

DIM Design & Installation Manual North America

Facade on Wood – Swisspearl Patina NXT Design Line





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Swisspearl

Swisspearl

Swisspearl is a leading manufacturer of high-performance fiber cement building materials. These products provide durable, low-maintenance facade solutions for a wide range of architectural applications.

Swisspearl supports architects, contractors, and installers with technical guidance to ensure efficient design and installation.

Product Information

Swisspearl fiber cement is a modern building material manufactured from natural and environmentally responsible raw materials. With over 90 years of experience in fiber cement production, Swisspearl ensures consistent product performance and durability.

Swisspearl facade panels are suitable for use in ventilated facade systems and provide:

- Noncombustibility
- Weather resistance
- Impact resistance
- Acoustic performance

Quality

Swisspearl product specifications and classifications comply with EN 12467:2012 and 13501-1:2007+ A1:2009 and ASTM C1185/1186.

The facade range:

- is manufactured in accordance with the quality management system ISO 9001:2015
- complies with the provisions set out in the Construction Products Regulation (EU) No. 305/2011

Product warranty

Warranty conditions are available on request from your Swisspearl distributor or representative.

Note!

The following limitations exist for the Swisspearl Patina NXT design line

Do not use the following facade constructions: Sloped facade with deviation over 5 degrees from vertical, curved facade or non-ventilated facade.

Disclaimer

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The self-ventilating facade

A self-ventilated facade is a system that helps minimize temperature variations in the wall throughout the year. Sunlight and heat are partially reflected during summer conditions, and insulation behind the facade boards reduces heat loss in lower temperatures.

At the same time, natural ventilation within the system helps reduce 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.

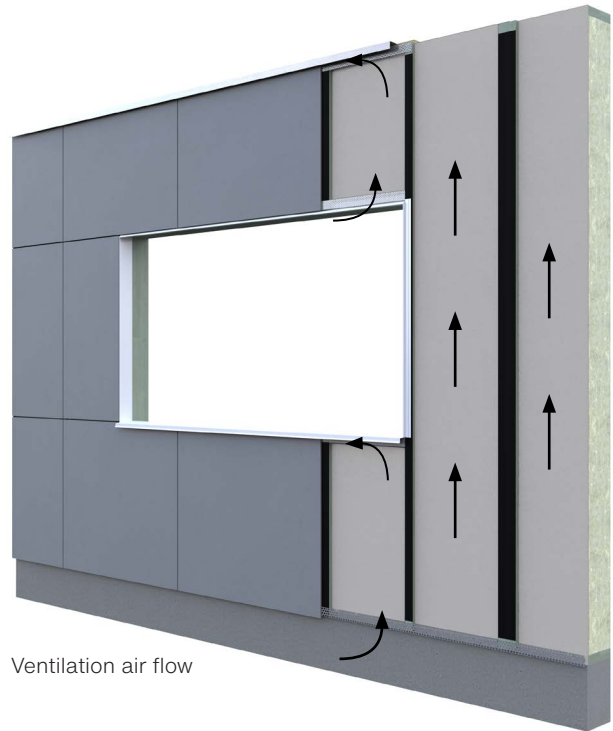
The boards can be installed with open horizontal joints or with joint profiles. Horizontal joints contribute minimally to the natural ventilation and therefore, profiles can be used in these joints, if required.

Swisspearl recommends increasing the ventilation area behind the facade boards when installing facade boards on taller buildings. The table below shows the recommended minimum ventilation cavities behind the facade boards.

Cladding height	min. cavity
< 20'	3/4"
20' - 99'	1"
> 99'	1 3/4"

Steel or timber framed construction

1. Swisspearl facade board
2. EPDM
3. Ventilated area
4. Timber batten
5. Swisspearl Windstopper
6. Steel, timber framed construction with insulation or backwall



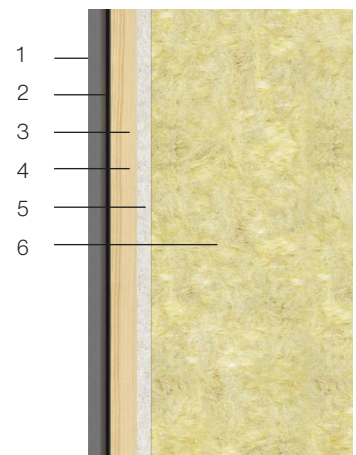
Ventilation air flow



Open joints

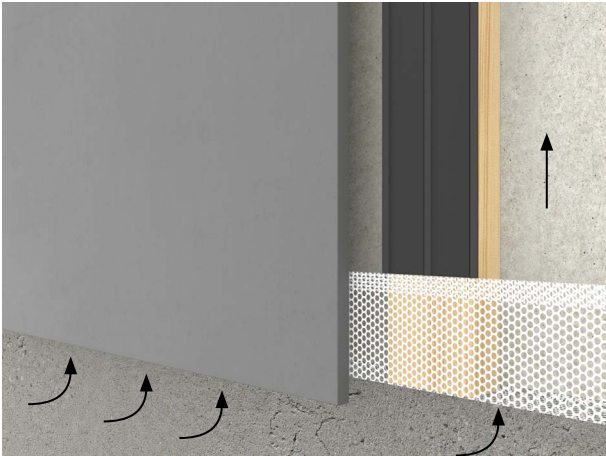


Joint profile



The self-ventilating facade

Ventilated Openings

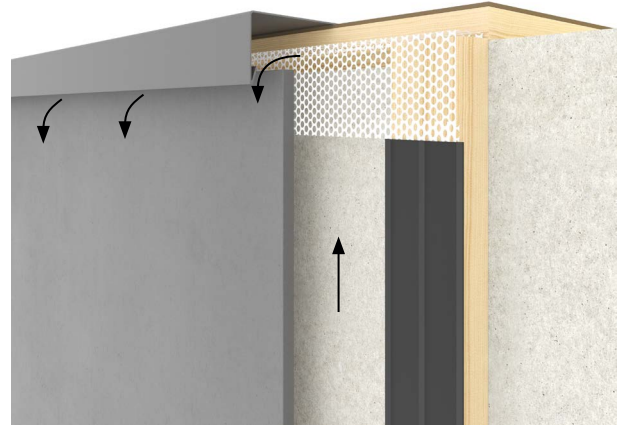


Ventilation at the base

Air is drawn into the construction through an opening at the base of the facade. Maintain unobstructed ventilation over the full height of the facade.

A ventilation gap of minimum 3/4", or 9.45 in² per linear foot, is required. If steel, aluminum, or plastic perforated profiles are used, a minimum ventilation opening of 60% of the required ventilation area per linear foot must be provided.

The base opening also serves to drain any moisture entering the facade.



Ventilation at the top of the facade

The passage of air must be maintained at the top of the facade where it meets a roof or other structure. As at the base, a ventilation gap of minimum 3/4", or 9.45 in² per linear foot, must be provided.



Ventilation under windows

A horizontal ventilation opening of minimum 3/4", or 9.45 in² per linear foot, must be maintained beneath windows or other openings with a sill. The ventilation gap is typically formed between the top edge of the facade boards and the bottom edge of the sill.

The sill should project at least 1 1/4" beyond the face of the facade to prevent water runoff from entering the structure.



