grad®

Installation guide **Vertical Cladding**

WWW.GRADCONCEPT.COM

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CLADDING WITH THE GRAD SYSTEM

Grad® Cladding Basics

01. **WALL TYPES**

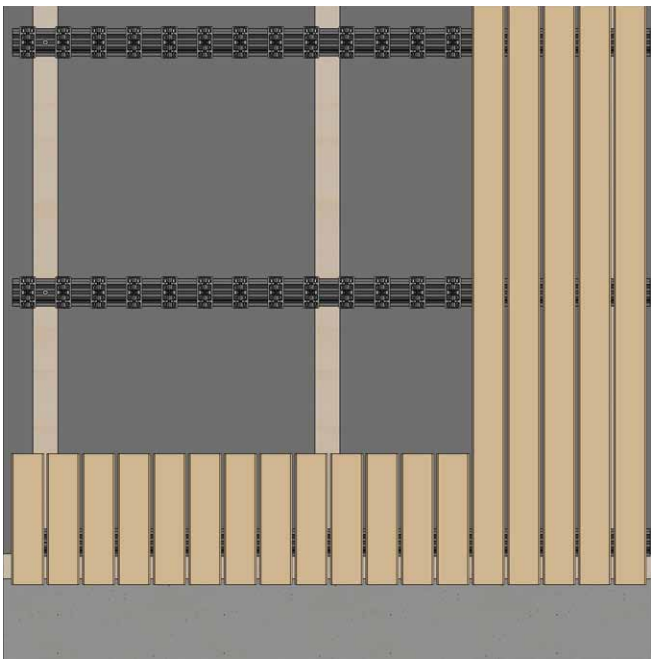
Our cladding system is attached to aluminium rails with clips. However, this rail can be fixed on different types of walls: concrete, cinder-block and wood frame.

Our system makes it possible to compensate for the slopes of walls with a system of wedges.

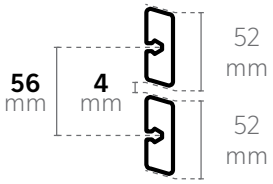
02. **CLADDING STYLE**

The cladding can be installed vertically or horizontally. The rails must be installed perpendicular to the boards: for vertical cladding, the rails are placed horizontally.

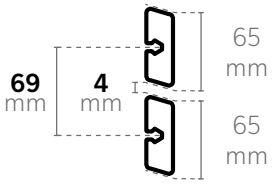
VERTICAL - ANTA



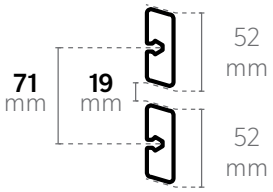
for rails with
56 mm clip spans

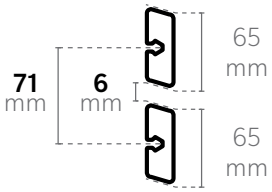


for rails with
69 mm clip spans

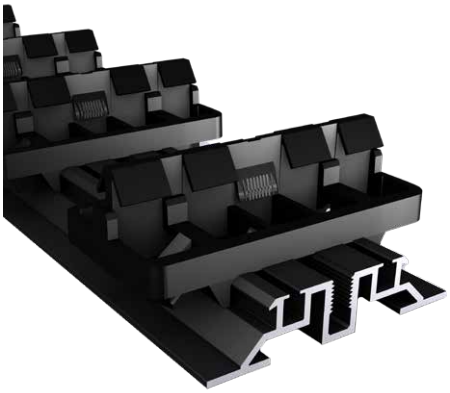


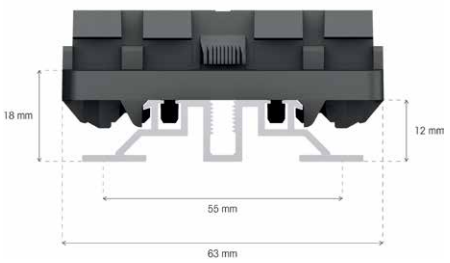
for rails with
71 mm clip spans





03. **RAILS & ACCESSORIES**





FLAT RAIL

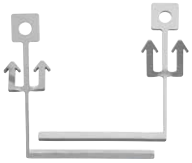
REF	DESCRIPTION	QTY/PALLET	INDICATIVE CONSUMPTION PER M²
1185	**FLAT RAIL - 124 mm clip spacing** 32 clips for 16 boards of 120 mm 12 x 55 x **1984** mm.	216 pcs	0,85 pc
1187	**FLAT RAIL - 71 mm clip spacing** 28 clips for 28 boards 12 x 55 x **1988** mm.	216 pcs	0,85 pc
1188	**FLAT RAIL - 56 mm clip spacing** 35 clips for 35 boards 12 x 55 x **1960** mm.	216 pcs	0,85 pc
1792	**FLAT RAIL - 70 mm clip spacing** 28 clips for 28 boards 12 x 55 x **1960** mm.	216 pcs	0,85 pc
1799	**FLAT RAIL - 51 mm clip spacing** 39 clips for 39 boards 12 x 55 x **1989** mm.	216 pcs	0,85 pc
1822	**FLAT RAIL - 69 mm clip spacing** 29 clips for 29 boards 12 x 55 x **2001** mm.	216 pcs	0,85 pc
2480	**FLAT RAIL - VARIBO** 32 clips for 25 boards 12 x 55 x **1968** mm.	216 pcs	0,85 pc
2191	**FLAT RAIL - 46 mm clip spacing** 43 clips for 43 boards 12 x 55 x **1978** mm.	216 pcs	0,85 pc
2632	**FLAT RAIL - 58,5 mm clip spacing** 34 clips for 34 boards 12 x 55 x **1989** mm.	216 pcs	0,85 pc

