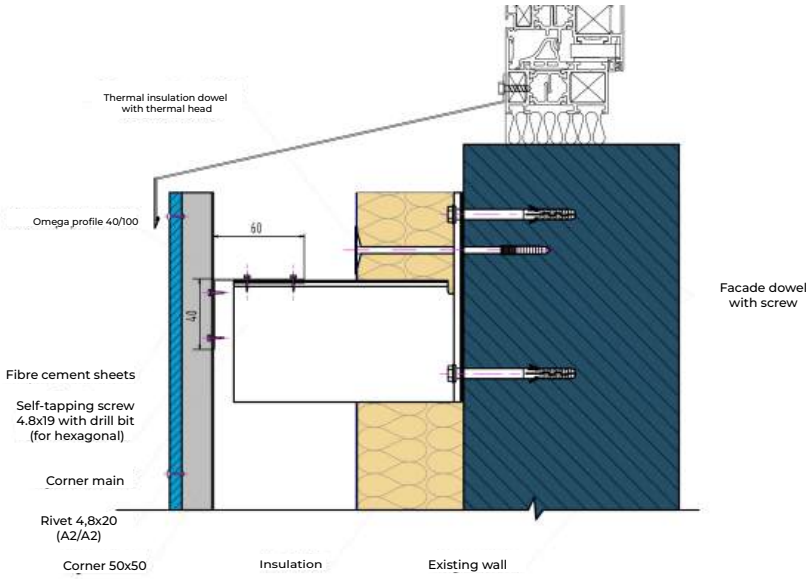


Scheme of fixing fibre cement sheets on the inner corner

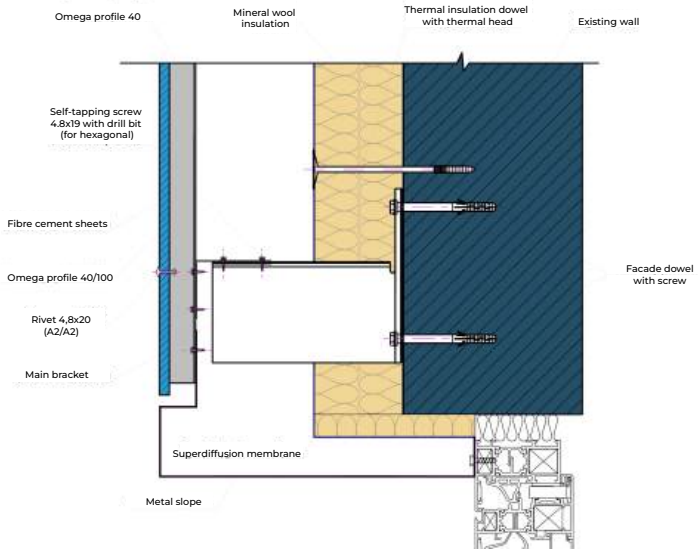




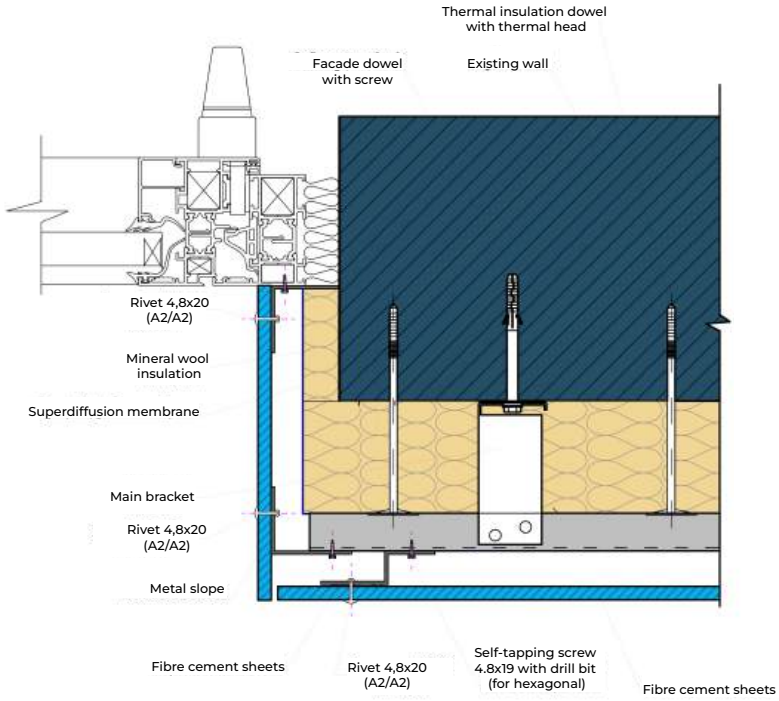
Scheme of adjacency to the window (ebb tide)