Ventilation above windows and doors

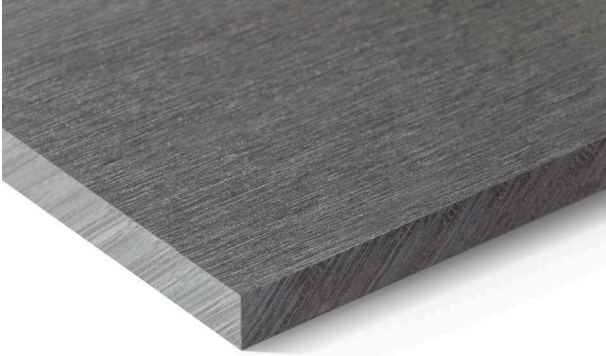
A horizontal free ventilation opening must also be maintained above windows and doors. The ventilation gap must be at least 3/4" wide. If steel, aluminum, or plastic perforated profiles are used, a minimum ventilation opening of 9.45 in² per linear foot is required.

The opening also serves to drain any moisture that has entered the facade.

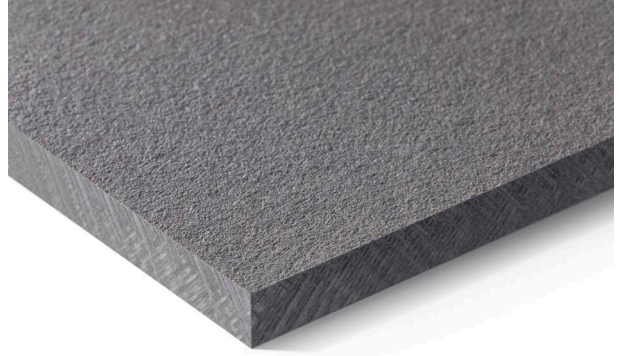
Product Range

The Swisspearl Patina NXT design line

Swisspearl Patina Original NXT



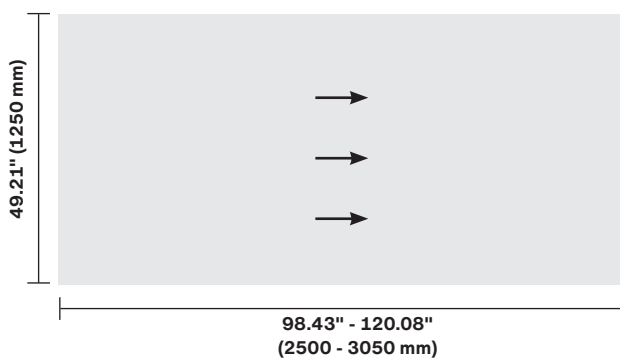
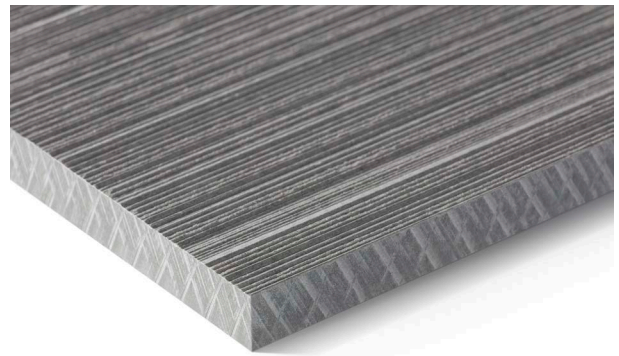
Swisspearl Patina Rough NXT



Swisspearl Patina Inline NXT



Swisspearl Patina Structure NXT



Directional grain

Swisspearl Patina's manufacturing process gives the boards a unique surface texture. This unique finish is enhanced by a process which adds a directional grain to the board - leaving the boards with a different appearance dependent on lighting and the angle of the board. By rotating boards within the facade makes it possible to obtain a playful visual effect depending on the viewer's position and the lighting conditions.

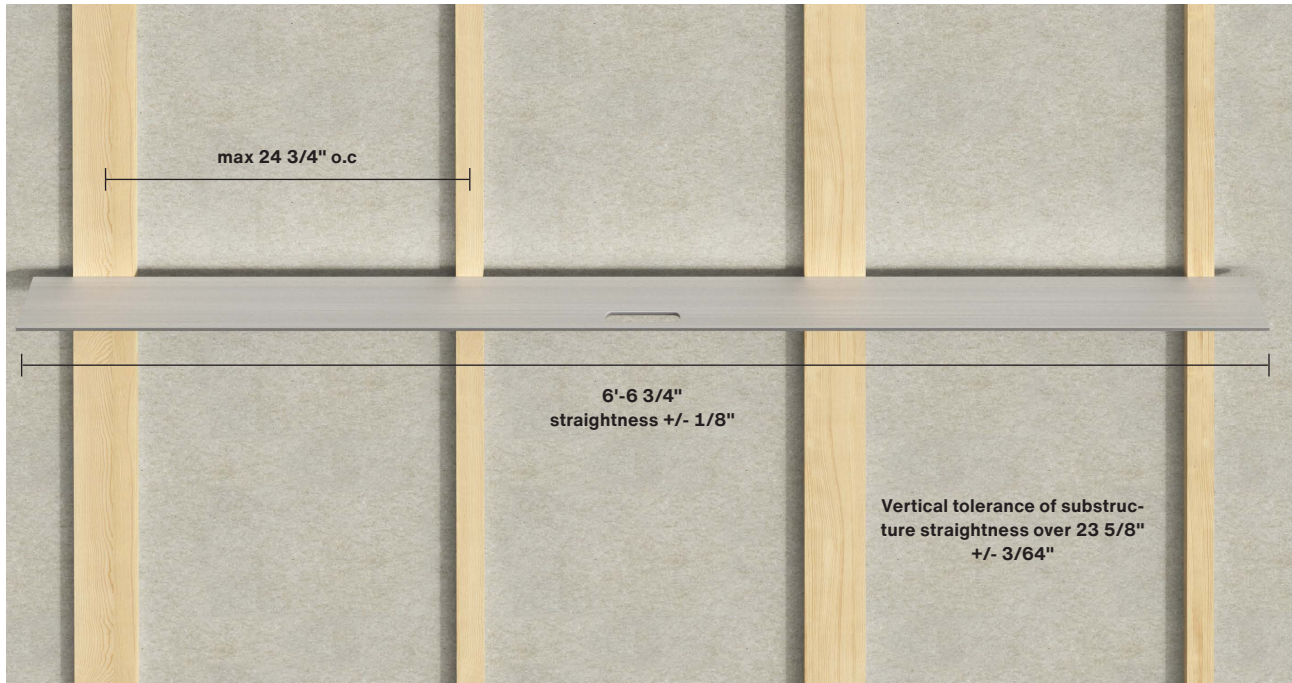
Quick facts	Type	Fire class	Thickness	Dimensions	Weight/ft ²
Swisspearl Patina Original NXT Swisspearl Patina Rough NXT Swisspearl Patina Structure NXT	Through colored	A2,s1-d0 / ASTM E84 / ASTM E136	8 mm	49.21" x 98.43" (1250 x 2500 mm) 49.21" x 120.08" (1250 x 3050 mm)	2.87 lbs./ft ² *
Swisspearl Patina Inline NXT	Through colored	A2,s1-d0 / ASTM E84 / ASTM E136	9.5 mm or 8 mm	49.21" x 98.43" (1250 x 2500 mm) 49.21" x 120.08" (1250 x 3050 mm)	3.28 lbs./ft ² *

* Weights in this DIM are indicative only. Always refer to the Swisspearl Patina NXT datasheet for valid values.



