ESAL®

EKOSAL

Affordable façade modules
for well engineered system
on ventilated principle

Installation instructions

June 2008

Remark:

Contractor/consultant/architect assumes responsibility for the correct design and execution of the external wall and cladding in accordance with good building practice. Modules are designed for wind speed up to 140 km/h and moderate seismic exposure.
Whenever higher standards are applicable, designer/contractor has to ensure that all required adaptations shall be made to comply with local standards and regulations. Furthermore, structural engineer/contractor shall assume responsibility for the choice of the material and type of sub framing.

ADVANTAGES

Ready to install modules 1200 x 540 mm made out of high quality fibre-cement

All advantages of the ventilated façade

Available for wooden or metal sub frame

Ideal for residential buildings: new constructions and renovation

Durable weather proof outer skin

High quality opaque surface coating

Colour matched fasteners

Non-flammable

Rot resistant

Easy to install

Nearly no maintenance

Long life expectancy

COLOUR RANGE

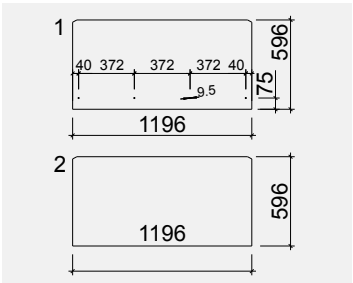
Opaque, Grey T 209

Opaque, Grey T 206

Opaque, White T 102

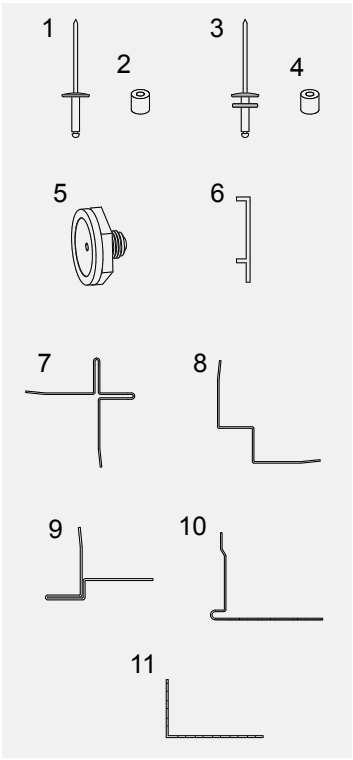
Opaque, White T 104

Opaque, Yellow T 601

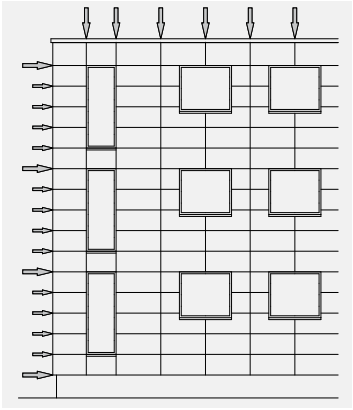


System Components

1. Pre-drilled module, hole Ø 9.5 mm, type M 1200x600 mm, thickness 6 mm (1196x596 mm);
2. Plain module, not pre-drilled (type 0), 1200x600 mm, thickness 6 mm (1196x596 mm).

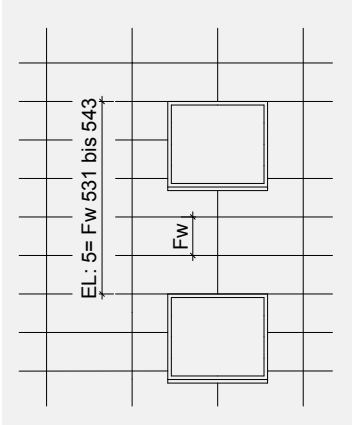


1. Aluminium rivet 4x24 K-15 mm, colour matched head, grip range 13-18 mm for aluminium sub framing;
2. Aluminium fixed point sleeve 4.1-11 mm;
3. Stainless steel rivet 4x23 K-15 mm, colour matched head, grip range 13-17 mm for galvanized steel sub framing;
4. Steel fixed point sleeve 4.1-11 mm;
5. Rivet setting device for Gesipa AccuBird to be used with stainless steel rivets;
6. Spacer element 44x40x7x2 mm;
7. Cross corner profile with rib 18 mm high;
8. Internal corner profile with rib 18 mm high;
9. Head profile with rib 18 mm high;
10. Profile for bottom/lintel;
11. Ventilation profile.

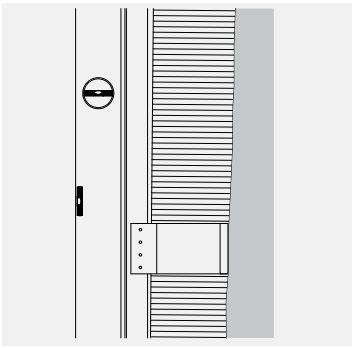


Layout of the joints

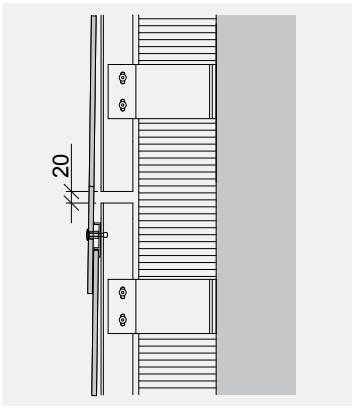
The careful layout of the joints is significant. The modules along the bottom line should be in keeping with the appearance of the cladding as a whole.



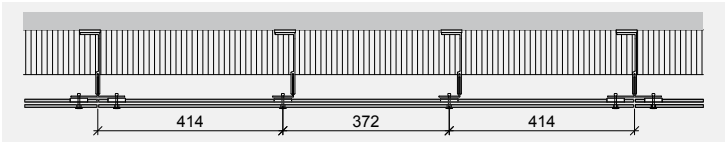
When determining the courses, make sure that the window head corresponds with the lower module edge. Where this is not possible, cut out the modules at the window head.
The variable visible module height (526–546 mm) allows to clad floor heights between 2655 mm and 2715 mm. Overlap of 53-65 mm always to be fully respected (expansion sub framing).



The sub framing must be accurately lined up.
The maximum distance between the brackets depends on the statics and instructions of the manufacturer of the sub framing.
One fixed bracket and – depending on statics – the corresponding quantity of sliding brackets are to provide for each profile.

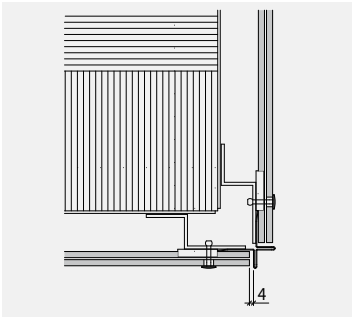


Maximum length of profiles:
- Aluminium: 3000 mm (minimum thickness 2 mm AlMg 0.5 F22);
- Galvanized steel: 6000 mm (minimum thickness 1.5 mm, thickness of galvanization 40 µ)
Align upper edges of all support profiles. Upper or lower edge of the profile should be 60 mm away from the edge of the module.

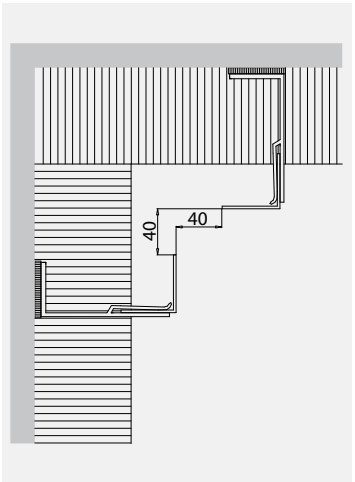


Edge profile:
T-profile min. 120x45 mm
Intermediate profile:
L-profile min. 45x45 mm

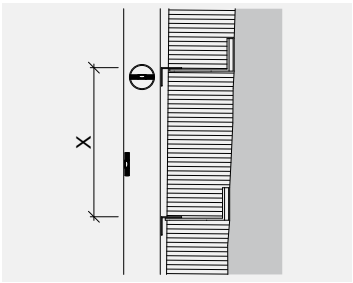
Indicated dimensions are centered: Middle of joint, centre of drilled hole, centre of drilled hole and middle of joints of modules.



Each side of the external corner receives a corner support fixed at same distance as brackets.
The L profile is fixed onto the corner supports either with countersunk rivets or rivets set above the spacer profile.
For number of fixing points, etc., see instructions of sub framing manufacturer.

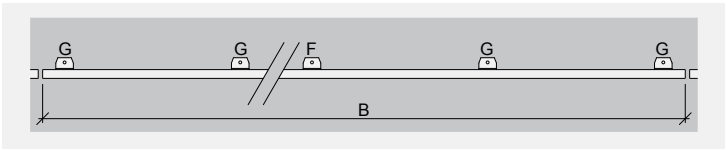


At internal corners brackets are to position in such a way that vertical profiles can be fixed (see drawing).
The internal corner profiles (45x45 mm) receiving the brackets are fixed at a distance of 40 mm from the internal angle.



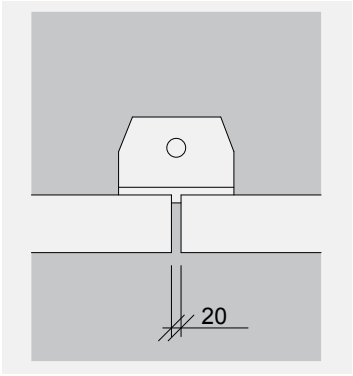
Sub framing with horizontal and vertical profiles

The sub framing must be accurately lined up.
Dimension X (spacing of brackets) depends on statics and instructions of the manufacturer of the sub framing system.