Top Link S & L

Cushion clip

Grad® Clip

Half clip



Dismantling keys

Thermo-Pine corner strip

ACCESSORIES

REF	DESCRIPTION	SALES UNIT	QTY/UNIT
2179	**Glue - 310 ml cartridge** For clips and wooden boards for vertical installation	1 cartridge	n/a
1488	**TOP LINK S** Joining piece	Bag of 20 pcs	10 bags
1489	**TOP LINK L** Joining piece	Bag of 20 pcs	10 bags
1486	**Grad® Cushion Clip** With screws	Bag of 20 pcs	25 bags
1483	**Removable Grad® Clip**	Bag of 50 pcs	20 bags
1485	**Grad® Half Clip**	Bag of 50 pcs	20 bags
968	**Dismantling Keys - 120** To remove 120 mm boards or smaller	1 pair	6 pairs
1784	**Dismantling Keys - 155** To remove 150 mm boards	1 pair	10 pairs
2589	**Thermo-Pine Corner Strip** 3.8 x 3.8 x 450 cm	1 pc	200 pcs
2611	**Touch-Up Paint - Vivid Light Grey** for Thermo-Pine Silvered boards - 1L	1 pc	n/a

INSTALL YOUR CLADDING

Understanding the installation steps

BEFORE YOU START

Transportation & Storage

- When transported, Grad® rails should be secured in their original packaging and should be stored indoors before installation.
- Grad® rails can be stored outdoors for short periods of time, just before being used on a project
- Avoid long sun exposure. No heavy object should be stored on top of the rails to avoid possible damage and/or distortion of the rails.

Applications

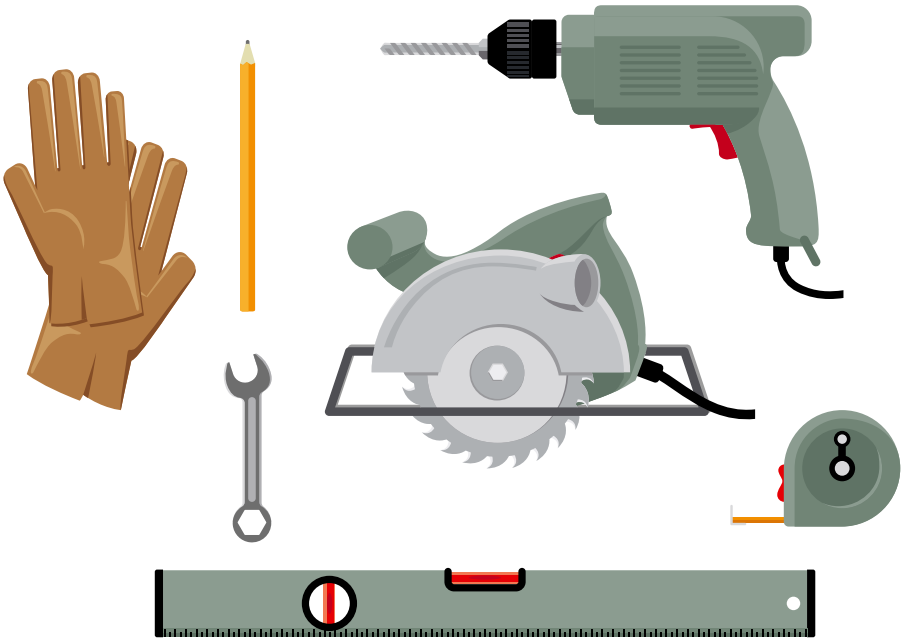
- The rails can be used for horizontal, vertical, diagonal cladding
- The rails should only be placed onto a flat, even, and hard surface
- Only use Grad® cladding as specified by the manufacturer
- For wooden homes: the rails should be positioned along the studs.

Safety Guidelines

- Wear protective clothing and safety equipment such as safety glasses, gloves, long sleeves, and a mask, particularly when cutting aluminium
- The installer is responsible for identifying and following all building codes and construction safety practices
- Grad® accepts no liability or responsibility for the improper installation of this product
- Grad® for cladding may not be suitable for every application, and it is the sole responsibility of the installer to be sure that Grad® cladding is fit for the intended use. Because all installations are unique, it is also the installer's responsibility to determine specific requirements for each cladding application.

RECOMMENDED EQUIPMENT
FOR THE INSTALLATION OF GRAD® CLADDING

- Pneumatic nailer or drill
- Compressors with adequate capacity to supply air for pneumatic tools
- Laser level
- Manual level
- Mitre saw
- Scroll saw
- Finish blade
- Hammer
- Plastic cap for hammer head
- Pliers
- Appropriate personal protection equipment



CHECKLIST

- The wall should be straight, levelled, and not damaged
- The rails can be placed either directly on a wall, studs, concrete, or any hard and flat surface, with the appropriate fasteners
- Boards used with Grad system must be compliant to local Building Code
- It is the user's duty to verify they have the right rails to match the boards they want to use and to make sure the rails they intend to use meet all their requirements
- Only material that has been grooved to Grad's specifications can be used with Grad® rails
- Installers must make sure that there are flashing and weather barriers, that they are installed in compliance with local codes, and that the installation meets manufacturer requirements especially in the following proper locations:
    - Openings (doors and windows)
    - Wall/ceiling junction
    - Chimney
    - Transition between another type of cladding surface

DISCLAIMER

Although this guide was designed with as much precision as possible, in accordance with current practices for wood cladding, we are not liable for any errors or omissions that may arise from the use of this guide. All users of this guide fully assume all risks and responsibilities associated with it.