Installation

Substructure



Straightness of 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 3/4"* Width at joints min 4" Width at middle batten 2"

Straightness of substructure

The horizontal tolerance is +/- 1/8" measured over a distance of 6'-6 3/4".

The vertical tolerance is +/- 3/64" over 23 5/8" measured over a distance of 6'-6 3/4".

*The minimum thickness of wood is 3/4", but the ventilation cavity depends on the height of the building, see page 6 for details.

Installation

Substructure



Installing 8 mm Swisspearl facade boards on timber frame

Max support distances:

24 3/4" o.c

Max screw centers: 23 5/8" o.c

The following screws can be used for this solution:

Swisspearl Facade Wing Screw Wood, SCR-WW 4.9x38mm

Swisspearl Facade Screw Wood, SCR-W 4.8x30/38/44mm

There must be a ventilated cavity between the back of the facade panel and the insulation or windstopper. Read more about this in the section on "The self-ventilating facade".

Batten width should be minimum 4" for supporting battens, and 2" for central battens.

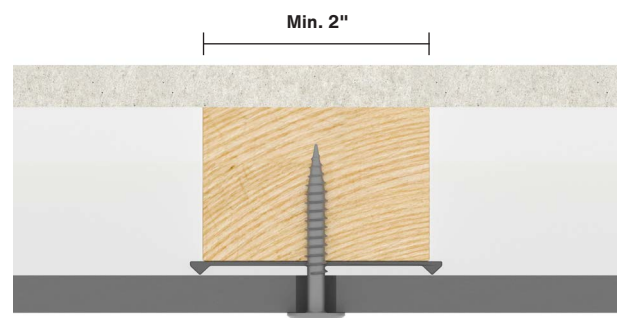
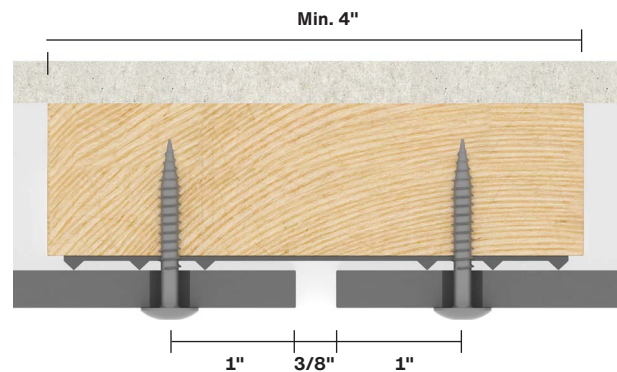
Joint gaps between boards should be a minimum of 3/8".

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

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

Swisspearl facade boards can also be installed on horizontal battens.

When using horizontal substructures, there must be a minimum 3/4" ventilated area behind the horizontal supporting battens.



Installation

Edge distances

Edge distances

Fiber 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. Therefore, you should always pre-drill the Swisspearl facade boards using a $\varnothing 8\text{mm}$ drill suitable for fiber cement.

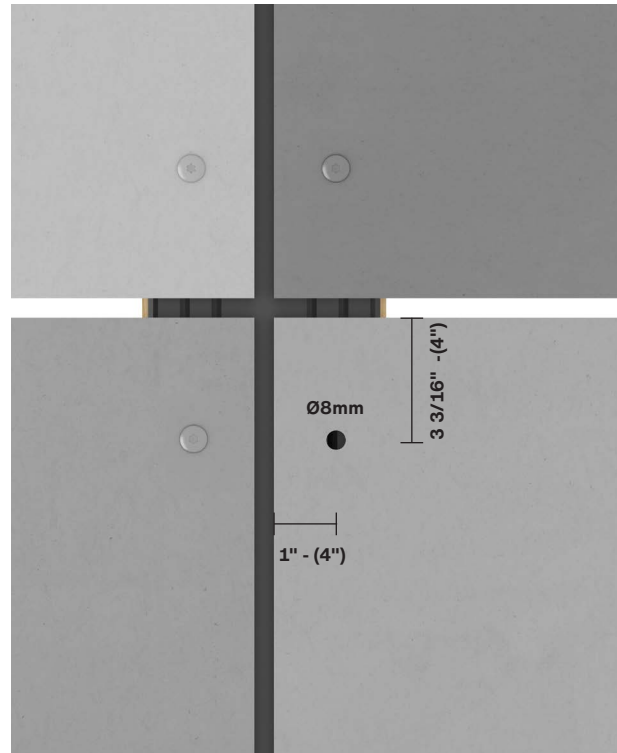
Horizontal and vertical installation

Swisspearl Patina NXT design line

Edge distances side: 1" and up to Max 4"

Edge distances end: 3 3/16" and up to Max 4"

Note that the end distance (3 3/16") follows the direction of the substructure.



Example of vertical substructure - Swisspearl Patina NXT design line

Installation

Edge distances

Swisspearl Patina Inline NXT

Swisspearl Patina Inline NXT is available in the following dimensions:

49.21" × 98.43" (1250 × 2500 mm)

49.21" × 120.08" (1250 × 3050 mm)

Make sure to adhere to the installation principles in this manual when installing Swisspearl Patina Inline NXT. The areas in which the installation of Swisspearl Patina Inline NXT differs from the normal installation method will be explained below. Pre-drill the Swisspearl Patina Inline NXT board using a \varnothing 8 mm drill suitable for fiber cement.

Edge distances

The edge distance of the hole is dependent on the direction of the support system - as the normal installation principles.

- Edge distances from the board end, in the direction of the support system, should be minimum Min. 3 1/8" up to max 4"
- The edge distance from the board side edges differs from the normal edge distance and should be minimum 1 1/4" and max 4"

If the board is mounted with horizontal lines as in Fig. 3* the edge distance should be minimum 3 1/8"*, but as the milled lines will not necessarily match the edge distance, it should be placed at the nearest following top line.

If the board is mounted with vertical lines as in Fig. 3 the edge distance should be minimum 1 1/4" for full size boards. If cut to size, please refer to the paragraph below. Please note that the screw should always be mounted at the top of a line and centered (Fig. 1). The same applies to the installation on central battens (Fig. 2).

Edge distance of cut to size boards

If the board is cut to size to be installed in connection with windows, doors, or similar, it may not be possible to keep the edge distance at 1 1/4" due to the nature of the lines. It will be necessary to place the screw at the following top instead (Fig. 4).

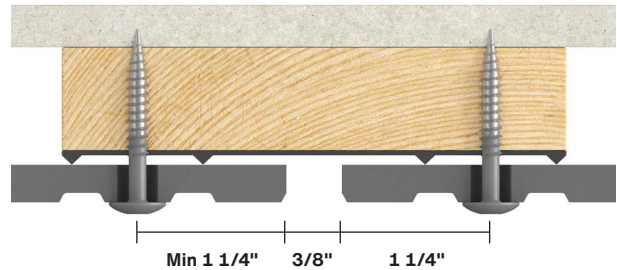


Fig. 1. Swisspearl Patina Inline installation on intermediate batten.

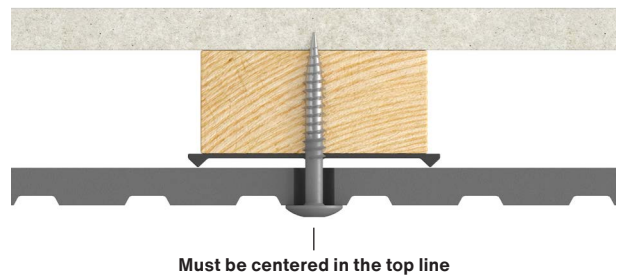


Fig. 2. Swisspearl Patina Inline installation on intermediate batten.