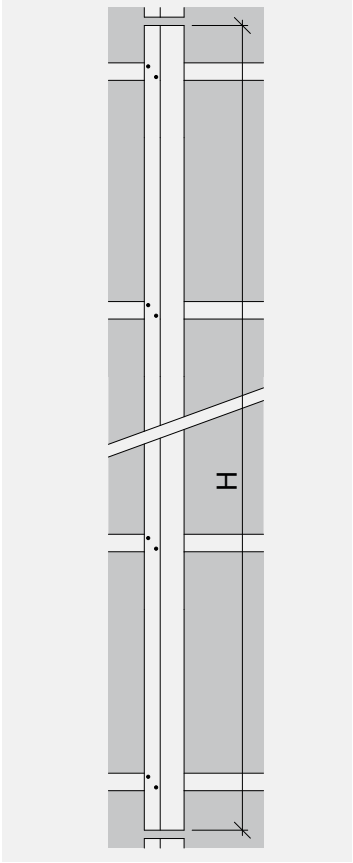


G: Expansion point
F: Fixed point
B: Length of profile

Length of profiles to be maximum 6000 mm for galvanized steel and 3000 mm for aluminium.
Maximum spacing of brackets and number of expansion points depend on statics.

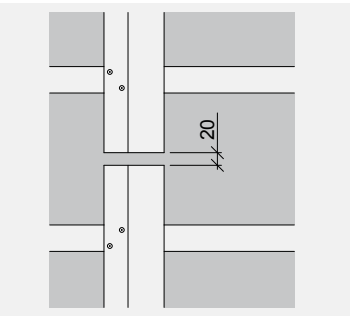


Depending on system interruption of the horizontal profile may coincide with bracket or with a connection profile (edge profile, allow for expansion) or can be done with an additional bracket.
All edges of the horizontal profiles must be aligned.
In order not to connect the horizontal profiles with each other, interruption shall not coincide with a hat profile.

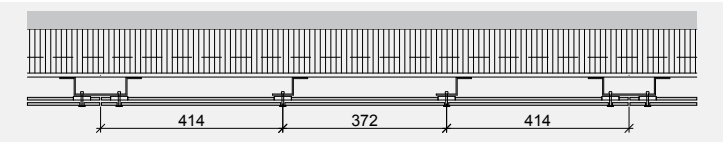


Connection of vertical and horizontal profiles varies with manufacturer of sub framing system. Connection may be done with fixed points. All edges of the vertical profiles must be aligned. Upper or lower edge of the profile should be 60 mm away from the edge of the module.

Dimension H
Maximum length of profiles:
- Aluminium: 3000 mm (minimum thickness 2 mm AlMg 0.5 F22);
- Galvanized steel: 6000 mm (minimum thickness 1.5 mm, thickness of galvanization 40 µ) (Same applies to the horizontal profiles).

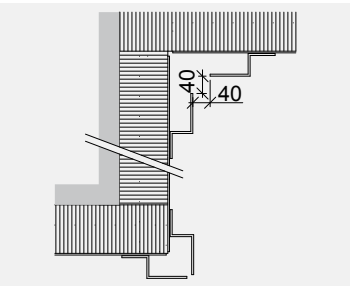


Length of overhang of vertical profile compared to horizontal profile depends on manufacturer of sub framing system.
Depending on system connection can also be done with a profile connecting part (Attention, joints shall accommodate for material expansion and retraction!).

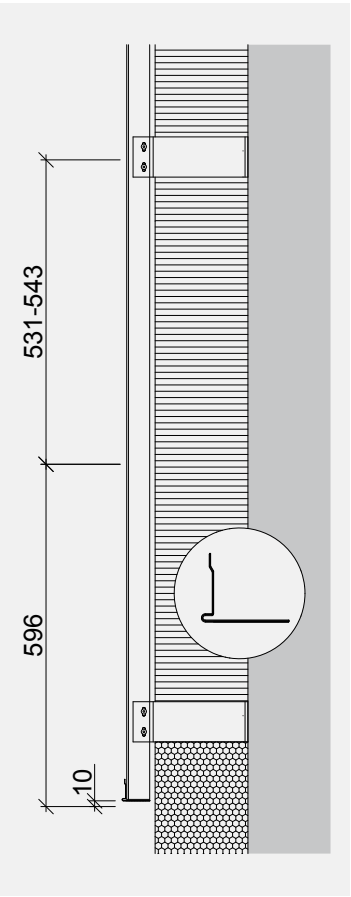


Edge profile:
Hat profile upper width min. 120 mm
Intermediate profile:
Z profile, width min. 45 mm

Indicated dimensions are centred: Middle of joint - centre of drilled hole, centre of drilled hole and middle of joint.
Minimum height of profile 30 mm. Comply with local regulations!



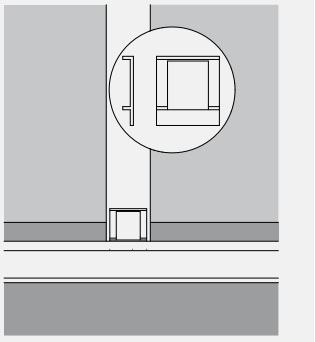
The intermediate profiles (Z profiles) are used for corners.
Internal corner profiles are fixed at a distance of 40 mm from the internal angle. This distance may be smaller depending on width of the profile.



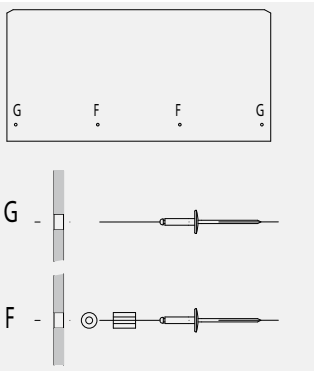
Install the perforated bottom profile along the base of the cladding to prevent the intrusion of small animals and ensure the correct inclined position of the first module. Approx. 5 cm of the ends of the profile fit into each other. The profiles are riveted onto the vertical sub framing. Thanks to the jointing system, the profiles may also be connected between the vertical sub framing.

Lay out

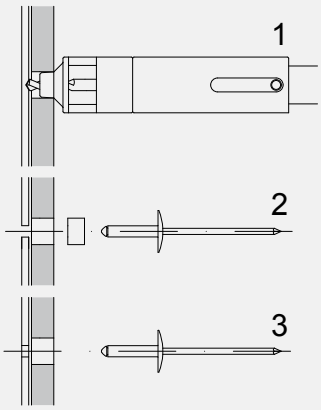
The courses of the cladding are always lined up with the upper module edges. First course at the bottom of the building = 596 mm, next course = 596 mm minus overlap (53-65 mm). Mark the upper edge of the first course along the entire extent of the cladding, either with a level or with a laser, depending on the size of the project. All other courses are lined up with this base line.



At the bottom line, the spacer is placed behind the return of the profile for bottom.
The profile for bottom closing the ventilation opening at the base of the cavity is visible at the joints.
The modules are fixed through the hole cut out in the spacer element.

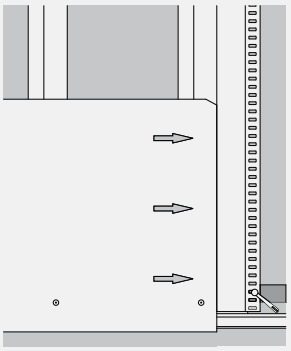


Installation of modules with brackets and vertical profiles on sub framing consisting of horizontal and vertical profiles in one plane (without separation of horizontal profile).
Two fixed points in the middle (F), two sliding points on the sides (G).
For size and material of sleeves, see accessories.

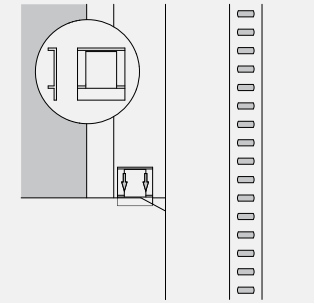


1. Bore gauge ref. 9541-2 with integrated 4.1 mm/0, 16” drill for exact concentric holes
- Type A for aluminium sub frame
- Type S for steel sub frame
2. Fixed point: The fixed point sleeve 4.1-11 (11 mm long) is placed into the pre drilled hole Ø 9.5 mm
3. Expansion point: rivet to be centred in the drilled hole

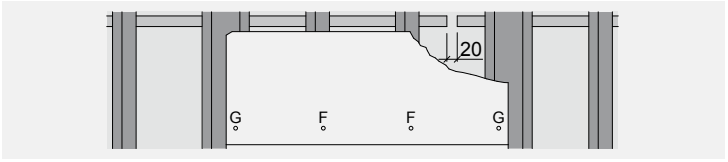
Rivets with washer, fixing with rivet setting device.

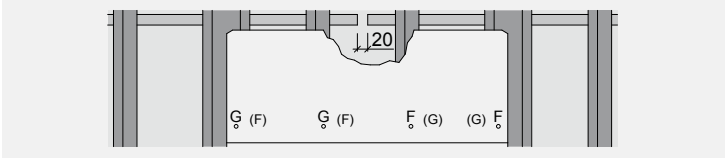


Clamp (provisionally) a perfectly aligned straight edge to the metal profile along the base of the cladding. Position on the profile = width of profile minus 4 mm joint : 2.
Firmly push the cladding modules up against the vertical straight edge and align the upper edges with the horizontal chalk lines.Then fix the module with 4 rivets.

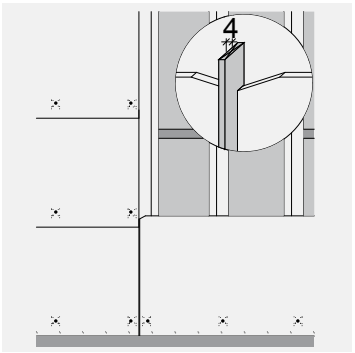


Place spacer profiles at each fixing point onto superior edge of the module between the vertical profiles. Allow for 4 spacers per standard module. Rivet and fixed point sleeve to be set through the central hole of the spacer.

