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GOOD TO KNOW

The Basics of Cladding with the Grad® System

01. WALL TYPES

Our cladding system is installed using aluminium rails pre-equipped with clips. These rails can be mounted onto various wall types, including concrete, cinder block, and timber framing.

The Grad System also allows for wall slope adjustments using shims.

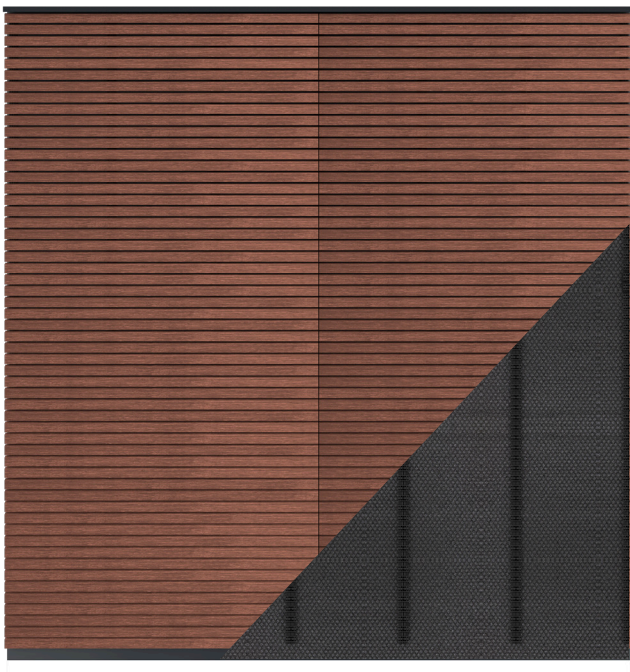


according to DTU 41-2
* depending on the installation support

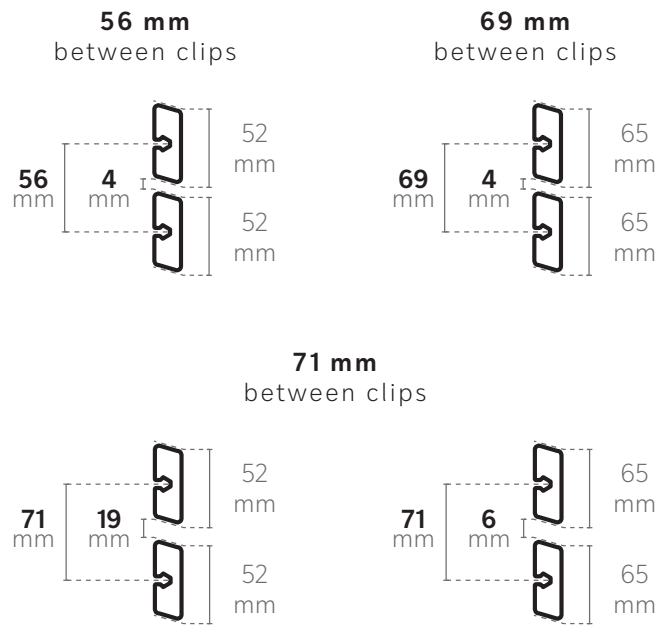
02. INSTALLATION STYLES

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

HORIZONTAL



EXAMPLES OF POSSIBLE CONFIGURATIONS



03. ACCESSORIES



Top Link



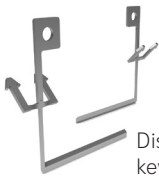
Wedge clip



Removable Grad® Clip



Half Clip



Dismantling keys



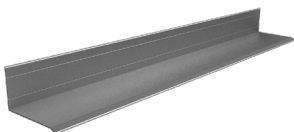
Thermo Pine Corner Profile



Aluminium corner mounting bracket



Aluminium mounting plate



Drip Edge



Edge profile



Angle profile

ACCESSORIES

REF	DESCRIPTION	PACKING	QTY
2784	TOP LINK 46 Rail joining piece - 46 mm spacing	20 pcs/bag	10 bags
2785	TOP LINK 51 Rail joining piece - 51 mm spacing	20 pcs/bag	10 bags
1488	TOP LINK 56 Rail joining piece - 56 mm spacing	20 pcs/bag	10 bags
1489	TOP LINK 71 Rail joining piece - 71 mm spacing	20 pcs/bag	10 bags
1486	WEDGE CLIP With screw	20 pcs/bag	25 bags
1483	REMOVABLE GRAD® CLIP	20 pcs/bag	20 bags
1485	HALF CLIP	20 pcs/bag	20 bags
3308	SLIDING CLIP With M5x12 countersunk screw	20 pcs/bag	20 bags
968	DISMANTLING KEYS - 120 For 120 mm boards	1 pair	6 pairs
1784	DISMANTLING KEYS - 155 For 155 mm boards	1 pair	10 pairs
2589	THERMO PINE CORNER PROFILE 3.8 x 3.8 x 450 cm	1 pc	200 pcs
2997	ALUMINIUM CORNER PROFILE For 20 mm cladding	1 pc	/
2996	ALUMINIUM EDGE PROFILE For 20 mm vertical cladding	1 pc	/
2993	DRIP EDGE 65 For 20 mm vertical cladding	1 pc	/
1221	ELASTOMER BAND 4 mm	1 pc	/
2998	ALUMINIUM CORNER MOUNTING BRACKET	1 pc	/
2999	ALUMINIUM MOUNTING PLATE	1 pc	/

INSTALLING GRAD[®] CLADDING

A Step-by-Step Guide

BEFORE YOU BEGIN

Transport and Storage

- Keep Grad® rails in their original packaging and store them indoors before installation.
- Rails may be temporarily stored outdoors before use.
- Follow manufacturer guidelines for storing and maintaining cladding boards
- Only use boards grooved according to Grad® specifications.
- To prevent damage or deformation, do not place heavy objects on top of the rails.

Safety Guidelines