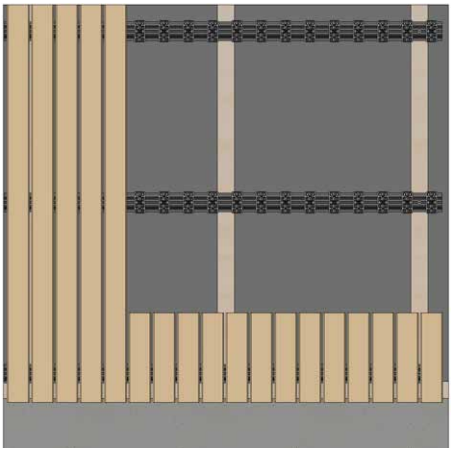
This guide presents the best installation practices for the Grad® cladding system. It supplements the codes and standards and manufacturer installation guides, but is not a replacement or substitute for these. As such, it is the installer's duty and responsibility to take all available documentation into account prior to completing work to ensure the validity of manufacturer warranties.

To ensure simplification, the technical drawings in this guide do not show all construction details to meet requirements of codes and standards.

Finally, do not hesitate to contact us should you have any doubt or should any queries arise regarding specific applications of the Grad rails that would not be covered in this guide.

01. **PROTECT THE WALL**

Before starting the installation of the cladding, the wall must be protected with a rainscreen (according to the DTU 41.2, when installing an open cladding, the anti-UV rainscreen is mandatory) which is installed directly on the façade.



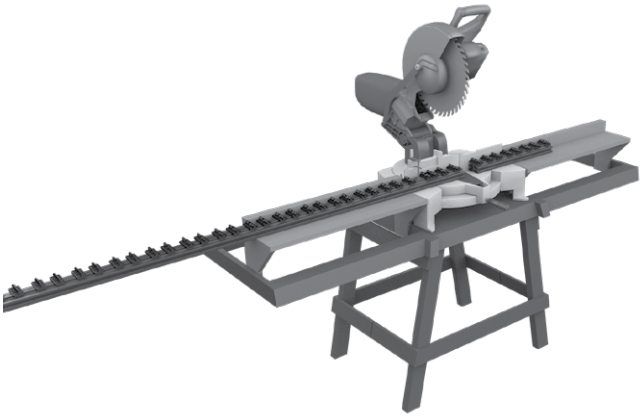
What type of rainscreen?

With open joint siding :
Resistance to water penetration W1 when new and after weathering (5000 hour UV test - EN 13859-2)

With closed joint cladding :
Resistance to water penetration W2 when new and after weathering (test 336 hours UV - EN 13859-2)

02. **CUT + PREPARE THE RAILS**

When possible, use full length rails. However, rails may need to be cut if the height of the wall is not 2 meters or a multiple of 2 meters.



Measure the height of the wall, taking into account that the rails **must start at a minimum of 20 cm from the ground.**

Cut the rails to match the height of the wall.
When possible, cut between two clips. However, if there is a clip where the cut needs to be, remove the clip using the disassembly keys.

Attn: It is important to protect your eyes with appropriate equipment in case of projections.

03. **INSTALL THE RAILS**

Rails can be fastened directly to any hard, flat surface such as concrete walls, studs, or clapboards using nails or stainless steel screws.

Note: The use of self-tapping screws will avoid pre-drilling the rails. There is no direction of installation for the standard rails because they are symmetrical.

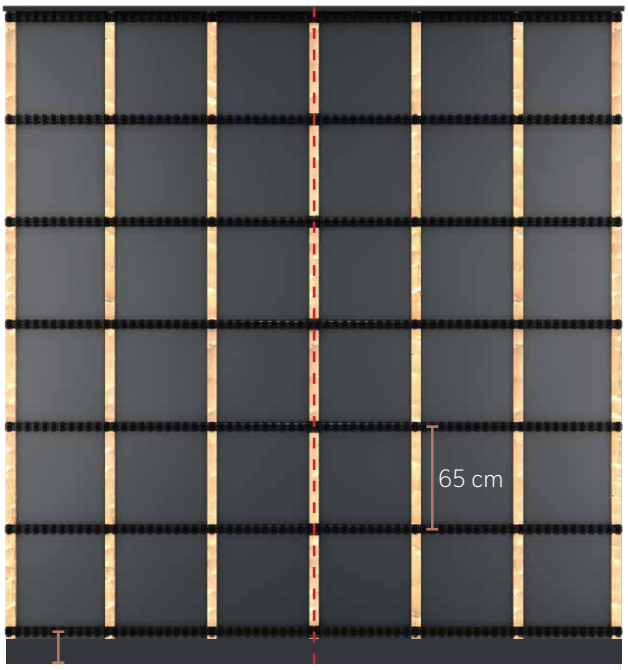
The choice and sizing of the fasteners are defined in the data sheet for each rail. This calculation takes into account the wind force exerted on the cladding.