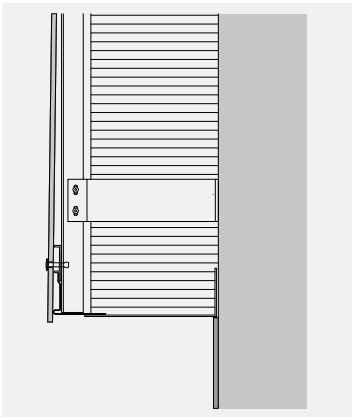




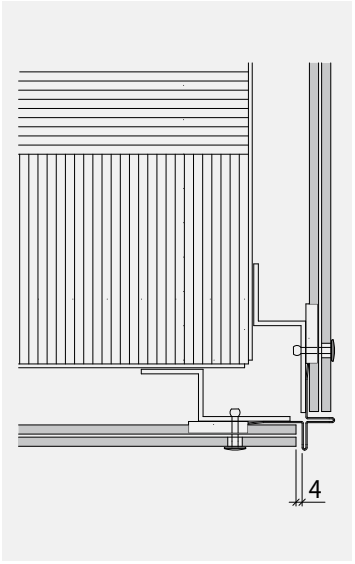
Position of fixed and sliding points when sub framing consists of combined horizontal and vertical profiles.
Separation between the horizontal profiles may never be between two fixed points.
Each standard module is fixed with 4 rivets (2 fixed and 2 sliding points).
Head of rivet shall be perfectly perpendicular to module.



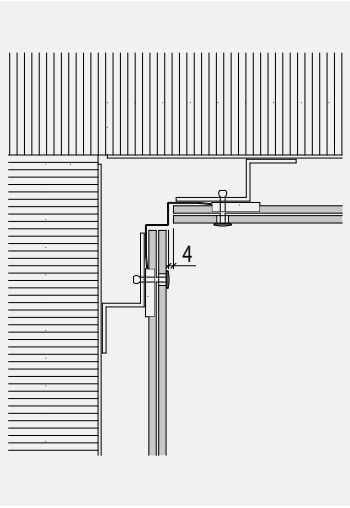
Install the modules course after course, from the base upwards.
Place the following course of modules with the aid of a straight edge or with a packer, 4 mm thick.



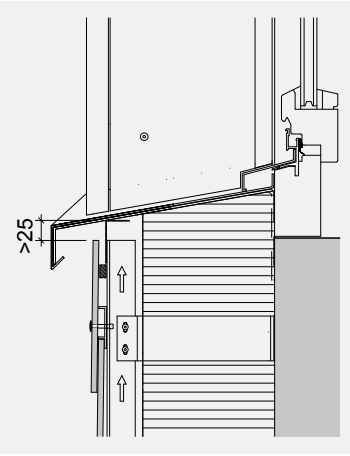
If base of building is not insulated, fix a metal bracket onto the bearing structure.
The metal corner profile closes the lower part of the façade and secures the insulation. The profile for bottom is placed at the base of the cavity onto the metal corner.



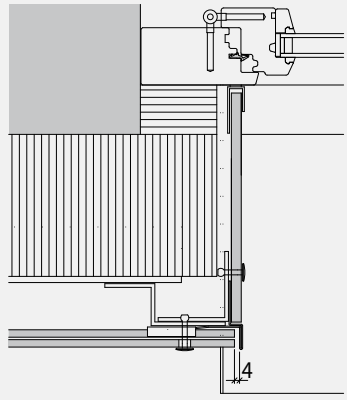
External corner: vertical profiles receive the cross corner profile (fix with countersunk rivets or place rivets above the spacer).
Cross corner profile to be interrupted at joints of the sub framing (profiles may not be connected with each other).
Same applies to system with brackets.
Allow for expansion, assure restraint free fixing.



Inner corner: vertical profiles receive the profile for inner corner (fix with countersunk rivets or place rivets above the spacer).
Inner corner profile to be interrupted at joints of the sub framing (profiles may not be connected with each other).
Same applies to system with brackets.
Allow for expansion, assure restraint free fixing!

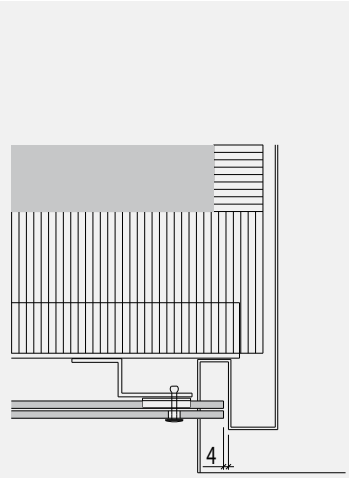


Window sill with minimum 25 mm wide air exit opening, protected with galvanized wire mesh or similar.
If edge module is higher than 150 mm, fix with two rows of rivets (see connection to roof).
Underlay the module accordingly.



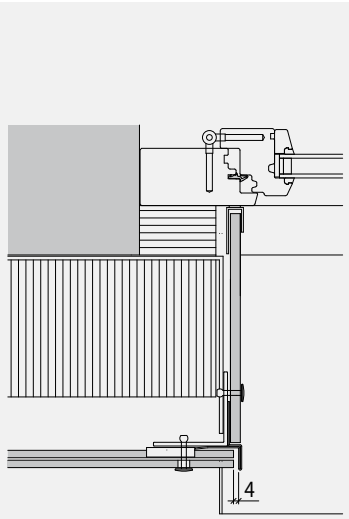
Window reveal

Fix a metal corner flashing 60x60x2 mm (Aluminium if Al sub frame) inside of the Z profile (with countersunk rivets or place rivets above the spacer).
Metal corner flashing and profile for window reveal to be interrupted at joints of the sub framing (profiles may not be connected with each other).
The U or F profile is to be fitted with a washer gasket.
SWISSPEARL panels in thickness 8 mm used for the reveals are pre drilled with holes Ø 9.5 mm (fixed and expansion points), rivets 4x18 mm fixed point sleeves 4.1-6 mm.
Distance between rivets max. 550 mm, distance to edge 80/40 mm. The rail for the recessed blinds calls for a sub framing.

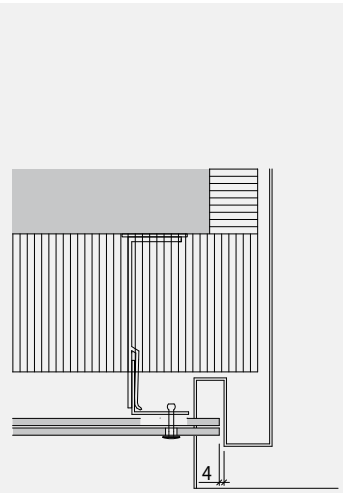


Reveal with window trim.

The F profile next to the window frame is to be fitted with a washer gasket. Joint between the panel and the window trim shall be 4 mm wide.
Keep 5 mm space between the groove of the window trim and the Z profile (expansion of aluminium).
Allow for expansion when fastening the window trim.

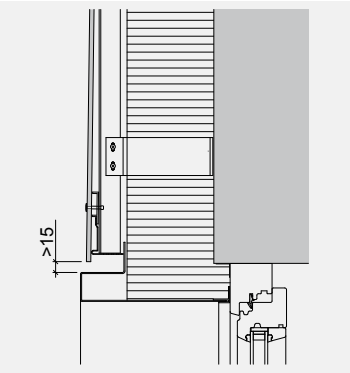


Place brackets in the window reveal.
The L profile 60x60x2 mm (if aluminium sub frame) is fixed to the bracket with countersunk rivets (countersink the rivets). For number of fixing points, etc., see instructions of sub framing manufacturer.
Profile for window reveal/ reveal is fixed here onto (comply with interruptions of sub framing).
To clad the reveals with SWISSPEARL, see above.

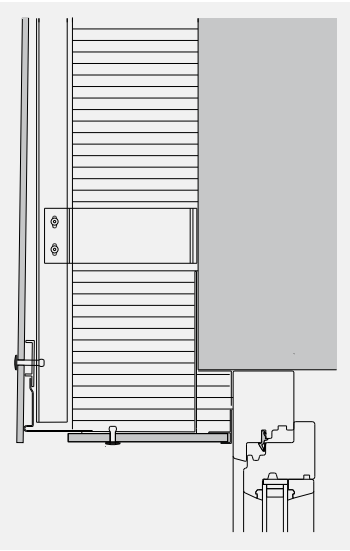


Reveal with window trim.

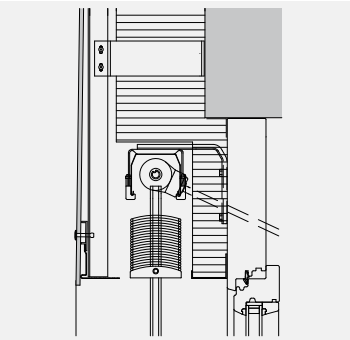
The F profile adjacent to the window frame is to be fitted with a washer gasket. Joint between module and window trim shall be 4 mm wide.
Keep 5 mm space between the groove of the window trim and the Z profile (expansion of aluminium).
The window trims are fastened with special brackets.



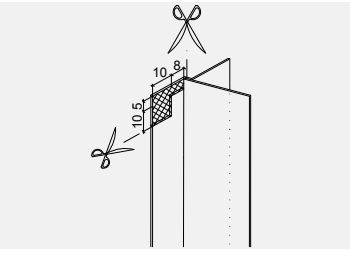
Use the profile for bottom/ lintel at the head of the window if module course at the head is in standard height. For smaller height, use the ventilation profile instead and underlay accordingly to provide for the correct tilt. The profile for bottom/lintel must be duly trimmed on the upper right and left side (see below).