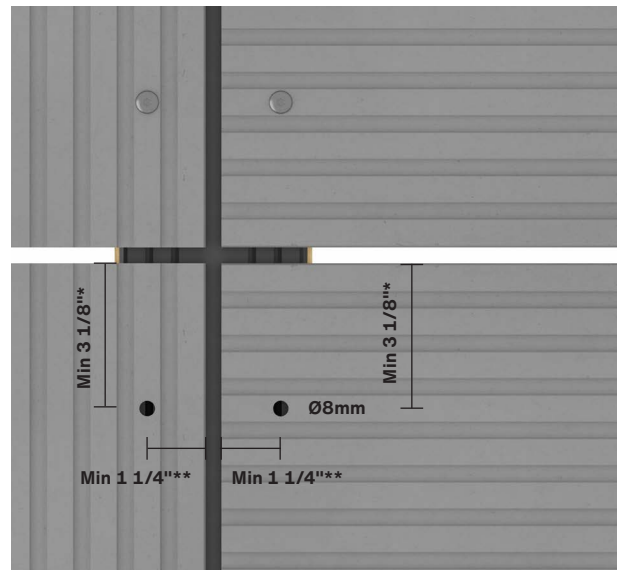


Fig. 3. Swisspearl Patina Inline Edge distances. Note! Min distance and/or the nearest following top line.

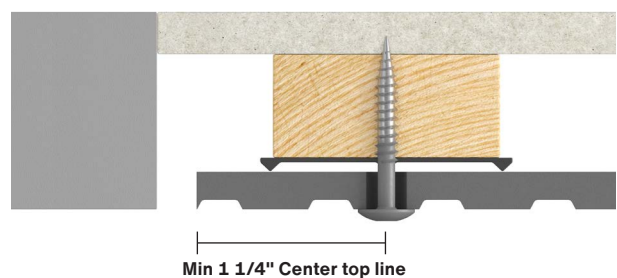


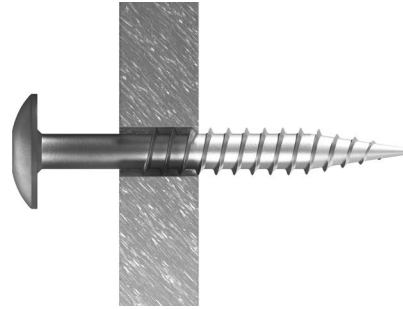
Fig. 4. Swisspearl Patina Inline installation of cut to size board.

Installation

Fixing points for Swisspearl facade boards

To simplify installation on wood, Swisspearl facade boards can be installed using two fixing positions and all other positions should be sliding points. These positions should be as close to the board center as possible and must be aligned horizontally.

When installing Swisspearl facade boards using screws, you must start with the fixing positions, followed by the sliding points above the fixing positions and finally the sliding points below (see illustration below)



X : Fixing position hole diameter $\varnothing 5.5$ mm.

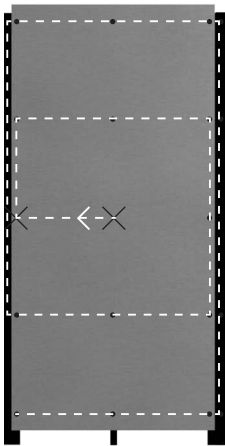
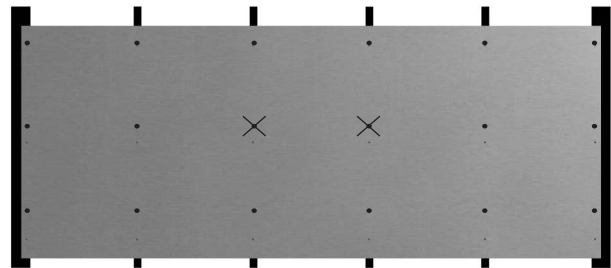
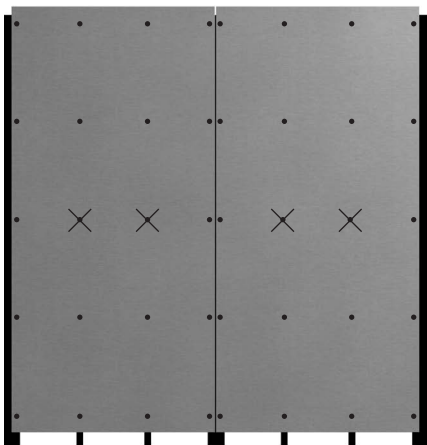


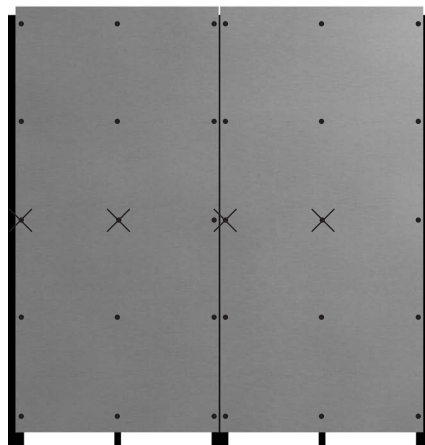
Illustration of correct screw installation. The fixing points are marked with x.



Example: Horizontally mounted boards with four intermediate wood battens



Example: Vertically mounted boards with two intermediate wood battens



Example: Vertically mounted boards with one intermediate wood batten

Installation

Ceiling and soffit

Swisspearl facade boards are 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 Swisspearl facade boards is that you can easily take down boards so you can reach any hidden installations as the boards are mounted using screws only.

Installing 8mm Swisspearl facade boards on timber frame - as ceiling or soffit

Max support distances: 15 3/4" o.c.
Max screw centers: 15 3/4"

The edge distances when using Swisspearl facade boards as ceiling or soffit are in principle the same as for facade boards in which the direction of the substructure and the orientation of the board define the edge distances. This also applies to hole sizes, joints, and distances to other building materials.

Always use Swisspearl EPDM with ribs on timber battens.



Screw and batten distances

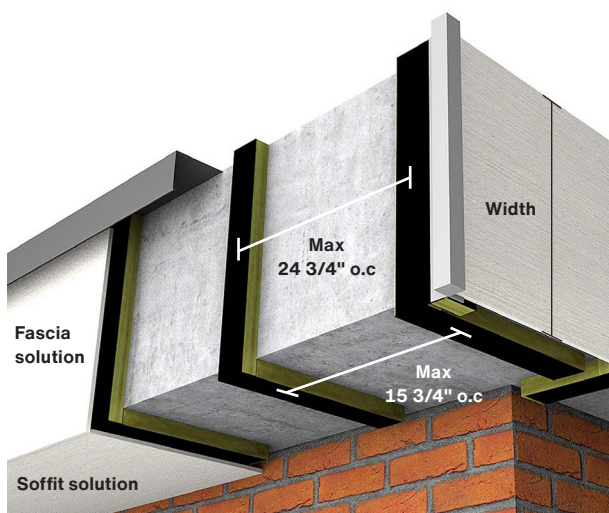
Fascia solution

Installing 8mm Swisspearl facade boards on timber frame - as fascia boards

Max support distances: 24 3/4" o.c.
Max screw centers: 23 5/8"

When mounting Swisspearl facade boards as fascia boards, boards below 11 13/16" width can be mounted directly using a 3 mm EPDM without ventilation battens behind the boards. When installing fascia boards of 11 13/16" width and more, it is necessary to keep a ventilation area behind the boards as with regular Swisspearl facade boards.

