

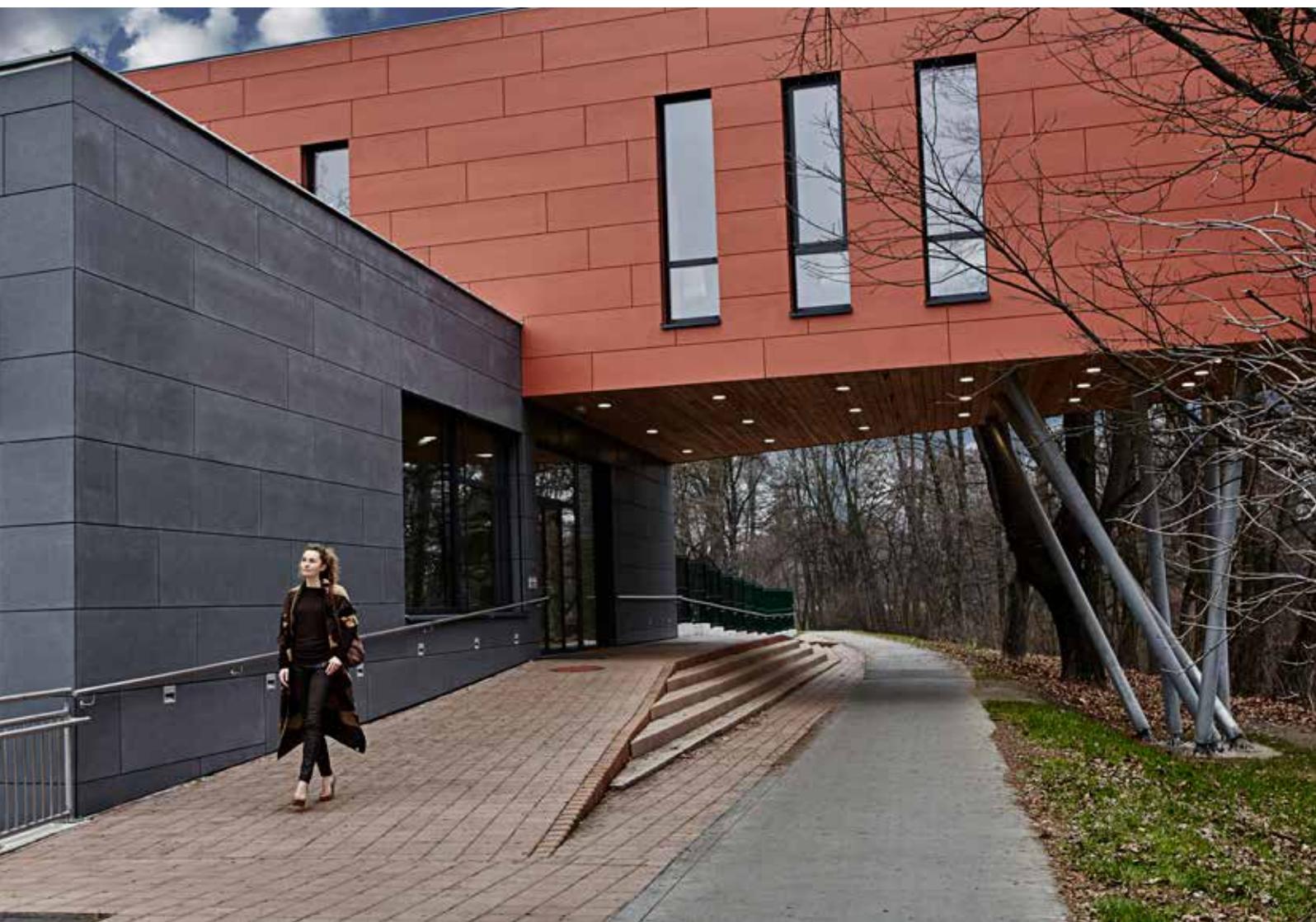
# CENIBRIT

## Cembrit Small Module

### Installation

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# Cembrit

Cembrit is one of the leading European manufacturers of multicapability fibre cement building products. Our products and solutions add exciting new design opportunities for moulding attractive, durable settings for people's lives. But Cembrit is more than mere products. We also help make all kinds of design and construction projects easier as well as more profitable, inspiring and effective.

And for us, all construction also involves building relations with people, making your day better, and helping you make the day better for others.

## We sell know-how

Without the backup of 'know-how' a product is nothing. What we really sell is Cembrit 'know-how' to help you achieve more by using fibre cement to benefit your business, and to keep your clients and their clients, tenants and users happy.

We make our 'know-how' freely available and free of charge to our customers.

## From product to process

The days of "dumb" building products, hit and miss deliveries and cluttered, chaotic construction sites are long gone. Or should be.

They are, or soon will be, all seamlessly linked in a cost effective, digitally managed design and construction flow, configured to provide the exact, as specified product, delivered on site at a pre-arranged place and time, packaged in a factory customised, ready for installation sequence.

## Manufactured for you

Traditional manufacturing thinking derives many of its benefits from the combination of a one-size (hopefully) fits all approach and the resulting economies of scale.

Cembrit plants, on the other hand, are designed and configured to provide next generation manufacturing capabilities combining economies of scale with the individual customisation and variation opportunities resulting from digitally controlled machinery setups.

## The headquarters

Cembrit Group headquarters are located in Aalborg, Denmark, where most administration is located. Our customer service and technical support activities are decentralised to each of our national markets.





# Product information

## Product Information

Cembrit fibre cement is a modern building material made from natural and environmentally friendly raw materials. The technology has been developed by Cembrit, having more than 80 years of experience within the manufacture of fibre cement. Our wide experience ensures a sustainable product which has accumulated all the advantages of fibre cement.

The facade range can be used in all self-ventilated light weight facade constructions.

Featuring properties such as non-combustibility, sound and weather insulation as well as high impact strength, Cembrit fibre cement boards are the ideal facade material.

## Quality

Cembrit product specifications and classifications comply with EN 12467:2004 and 13501-1:2002.

## The facade range

- is manufactured in accordance with the quality management system ISO 9001:2008.
- complies with the provisions set out in the Construction Products Regulation (EU) No. 305/2011
- complies with the CE Declaration of Performance

## Hatcheck Process

The Hatschek process is a filtration process where many thin layers are accumulated onto a big cylinder. When the desired thickness is obtained, the board is released from the cylinder. The board is placed in a mixed stack between steel templates. The mixed stack of board is then compressed and a pre-curing of 10 hours takes place. The boards are then separated from the steel templates and are either air cured for 28 days, or autoclaved in a steam pressurised atmosphere at elevated temperatures. After curing the boards are dried, cut to size and surface treated.

## Air cured

Cembrit Cover and Cembrit Solid are facade boards made from naturally hardened fibre cement material. Both products are air cured.

## Autoclaved

Cembrit Patina is a calcium silicate fibre cement board. The product is cured in an autoclave which means curing in a steam pressurized atmosphere at elevated temperatures. Iron oxide is added to the formulation giving options to choose between 9 different colours.



# Product information

## Air Cured

### Cembrit Cover and Cembrit Solid

**CEMENT (65–80%)** Mostly a mixture of burnt limestone and clay that sets and hardens when exposed to water

**PVA (2%)** Engineered polyvinyl alcohol (PVA) fibres for reinforcement and to increase durability and flexibility

**FILLER (10–25%)** Mainly passive (i.e. non-binding) materials (limestone, microsilica and recycled fibre cement, etc.) to make the mixture easier to process or to add specific properties

**CELLULOSE (3–5%)** Wood fibres help strengthen the product as well as keeping it flexible, but are mainly used as a production process aid

**WATER** The rest of the mix is water, added to get the process started

## Autoclaved

### Cembrit Patina

**CEMENT (>40%)** Mostly a mixture of burnt limestone and clay that sets and hardens when exposed to water

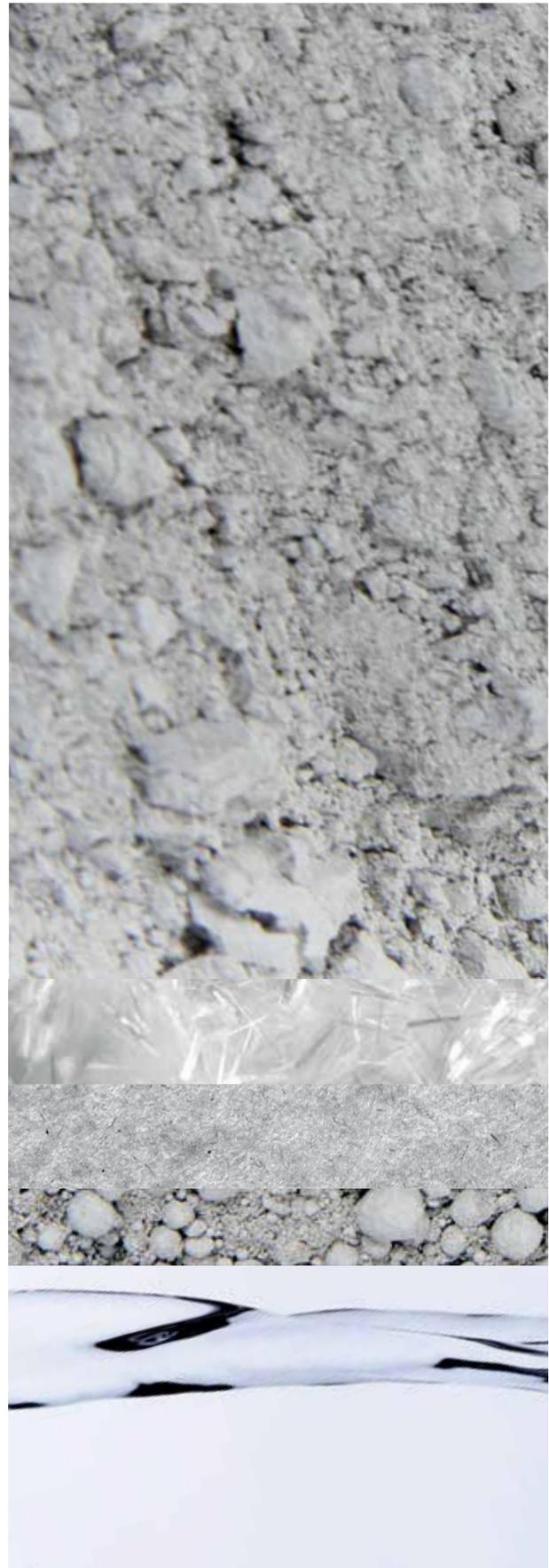
**SILICA SAND (>30%)** Is a reactive filler component when autoclaved

**MINERAL FILLER (<10%)** That provides benefits to the production process as well as to the mechanical properties of the finished product

**PIGMENTS (<10%)** Adds the colour to the finished product

**CELLULOSE (<10%)** Wood fibres help strengthen the product as well as keeping it flexible, but are mainly used as a production process aid

**WATER** The rest of the mix is water added to get the process started



# The self-ventilating facade

A self-ventilating facade is a construction which helps minimise temperature variations in the wall throughout the year. Sunlight and heat are reflected away in the summertime, and insulation behind the facade boards reduces heat loss in lower temperatures.