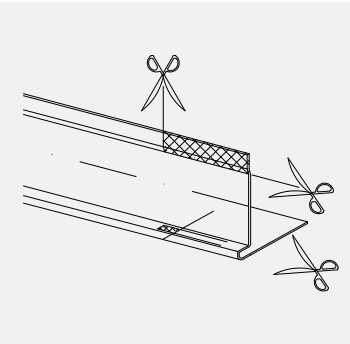
Place brackets onto bearing structure at the window head. The brackets keep the insulation in place and also provide the framing for the module to be fixed at the head.
The U or F profile is fitted with a washer gasket. SWISSPEARL panels in thickness 8 mm are pre drilled with holes Ø 9.5 mm (fixed and expansion points) and fastened with rivets 4x18 mm and fixed point sleeves 4.1-6 mm. Distance between rivets max. 550 mm, distance to edge 80/40 mm.



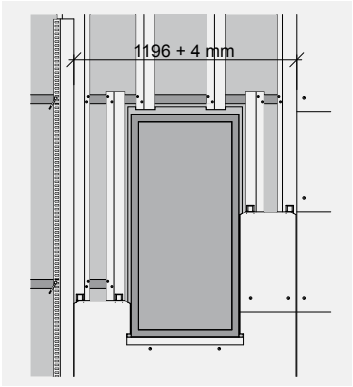
Window head with recessed blinds. Profile for bottom/lintel is installed onto the vertical profiles.
The perforated ventilation profile is installed above near the insulation.
Profile for bottom/lintel to be trimmed at top and bottom, see detail below.



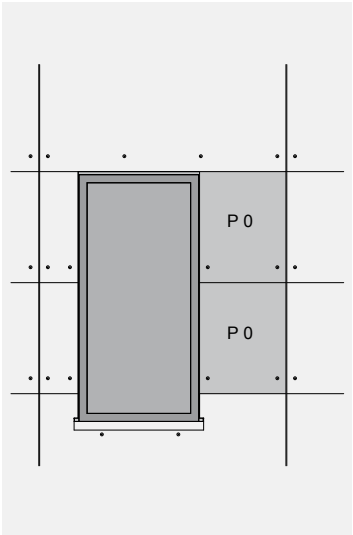
How to cut out the profile for window jamb at the head (with hacksaw).



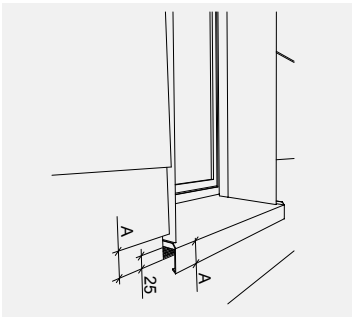
How to cut out the profile for bottom/lintel at the profile for window reveal.
To do when the joint is not in line with the reveal or when no vertical profiles are provided on each side of the head.



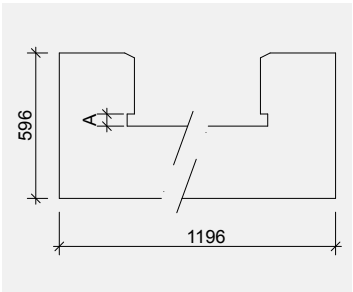
Windows always require the use of a straight edge (see drawing at the left).
Align the straight edge accordingly.
Total width of module + 4 mm for the joint = 1200 mm.



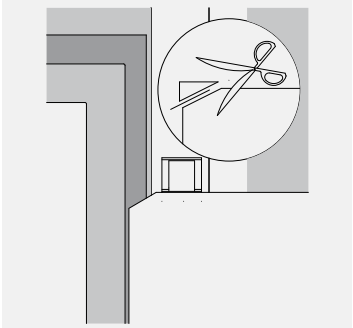
If width of the edge is narrower than 40 mm, use a plain non drilled module (type 0).
Drill the module on the job site with a power drill (Ø 9.5 mm).
Maximum spacing of horizontal fixing points = 372 mm
Each module to be installed with 2 fixed points (the others are expansion points)



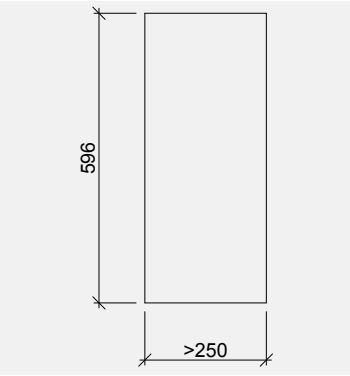
If module and window have the same width, increase the lateral trim at the window sill for easier installation.
The width of the trim corresponds approximately to the mirror-symmetric height of the window sill.



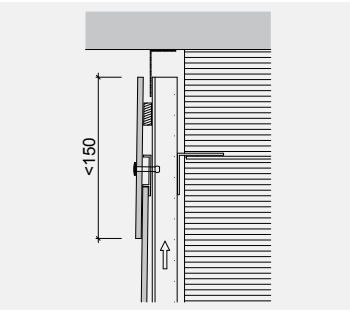
Module is cut out when larger than the window.



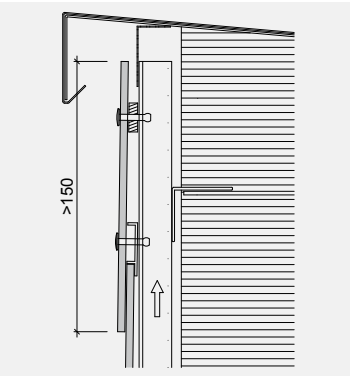
All the upper module corners abutting lateral profiles and flashings (external / internal corners, window reveals, etc.) must be trimmed (jig saw).



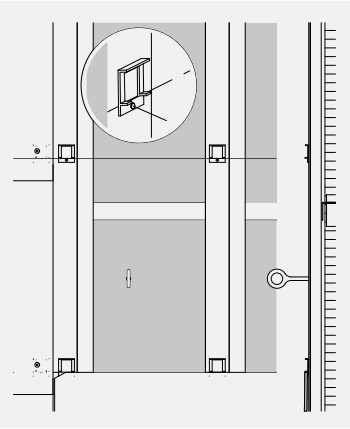
Width of modules to be at least 250 mm.
Minimum distance to module edge is vertical 40 mm and 75 mm for the bottom.
Diameter of fixing hole is 9.5 mm.
Each module is to install with two fixed points (the others are expansion points).



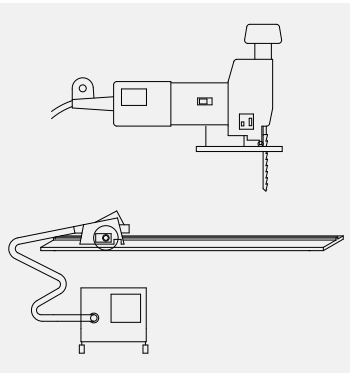
If edge strip is narrower than 150 mm, it can be fixed at the top with a single row of rivets.
Air exit should be at least 30 mm.



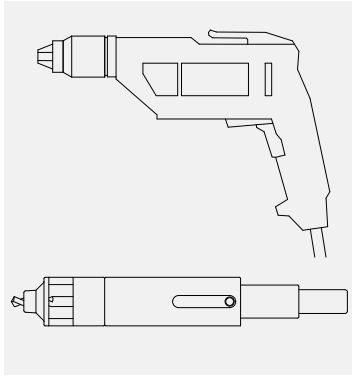
If edge strip is > 150 mm, it must be fixed with two rows of rivets (top and bottom). Modules are to underlay correctly. The additional row of rivets corresponds to expansion points only.
Additionally required holes for fasteners are drilled first with a hard metal drill bit or with a special spiral power drill 9.5 mm.



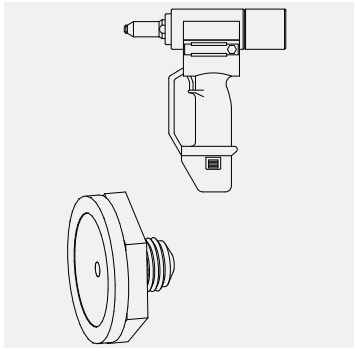
Modules missing where scaffolding was tied to the wall are installed when cladding completed. First fix each spacer (correctly lined up) below the next above module with a countersunk rivet. The countersunk rivet shall be sunk into the spacer. Generally speaking assure restraint free fixing! Avoid any stress on modules due to construction.



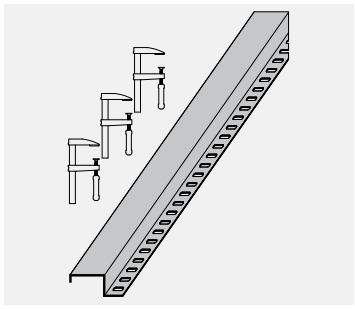
For precise cutting use a circular hand saw with strait edge and dust-extractor.
For small cut outs a pendular jig saw with hard metal blade is appropriate.
Use only tools which do not produce fine dust or equipped with a dust-extractor.



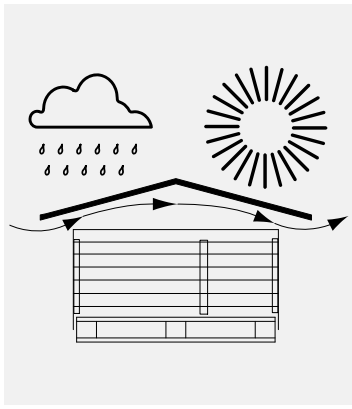
Power drill (cordless) to drill the holes in the modules and the vertical supporting profiles.
Bore gauge 9541-2
For aluminium sub framing use drill bit type A.
For steel sub framing use drill bit type S.
The holes in the modules are drilled with a hard metal drill bit or with a special spiral power drill.



Rivets must be set with a rivet gun 90° perpendicular with the head flat on surface of the modules.
For stainless steel rivets the special rivet setting device shall be used. This tool is screwed onto the muzzle of the rivet gun.
Use the standard mouth piece of the rivet gun for aluminium rivets.