For both solutions, make sure to keep a 3/4" ventilation gap in both the top and the bottom of the fascia solution. Always use Swisspearl EPDM with ribs on timber battens.



Installation

Cut outs

To avoid cracking of the boards, when installing Swisspearl facade boards around windows, doors and other openings, ensure that the facade boards are installed correctly using Swisspearl's instructions (Fig. 3).

Swisspearl recommends avoiding single, exact cut-outs in panels (see Fig. 3). Instead, use smaller sections installed individually.

Cut the boards and make vertical joints of $5/16''$. Ensure that support is provided behind the joints to allow the facade panels to be securely mounted.

If the small cut outs are not wider than $4'' - 6''$ (Fig. 1), they can be mounted with only one rivet/screw in the middle of the board (a). This also applies when using the Swisspearl facade boards in other solutions on a building as window jambs or in connection with other narrow spaces.

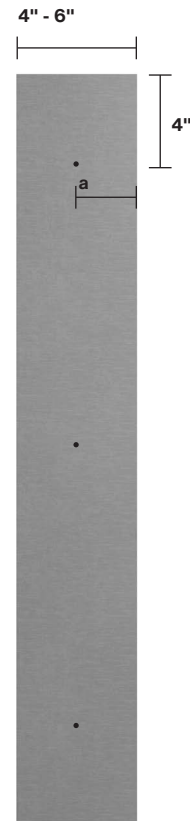


Fig. 1.

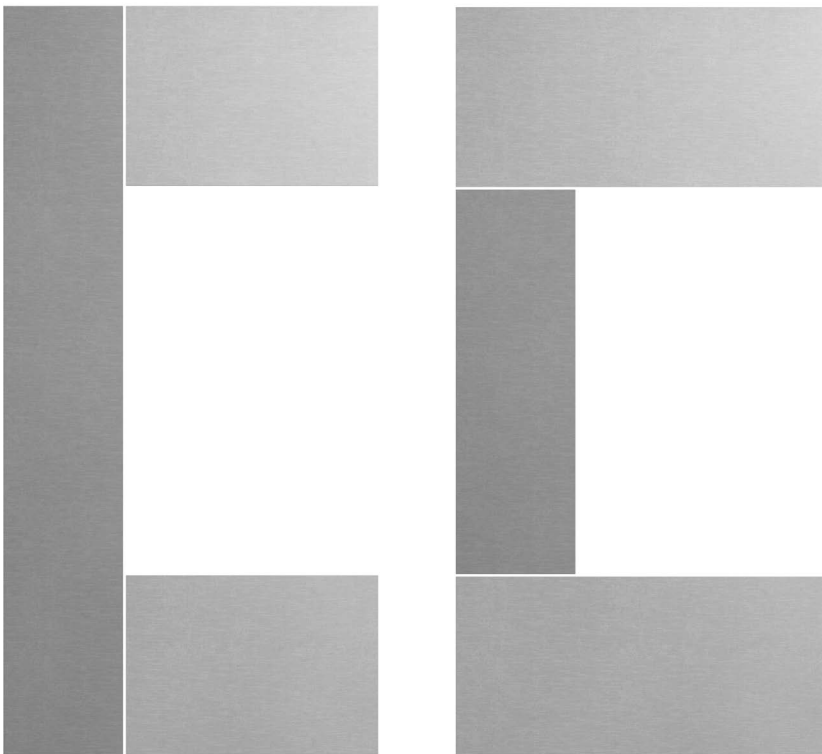


Fig. 2.

Correct installation of Swisspearl facade boards at windows, doors, and openings.

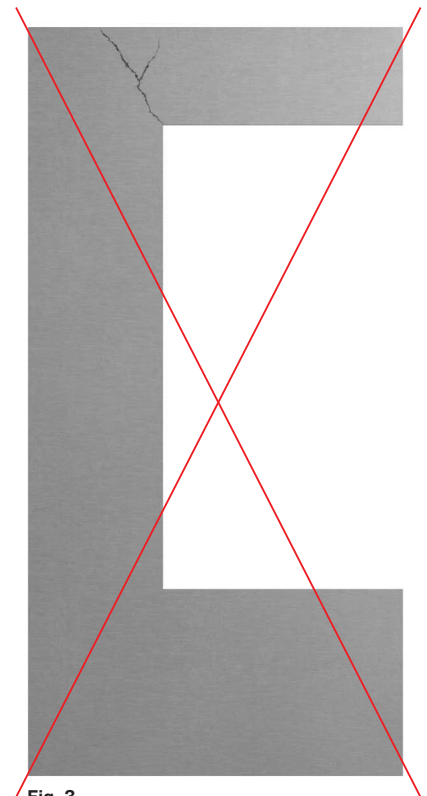
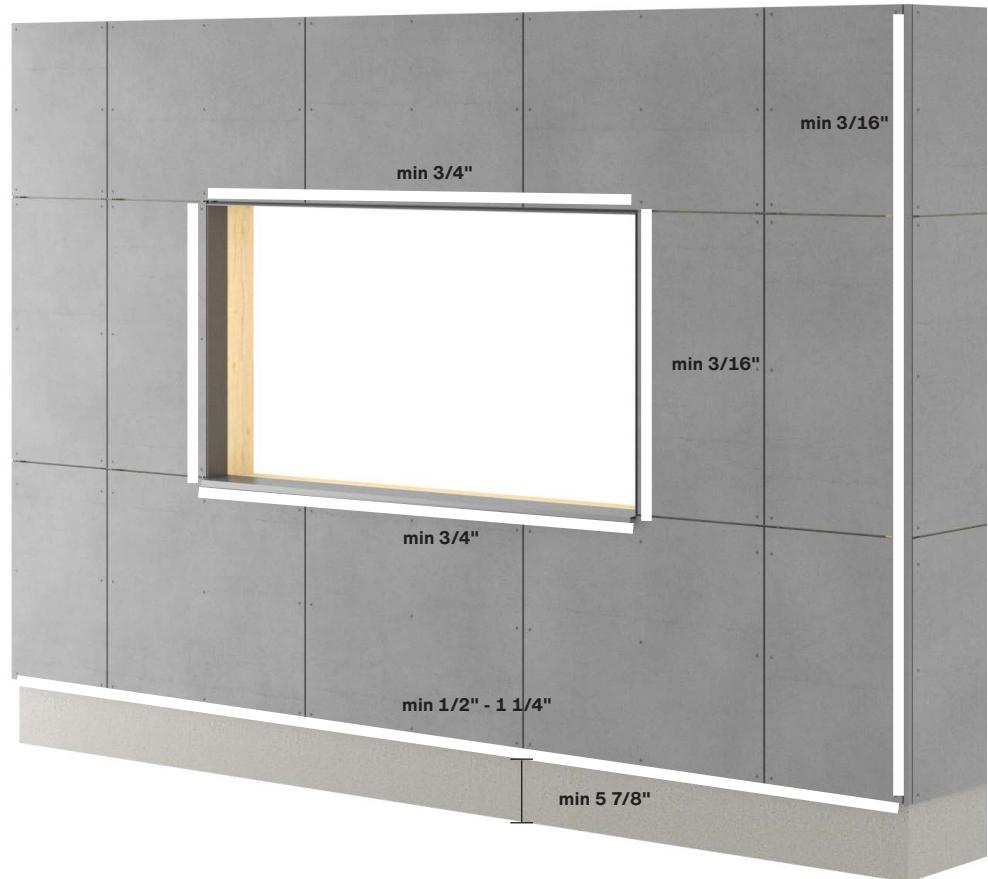


Fig. 3.