- Wear the recommended personal protection equipment (PPE) when cutting aluminium (safety goggles, gloves, long sleeves, and a mask).
- The installer is responsible for adhering to all safety instructions.
- Grad® is not responsible for incorrect installations or failure to follow safety instructions

REQUIRED TOOLS FOR INSTALLING GRAD® CLADDING

- Pneumatic nail gun or drill
- Compressors with sufficient air supply for pneumatic tools
- Laser level or manual level
- Tape measure
- Mitre saw & jigsaw
- Hammer (with plastic cap)
- Clamps
- Personal protective equipment (PPE)



PRE-INSTALLATION CHECKLIST

- The wall must be straight, level, and undamaged.
- With the appropriate fixings, the rails can be installed directly on a concrete wall, wooden supports, or any other hard, flat surface.
- The boards used with the Grad® system must comply with local regulations.
- The user must verify in advance that the rails available are compatible with the boards they intend to use.
- Only material grooved according to Grad® specifications can be used with Grad® rails.
- Installers must ensure that the structure includes moisture protection, such as a rain barrier, against weather conditions. These must be installed in compliance with local regulations and meet the manufacturer's requirements, particularly for the following points:
 - Openings (doors and windows)
 - Wall/ceiling junctions
 - Chimneys
 - Transition with another type of cladding

DISCLAIMER

While this guide has been designed with the utmost accuracy according to current cladding practices, we are not responsible for errors or omissions that may arise from its use. All users assume full risks and responsibilities associated with it.

This guide presents the best installation practices for Grad®. It should be used in conjunction with local regulations and the technical specifications of cladding manufacturers. It is the duty and responsibility of the installer to consider all available documentation before beginning work to ensure the validity of the manufacturer's warranties.

For simplification and legibility, the technical drawings in this guide do not show all construction details required to meet regulations and standards.

Do not hesitate to contact us in case of doubt or if you have questions regarding specific applications of Grad® rails that are not covered in this guide.

01. PROTECTING THE WALL

Before installing the cladding, protect the wall with a rain barrier (mandatory for open-joint cladding per DTU 41.2 standards).