Straight edge (aligning device, aluminium profile)



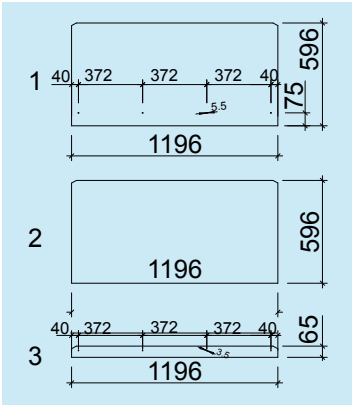
During transport and storage (warehouse, building site) EKOSAL modules must be sheltered from damages, sun, dampness and dirt. The plastic foil provided from factory is a protection for transport only. It is not sufficient to protect from dampness.
When storing under tarpaulin or similar, appropriate ventilation of the stacked modules is to ensure.

- Structural expansion joints must be applied to the cladding, incl. sub framing, in the identical positions to their full extent.

- Do not use silicone, polysulphide and Thiokol sealant but hybrid polymer sealant.

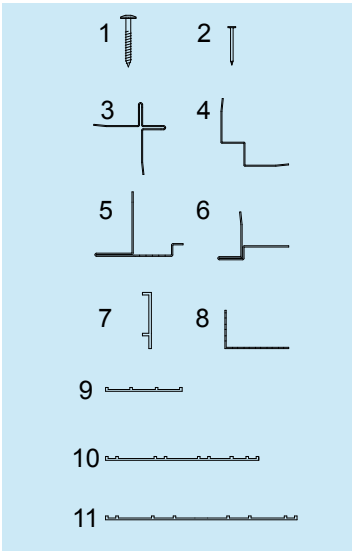
- Untreated aluminium profiles (window sills, window trims, etc.) do not match with fibre-cement. All visible aluminium parts should be anodised or powder coated.

- Warranty only applies if modules were fastened with the supplied EKOSAL rivets and if all instructions of the present guidelines were fully complied with.

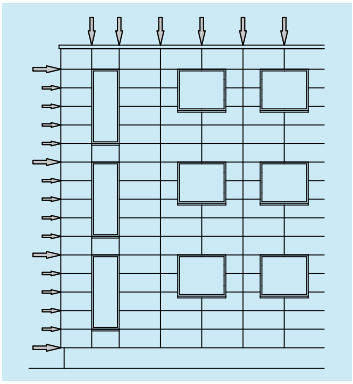


System Components

1. Pre-drilled module, hole Ø 5.5 mm, type W 1200x600 mm (1196x596 mm);
2. Plain module, not pre-drilled (type 0), 1200x600 mm (1196x596 mm);
3. Starter strip, pre-drilled, hole Ø 3.5 mm, format 1200x65 mm (1196x65 mm).

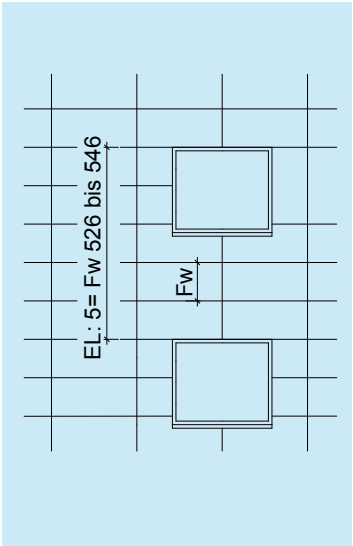


1. Wood screw T20, 4.8x38 mm, colour matched head;
2. Hot dip galvanized nail 2.0x35 mm;
3. Corner profile with rib 18 mm high;
4. Internal corner profile with rib 18 mm high;
5. Head profile with rib 18 mm high;
6. Profile for reveal with rib 18 mm high;
7. Spacer element;
8. Ventilation profile EPDM backing strip;
9. Width 60 mm;
10. Width 120 mm;
11. Width 150 mm.

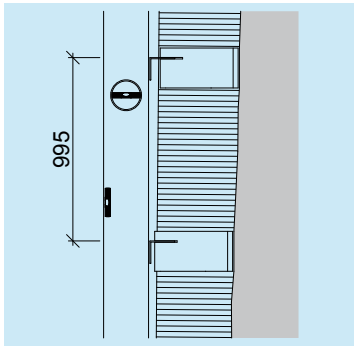


Layout of the joints

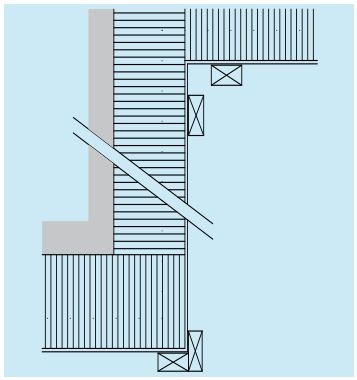
The careful layout of the joints is significant. The modules along the base of the building should be in keeping with the appearance of the cladding as a whole.



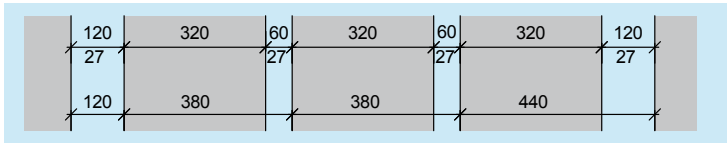
When determining the courses, make sure that the window head corresponds with the lower module edge. Where this is not possible, cut out the modules at the window head.
The variable visible module height (526–546 mm) allows to clad floor heights between 2630 mm and 2730 mm.



The sub framing must be accurately lined up.
The maximum spacing of the supporting battens / supporting profiles is 995 mm.
Static of sub framing are to provide by others.
Battens must be dry (max. 20% moisture content).

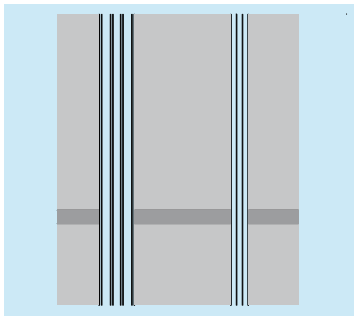


Start installing the sub framing at the corners.
The battens 27x60 mm must be gauged.
The battens are placed 20 mm away from the angle (see drawing).
Battens must be installed with the specified screws.

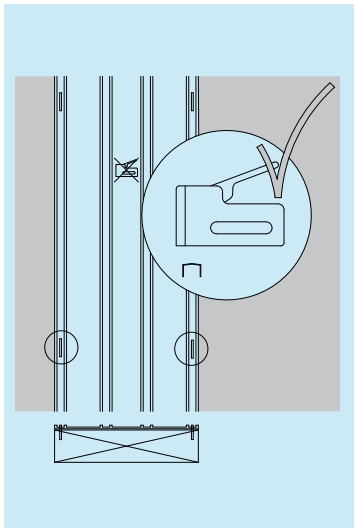


All battens must be thickness gauged and installed perfectly vertical.
Intermediate battens 27x60 mm.

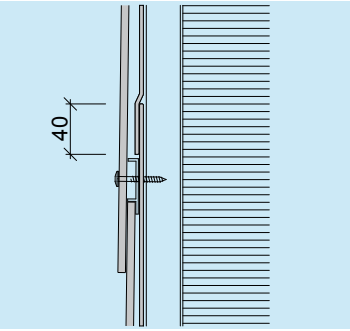
The vertical joints must be supported by thickness gauged battens, 27x120 mm.
Two screws are required at each fixing point.



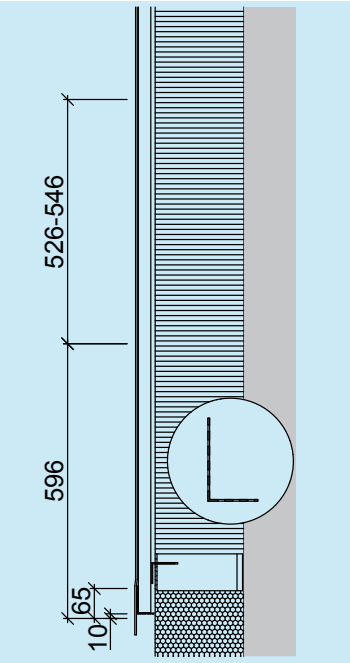
All vertical battens are completely covered with EPDM backing strips.
At joints battens and EPDM backing strip are 120 mm wide.
Intermediate battens are 60 mm wide with EPDM backing strip in same width.



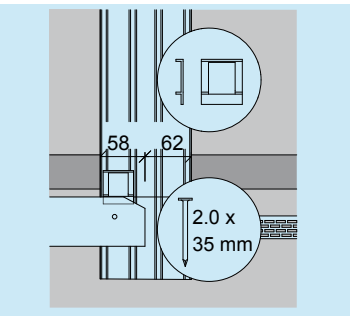
The EPDM backing strips are fixed with Bostich staples adjacent to both edges.



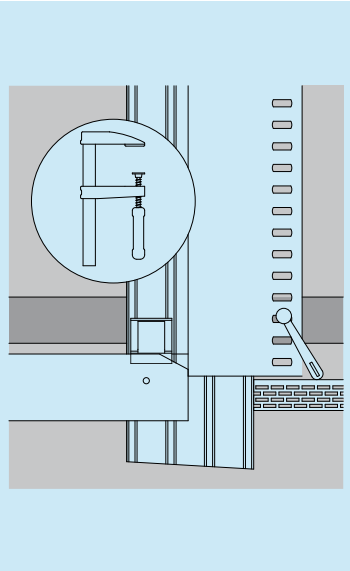
Where the EPDM backing strips are lapped, this must be done above the spacing elements, within the void behind the cladding. The laps should be 40 mm of the backing strips.