Incorrect installation of Swisspearl facade boards at windows, doors, and openings.

Installation

General distances



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

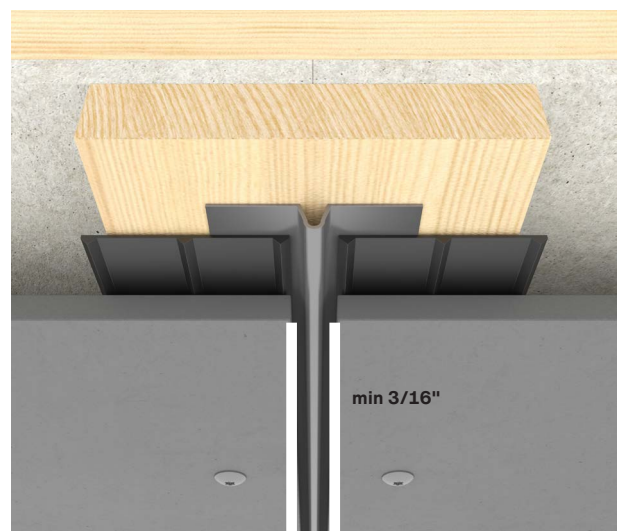
The facade board should finish between 1/2" and 1 1/4" below the bottom end of the sub structure. For overhang and similar, the maximum distance is 4".

The bottom edge of the facade panel must be a minimum of 5 7/8" above grade.

The clearance to flat roofs, balconies, and other horizontal surfaces with drainage should be a minimum of 2".

Vertical clearance to profiles such as Swisspearl Alu Trim or Swisspearl Corner profile is minimum 3/16". For horizontal clearances at windows and doors etc. leave a minimum of 3/4" for ventilation.

The clearance to other building materials is minimum 5/16" for movement and water drainage.



Installation

Details

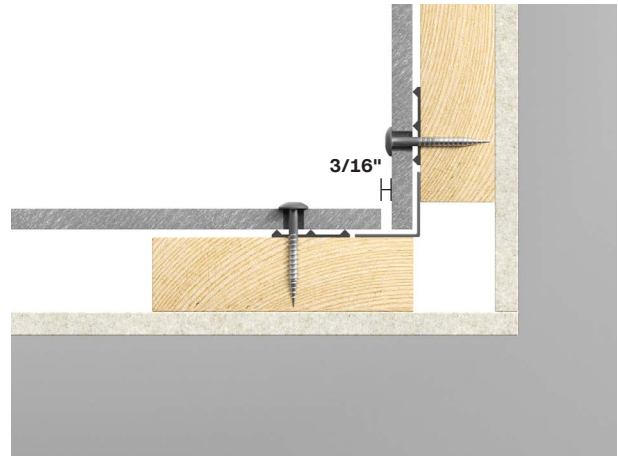


External corner solution with open joint

Make an external corner solution without a Swisspearl corner profile.

There should be a vertical joint between the facade boards in the corner of minimum 3/16".

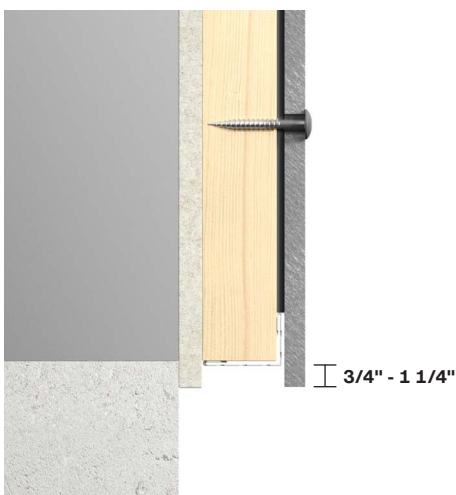
Swisspearl recommends using a 4" EPDM and bend it around the corner to protect the wood.



Internal corner solution with open joint

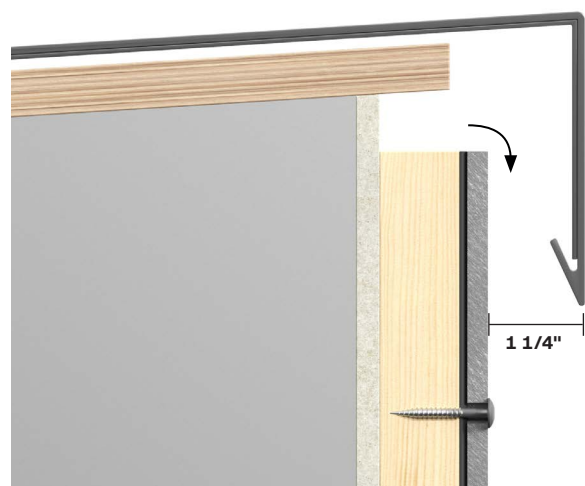
When making an internal corner, there should be a vertical joint between the facade boards of minimum 3/16".

You can choose to either use 2x2" EPDM or a 4" EPDM and bend it around the corner to protect the wood.



Plinth construction/ bottom construction

Ensure that the facade board exceeds the substructure by 3/4" - 1 1/4", allowing the water from the facade to drip off. Use a ventilation grille to ensure that bugs/vermin do not enter the construction behind the facade board.



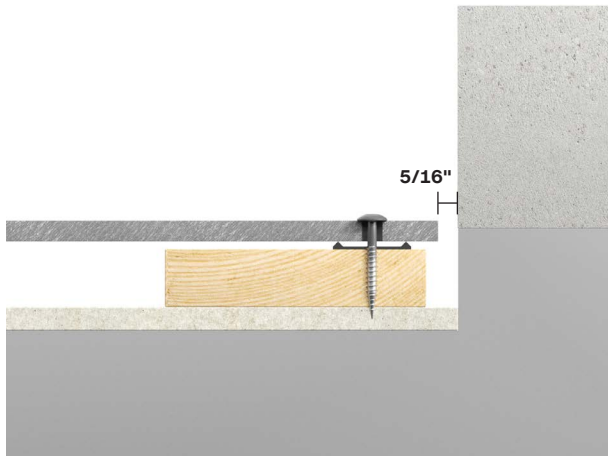
Top construction

Make sure that the ventilation can move freely to the top of the construction. As for the rest of the ventilation gaps, there should be a minimum free opening area of 3/4", or 9.45 in² per linear foot.

There should be a minimum of 1 1/4" from the facade board front to the drip edge of the capping.