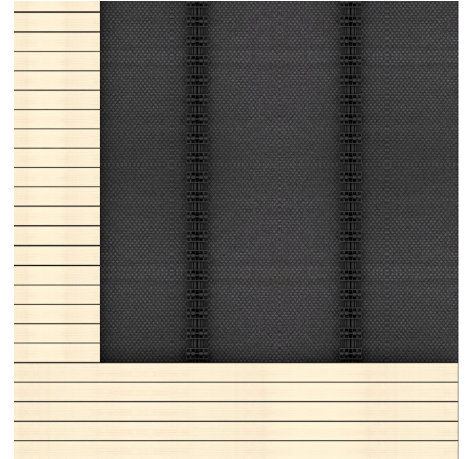
Choose the correct rain barrier for your project:

Open-joint cladding:

- Water penetration resistance W1
→ (tested to 5000 hours UV – EN 13859-2)

Closed-joint cladding:

- Water penetration resistance W2
→ (tested to 336 hours UV – EN 13859-2)



02. CUTTING AND PREPARING 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 edge of the bottom board **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.

Attention: While cutting the rails, it is important to protect your eyes with appropriate equipment in case of projections.



03. INSTALLING THE RAILS

The rails can be fixed directly to any hard, flat surface, such as a concrete wall, studs, or timber framing, using stainless steel nails or screws.

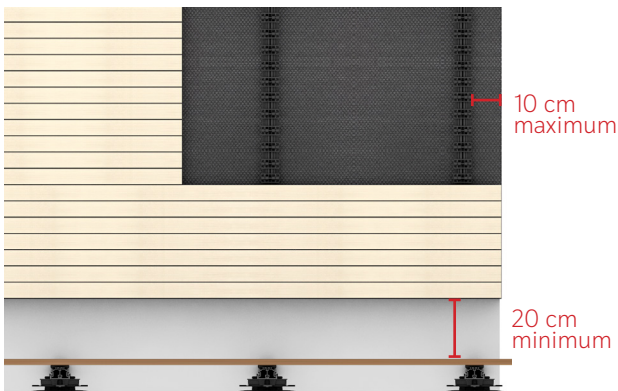
Note: The use of self-tapping screws eliminates the need to pre-drill the rails. There is no installation direction for standard rails, as they are symmetrical.

The choice and sizing of the appropriate fasteners are defined in the Flat Rail for Cladding technical data sheet (DS133). These dimensions take into account the wind force that will be exerted on the cladding.

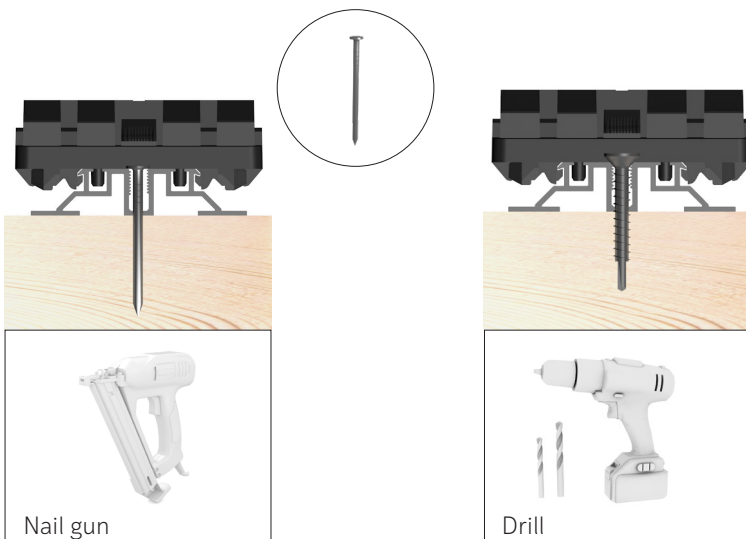
Install the first rail

Position the rail so that the edge of the first board will be at least 20 cm from the ground. The first rail must be no more than 10 cm from the edge of the wall (see image below).