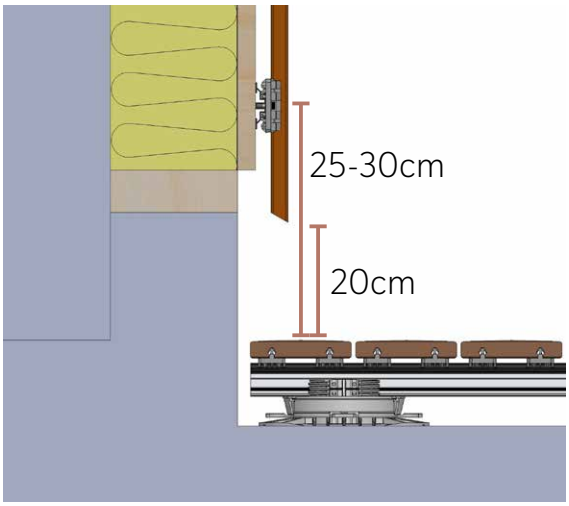
Install the first rail:

Position the rail so that the ends of the boards are at least 20 cm from the floor, making sure that the overhang of the boards does not exceed 10 cm.

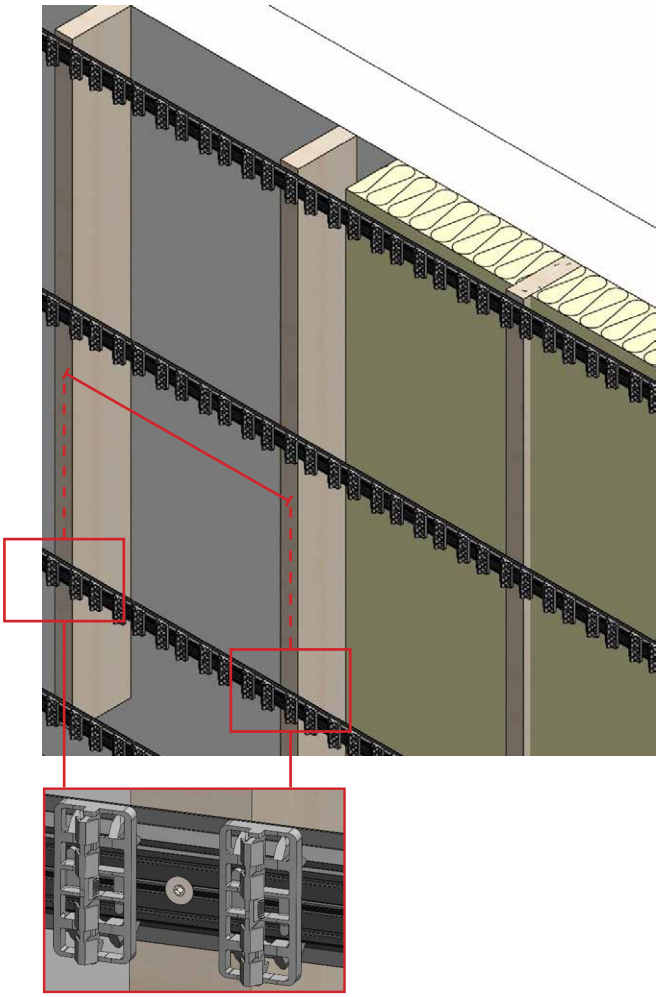
Use a level to ensure that the rail is properly positioned on the wall. Fasten the rail to the wall with the appropriate tool. Using a laser level or a string, draw a vertical reference line along the height of the wall to ensure that the clips of the other rails are aligned.

VERTICAL INSTALLATION





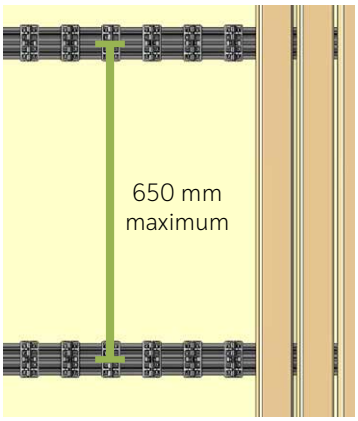
Distance between mounts: see rail data sheet
(variable according to geographical area)



03. **INSTALL THE RAILS**

Mark the rail spans

The maximum recommended distance between rails is 65 cm. The distance between nails or screws may need to be adjusted depending on: the height of the build-ing, the wall construction, the terrain, the wind zone.



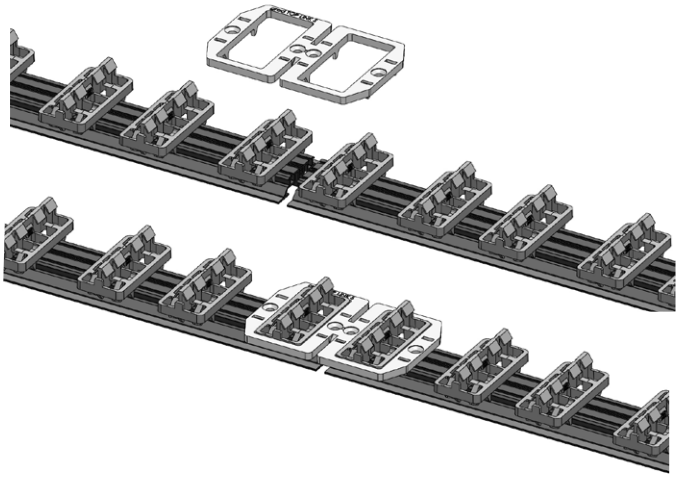
Install the other rails.