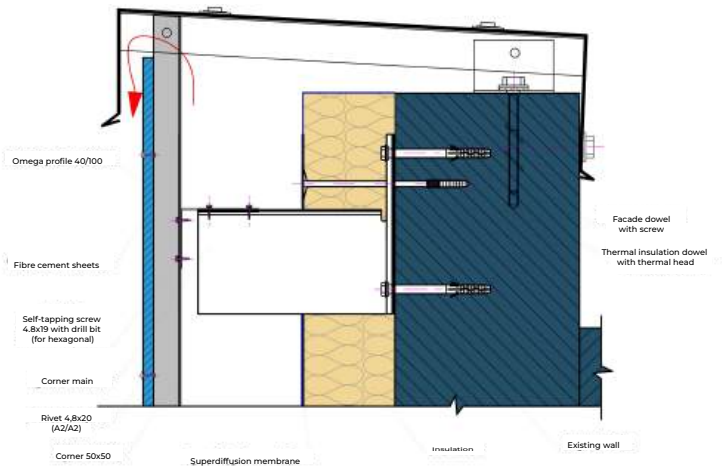
Scheme of adjacency to the window (upper slope)



Scheme of adjacency to the window (side slope)



Scheme of adjacency to the parapet



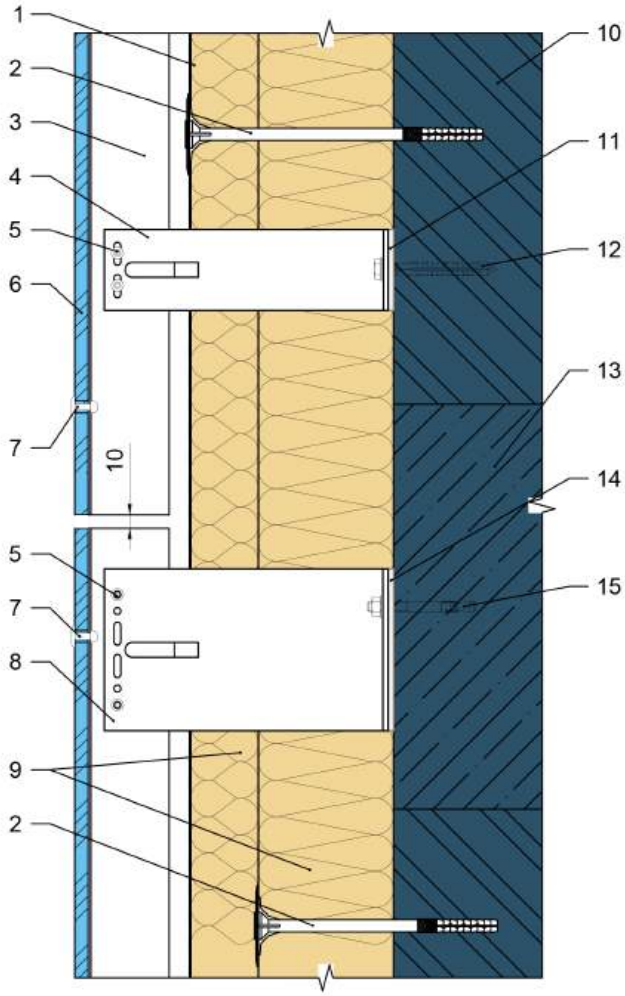
Aluminium subframes

Fibre cement sheets is not intended as a load bearing or shear element in the wall construction. Items required to be attached to the wall should be supported directly by connections to the structural sheathing and/or framing members, not attached to the cladding as the primary load bearing elements. Lightweight finishing grilles can be bonded to the face of the product using a construction adhesive.