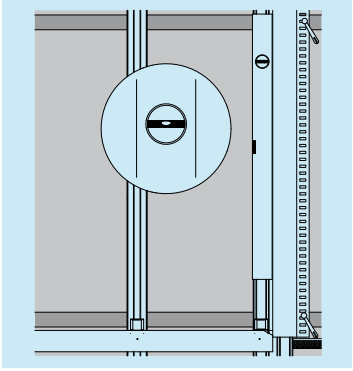
A perforated ventilation profile, 50x30 mm, is installed along the base of the cladding (vermin proofing).
The courses of the cladding are always marked / chalked at the upper module edges. Where the first course is a full module height, chalk the upper edge of the starter strip at 65 mm and of the first course at 596 mm. Consider the projection of the lower module edge. Mark the modules on the edges of the battens.
Mark the courses with a clear chalk line. Mark the upper edge of the first course along the entire extent of the cladding, either with a level or with a laser, depending on the size of the project.



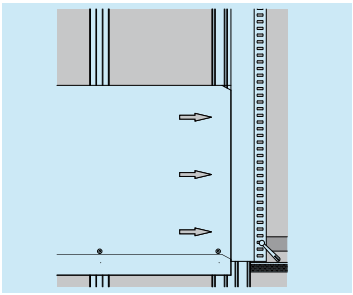
Fix the starter strips with 4 hot dip galvanized nails, 2.0x35 mm, each. Insert the spacer elements between the EPDM backing strips and the starter strip prior to driving the nails home completely.
The spacers prevent deformation of the modules at the fixing points.



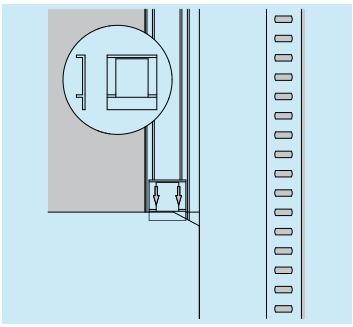
Clamp a perfectly aligned straight edge to the metal profile along the base of the cladding.
Use wood screws and washers to secure the straight edge to the vertical battens.



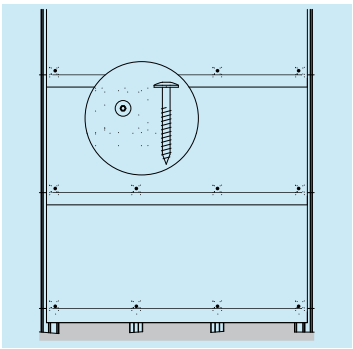
The perfectly vertically attached straight edges are (provisionally) fixed onto the horizontal sub framing. Clamp (provisionally) a perfectly aligned straight edge to the horizontal sub framing along the base of the cladding.



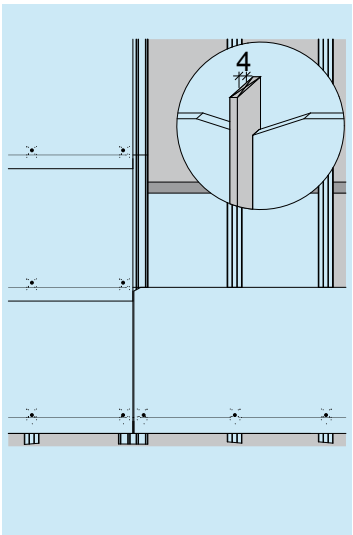
Firmly push the cladding modules up against the straight edge.
Align the upper edges with the horizontal chalk lines and fix each module with 4 screws through the pre drilled holes.



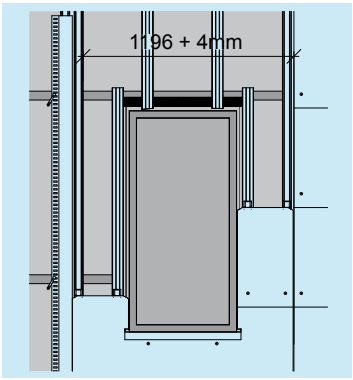
Place spacer elements between the module and the EPDM backing strips.
Allow for 4 spacers per module.
Screws to be driven through the central hole of the spacer element.



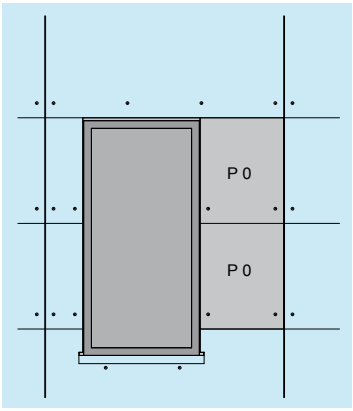
Use a driver with depth-controlled clutch to fix without restraint the pre-drilled modules with colour coated wood screws T20, 4.8x38 mm, through the spacer elements (4 screws per module).
Head of screw shall be perfectly perpendicular to module.



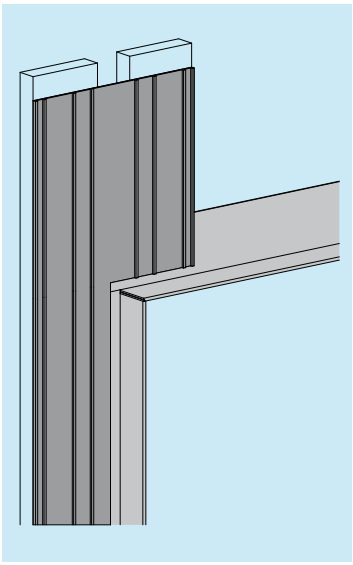
Install the modules course after course, from the base upwards.
Place the following course of modules with the aid of a straight edge or with a packer, 4 mm thick.



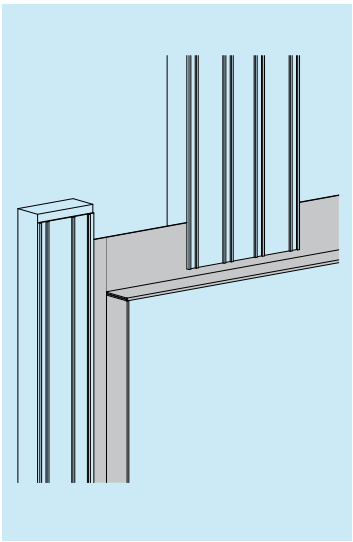
Windows always require the use of a straight edge (see drawing at the left).
Align the straight edge accordingly.
Total width of module + 4 mm for the joint = 1200 mm.



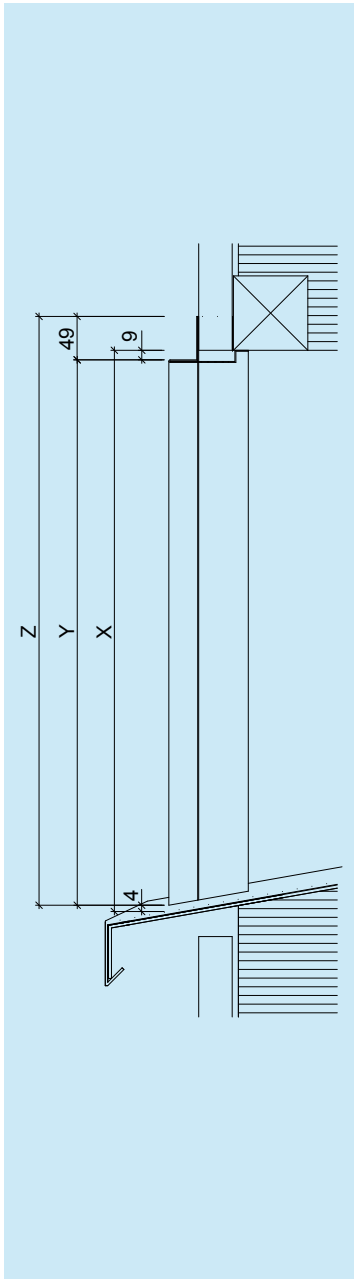
If width of the edge is narrower than 40 mm, use a plain non drilled module (type 0, P0).
Drill the module on the job site with a power drill (Ø 5.5 mm).
Maximum spacing of horizontal fixing points = 372 mm.

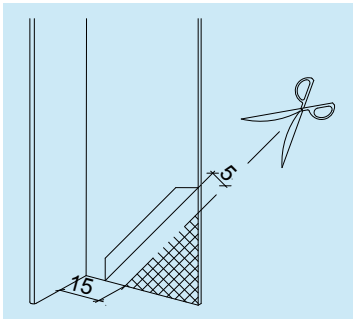


Where the window jambs correspond with the vertical joints in the cladding, two 27x60 mm battens, spaced at approx. 30 mm, are installed between the windows (Space between the battens approx. 30 mm depending on detail).
Distance between lower edge of batten and centre of the screw to be at least 15 mm.
An EPDM backing strip, 150 mm wide, is fixed onto the battens.

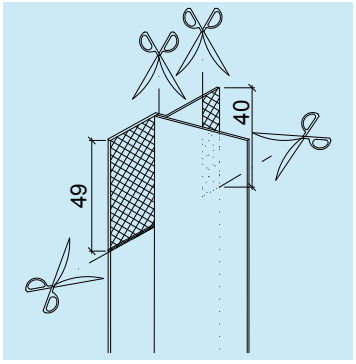


If the window jamb does not correspond with the vertical joint, a 27x60 mm batten must be installed at the jamb.
The batten must be faced with an EPDM backing strip, 60 mm wide (backing strip on jamb profile).
Keep 5 mm space between the groove of the window trim and the batten).

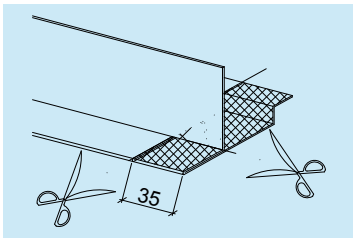




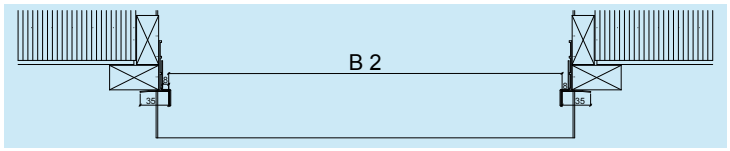
How to cut out the profile for window jamb at the window sill.