All rails should be parallel to the first rail. The reference line drawn previously should be used to ensure that all of the clips of each rail are properly aligned.

Link two rails together

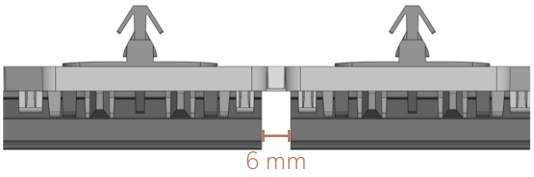
For facades longer than 2 meters, Top Links quickly align and connect rails with the correct spacing for aluminum expansion.

- Ensure the first rail is secured to the wall.
- Place the second rail against the first one and position the Top Link as shown.
- Use a level to make sure the second rail is straight and secure it to the wall.

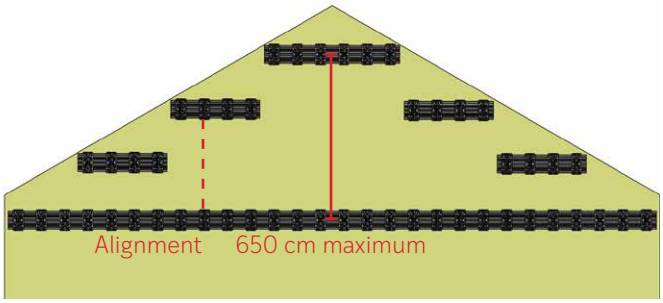


When the rail reference allows it, it is possible to use a Top Link S or L to enable two rails to be aligned and connected end to end with the correct spacing.

Note: Make sure that there is a 6 mm gap between 2 rails in order to respect the expansion values of the aluminium. The Top Link does not prevent the boards from unclipping on the Anta profiles.



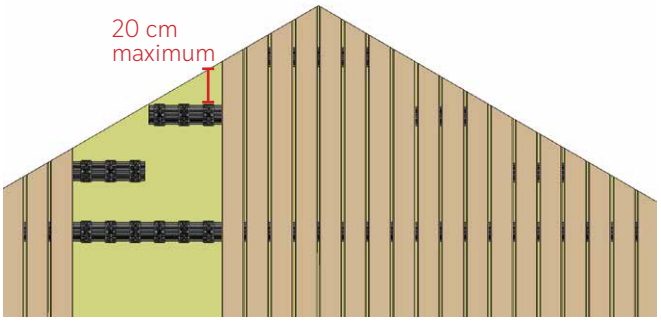
Rail	Top Link Compatibility
1188	Top link S
1187	Top link L



Angle top rafter

The maximum length allowed between the outermost rail and the edge of a board is 20 cm.

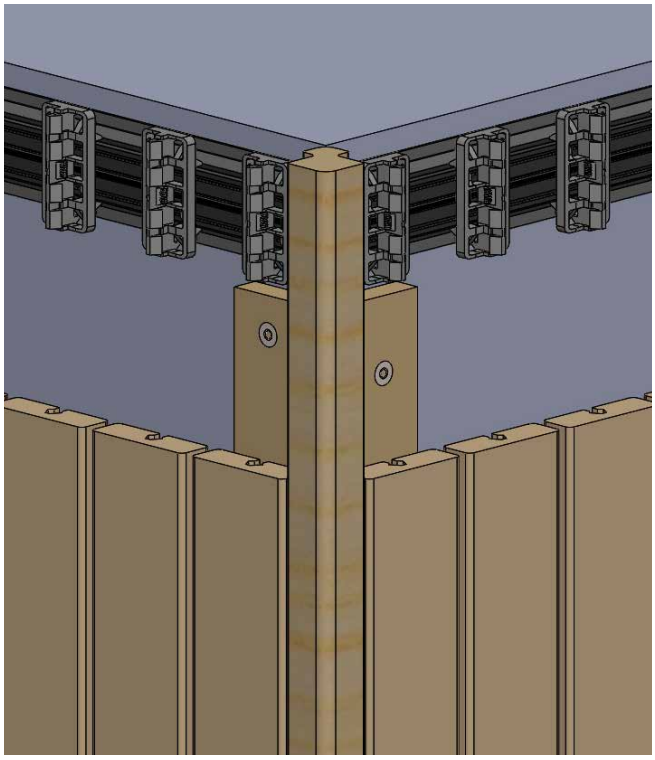
When covering an angle top rafter, pieces of the rails must be cut and installed between the main rails to provide additional support. When installing the additional support rails, ensure that the clips are aligned with the clips on the other rails.