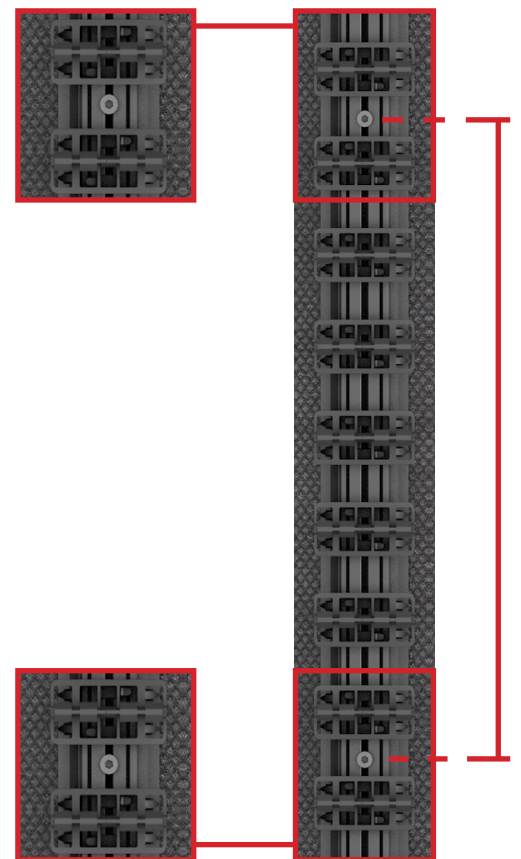
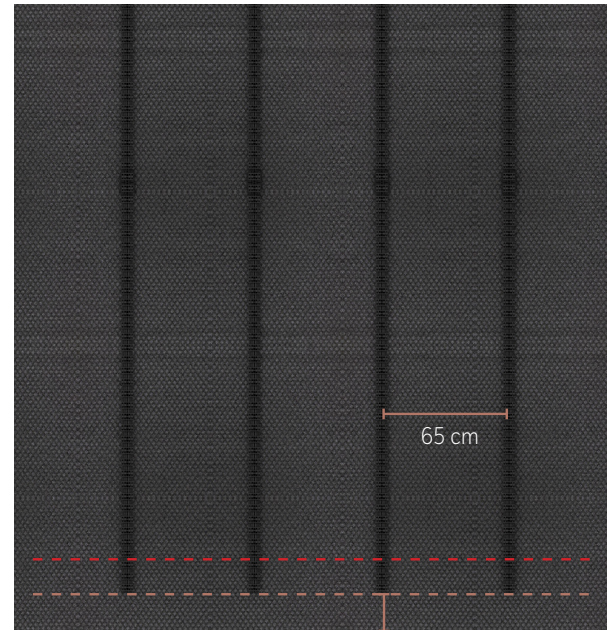
Use a laser or manual level to ensure the rail is correctly positioned on the wall. Secure the rail to the wall using the appropriate tool and fasteners for your substrate. Using a level or string, draw a horizontal reference line along the length of the wall to ensure the clips on all of the rails are aligned.



Example of how rails can be installed on battens:



HORIZONTAL INSTALLATION



Distance between fasteners: refer to the Flat Rail for Cladding technical data sheet (DS133). (Varies according to geographical area)

03. INSTALLING THE RAILS

Mark the rail spans

The maximum authorized distance between rails is 65 cm. This space can be adjusted on site to match the dimensions of the wall and to optimize the trimming of the cladding boards.

Install the other rails

The other rails must be parallel to the first rail and follow the reference line drawn to ensure the clips are aligned across all of the rails.

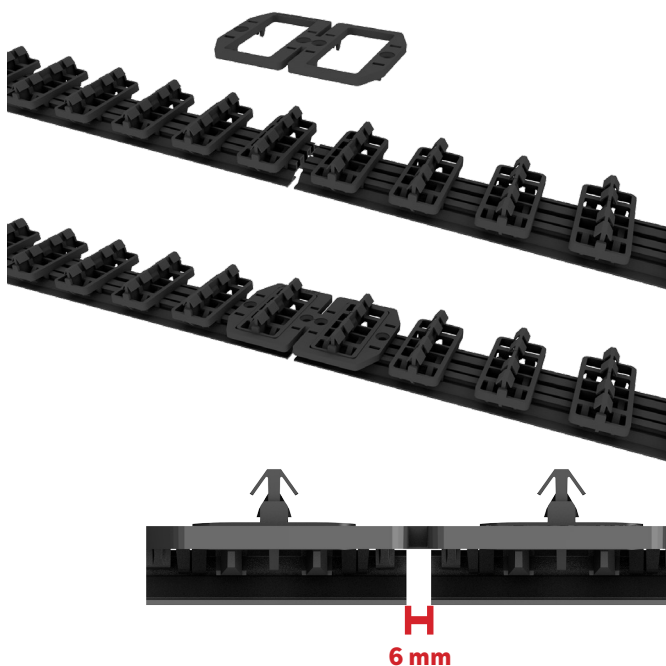
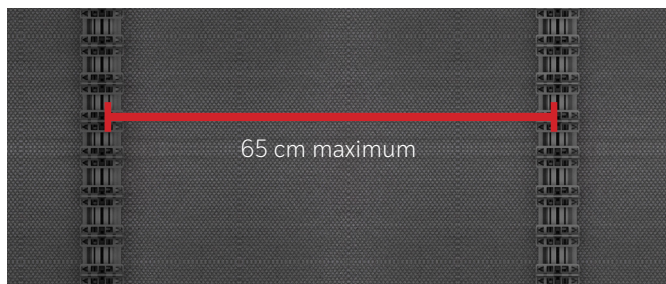
Connecting two rails