General spacing

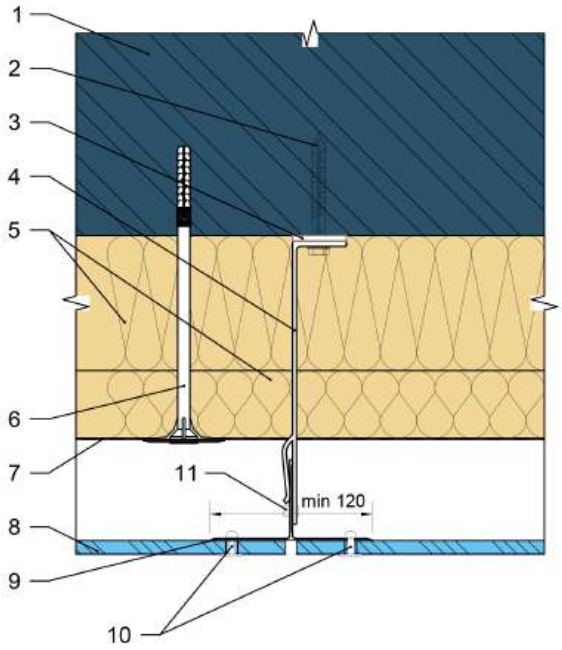
Fibre cement sheets should project 10 mm below (at the base) and above (at the roof) the subframes.
The distance to the ground should be at least 150 mm from the lower edge of the cladding panel to prevent soiling and damage. If there is no gravel strip, a distance of at least 150 mm (splash water area) must be maintained.
For flat roofs, balconies and similar where water can run off, the distance should be at least 50 mm.
The distance to windowsills and lintels must be at least 10 mm.

Typical fixing points for fibre cement sheets with rivets (Aluminium subframes)



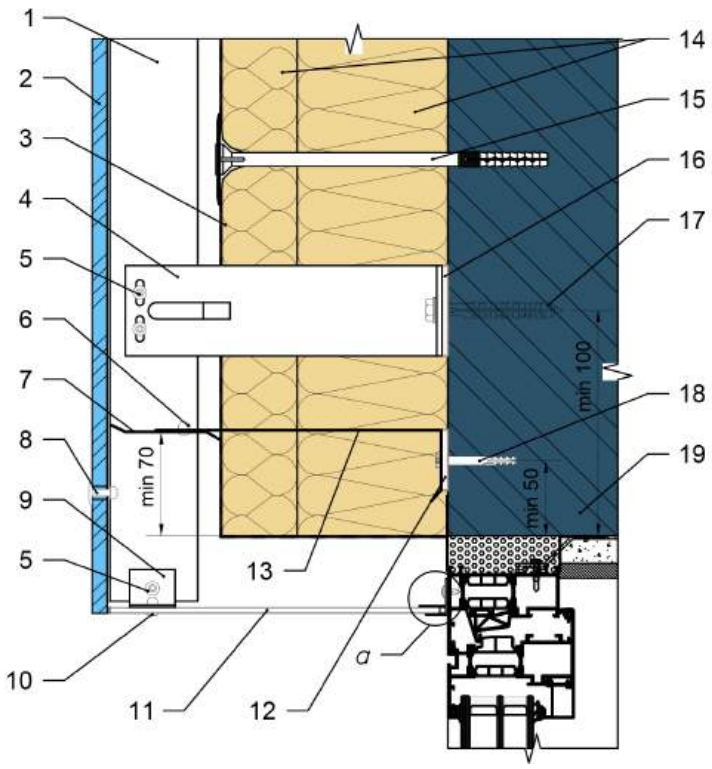
Vertical section

1. Hydro-windproof vaporpermeable membrane
2. Plate anchor.
3. Facade stand.
4. Support bracket.
5. Rivet 4.8x12.
6. Fibre cement sheet
7. Rivet with enlarged head 4,8x20
8. Support bracket.
9. Thermal insulation.
10. The wall of the building.
11. Thermal insulation of the support bracket
12. Facade dowel.
13. Floor slab of the building.
14. Thermal insulation of the supporting bracket.
15. Facade anchor.