At the same time, the natural ventilation passing through the construction minimises condensation.

The self-ventilating facade has additional features and benefits.

The most important benefit is the protection of the underlying construction against weather, wind and moisture. Some moisture passes through the facade, but it is limited to a level that can either be drained away or eliminated by natural ventilation.

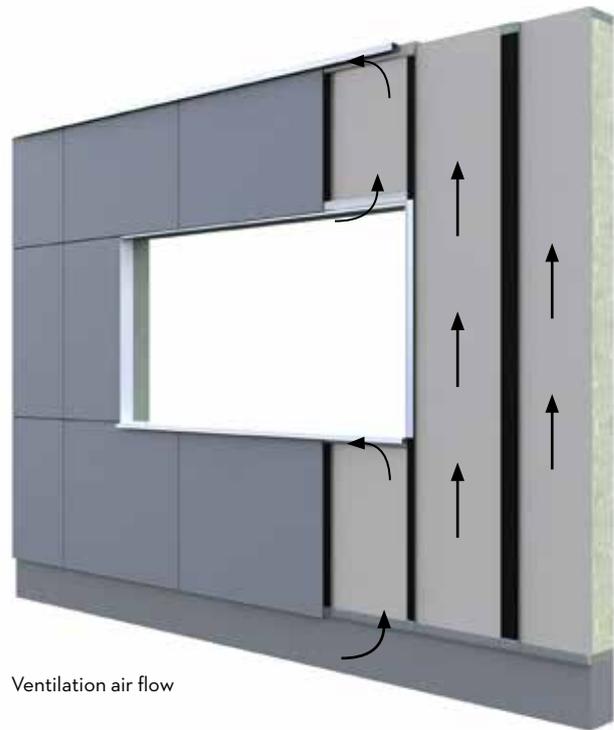
The drainage feature of the system works when rainwater or moisture penetrates through the gaps in the facade. The moisture runs down either the reverse of the facade boards, the windstopper, or the insulation. There should be ventilation openings at the base of the structure and above doors and windows. These openings will also help drain the water away from the construction.

The natural ventilation works by means of a chimney effect. The air enters at the bottom of the structure and on its way up through the facade takes moisture-laden air through the ventilation openings at the top of the structure or at window or door openings.

The boards can be installed with open horizontal joints or with joint profiles. Horizontal joints do not contribute to the natural ventilation and therefore, profiles can be used in these joints, if required.

## Steel or timber framed construction

1. Cembrit facade board
2. EPDM
3. Ventilated area minimum 20mm
4. Timber batten minimum 20mm wide
5. Windstopper
6. Steel or timber framed construction with insulation



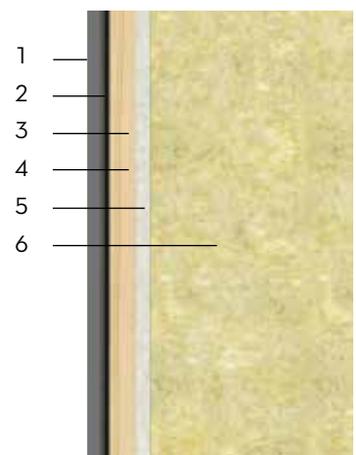
Ventilation air flow



Open joints

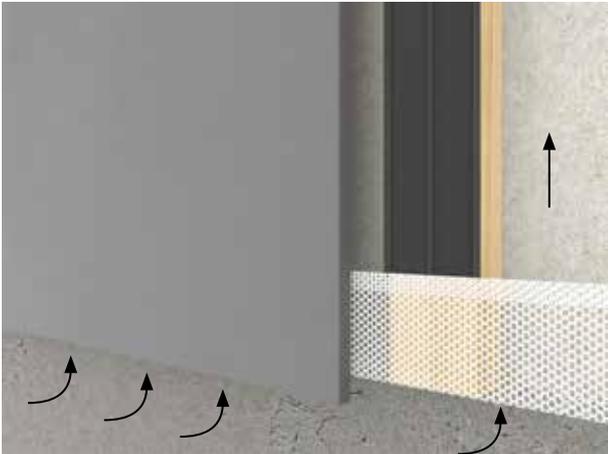


Joint profile

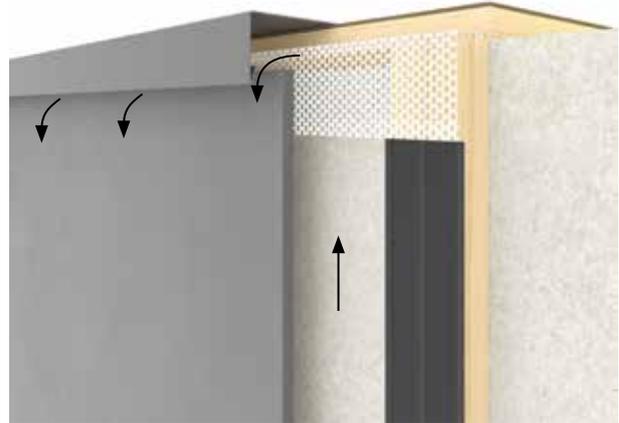


# The self-ventilating facade

## Ventilated Openings



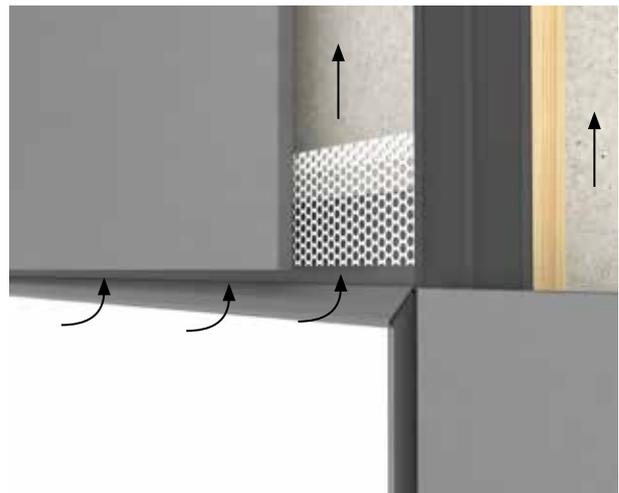
Air is pulled into the construction through an opening at the base of the facade, and it must be ensured that unobstructed ventilation is possible throughout the facade's height. There should be a minimum free opening area of 10mm, or equivalent 100cm<sup>2</sup> per meter. If steel, aluminum or plastic perforated profiles are used, a ventilation area opening of minimum 100cm<sup>2</sup> per meter is required. The opening at the base is also used to drain moisture that has entered the facade.



The passage of air must be maintained at the top of the facade whether it abuts a roof or other structure. Just as at the base, there must be a ventilation gap of a minimum of 10mm or 100cm<sup>2</sup> per meter.



A horizontal ventilation opening of minimum 10mm or equivalent to 100cm<sup>2</sup> per meter should be maintained beneath windows or other openings where a sill is used. This ventilation gap is usually formed between the top edge of the facade boards and the bottom edge of the sill. It is recommended that the sill projects a minimum of 30mm beyond the front of the facade. This ensures that the water running from the sill does not enter the structure.



A horizontal free ventilation opening must also be maintained above windows and doors. This ventilation gap must be at least 10mm wide. If steel, aluminum or plastic perforated profiles are used, a ventilation area opening of minimum 100cm<sup>2</sup> per meter is required. The opening at the base is also used to drain moisture that has entered the facade.



Reference location: Sweden

# Cembrit Small Module

The Cembrit Small Module is a solution for the creation of elegant facades on timber support systems.

The facade modules are pre-cut to 5 sizes making it possible to create a number of different configurations. The size of the small module boards both reduces the overall weight and makes them easy to handle.

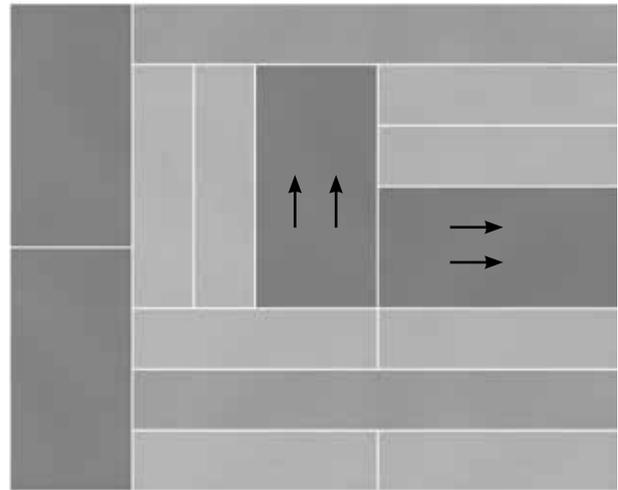
The Cembrit Small Module comes in a range of Cembrit facade product options and in a wide variety of colours. Patterns and configurations of boards can be made using different board types and colours.

Cembrit Patina's manufacturing process gives the boards a unique surface texture. This unique finish is further enhanced by a process which gives the board a directional grain giving the boards a different appearance dependent on lighting and the angle of the board. This can be used to great advantage when working with the Cembrit Small Module boards. By rotating certain boards within the facade, it will appear to contain different board types and textures depending on the viewer's position and the lighting conditions.

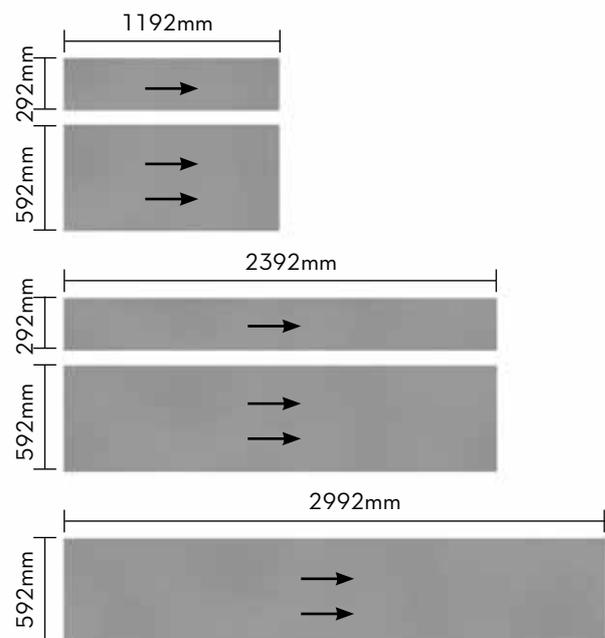
To make the design and installation as simple as possible, boards are manufactured to fit to a 600mm fixing centre (300mm o.c), and the boards themselves are manufactured at 592x1192mm (instead of 600x1200mm). This allows for 8mm joints and eliminates the need to cut the boards.

As the Cembrit Small Module is a system with specific fixed & small board sizes, the edge distances can deviate slightly from Cembrit's normal facade installation principles but only if installed on a timber sub-frame support system. This installation manual describes these specific guidelines.