For façades of more than two meters high, Top Link rail connectors allow the rails to quickly be aligned and butt-jointed with the correct spacing to allow for potential aluminium expansion.

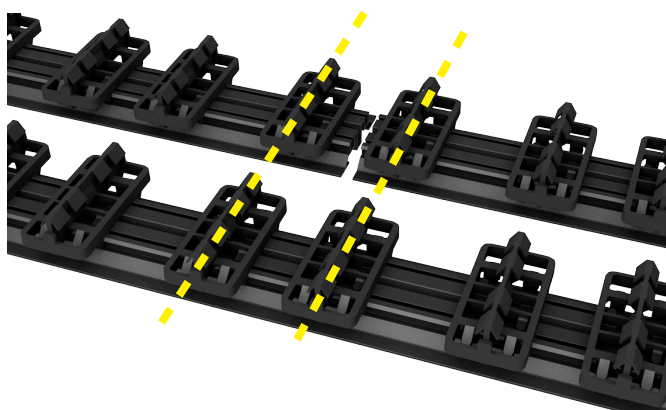
1. Make sure the first rail is secured to the wall and level
2. Place the second rail in line after the first and position the Top Link as shown to the right
3. Use a level to make sure the second rail is properly aligned, and secure it to the wall

In some cases, it may not be possible to install a Top Link. In this case, place a rail beside the two joining rails. This rail will be used as a guide to ensure that the rails and clips are spaced correctly.

Note: Make sure there is a 6 mm gap between the two rails to allow for expansion of the aluminium. Top Link does not prevent the boards from being unclipped with horizontal, open-joint cladding.



Butt-jointing without Top Link



Reference	Product Name
2784	Top Link 46
2785	Top Link 51
1488	Top Link 56
1489	Top Link 71

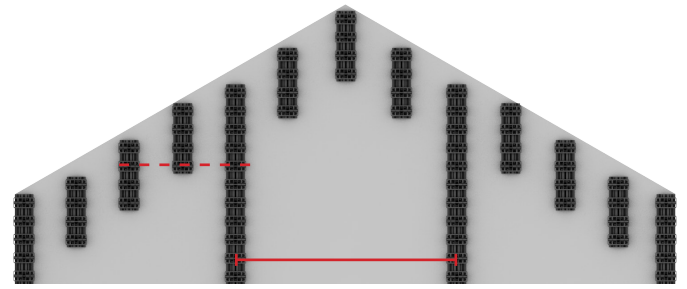
03. INSTALLING THE RAILS

Roof gables

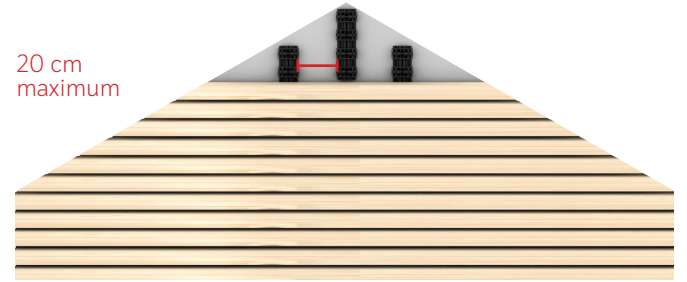
The maximum amount that a board can extend past the last rail is 20 cm.