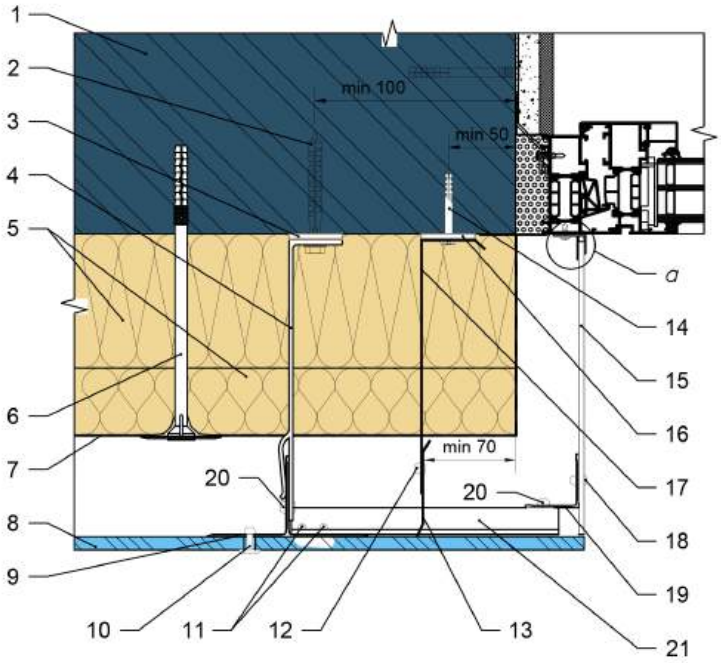
Horizontal section

1. The wall of a building.
2. Facade dowel.
3. Thermal insulation of the support bracket
4. Support bracket.
5. Thermal insulation.
6. Plate anchor.
7. Hydro-windproof and vapourpermeable film.
8. Fibre cement sheet.
9. Facade rack.
10. Rivet with an enlarged head 4.8x20.
11. Rivet 4.8x12.



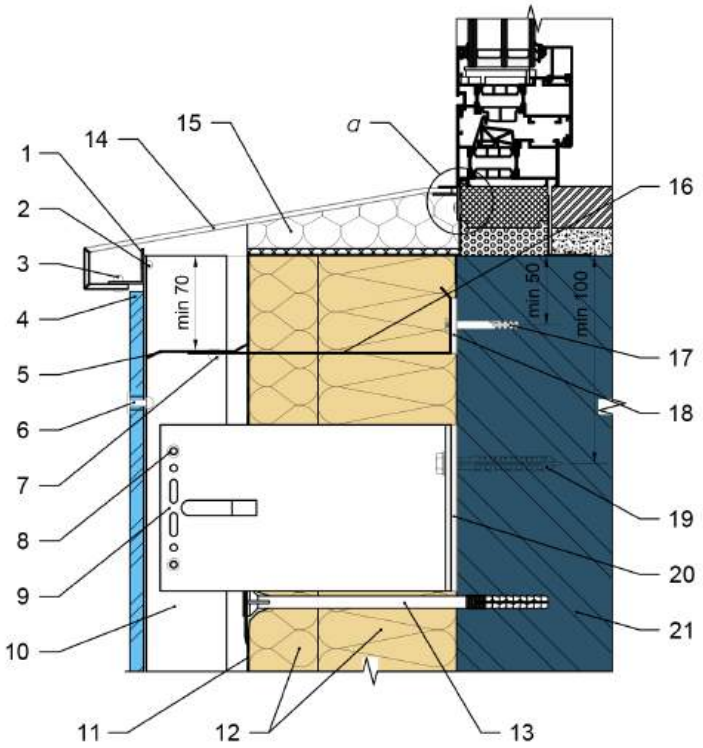
Upper adjacency to the window

1. Facade rack.
2. Fibre cement panel.
3. Hydro-windproof vapour-permeable film.
4. Support bracket.
5. Rivet 4.8x12.
6. Rivet 4x8.
7. Fire protection cut-off.
8. Rivet with an enlarged head 4.8x20.
9. Fastening element.
10. Rivet 4x12.
11. Decorative slope.
12. Thermal insulation of the fire cut-off bracket.
13. Fire cut-off bracket.
14. Thermal insulation.
15. Plate anchor.
16. Thermal insulation of the support bracket.
17. Facade dowel.
18. Dowel 6x50.
19. The wall of the building.