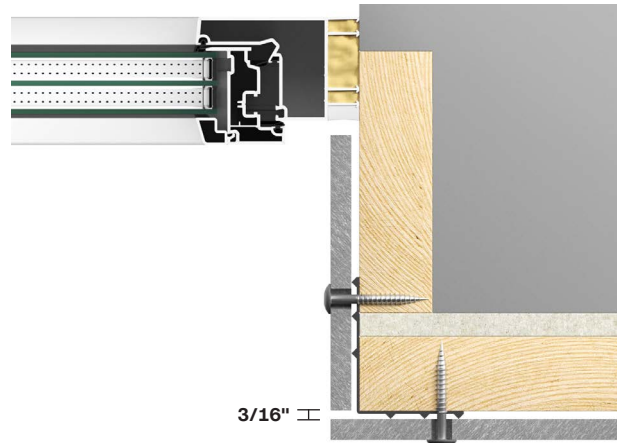
Installation

Details



Endings / finishing

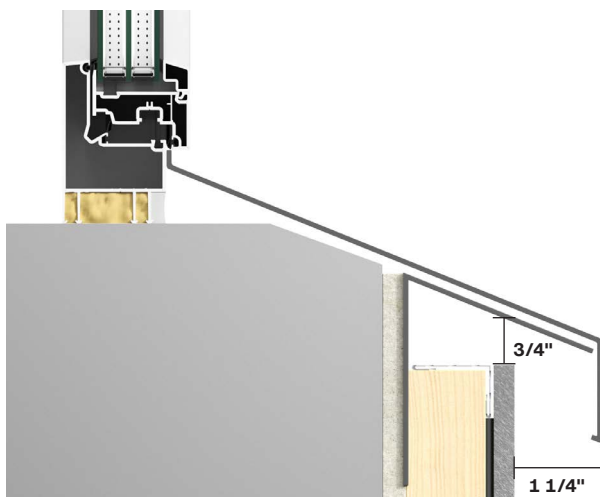
Behind the facade board, a ventilated batten of min 2" width should be installed and there must be a minimum of 5/16" clearance to other building materials to allow for structural movements and proper water drainage and ventilation.



Window jamb

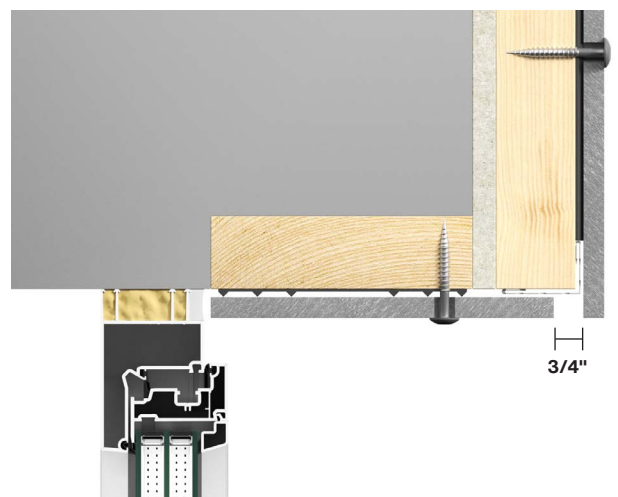
Swisspearl facade boards can be used for window jambs and returns. Cut the facade boards to fit the depth of the window jambs. When mounting with one screw, the width of board should not exceed 7 7/8".

If the depth is more than 7 7/8", additional screws or a window U profile, into which the facade board can be inserted, must be used. There should be a vertical joint of minimum 3/16" between the facade boards.



Window sill

Swisspearl facade boards should not be used as sills. We recommend the use of formed aluminium or steel profiles. It is recommended that the sill projects a minimum of 1 1/4" beyond the face of the facade. There should be a minimum free open area of 3/4", or 9.45 in² per linear foot between the top facade board and the sill to ensure adequate ventilation behind the facade.



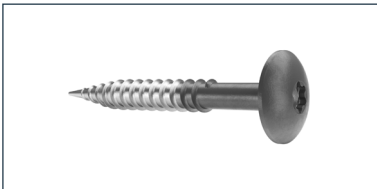
Window head

As with jambs, the window head can be formed using a Swisspearl board. At the front edge of the head detail, ensure a minimum free opening area of 3/4", or 9.45 in² per linear foot to ensure adequate ventilation behind the facade. Use a Swisspearl Ventilated Profile to ensure that insects/vermin cannot enter the construction behind the board. Please follow same details as for window jambs.

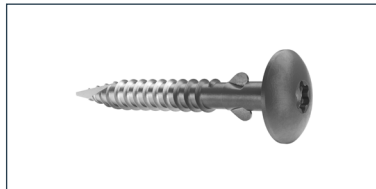


Accessories

All Swisspearl Facade Screws have mushroom heads with a torx 20 drive. Swisspearl Facade Screws are supplied as unpainted or in colors 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.



Swisspearl Facade Screw wood
SCR-W 4.8x30 /38 /44mm
A2 stainless steel
(Swisspearl Patina design line)



Swisspearl Facade Wing Screw wood
SCR-WW 4.9x38mm
A2 stainless steel
(Swisspearl Patina design line)



Swisspearl Facade Screw wood
Without washer
SCR-W 4.8x40mm
A4 stainless steel
(Swisspearl Patina design line)



Swisspearl EPDM 3x100mm
30m/roll Black



Swisspearl EPDM 3x50mm
30m/roll Black

Swisspearl Blades

For cutting Swisspearl facade 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
Center hole mm	20	30	30	30
RPM	4800	4000	3500	3000
Teeth	6	4	6	14



Drill

For pre-drilling of Swisspearl facade boards, please refer to your local Swisspearl office for instructions.

Diameter 8mm



Accessories

Swisspearl Facade Screws

Swisspearl Facade Screw

For Swisspearl Patina design line boards, you should use the Swisspearl Facade Screw.

For timber batten substructure, Swisspearl offers the SCR-W screw in three different screw lengths; 30mm and 38mm for one layer of boards and 44mm for two layers of boards.

Pre-drilling

For pre-drilling, it is recommended that you use a drill bit Ø8mm that is suitable for fiber cement (Fig. 2). This leaves you with the best results and the optimum number of drilled holes per drill bit.

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.

Applying Swisspearl Facade Screws

Ensure that Swisspearl Facade Screws are centrally located in pre-drilled holes. The screw must be angled 90 degrees to the facade board.

When inserting the Swisspearl Facade Screw, please be careful not to overtighten the screw - especially near the edges and corners of the boards.

Swisspearl Wing Screw

If using Swisspearl Wing Screw SCR-WW (4.9x38mm), no pre-drilling is necessary (Fig. 3). These screws are 'self-tapping' with cutting edges that create the correct hole diameter at the marked positions on the boards.

Screw quality

Swisspearl offers facade screws in A2 and A4 stainless steel. A2 is the standard choice for suburban or rural environments, while A4 is recommended for more demanding conditions, such as heavy industrial or coastal areas. Please note that the A4 screw is only available in one length for timber. To prevent surface contamination, screws should be cleaned regularly.

Maritime Conditions

Maritime conditions are typically defined as being within 1 km from the sea. The material specifications for the subframe, fasteners, and accessories should meet local standards for such environments. Ensure that the performance of the support system and accessories used complies with country-specific standards, approvals, and regulations.

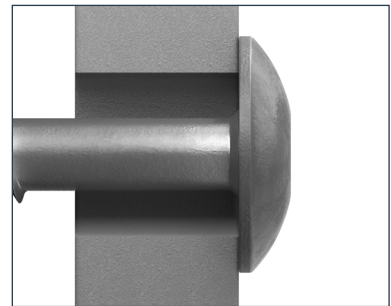


Fig. 1

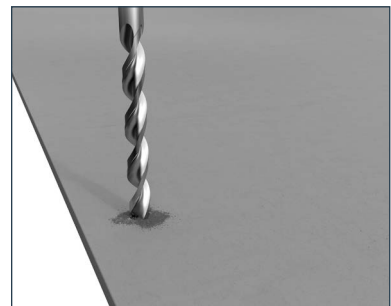


Fig. 2



Fig. 3

Accessories

Swisspearl Blade

To ensure a neat finish when cutting Swisspearl facade boards, it is important to use the correct blade. Swisspearl recommends using Swisspearl Blades as they have been customized for the purpose and provide optimal cutting results.