If installing on steel or aluminium, please continue to refer to the standard Cembrit installation manual.

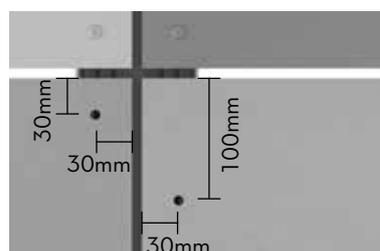


Installation example and grain direction



The boards come in 8mm thickness for vertical and horizontal installation.

Arrows = grain direction (Cembrit Patina only)



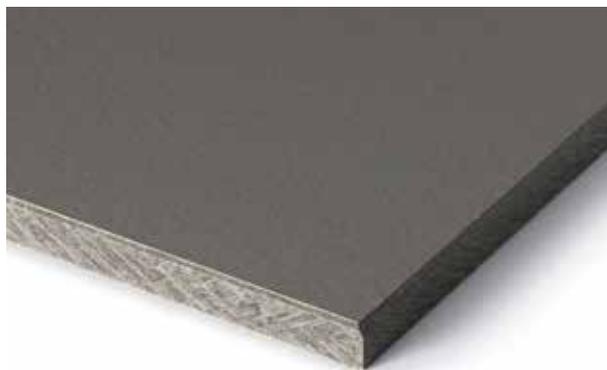
For fixing distances please refer to page 14.

# Product Range

## Cembrit Cover - Small Module

### World of colours

Cembrit Cover is the ideal solution if you prefer the strongest colours and bolder design statements. The natural grey fibre cement core is completely covered by a layer of water-based acrylic paint.



Quick facts	Type	Colours	Fire class	Thickness	Dimensions	Weight/m <sup>2</sup>
Cembrit Cover	Non-through Coloured	26	A2,s1-d0	8mm	292x1192mm 292x2392mm 592x1192mm 592x2392mm 592x2992mm	15.7kg

## Cembrit Solid - Small Module

### World of colours

The special thing about Cembrit Solid boards is that they're the same colour all the way through. Each of the core colours is matched with a full-coverage painted surface in vibrant yet resilient colours. This means if you choose Cembrit Solid boards to provide a facade with a particular colour, every board will feature that colour on every surface and edge, and with the same colour on the edges of any cut-outs or drilled holes.



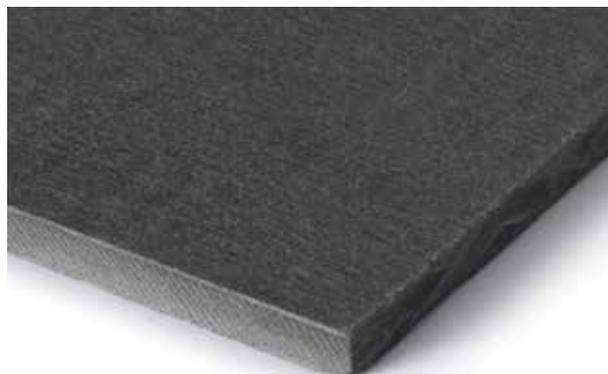
Quick facts	Type	Colours	Fire class	Thickness	Dimensions	Weight/m <sup>2</sup>
Cembrit Solid	Through coloured	18	A2,s1-d0	8mm	292x1192mm 292x2392mm 592x1192mm 592x2392mm 592x2992mm	15.7kg

# Product Range

## Cembrit Patina - Small Module

### Natural ageing

Cembrit Patina has a natural, textured surface. You can see the fibre and natural characteristics of the raw materials, and you can see and feel the graining on the surface. The product surface is processed giving a directional grain. The board is treated with a hydrophobation agent that resists moisture and dirt staining. As the seasons change and the years pass, the natural ageing of the fibre cement leaves subtle traces on the surface, and the facade will gradually acquire a distinctive patina. The variations in the colours of the board will create a facade richly evocative of history and life.



Quick facts	Type	Colours	Fire class	Thickness	Dimensions	Weight/m <sup>2</sup>
Cembrit Patina	Through coloured	11	A2,s1-d0	8mm	292x1192mm 292x2392mm 592x1192mm 592x2392mm 592x2992mm	11.6kg/m <sup>2</sup>

# Installation

## Cembrit Small Module substructure



### Installing 8mm Cembrit Small Module on timber frame

Max support distances: 600mm o.c

Max screw centres: 600mm o.c

Max wind load 1.1kN/m<sup>2</sup>\*

The following screws can be used for this solution:

Cembrit Facade Wing Screw Wood, SCR-WW 4.9x38mm

Cembrit Facade Screw Wood, SCR-W 4.5x30/36/4mm

Battens should be a minimum of 20mm thickness to provide adequate ventilation.

Batten width should be minimum 100mm for supporting battens, and 45mm for central battens.

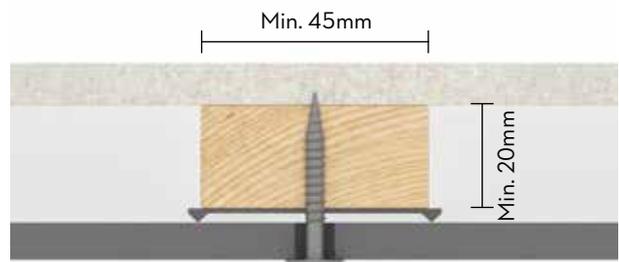
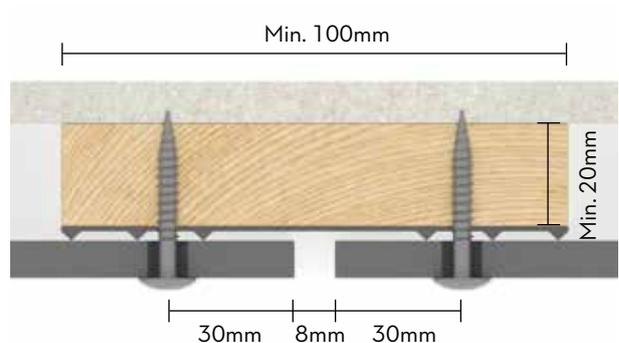
Joint gaps between boards should be a minimum of 8mm and a maximum of 16mm.

When using timber battens, always use Cembrit EPDM with profiled ribs.

Cembrit recommends using an EPDM of the same width as the selected batten.

Cembrit Small Module can also be installed on horizontal battens.

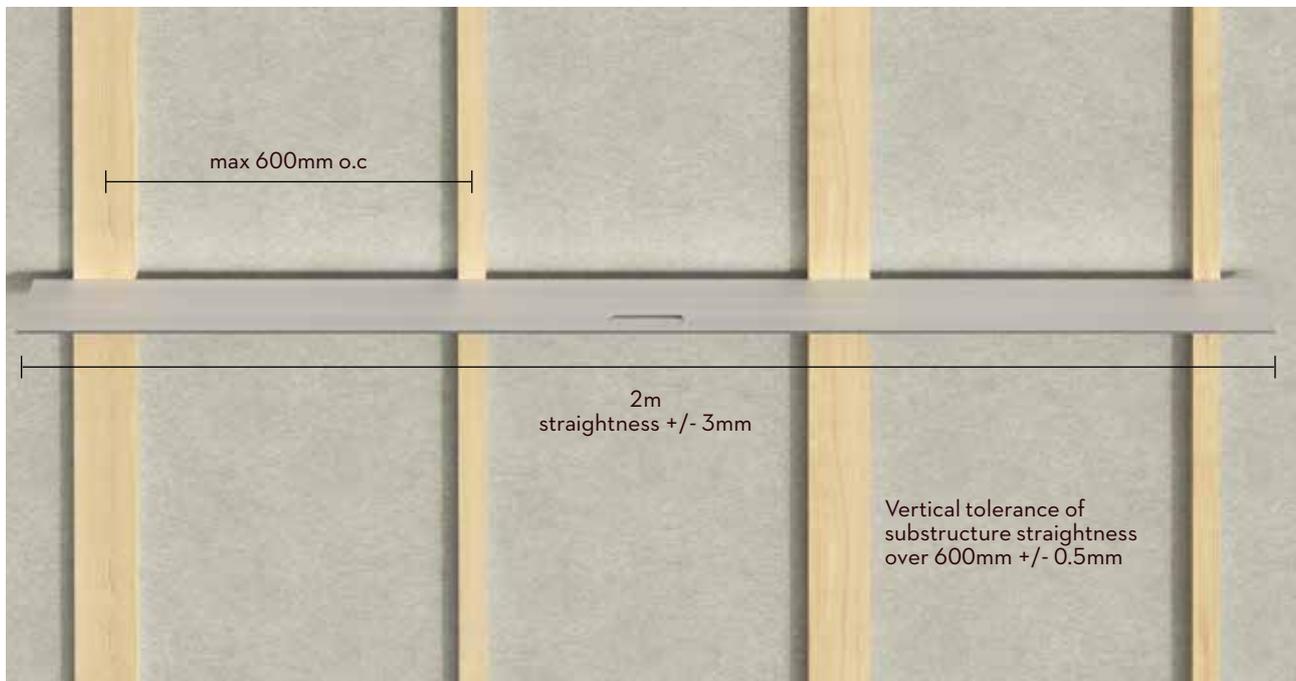
When using horizontal substructures, there must be a minimum 20mm ventilated area behind the horizontal supporting battens.



\*wind load calculation assumes a Cembrit Facade screw wood, SCR-W 4.5x36mm

# Installation

## Substructure



### Fastening substructure

Anchorage of the substructure on the load-bearing wall must follow all local standards and regulations.

Before installing the substructure on the load-bearing wall, it should be checked by the installer to ensure that it is straight and the substructure can be mounted safely.

Make sure to choose the correct anchorage system for the substructure suitable for the material. Always install the anchoring according to the manufacturer of the system/screw/bolt used.

Use the correct corrosion resistance according to the environment of the building's location.

Wind load calculations on how the substructure should be fixed to the load-bearing wall should be considered. This calculation will normally be done by a project/construction engineer.

### Wood quality for substructure

Make sure that the quality of the wood used for the substructure follows country specific standards and regulations.

Treated or untreated wood can be used for the substructure.

The thickness is min 20mm

Width at joints min 100mm

Width at middle batten 45mm

### Straightness of substructure

The horizontal tolerance of straightness for the sub-substructure is +/- 3.0mm measured with 2 meter straight edge.

The vertical tolerance of straightness for the substructure is +/- 0.5mm over 600mm measured with straight edge.

# Installation

## Edge distances

### Edge distances

Fibre cement is an organic material that expands and contracts according to humidity conditions. Consequently, it is very important that the boards are installed using the correct edge distances. If not mounted correctly, the strength of the board is compromised and it may result in cracking near corners and edges.

Due to the reduced dimensions of the boards, the Small Module boards will not be affected by moisture movement to the same degree as full size boards. This means that we are able to reduce the edge distances on the smaller formats 292x2392/592x2392/592x2992mm and also on the three larger formats (292x2392/592x2392/592x2992mm) when installed horizontally.