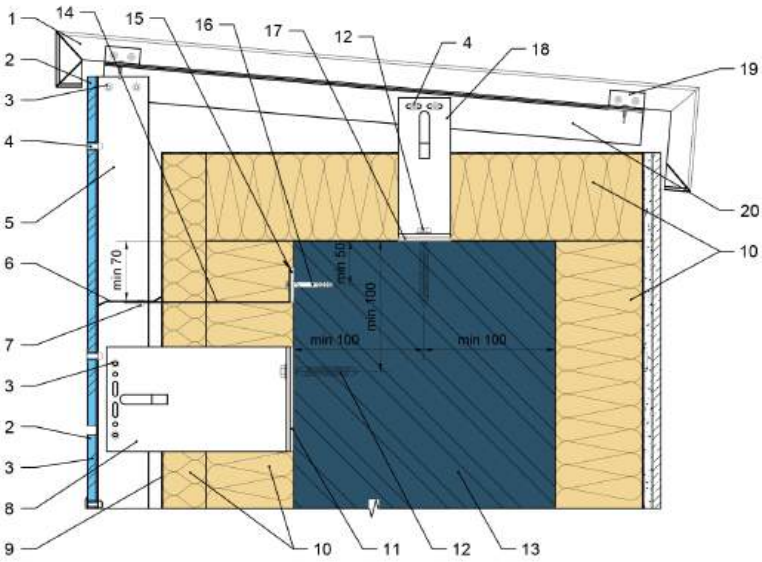
Side adjacency to the window

1. The wall of a building.
2. Facade dowel.
3. Thermal insulation of the support bracket.
4. Support bracket.
5. Thermal insulation.
6. Plate anchor.
7. Hydro-windproof vapour permeable film.
8. Fibre cement sheet.
9. Facade rack.
10. Rivet with an enlarged head 4.8x20.
11. Rivet 3.2x8.
12. 4x8 rivet.
13. Fire protection cut-off.
14. Dowel 6x50.
15. Decorative slope.
16. Thermal insulation of the fire cut-off bracket.
17. Bracket for fire cut-off.
18. Rivet 4x12.
19. Corner.
20. Rivet 4.8x12.
21. Fastening element.



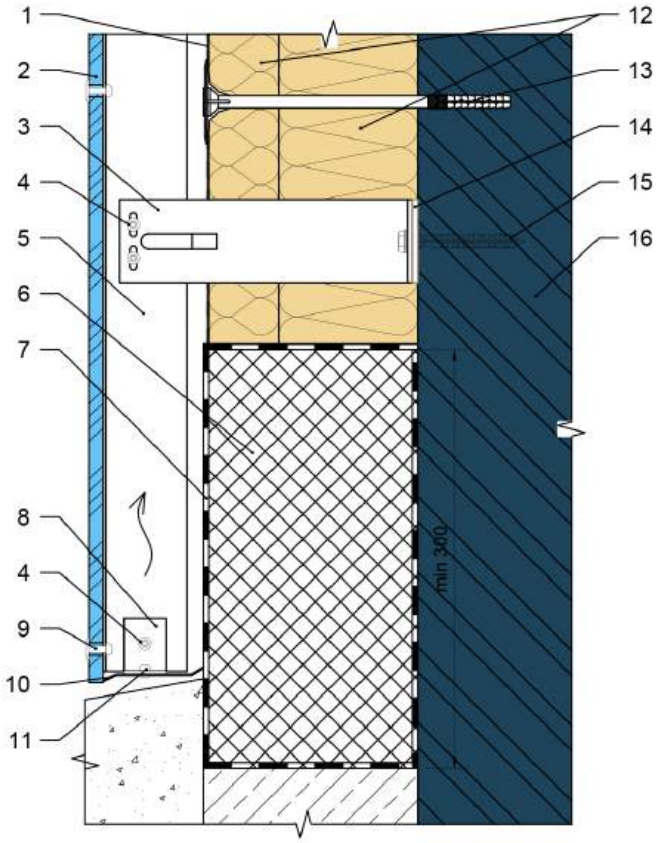
Lower adjacency to the window

1. Corner 25x25.
2. Rivet 3.2x8.
3. Rivet 4x12.
4. Fibre cement panel.
5. Fire protection cut-off.
6. Rivet with an enlarged head 4.8x20.
7. Rivet 4x8.
8. Rivet 4.8x12.
9. Support bracket.
10. Facade rack.
11. Hydro-windproof vapour-permeable film.
12. Thermal insulation.
13. Plate anchor.
14. Window ebb tide.
15. Damper filling.
16. Bracket of fire cut-off.
17. Dowel 6x50.
18. Thermal insulation of the fire cut-off bracket.
19. Facade dowel.
20. Thermal insulation of the supporting bracket.
21. The wall of a building.