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 Swisspearl Blade is available in 4 sizes depending on which saw is used.

The Swisspearl blade can be used with dive saw, circular saw and stationary circular saw.

The Swisspearl Blade is a high quality product that can be sharpened, thus improving asset cost efficiency. To achieve the best cutting quality, follow the instructions shown here for the correct cutting direction. The direction varies depending on which saw you use.

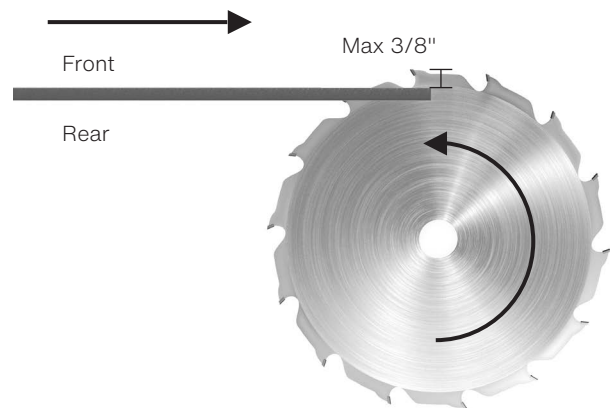
Handling

When cutting the facade boards, do not force the saw blade through the board. If you force the saw, the blade might overheat causing small vibrations - affecting the straightness of the cut or causing the board to flake if near the edges. The blade depth must be adjusted so that the blade goes max 10mm through the board.

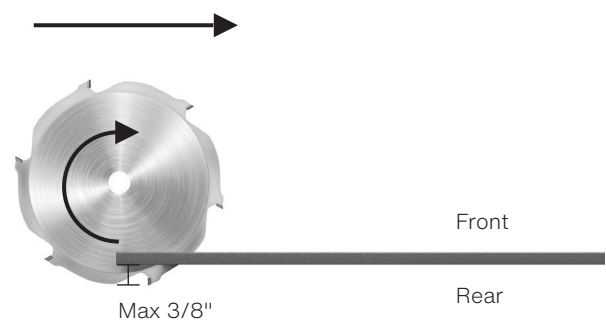
It is important to remove dust caused by cutting and drilling immediately either with a soft brush or a vacuum cleaner as it otherwise might damage the boards. Ensure that the boards are properly cleaned before installation, and if necessary use clean water, or water with a mild detergent and a soft 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 dust ventilation and ensure that the saw is set up correctly according to the manufacturer's instructions.

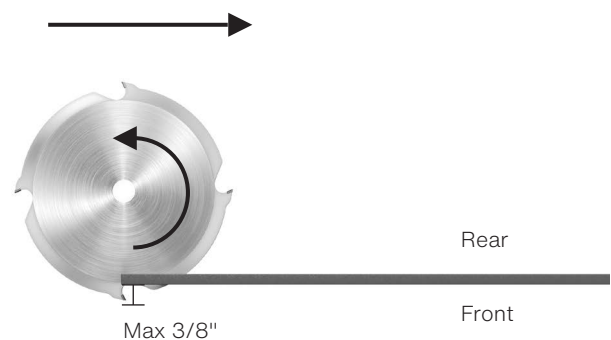
Never use water when cutting Swisspearl facade boards.



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



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



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

Storing and Handling



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



Only two pallets must be stacked on top of each other. Ensure pallets are positioned securely and remain 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 Swisspearl 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.

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 unfavorable. Use 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_3COOH) 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 neighboring 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. 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.

Behavior in wet conditions

Since the boards are made of Portland cement, their color may turn darker when exposed to rain if the board absorbs moisture through holes, scratches or insufficiently sealed edges. This is natural behavior for any cement-based product and it does not affect the integrity or long-term durability of the board. The original color 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 Swisspearl 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

Swisspearl facade can be cleaned with cold or lukewarm 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 full-scale cleaning, 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 fiber cement facade. Improper 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 Swisspearl 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 color of Swisspearl 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 fiber 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 fiber cement boards is released. This dust is characterized as mineral dust. Breathing large amounts of dust may cause irritation to respiratory functions, eyes, or skin. Therefore, Swisspearl always recommends wearing personal protection equipment or as required by local law (Safety goggles, safety suit and a respiratory mask - P2 marked).

When cutting Swisspearl facade boards ensure adequate ventilation.

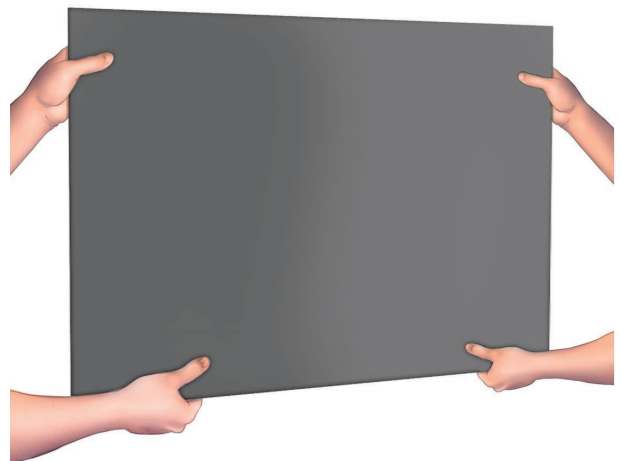
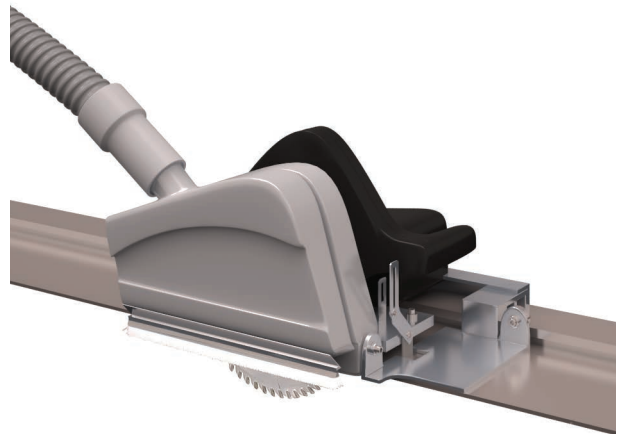
If the boards are cut indoors, it may be necessary to use an extractor system or a HEPA filter vacuum attachment attached to the power saw. When cutting outdoors, you should also use a HEPA filter vacuum attachment to the power saw. If ventilation is not adequate to limit exposure, wear a disposable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

Lifting Swisspearl facade boards

When lifting Swisspearl facade panels, follow safe lifting practices to ensure personnel safety and prevent damage to the panels.

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 Swisspearl 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.



On-site Handling

Swisspearl facade 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 as normal combustible waste.



When marking panels, ensure that marks do not exceed the diameter of the drilled hole or the thickness of the saw blade, as marks may be difficult to remove after cutting.



Once boards are cut, you can bevel the cut edge with a fine grinder to sandpaper (80-grit) 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 Swisspearl Facade Wing Screws, the boards should be pre-drilled with an appropriate fiber cement drill bit.

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





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