But when the three larger formats are installed vertically, the moisture movement is considered too big and therefore the edge distances follow the same principles as Cembrit full size facade boards.

### Cembrit Small Module - horizontal and vertical installation

Sizes: 292x192/592x1192mm

Edge distances: 30mm

The edge distances on the two smaller formats are the same for all edges no matter what the orientation of the board is.

### Cembrit Small Module - horizontal installation

Sizes: 292x2392/592x2392/592x2992mm

Edge distances: 30mm

The edge distances for the three larger formats when installed horizontally is also 30mm.

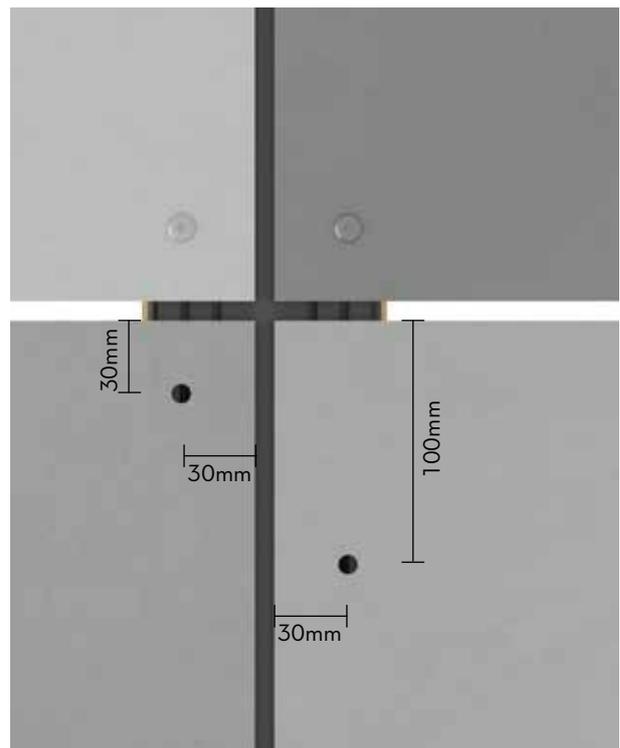
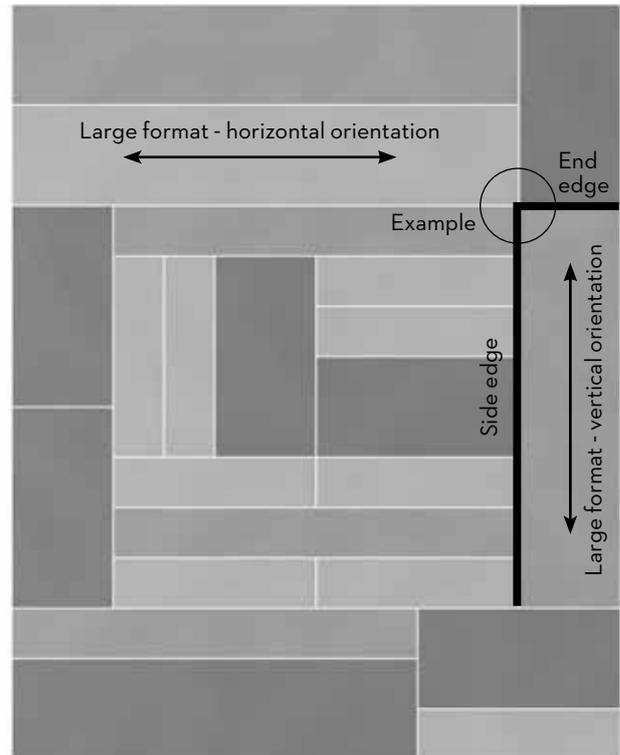
### Cembrit Small Module - vertical installation

Sizes: 292x2392/592x2392/592x2992mm

Edge distances side: 30mm

Edge distances end: 100mm

When mounting the three larger boards vertically, the edge distances have to be the same as for the normal Cembrit facade boards.

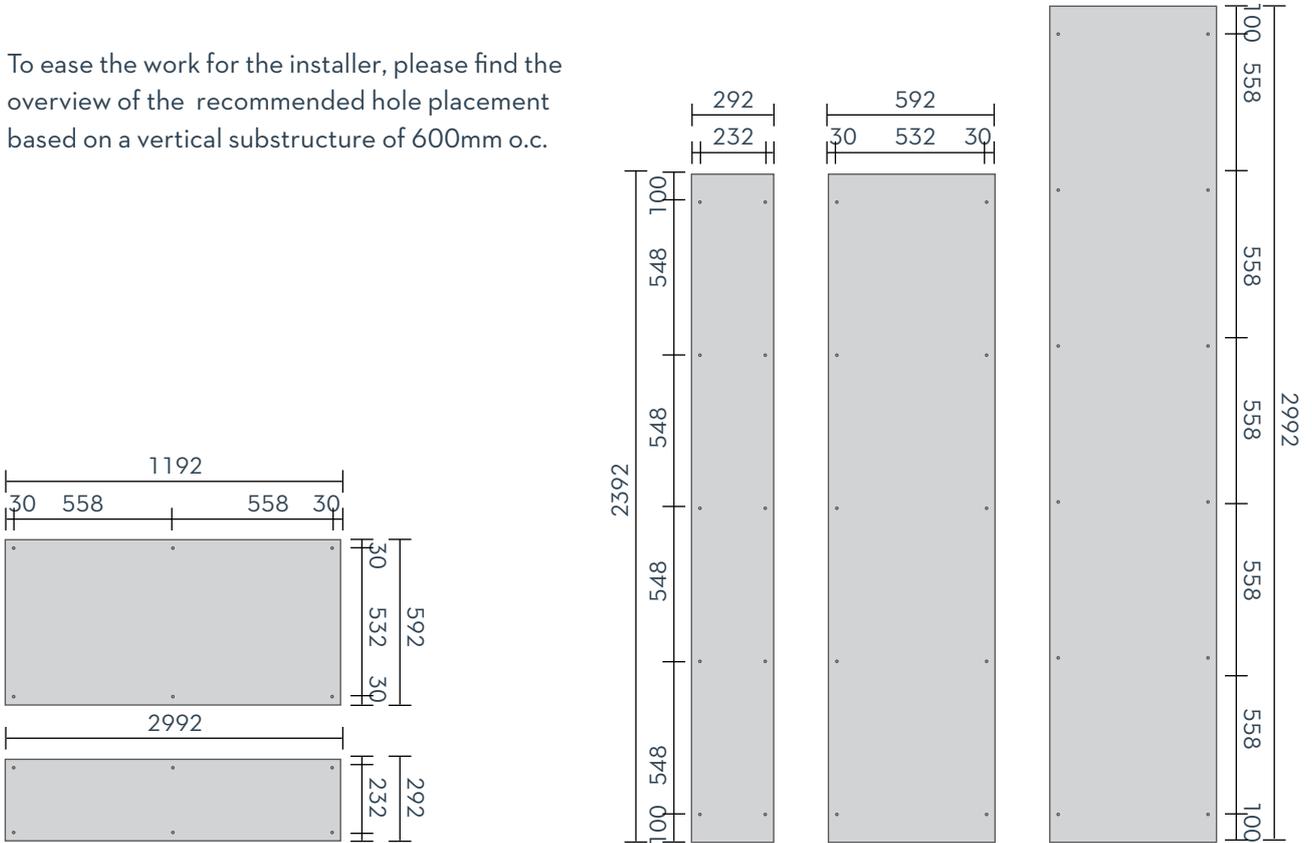


Example of vertical substructure

# Installation

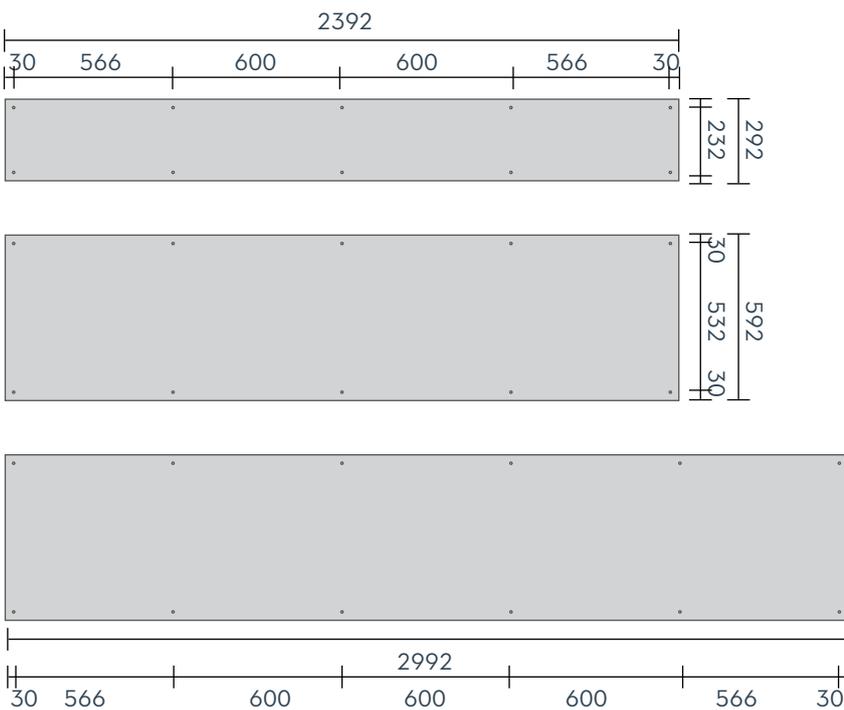
## Hole placement

To ease the work for the installer, please find the overview of the recommended hole placement based on a vertical substructure of 600mm o.c.