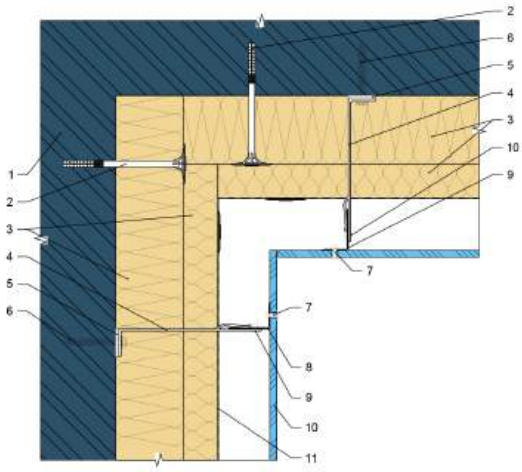
Adjacency in the parapet area of the building

1. Parapet cassette.
2. Fibre cement panel.
3. Rivet 4.8x12.
4. Rivet with an enlarged head 4.8x20.
5. Facade stand.
6. Fire protection cut-off.
7. Rivet 4x8.
8. Support bracket.
9. Hydro-windproof vapour permeable film.
10. Thermal insulation.
11. Thermal insulation of the supporting bracket.
12. Facade dowel.
13. Parapet of the building.
14. Bracket of fire protection cut-off.
15. Thermal insulation of the fire cut-off bracket.
16. Dowel 6x50.
17. Thermal insulation of the support bracket.
18. Support bracket.
19. Fastening of the parapet cassette.
20. Frame of the parapet cassette.



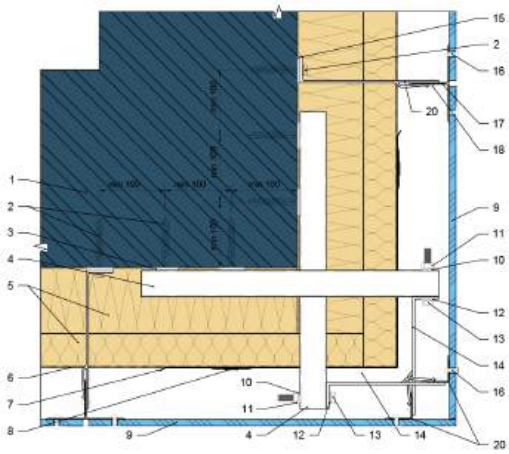
Adjacency in the area of the building basement

1. Hydro-windproof vapour-permeable film.
2. Fibre cement panel.
3. Support bracket.
4. Rivet 4.8x12.
5. Facade rack.
6. Thermal insulation not hygroscopic.
7. Waterproofing.
8. Fastening element.
9. Rivet with an enlarged head 4.8x20.
10. Perforated cut-off.
11. 4x8 rivet.
12. Thermal insulation.
13. Plate anchor.
14. Thermal insulation of the support support bracket.
15. Facade dowel.
16. The wall of the building.



The inner corner of the facade

1. The wall of a building.
2. Plate anchor.
3. Thermal insulation.
4. Support / bearing bracket.
5. Thermal insulation of the support / bearing bracket.
6. Facade dowel / anchor.
7. Rivet with an enlarged head 4.8x20.
8. Facade post of the corner zone.
9. Rivet 4.8x12.
10. Fibre cement panel.
11. Hydro-windproof vapour-permeable film.



The outer corner of the facade

1. The wall of a building.
2. Facade dowel / anchor.
3. Thermal insulation of the support bracket.
4. Cantilever profile of the corner zone.
5. Thermal insulation.
6. Hydro-windproof vapour permeable film.
7. Reinforcing element of thermal insulation.
8. Plate anchor.
9. Fibre cement panel.
10. Grover washer Ø10.
11. Nut M10.
12. Washer Ø10.
13. Bolt M10.
14. Corner zone support / bearing bracket.
15. Thermal insulation of the support / bearing bracket.
16. Rivet with an enlarged head 4.8x20.
17. Facade stand.
18. Rivet 4.8x12.
19. Support / bearing bracket.
20. Facade stand of the corner zone.