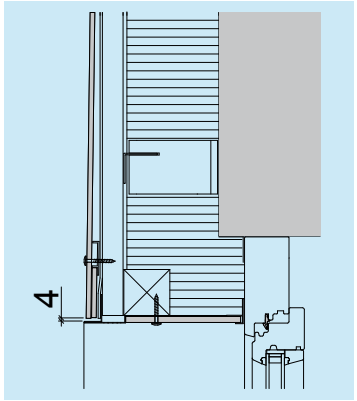
How to cut out the profile for the jamb at the window head (with hacksaw).



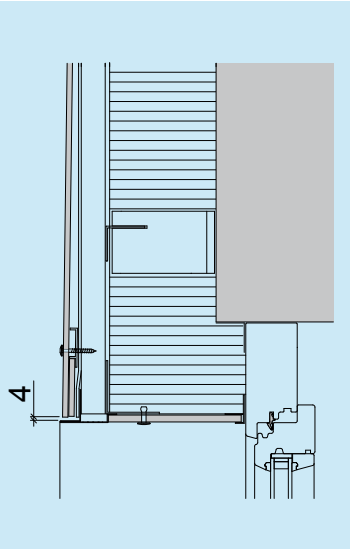
How to cut out the profile for window head at the jamb profile.



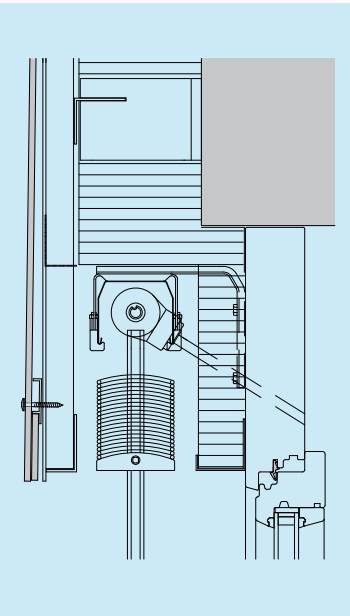
Define width of profile for lintel. Install profiles for jambs.
Dimension B2 + 70 mm (2x35 mm metal flashing for jamb).



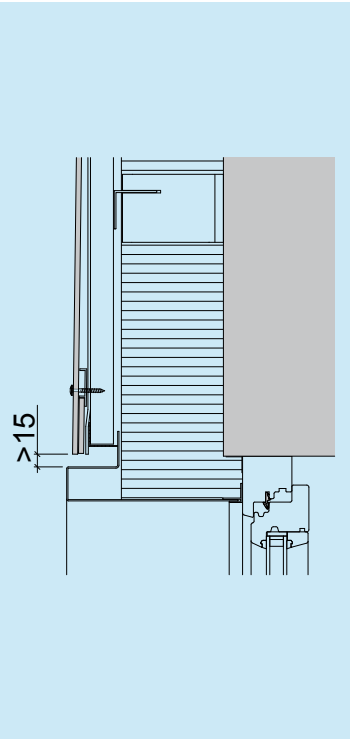
The panel for the window soffit (SWISSPEARL thickness 8 mm) are pre drilled with holes Ø 5.5 mm and fastened with colour matched screws 4.8x38 mm.
Maximum spacing between screws is 550 mm.
Distance to edges 80/40 mm.
SWISSPEARL panel is kept in place with the U or F profile.



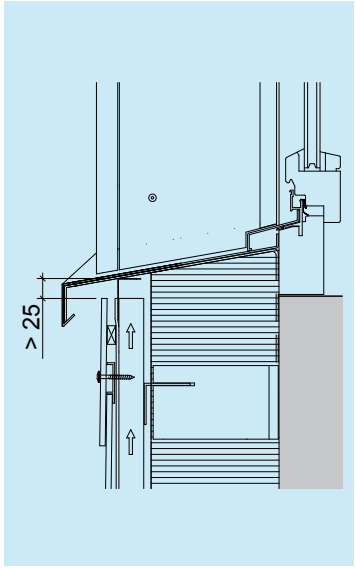
Window head lined with SWISSPEARL panels (thickness 8 mm): fasten 1 aluminium bracket 60x60 mm onto the vertical battens with self tapping screws.
The panels are pre drilled with holes Ø 9.5 mm (expansion points) and fastened with correctly cantered colour matched rivets 4.0x18 K15 mm. Two fixed points are required per panel.
Must be set close to each other (use fixed point sleeves), see SWISSPEARL guidelines.



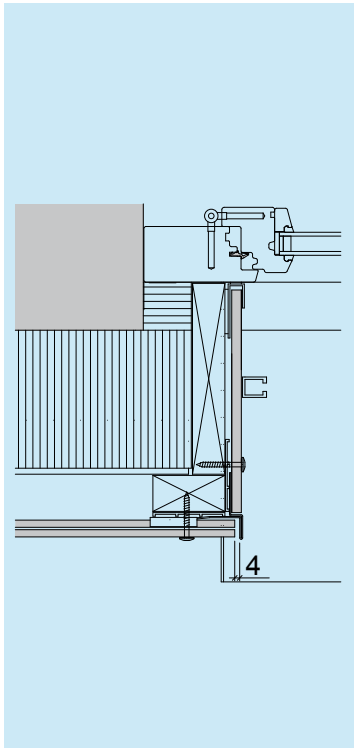
Near the recessed blinds battens are reinforced with 27x50x3 mm aluminium flashings (Powder coated or colourless anodised).
The flashing fulfils also the function of the bottom part.
Above, the perforated ventilation profile is installed close to the insulation, see drawing.



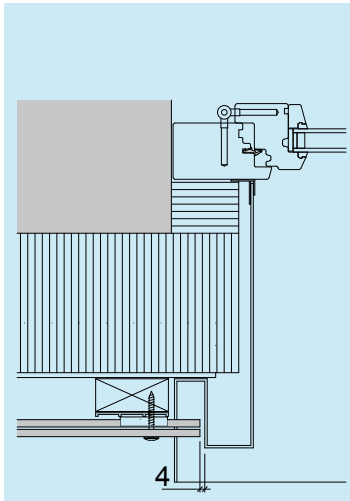
Window head with recessed blinds.
Window trim in aluminium, anodised or powder coated.
With perforated ventilation profile and starter strip.
Air intake to be at least 15 mm.



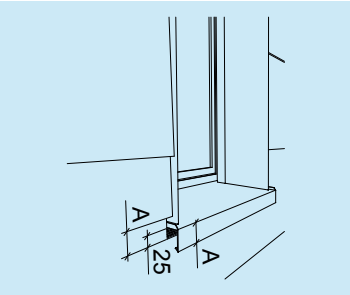
Window sill with 25 mm wide air exit opening.
If edge module is higher than 150 mm, fix with two rows of screws (see connection to roof).
Underlay the module accordingly.



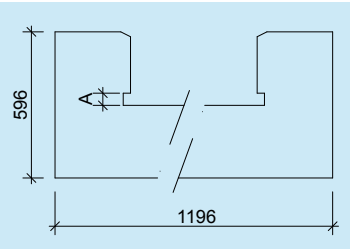
Windows with recessed blinds: Install a wooden board for the reveal. Corners of the reveal to be fitted with a lintel profile. EPDM strip in width 60 mm to be installed beneath the lintel profile. The U or F profile is to be fitted with a washer gasket.
The SWISSPEARL panels in thickness 8 mm are predrilled with holes Ø 5.5 mm and fastened with colour matched screws 4.8x38 mm.
Maximum spacing between screws is 550 mm. Distance to edges 80/40 mm.



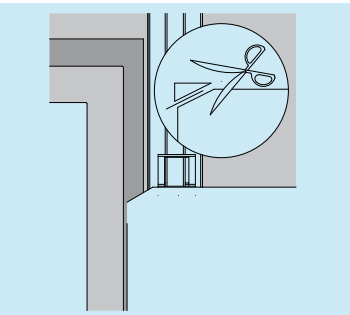
Reveal with window trim
The F profile next to the window frame is to be fitted with a washer gasket. Joint between the panel and the window trim shall be 4 mm wide.
Keep 5 mm space between the groove of the window trim and the Z profile (expansion of aluminium).



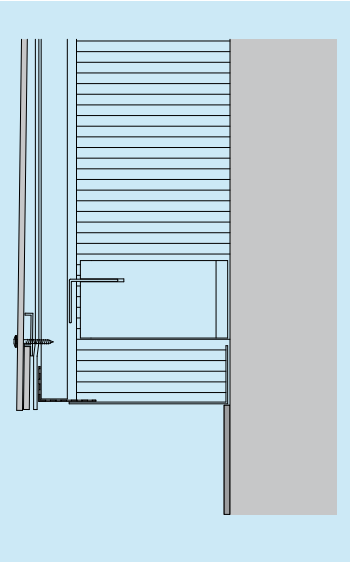
If module and window have the same width, increase the lateral trim at the window sill for easier installation.
The width of the trim corresponds approximately to the mirror-symmetric height of the window sill.



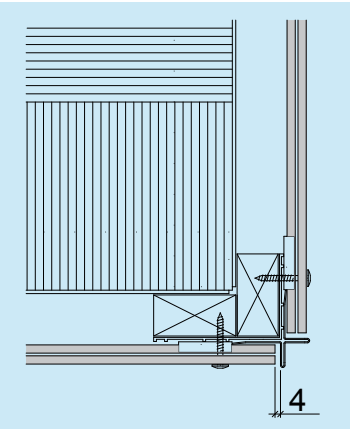
Module is cut out when larger than the window.