Horizontal and vertical installation

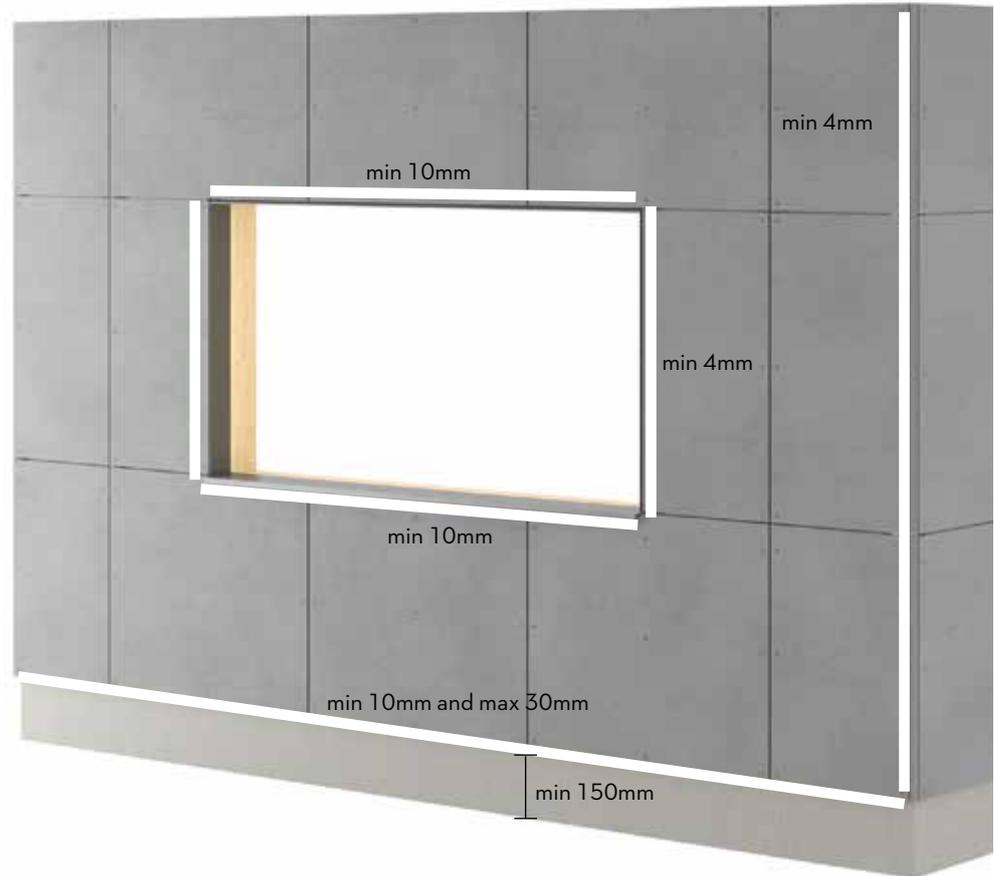
Vertical installation



Horizontal installation

# Installation

## General distances



Make sure to follow the guidance regarding distances described in this manual.

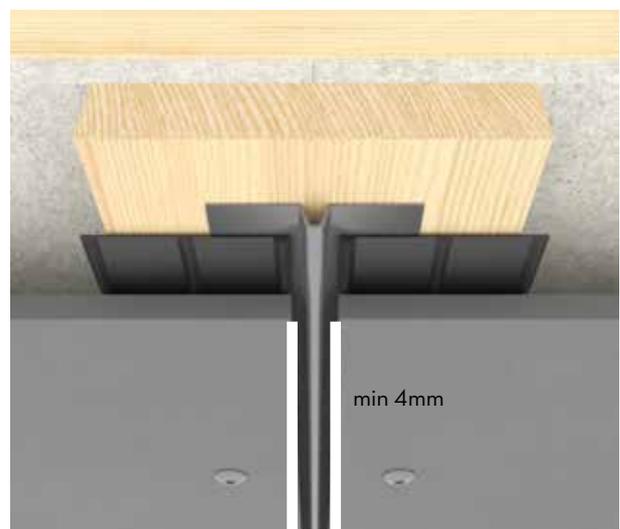
The facade board should finish between 10 and 30mm below the bottom end of the sub structure. For overhang and similar, the maximum distance is 100mm.

The distance to terrain from the bottom edge of the facade board should be a minimum of 150mm.

The distance to flat roofs, balconies and other horizontal structures where the water can drain away can be a minimum of 50mm.

Vertical clearance to profiles such as Cembrit alu trim or Cembrit Corner profile is minimum 4mm. For horizontal clearances at windows and doors etc. leave a minimum of 10mm for ventilation.

The clearance to other building materials is minimum 8mm for movement and water drainage.



# Installation

## Ceiling and soffit

Cembrit Small Module is ideal for use in ceilings and soffits. The solution can be used for both exterior and interior applications.

The boards can be installed on a batten directly to a concrete deck or wooden structure, or they can be used as part of a solution with a suspended ceiling system.

One of the key advantages of using Cembrit Small Module is that you can also easily take down boards so you can reach any hidden installations as the boards are mounted using screws only.

### Installing 8mm Cembrit Small Module on timber frame - as ceiling or soffit

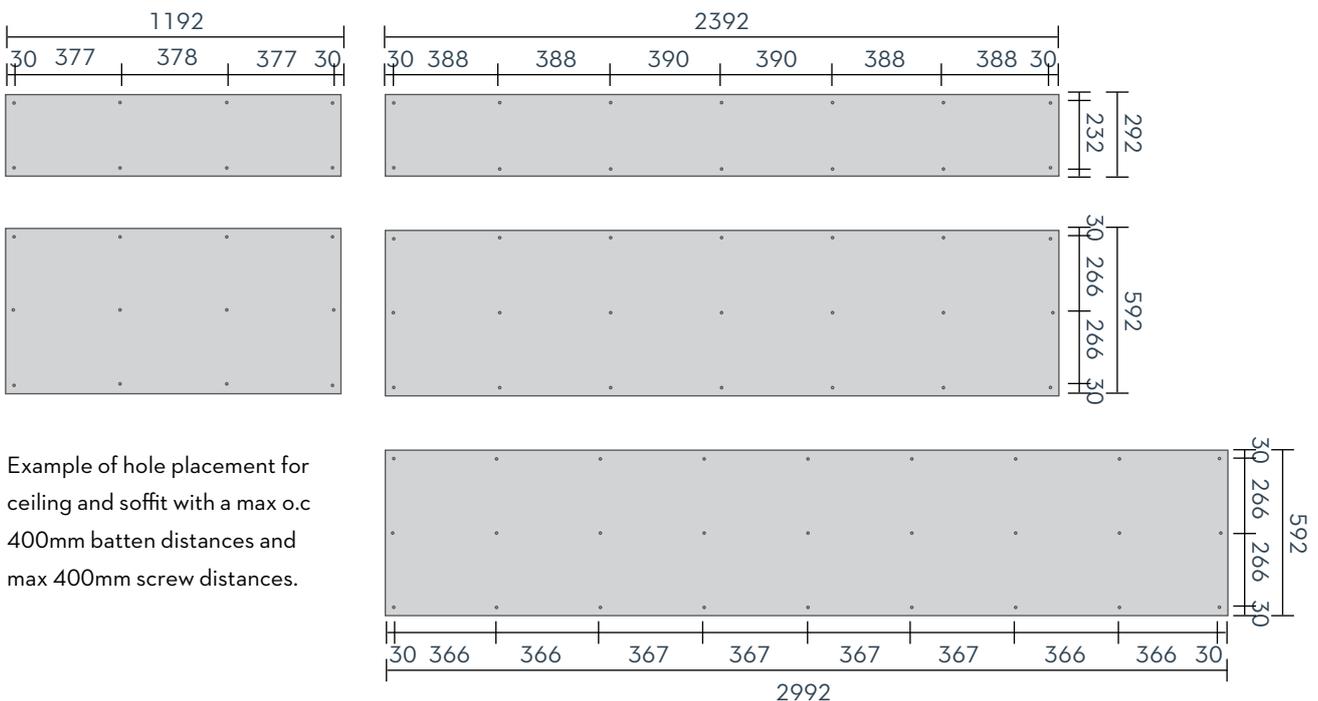
Max support distances: 400mm o.c

Max screw centres: 400mm

The edge distances when using Cembrit Small Module as ceiling or soffit are in principle the same as for facade board in which the direction of the sub-structure and the orientation of the board defines the edge distances. This also applies to hole sizes, joints and distances to other building materials. Please refer to page 14 + 16 for instructions. Always use Cembrit EPDM with ribs on timber battens.



Screw and batten distances





Reference location: Slovakia



# Profiles

Cembrit offers a wide range of profiles to create weathertight and aesthetically pleasing facades. All Cembrit Profiles are available in a variety of standard or special colours - either pre-painted or powder coated.

The profiles are fixed using clout nails, and should be pre-drilled with an Ø4mm metal drill bit to ensure that the profiles can be secured effectively.

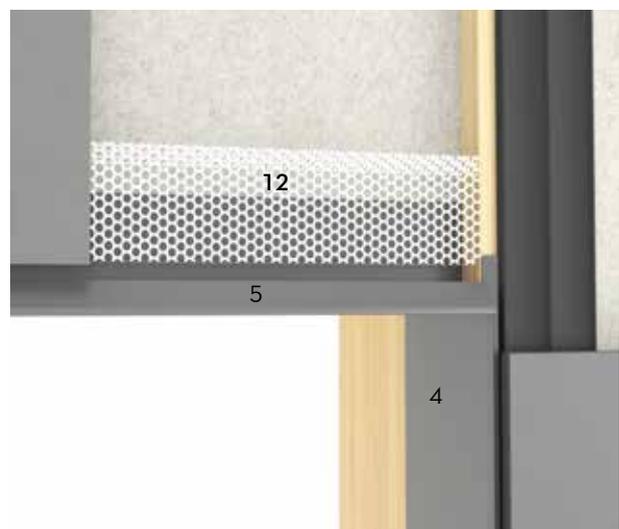


## Profile solution for doors and windows

When using Cembrit's profiles for doors and windows, it is easy and quick for the installer to achieve a finish that matches the boards. As the same installer can fit boards and profiles, this system offers time and cost savings.

### Typical door/window head solution

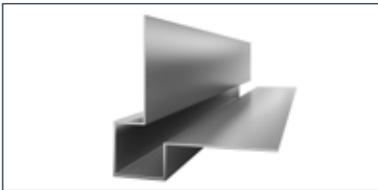
- 4. Cembrit Vertical Trim Profile small
- 5. Cembrit Horizontal Trim Profile small
- 12. Cembrit Ventilated Profile



# Profiles

Most Cembrit profiles are fabricated from 1mm thick formed aluminium. For standard boards, the profiles are pre-coated formed aluminum which has a gloss 30. For non-standard colours, the profiles are unpainted formed and powder coated aluminium with a paint of gloss 70. The profiles in standard colours are protected with a sticky foil.

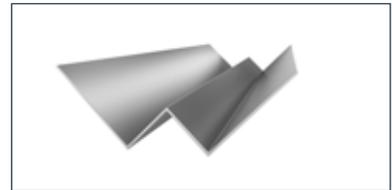
Cembrit also have extruded profiles which are anodized and are only available in specific standard colours.