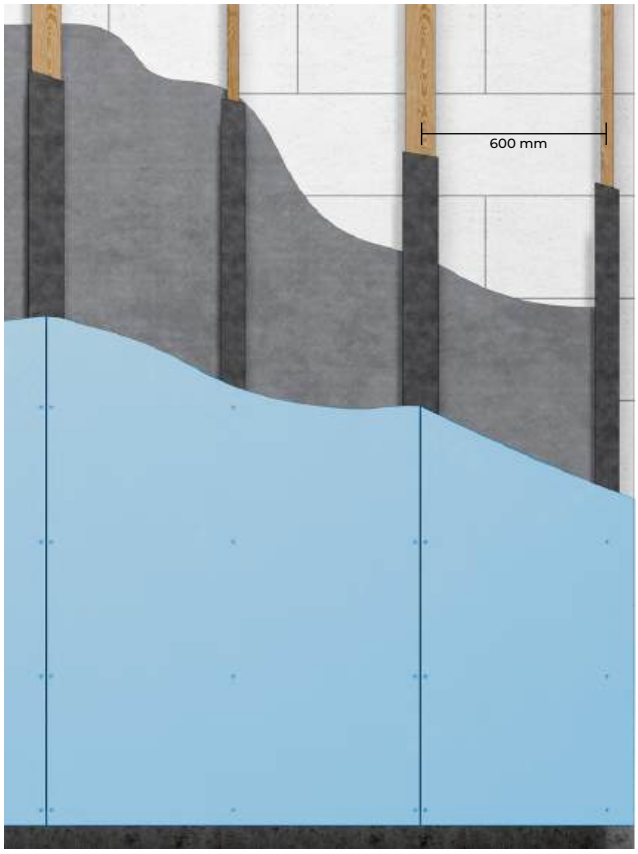
Timber subframes

Wooden battens with the minimum strength class must be used for the subframes.

Screws for timber frames with dimensions 6×40 mm, head diameter 16 mm must be used for fastening to timber battens.

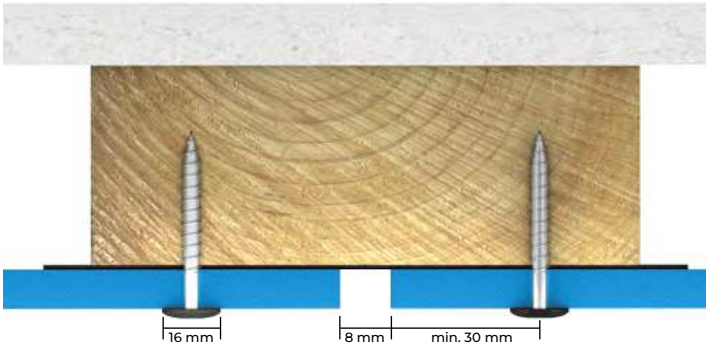
Fixing centres

The maximum centre distance and fixing spacing of fiber cement sheet is 600 mm.



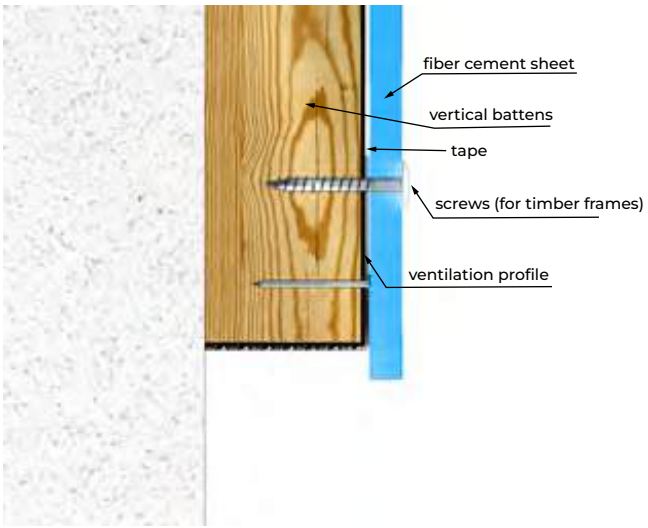
Care must be taken to ensure that the joint width between the panels is specified at the planning stage.
A maximum joint width of 10 mm may be used.
The optimum joint width is 8 mm.