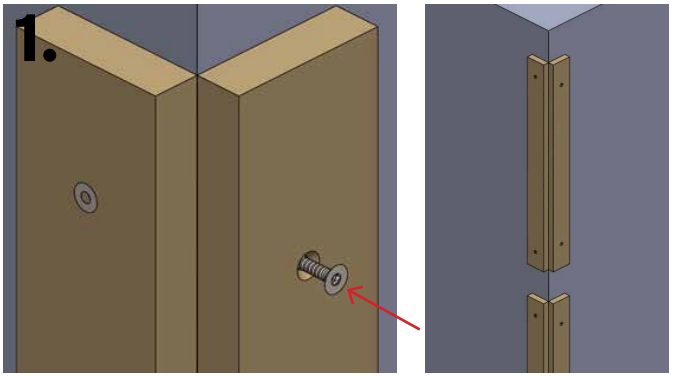


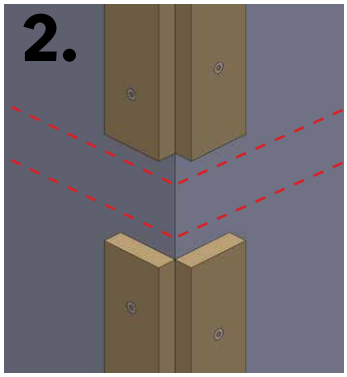
04. **FINISH WITH CORNER PROFILE**

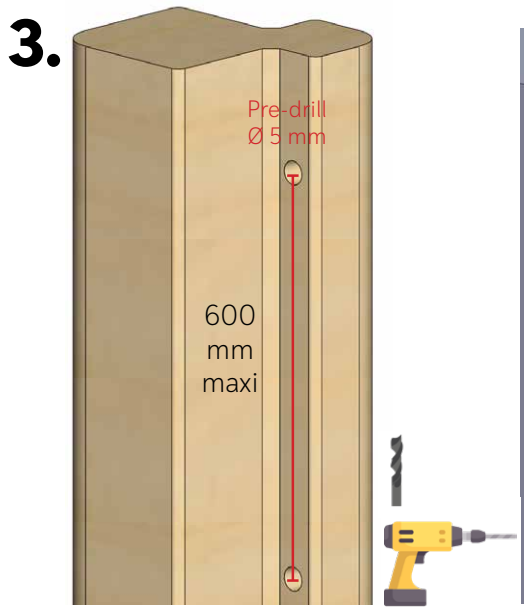
1. Place the braces against the wall on both sides of the profile. Fasten them with fasteners provided for this purpose.
2. Leave enough space for the ends of the rails to fit between 2 braces.
3. Pre-drill the corner profile with a drill and a drill bit adapted to the diameter of the fastener used for the corner profile. We recommend a 4.5 diameter screw for the corner profile and a 5 mm pre-drill for the braces.
4. The corner profile can be fastened by placing a fastener every 600 mm maximum and on each side of the profile, making sure to leave enough space between the pre-drilled holes on both sides of the profile
5. Fasten the corner profile in the cleats with the appropriate fasteners

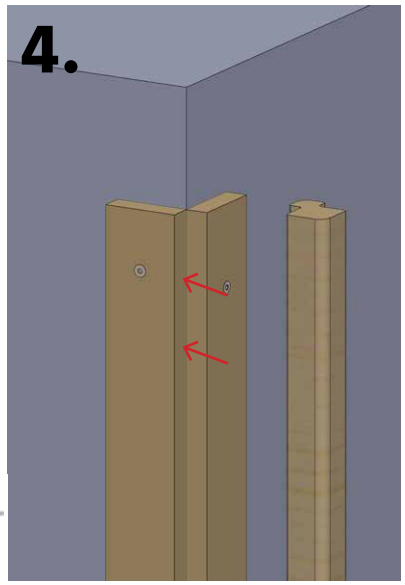
The corner profile can also be adapted to an inside corner by following the same assembly principle as above.