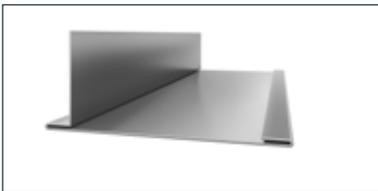
**1. Cembrit External Corner Small**  
Length 3000mm



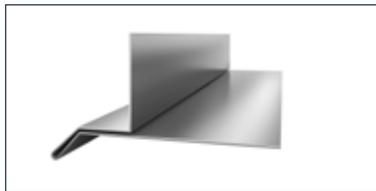
**2. Cembrit External Corner Peak**  
Length 3000mm



**3. Cembrit Internal Corner**  
Length 3000mm



**4. Cembrit Vertical Trim Profile small**  
Length 3000mm



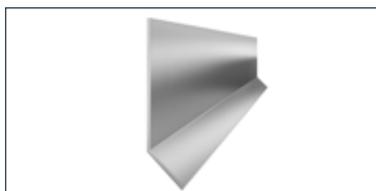
**5. Cembrit Horizontal Trim Profile small**  
Length 3000mm



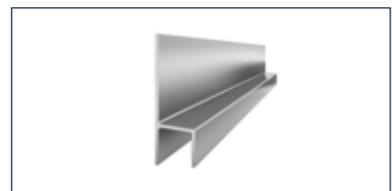
**6. Cembrit Window Sill**  
Length 3000mm



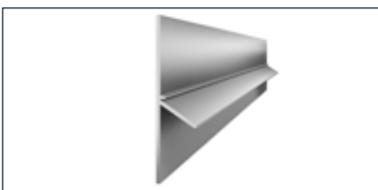
**7. Cembrit Caulking Profile**  
Length 3000mm



**8. Cembrit Horizontal Caulking L Profile**  
Length 3000mm



**9. Cembrit Horizontal Caulking h Profile**  
Extruded profile  
Length 3000mm



**10. Cembrit Horizontal Caulking k Profile**  
Extruded profile  
Length 3000 mm



**11. Cembrit Drip Small**  
Length 3000mm



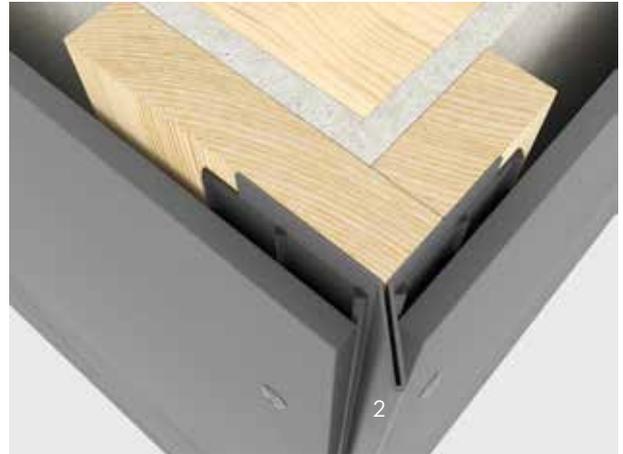
**12. Cembrit Ventilated Profile**  
0.6 mm Perforated steel  
Length 3000mm

# Profiles

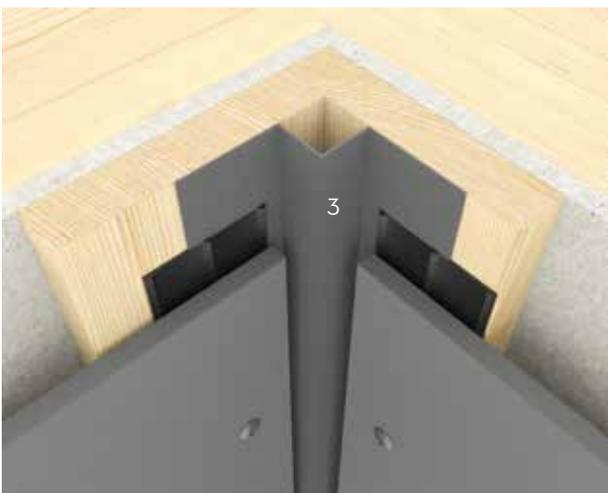
## Profile Use



Cembrit External Corner Small is used for 90° external corner constructions, to a secure finishing detail. The profile is fixed using clout nails at 400-500mm centres through pre-drilled Ø4mm holes. Facade boards will help to hold the profile in place. There should be a minimum 4mm gap between the board edge and the profile.



Cembrit External Corner Peak can also be used for 90° external corner constructions. It is installed in the same way as Cembrit External Corner Small, using clout nails. The distance from the inside edge of the facade boards to the profile should be a minimum 2mm.



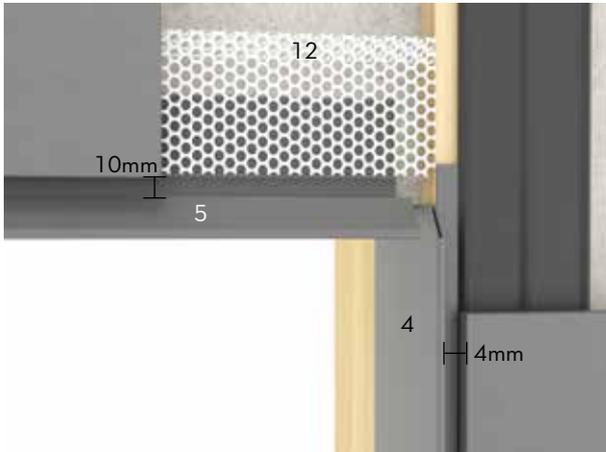
Cembrit Internal Corner is used for 90° internal corners. The profile is fixed using clout nails at 400-500mm centres through pre-drilled Ø4mm holes. There should be a minimum 4mm gap between the board edge and the profile.



Cembrit Drip Small is used to drain water away from the supporting structure or where neat detailing is required at the foot of the facade. The profile can be used in conjunction with Cembrit Ventilated Profile to ensure that insects and vermin or similar cannot enter the cavity behind the facade boards. There should be a minimum 4mm gap between the board edge and the profile.

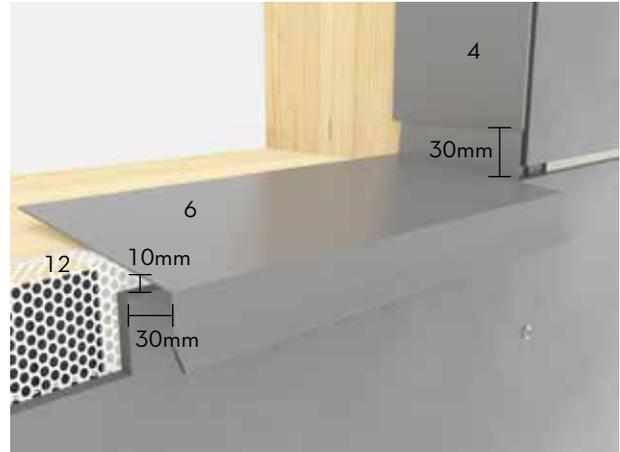
# Profiles

## Profile Use



To create appealing and neat window and door details use Cembrit Vertical Trim profile on each side of the opening, and a Cembrit Trim Horizontal profile as well as a Cembrit Ventilated Profile. To achieve the best finish, trim the top edge of the vertical profile to match the angle of the outer face of the horizontal profile.

To provide sufficient ventilation, there should be a minimum of 10mm gap between the horizontal profile and the edge of the facade boards.



At the window sills, use Cembrit Window Sill. To ensure that water is properly drained from the structure, create a 30mm upturned tab at each end of the profile and cut to neatly fit flush behind the vertical trim profiles. The Cembrit Vertical Trim Profile is then fitted over the upturned sill tab.

Underneath the window, a Cembrit Ventilated Profile is installed to help stabilize the sill. There should be a 10mm gap between the sill and the facade board to provide correct ventilation.

It is also recommended that the front edge of the sill projects 30mm beyond the facade board.



Cembrit Caulking Profile can be used with both vertical and horizontal joint profiles. It is not mandatory to use Cembrit Caulking Profile, but it provides excellent joint solutions. The profile is installed in the same way as Cembrit External Corner.

There should be a minimum 4mm gap between the board edge and the Cembrit Caulking Profile.



The profiles for horizontal joints should be cut in the same length as the width of the facade board.

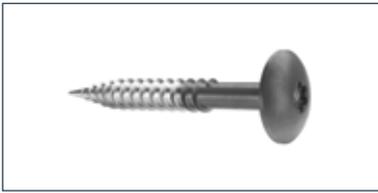
There are several profile options available for horizontal joints:

- 8. Horizontal **Caulking L** Profile
- 9. Horizontal **Caulking h** Profile
- 10. Horizontal **Caulking k** Profile

# Accessories

All Cembit facade screws have a mushroom head with a torx 20 drive. Cembit Facade Screw is supplied as unpainted or in colours corresponding to the facade boards. It comes in two steel qualities, A2 and A4. A2 is the standard quality available in several lengths, whereas A4 steel quality is only available in one length.

## Facade Screw for Cembit Patina



**Cembit Facade Screw wood**  
SCR-W 4.5x30 /36 /41mm  
A2 stainless steel

## Facade Screw for Cembit Cover and Cembit Solid



**Cembit Facade Screw wood**  
With washer  
SCR-W 4.5x30 /36 /41mm  
A2 stainless steel

## Facade Screw for coastal areas and heavy industry (A4 Stainless steel)



**Cembit Facade Screw wood**  
Without washer  
SCR-W 4.5x40mm  
A4 stainless steel  
(Cembit Patina)



**Cembit Facade Wing Screw wood**  
SCR-WW 4.9x38mm  
A2 stainless steel



**Cembit Facade Wing Screw wood**  
With washer  
SCR-WW 4.9x38mm  
A2 stainless steel



**Cembit Facade Screw wood**  
With washer  
SCR-W 4.5x40mm  
A4 stainless steel  
(Cembit Cover, Cembit Solid)

## Cembit EPDM 90/100mm For supporting battens



**Cembit EPDM 3x100mm**  
30m/roll Black

## Cembit EPDM 30/50mm For centre battens



**Cembit EPDM 3x50mm**  
30m/roll Black

## Cembit Edge Sealer for Cembit Cover and Cembit Solid



**Cembit Edge Sealer**  
0.25ml

# Accessories

## Consumption of material

To be able to calculate the consumption of materials when installing Small Module boards, use the table below for reference. The consumption shown is per board.

Board sizes mm	Board M2	Mounting direction	Facade Screw Pcs	Small EPDM Meter	Wide EPDM Meter
292x1192	0.35	Horizontal Vertical	6	0.3 1.2	0.3 0
592x1192	0.71	Horizontal Vertical	6	0.6 1.2	0.6 0
292x2392	0.65	Horizontal Vertical	10	0.3 2.4	0.9 0
592x2392	1.42	Horizontal Vertical	10	0.6 2.4	1.8 0
592x2992	1.77	Horizontal Vertical	12	0.6 3.0	2.4 0

## Cembrit Blades

For cutting Cembrit Small Module boards, the following blades can be used.

Diameter	Ø160	Ø190	Ø216	Ø250
Thickness mm	2.2/1.6	2.2/1.6	2.2/1.6	2.2/1.8
Centre hole mm	20	30	30	30
RPM	4800	4000	3500	3000
Teeth	6	4	6	14



## Drill

For pre-drilling of Cembrit Small Module boards, the following drills can be used.

Diameter	8mm
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# Accessories

## Cembrit Facade Screws

### Timber batten substructure

For timber batten **substructure**, Cembrit offers the SCR-W screw in three different screw lengths; 30mm and 36mm for one layer of boards and 41mm for two layer of boards. Available with or without washer.

### Cembrit Facade Screws without washers

Cembrit Facade Screw SCR-W without washer is used for Cembrit Patina constructions.

### Cembrit Facade Screw with washer

Cembrit Facade Screw SCR-W with washer is used for Cembrit Cover and Cembrit Solid constructions to prevent moisture infiltration. When using Cembrit Facade Screws with washers, ensure the washer is pushed down to the tip of the screw so it helps to center the screw within the pre-drilled hole.