During installation, a uniform parallel joint pattern must be maintained.

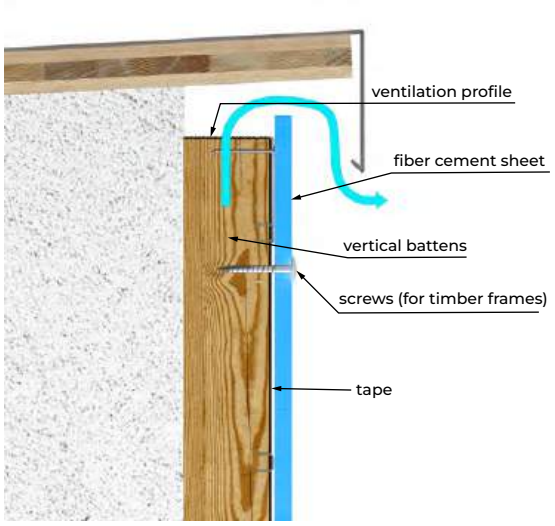


Typical fixing points for fibre cement sheets with rivets (Timber subframes)

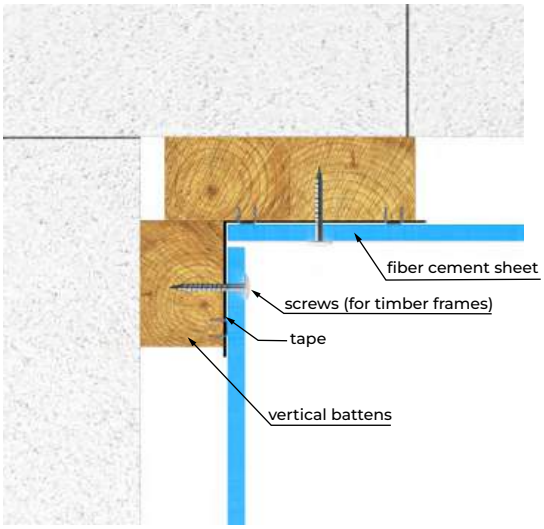
Base section



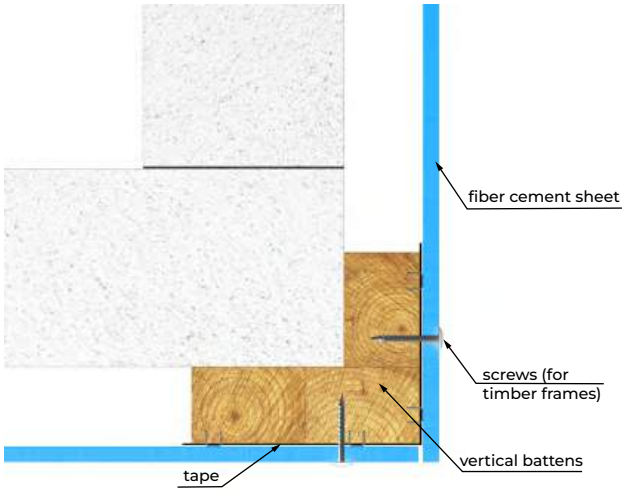
Parapet



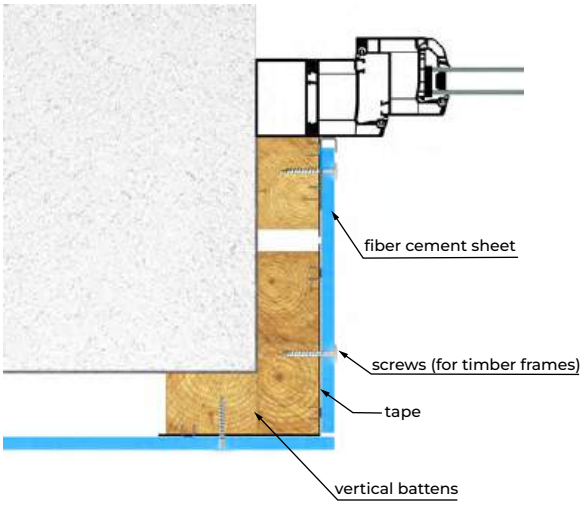
Internal corner



External corner



Window reveal



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