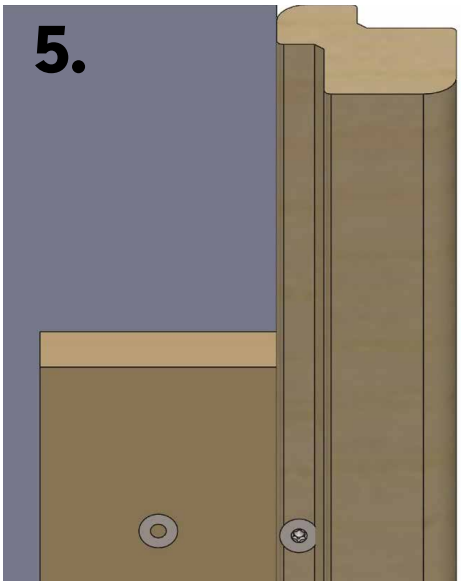




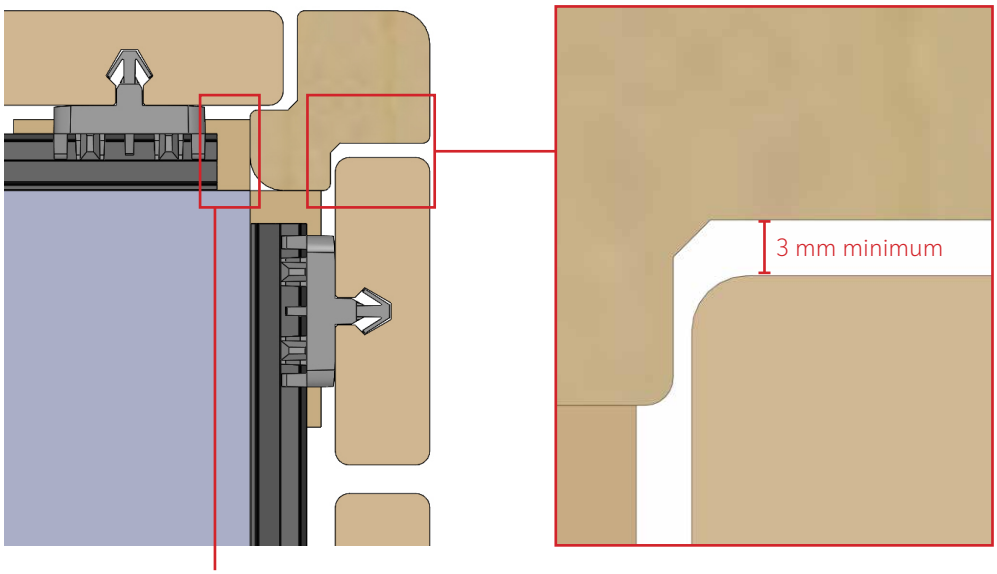








04. **FINISH WITH CORNER PROFILE**

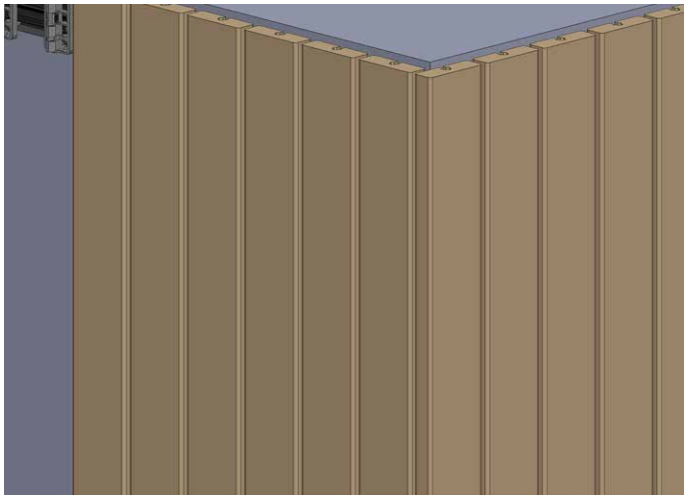


Cut the rails flush with the clips if necessary. Leave a minimum of 3mm space between the boards and the corner profile

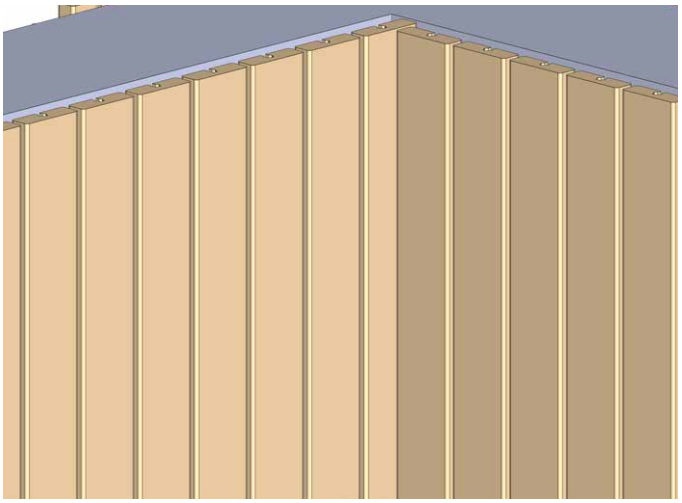
05. **FINISH W/O CORNER PROFILE**

For finishes without corner profiles, we recommend that the following cuts be made on site:

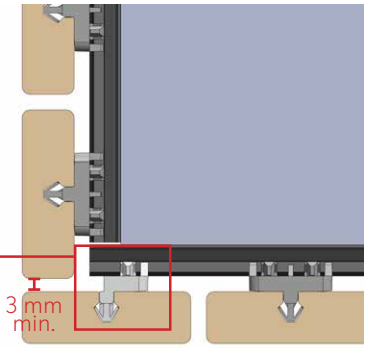
Outside angle

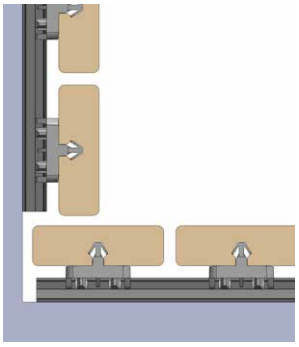


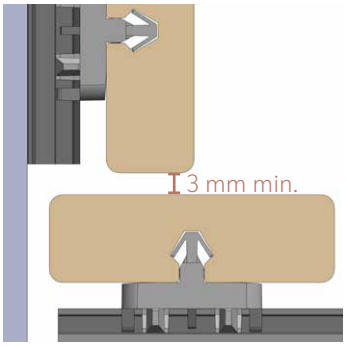
Inside angle



Recut the rails to the edge of the clip if necessary, it is possible to add a half-clip.

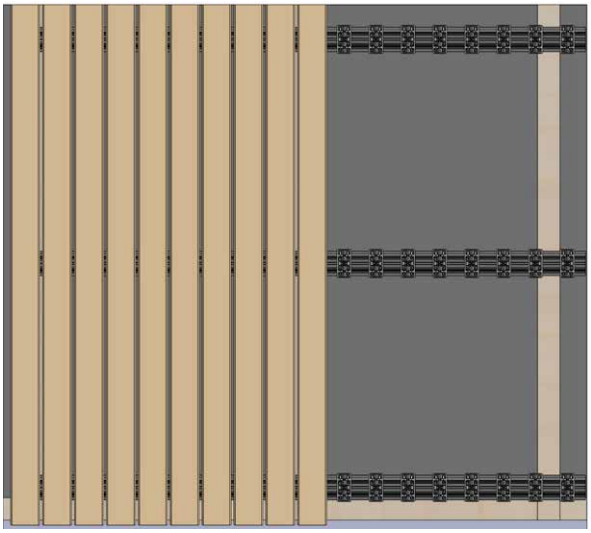






06. **ASSEMBLE THE CLADDING**

Install the siding by gently pressing the first board by hand onto the first clips at one end of the rails. Do not use a hammer or other tools that could damage the board.