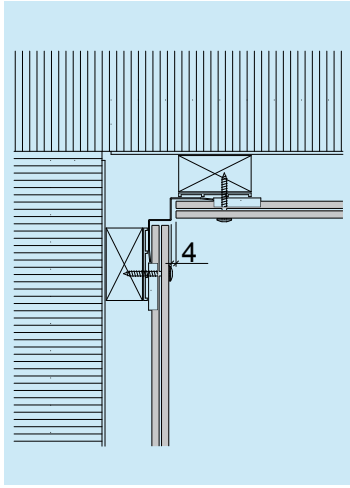
All the upper module corners abutting lateral profiles and flashings (external / internal corners, window reveals, etc.) must be trimmed (jig saw).



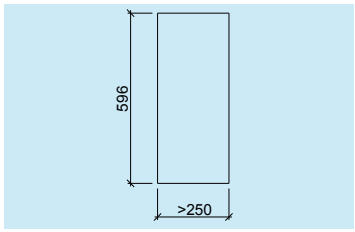
If base of building is not insulated, fix a metal bracket onto the bearing structure.
The metal corner flashing closes the lower part of the façade and secures the insulation.
The perforated ventilation profile 50x30 mm is installed along the base of the cladding onto the battens to prevent the intrusion of insects / small animals. It sits onto the brackets.



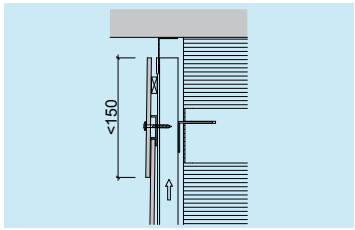
External corner receive two 27x60 mm battens, covered with an EPDM backing strip, 150 mm wide.
The cross corner flashing is fixed onto the backing strip with 2.0x35 mm nails at both edges. The upper module corners abutting the flashing must be trimmed.



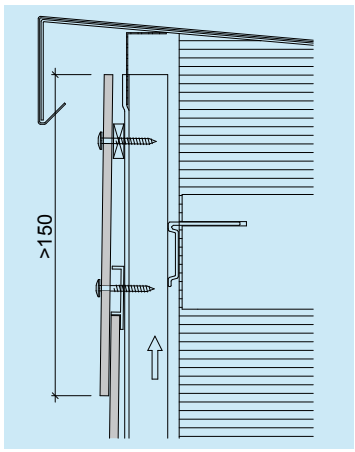
Internal corners are also fitted with two 27x60 mm battens. The battens are faced with an EPDM backing strip, 60 mm wide, each.
The internal corner flashing is then fixed on top of the backing strips with 2.0x35 mm nails at both edges. The upper module corners abutting the flashing must be trimmed.



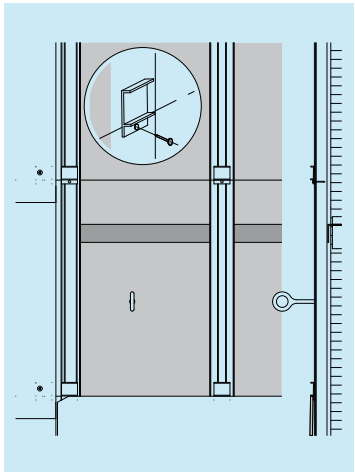
Width of modules to be at least 250 mm.



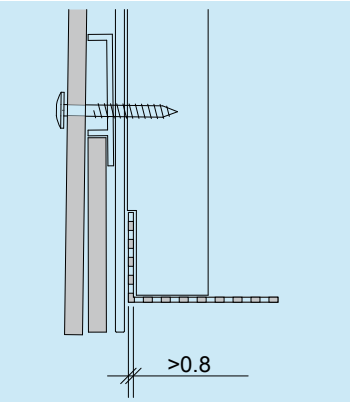
Top strips < 150 mm are fixed with a single row of screws.
Air exit shall be 30 mm.



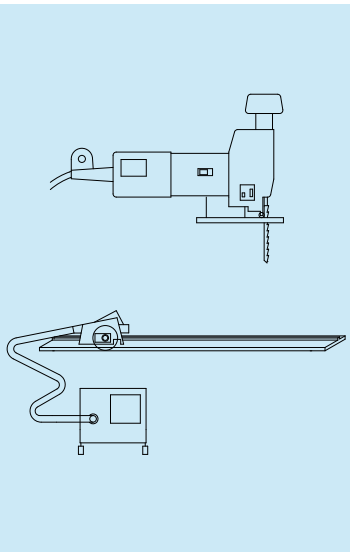
Top strips > 150 mm must be fixed with two rows of screws (top and bottom).
Modules are to underlay in appropriate way.
Additionally required holes for fasteners are pre drilled with a hard metal drill bit or a special spiral power drill 5.5 mm.



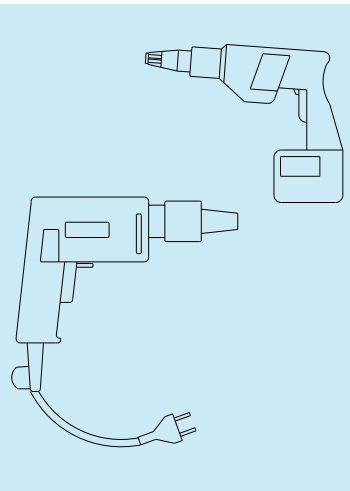
Modules missing where scaffolding was tied to the wall are installed when cladding is completed.
First fix each spacer (correctly lined up) below the next above module with a nail 2.0x35 mm.



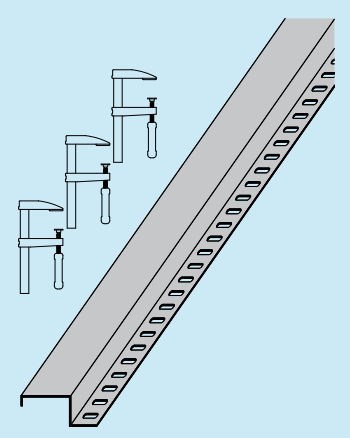
Generally speaking assure restraint free fixing!
Avoid any stress on modules thanks to designed solutions.
See example.



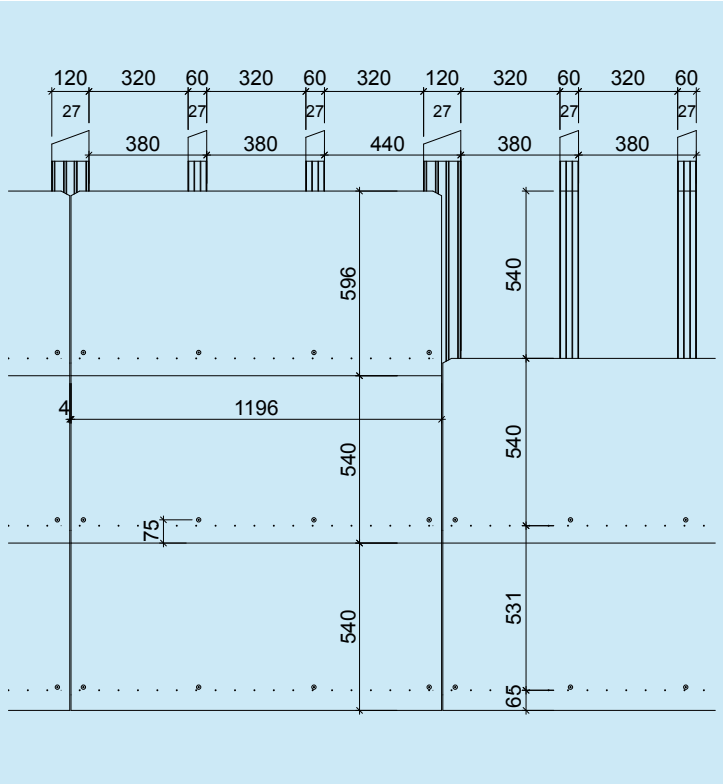
For precise cutting use a circular hand saw with strait edge and dust-extractor.
For small cut outs a pendular jig saw with hard metal blade is appropriate.
Use only tools which do not produce fine dust or equipped with a dust-extractor.

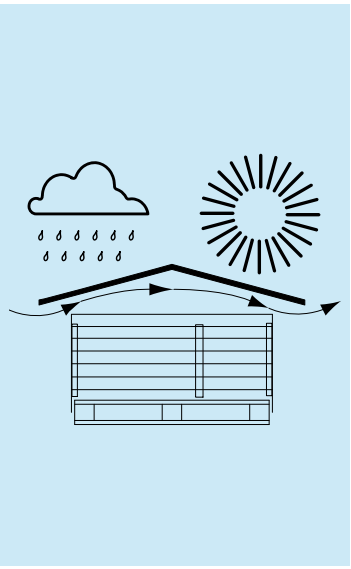


Use screw driver with depth gauge. Depth stop will ensure that all screws will be tightened at required depth without any strain onto the modules.
Screws must be set 90° perpendicular with the head flat on surface of the modules.
Additional holes in the modules are drilled with a hard metal drill bit or with a special spiral power drill.



Straight edge (aligning device, aluminium profile)





During transport and storage (warehouse, building site) EKOSAL modules must be sheltered from damages, sun, dampness and dirt.
The plastic foil provided from factory is a protection for transport only. It is not sufficient to protect from dampness.
When storing under tarpaulin or similar, appropriate ventilation of the stacked modules is to ensure.

- Structural expansion joints must be applied to the cladding, incl. sub framing, in the identical positions to their full extent.

- Do not use silicone, polysulphide and Thiokol sealant but hybrid polymer sealant.

- Untreated aluminium profiles (window sills, window trims, etc.) do not match with fibre-cement. All visible aluminium parts should be anodised or powder coated.

- Warranty only applies if modules were fastened with the supplied EKOSAL screws and if all instructions of the present guidelines were fully complied with.

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