### Pre-drilling

For pre-drilling, it is recommended that you use a Cembrit drill bit or equivalent that is intended for fibre cement. This leaves you with the best results and the optimum number of drilled holes per drill bit. Ensure that Cembrit Facade Screws are centrally located in pre-drilled holes.

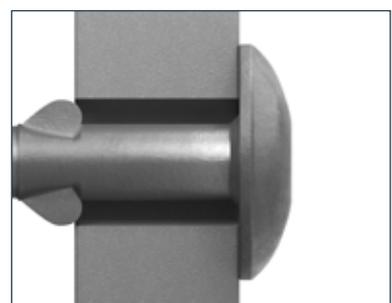
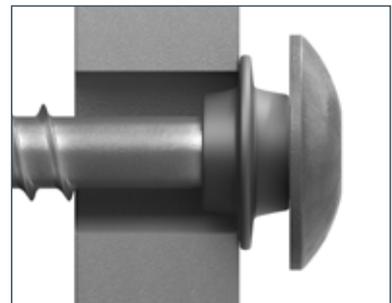
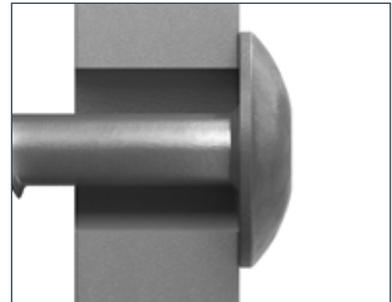
Dust from cutting or drilling must be removed with a brush or compressed air immediately after the work has been completed, otherwise it can mark the surface of the boards.

### Cembrit Wing Screw

If using Cembrit Wing Screw SCR-WW (4.9x38mm), no pre-drilling is necessary. These screws are 'self-tapping' with cutting edges that create the correct hole diameter at the marked positions on the boards.

### Screw quality

Cembrit offers Facade Screws in A2 and A4 stainless steel. A2 is the standard offering for suburban or rural environments, but for more demanding environments like heavy industrial and coastal use, Cembrit recommends using A4. Please note that the A4 screw is only available in one length for steel and timber. Cleaning of screws should be done in order to avoid surface contamination.



# Accessories

## Edge Sealer

Cembrit Edge Sealer should be used to protect all edges of fibre cement boards when cut on-site. Factory-cut edges are always factory pre-sealed. Only Cembrit Edge Sealer should be used on Cembrit products (Cembrit Cover, Cembrit Solid).

### Before treating the surface

The boards must be dry and edges clean and free from dust and dirt before applying the Edge Sealer. It is useful to roughen the edges with sandpaper (grade 80). Edges must be sealed immediately after cutting.

### Application conditions

Board and air temperature should be between + 5°C to + 30°C and relative humidity should be below 85%.

### Application

If application is not to be carried out in a well ventilated room or outdoors, use respiratory equipment. Wear goggles and gloves while applying Edge Sealer as set out in the the safety data sheet.

If there is a protective film on the board, leave in place until the Edge Sealer has dried.

Shake Edge Sealer before use. Apply it in a thin layer with the sponge applicator supplied in the Cembrit Edge Sealer set.

Avoid getting excess Edge Sealer on board faces. If this does occur, remove immediately with a lintfree cloth.

Ensure that the entire edge has been sealed with a thin layer before continuing to the next edge. Apply Edge Sealer to individual boards separately, not while stacked.

### Disposal

Disposal of Cembrit Edge Sealer should be done in accordance with local and national regulations.



### Cembrit Edge Sealer Set

0.25 ml Sealer

Applicator

Sponge

# Accessories

## Cembrit Blade

To ensure a neat finish when cutting Cembrit Small Module boards, it is important to use the correct blade. Cembrit recommends using Cembrit Blades as they have been customised for the purpose and leave you with the best end-result.

The blades have trapezoidal diamond teeth which provide excellent cutting quality and extremely long durability. In addition, the amount of dust generated is significantly reduced compared to similar blades. The Cembrit Blade is available in 4 sizes depending on which saw is used.

The Cembrit blade can be used with dive saw (Festool or similar), circular saw and stationary circular saw. The Cembrit Blade is a high quality product that can be resharpend improving asset cost efficiency.

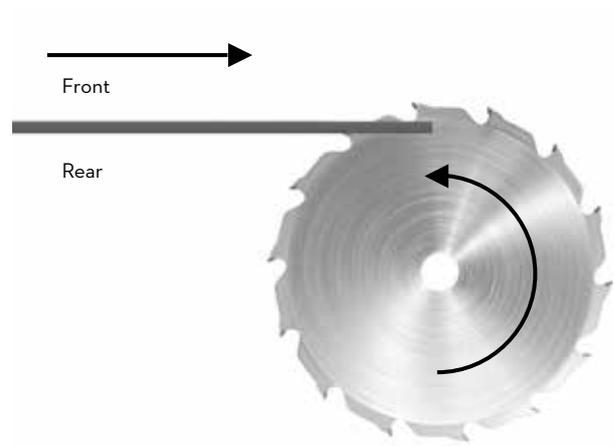
To achieve the best quality cut and to know which side to cut from, make sure to follow the instructions shown here. The direction varies depending on which saw you use.

### Handling

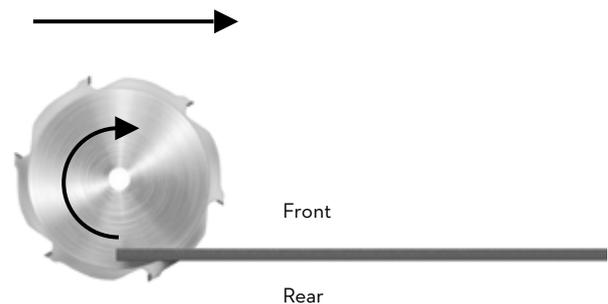
It is important to immediately remove dust caused by cutting and drilling from the front and rear of the boards with a soft brush/duster or a vacuum cleaner as it otherwise might damage the boards. Ensure that the boards are properly cleaned before installation, and if necessary use clean water, or water with a mild detergent and a soft sponge, or brush to remove dirt and dust from the surface.

Local requirements regarding safety must always be followed. Make sure to use correct safety equipment such as masks and air extraction, ensure that the saw is set up correctly according to the manufacturer's instructions.

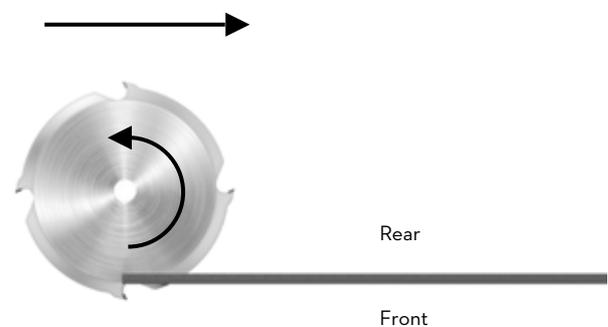
Never use water when cutting Cembrit facade boards.



When using a table saw, place the board with the face uppermost on the table and cut from the rear of the board.



When using a miter saw, cut the board from the front.



When using a circular saw or dive saw, cut the board from the rear.

# Storing and Handling



Cembrit products are delivered with plastic protection cover. If undamaged, the plastic cover provides good protection against dust and weather conditions during transportation. Always store Cembrit products on a flat dry level surface.



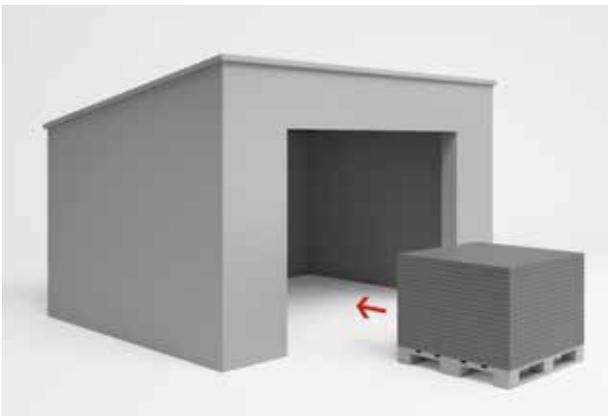
Only two pallets must be stacked on top of each other. Make sure they are positioned so they stand securely and stable.



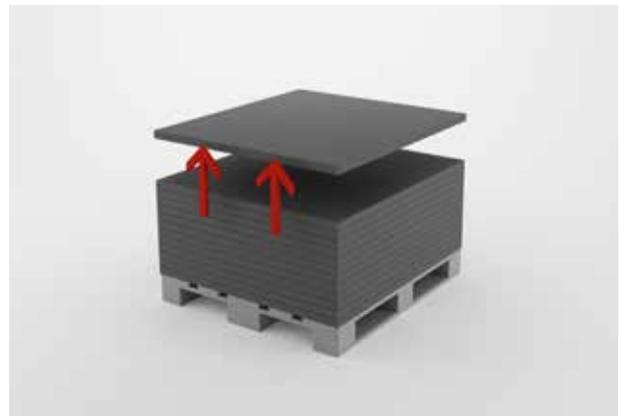
If the pallets are stored outside when they arrive at the building site, the plastic cover should be removed. The facade boards should be stored on the pallet or sleepers with max 500mm distances.



Replace the plastic with a tarpaulin. It is very important that there is ventilation all around the tarpaulin and also on top of the pallet under the tarpaulin. This is done to make sure that condensation is reduced as much as possible.



If Cembrit facade boards are stored more than 2-3 weeks on site, the pallets should be kept under a roof to ensure dry and ventilated conditions.



Do not drag products from the pallet, as it may leave permanent scratch marks. Lift the product by its narrow edge as it may break if handled incorrectly.

# Onsite Handling

## Cembrit Cover and Cembrit Solid

Cembrit Cover and Cembrit Solid Small Module boards are supplied with a polyethylene foam layer between each board to prevent scratching and damage to the surface. The polyethylene is an environmentally friendly polymer that can be disposed of by burning.



When marking the boards, make sure that marks are no larger than the hole to be drilled or no thicker than the blade that is to cut the board, as it can be difficult to remove marks from the board afterwards.



Once boards are cut, you can bevel the cut edge with a fine grinder (80 grain) to give the edge a pre-cut finish. The bevel should be angled at 45° relative to the board. This retains edge strength and removes small irregularities.



If not using Cembrit Facade Wing Screws, the boards should be pre-drilled with an appropriate fibre cement drill bit.



Dust from cutting or drilling must be removed with a brush immediately after the work has been completed, otherwise it can mark the surface of the boards.



When using Cembrit Facade Screws with washers, ensure that the washer is pushed down to the tip of the screw so that it helps to center the screw within the pre-drilled hole.



All cut edges must be sealed with Cembrit Edge Sealer to ensure protection of the cut edges. Use the Cembrit Edge Sealer Set with Applicator and Sponge. Avoid getting Edge Sealer liquid on board faces. If this does occur, remove any liquid with a lint-free cloth immediately.