Complete the row with additional boards as necessary until you reach the other end of the wall. It is recommended to leave a space between the ends of the boards to avoid water stagnation and to allow the wood to expand. Consult the manufacturer's recommendations for the minimum gap between the ends of the boards (usually 3-5 mm).

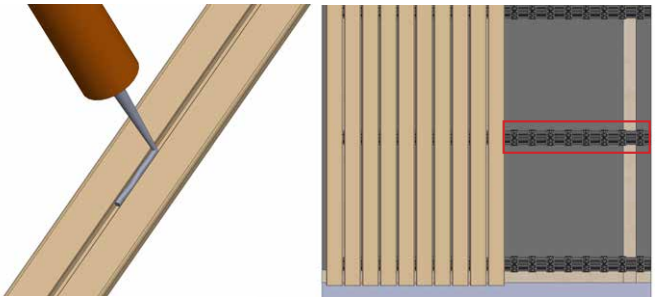
Start the second row next to the first using the next set of clips, and so on. Board ends must meet over a rail. When installing vertical siding, it is recommended to cut the boards at 30° for the joints and at the top and bottom of the façade.

It is possible to align the joints or create an alternate joint. All boards must be clipped to at least two rails to ensure effective fastening, except for the upper end of the roof gables.

Gluing boards

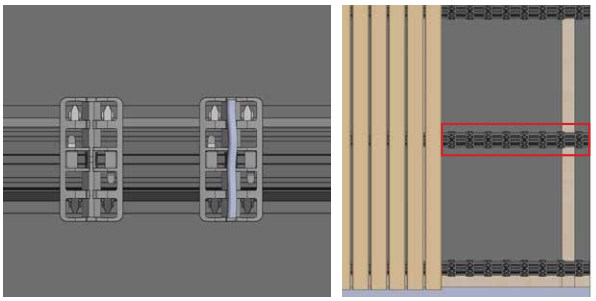
Method 1

Put a line of glue the length of the clips in the grooves of the boards at the junction of the board and the rail on one of the rails located approximately in the middle of the board



Method 2

Place the glue beads directly on the clips which are positioned on one of the rails located approximately in the middle of the board.



After completing one of these two steps, all that remains is to clip the boards onto the rails.

Glue information:

Reference	Description
2179	Polyurethane glue for wood boards

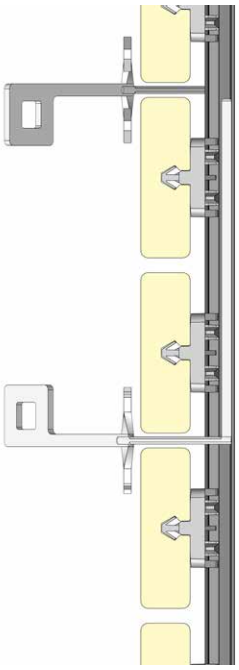
- 310 ml tube
- Bonding of 150 double groove boards with one tube
- Total hardening is reached after 24 hours
- It is recommended not to move the boards during the curing time.
- Open time from 3 to 7 minutes
- Recommended for use from from +5°C
- Water resistant glue
- Store in a frost-free environment

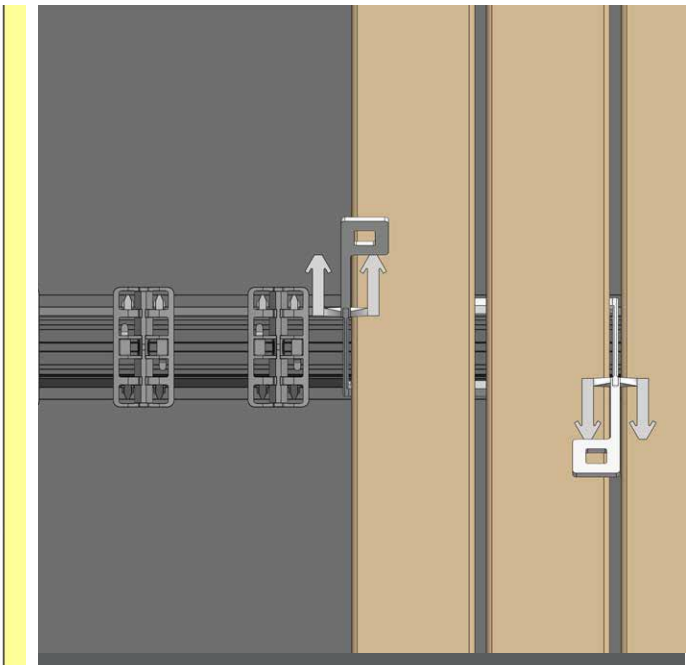
07. **REMOVE A BOARD**

For cladding, it is possible to remove a board with the dismantling keys. The key number should be chosen according to the siding profile and the spacing between the boards.

The keys must be placed according to the diagram on the right and slid until they are positioned between the clip and the rail. By turning in the opposite direction of the arrows, the boards can be unclipped.

The space between each board must be at least 4 mm to be able to insert the keys.





Rails	Dismantling Keys Compatibility	
1188	Keys 120 ref 968	Rail for 56 mm spacing
1187	Keys 145 ref 1010	Rail for 69/71 mm spacing

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