# Onsite Handling

## Cembrit Patina

Cembrit Patina Small Module boards are supplied with a polyethylene foam layer between each board to prevent scratching and damage to the surface. The polyethylene is an environmentally friendly polymer that can be disposed of by burning.



When marking the boards, make sure that marks are no larger than the hole to be drilled or no thicker than the blade that is to cut the board, as it can be difficult to remove marks from the board afterwards.



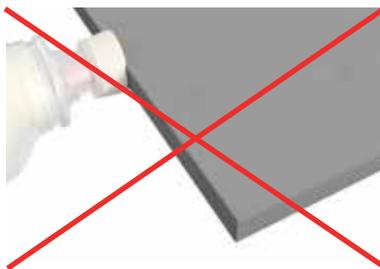
If not using Cembrit Facade Wing Screws, the boards should be pre-drilled with an appropriate fibre cement drill bit.



Dust from cutting or drilling must be removed with a brush immediately after the work has been completed, otherwise it can mark the surface of the boards.



Cembrit Facade Screws must be positioned in the centre of pre-drilled holes so that the boards can be securely fixed.



Cembrit Patina edges should NOT be sealed with Cembrit Edge Sealer.

# Care & Maintenance

## On-site

### Cleaning of boards after cutting and drilling

It is important to immediately remove dust caused by cutting and drilling from the front and rear of the boards with a soft brush/duster or a vacuum cleaner, as it otherwise might damage the boards. Ensure that the boards are properly cleaned before installation, and if necessary use clean water or water with a mild detergent and a soft sponge or brush to remove dirt and dust from the surface. Thereafter, wipe the boards with a damp cloth. It may also be necessary to wash the surface after installation, if the building site conditions have been unfavourable. This is done with lots of clean water or water with a mild detergent and a soft sponge or brush and finally wiping the boards with a damp cloth.

### Removal of calcium based residues

Calcium carbonate residue may occasionally be seen on the board surface. This can be difficult to remove with water or even with detergents, because it does not dissolve in water. For cleaning purposes 10% acetic acid (>CH<sub>3</sub>COOH) solution is used to dissolve the calcium compounds.

**Note!** Carefully observe safety precautions (MSDS) when working with acetic acid. R-phrase R36/R38 is valid: "Irritating to eyes, respiratory system and skin". Use proper clothing, nitrile rubber gloves, eye protection goggles and approved respirator (filter A, E or A/E).

Carry out the mixing outdoors. Apply the diluted 10% acetic acid solution evenly with a spray can to the surface of the stained board. Leave it to react for a few minutes. Do not allow the solution to dry, but rinse with lots of clean water. Repeat the process if necessary and rinse with water afterwards.

**Note!** Do not execute the cleaning process with acetic acid in direct sunlight or on hot surfaces. This might create permanent stains.

### Cleaning of neighbouring areas

Windows and glass in particular but also other adjacent areas must be kept clean during the facade

board installation and if necessary protected with plastic film. Alkaline leaching from cement bonded materials (dust from cutting or drilling holes in structural concrete, etc.) is prone to damaging glass and other materials. Therefore, frequent cleaning during and after the construction period is needed.

### Surface damages and scratches

Damages and scratches should be avoided by lifting the boards off the pallet and handling them carefully during installation. Scratches might leave white streaks on the surface which will turn dark when exposed to rain, because the board absorbs water through the scratch. Repair paint is not available. The only way to prevent dark stripes or spots is to carefully apply clear Cembrit Edge Sealer onto the scratch with a thin brush (does not apply to Cembrit Patina). In any case the dark area will diminish after 6 to 12 months, because of the carbonation reactions in the cement matrix of the board.

### Wet framing/wet spots around screw holes

The principles for scratches also apply to cut edges: Carefully apply Cembrit Edge Sealer according to Cembrit instructions. Cembrit screws and rivets are supplied with sealing washers negating the need to seal pre-drilled fixing holes. When properly installed, the sealing washers will prevent water penetration into drill holes.

### Behaviour in wet conditions

Since the boards are made of Portland cement, their colour may turn darker when exposed to rain if the board absorbs moisture through holes, scratches or insufficiently sealed edges. This is natural behaviour for any cement based product and it does not affect the integrity or long-term durability of the board. The original colour is restored as soon as the boards dry out. The darkening will show after heavy rainfall for the first months after installation. It will gradually reduce within 6 to 12 months, because the cement based matrix reacts with carbon dioxide from the atmosphere – carbonation – and thereby reduces water penetration.

# Care & Maintenance

## After installation

### Annual Inspection

Normally Cembrit facade boards do not require any maintenance. Weathering may however influence the appearance of the facade. Therefore, an annual inspection of the ventilation gaps, joints and fixings is a good idea.

Detection and repair of possible damage ensures a prolonged lifespan for the facade.

### Cleaning

Cembrit facade can be cleaned with cold or luke-warm water if necessary with the addition of a mild household cleaning agent not containing solvents. Always start from below with well-defined areas. Rinse with plenty of clean water until the facade is perfectly clean. Before cleaning full scale, it is recommended to test the chosen cleaning method on a smaller area to ensure it works and does not damage the board surface.

### High Pressure Cleaning

Warning! High Pressure Cleaning is a severe treatment for fibre cement facade. Exaggerated or wrong use of a high pressure cleaner may damage the surface. Therefore, High Pressure Cleaning is not recommended.

### Moss & algae

Moss and algae growth can be removed with common agents available on the market. Care should be taken to ensure that the cleaning agent does not cause damage to the surface of the Cembrit facade boards.

Confirm the compatibility of your cleaning agent with your cleaning agent supplier, and ensure it is applied according to the supplier's instructions. It is advised that before conducting a large scale application a test is carried out on a small, inconspicuous area to ensure that the cleaning agent has no effect on the colour of Cembrit Facade boards.

### Efflorescence

Efflorescence is a naturally occurring, white, powdery deposit that can appear on cement-based building materials (including bricks, cement walls, grout, and fibre cement). It is the result of a process in which moisture draws salt crystals to the surface, evaporates, and leaves a chalky substance behind. Efflorescence occurs when all three of the following conditions exist:

1. Water-soluble salts are present in the building material.
2. There is enough moisture in the wall to turn the salts into a soluble solution.
3. There is a path for the soluble salts to get to the surface.

Efflorescence may also be a sign of water ingress behind the facade. Make certain that all openings are properly covered and there is no water intrusion due to over-driven nails.

While some efflorescence may weather away naturally on its own, it is best to take steps to treat it. Efflorescence can be removed with household white vinegar and water. For most cases of efflorescence, Step 1 - 3 works well. But for substantial deposits of efflorescence go to Step 4.

For best results, follow these cleaning instructions:

1. Protect areas that are not to be cleaned. Rinse all plants and vegetation around the facade with water before and after application of the vinegar.
2. Generously coat the entire surface area with vinegar. Allow the solution to sit on the surface for 10 minutes.
3. Rinse the treated area thoroughly with water from the top down and allow the area to air dry.
4. For extra tough efflorescence:  
Use a 10% acetic acid solution and apply to affected area with a cotton cloth. A light scrubbing with the cotton cloth may be required. After about 20 seconds rinse with water.

# Health and Safety

As with all building materials, safety precautions must be taken into account and local laws and regulations must be observed.

## Cutting and drilling

When cutting, grinding or drilling, dust from the fibre cement boards is released. This dust is characterised as mineral dust. Breathing large amounts of dust may cause irritation to respiratory functions, eyes or skin. Therefore, Cembrit always recommends wearing personal protection equipment or stated by local law (Safety goggles, safety suit and a respiratory mask - P2 marked).

When cutting Cembrit facade boards ensure adequate ventilation.

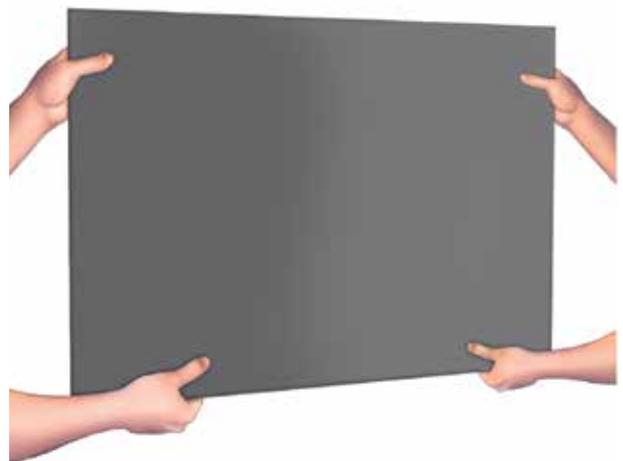
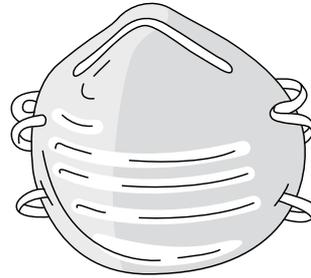
If the boards are cut indoors, it may be necessary to use an extractor system or a HEPA filter vacuum attachment attached to the power saw. When cutting outdoors, you should also use a HEPA filter vacuum attachment to the power saw. If ventilation is not adequate to limit exposure, wear a disposable respirator or air purifying cartridge respirator fitted with a Class P2 filter (European EN 143 standard). To reduce exposure to dust, Cembrit recommends using Cembrit Circular Blade.

## Lifting Cembrit facade boards

When lifting Cembrit facade boards, please consider your lifting methods both in terms of safety but also to avoid damaging the boards.

When lifting or moving the facade board, please make sure to lift the board by its narrow edge as it may otherwise break if handled incorrectly.

If lifting Cembrit facade board manually, make sure to adhere to any local rules. When lifting large boards, use mechanical lifting gear if possible. If this lifting gear uses suction/vacuum, be careful not to apply too much suction, as this may damage the surface or leave permanent marks.



# Warranty and disclaimer

## Warranty

Warranty conditions are available on request from your local Cembrit office.

## Disclaimer

The information contained in this publication and otherwise supplied to users of Cembrit products is based on Cembrit's general experience, best knowledge and belief. However, due to factors which fall beyond Cembrit's knowledge and control, which can affect the use of the products, no warranty is given, express or implied with respect to fitness for particular purpose or otherwise.

Cembrit's policy is one of continuous improvement. Cembrit therefore reserves the right to alter specifications at any time and without notice. Colours and textures may vary according to light and weather conditions. Owing to this and limitations of the printing process, colours in this brochure may vary.

Please, ensure that you have the latest version of this publication by checking that the publication date corresponds with the downloadable version from our website. In case of doubt, please contact your local Cembrit representative.

# CENIBRIT

[www.cembrit.com](http://www.cembrit.com)

Please visit the local website for contact details  
and further information.

Cembrit is one of the leading European manufacturers of multi-capability fibre-cement building products. Our products and solutions add exciting new design opportunities for moulding attractive, durable settings for people's lives. But Cembrit is more than mere products. We also help make all kinds of design and construction projects easier - as well as more profitable, inspiring and effective. For us, all construction also involves building relations with people, making your day better, and helping you make the day better for others. Making it a day to remember.