For cladding on roof gables, short rails must be added along the slope of the roof to ensure that the cladding boards are secure.

Always ensure that the clips are aligned across all of the rails.



Clips must be aligned 65 cm maximum

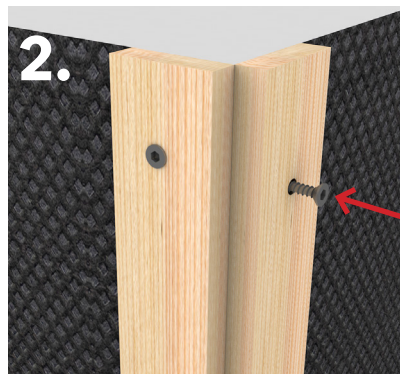
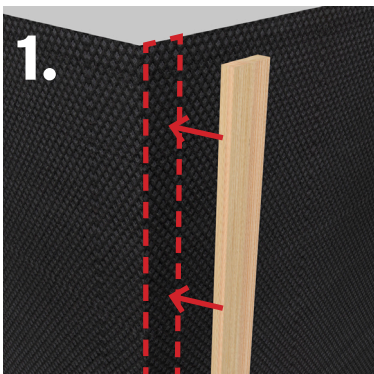
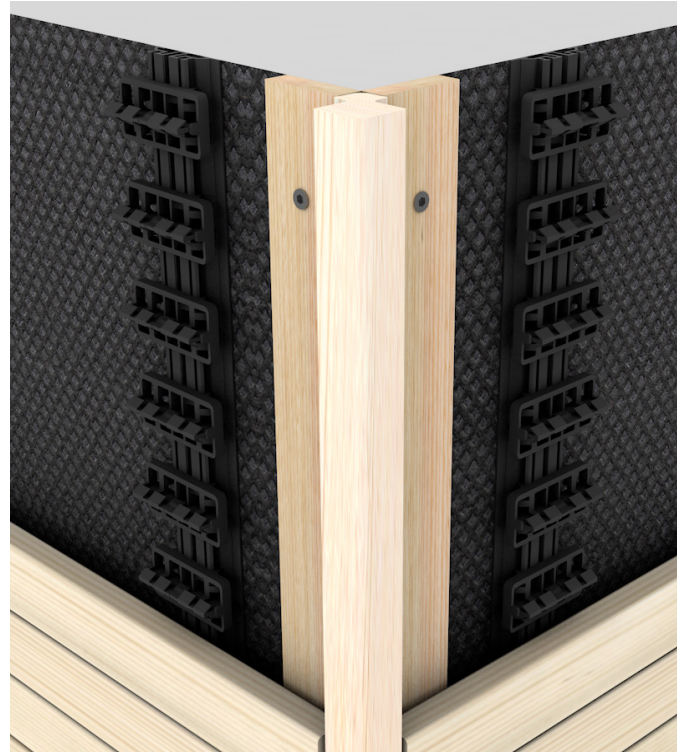


20 cm maximum

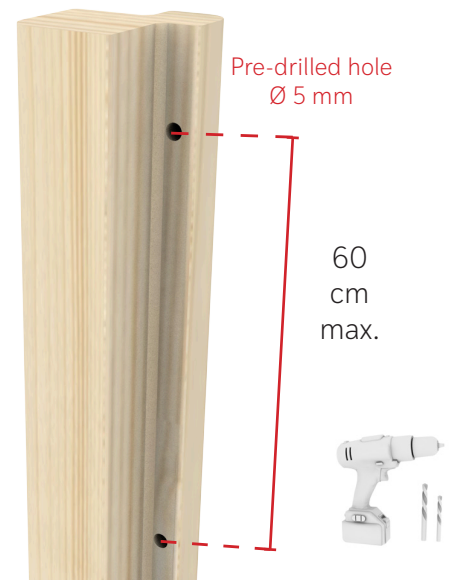
04. INSTALLING A WOODEN CORNER PROFILE

1. Position the battens along the height of the wall on each side of the corner. The battens must be a maximum of 15 mm thick and 4.5 mm wide.
2. Secure them with the appropriate fasteners.
3. Pre-drill the corner profile using a drill bit suited to the diameter of the corner profile fasteners.
→ We recommend a $\varnothing 4.5$ mm screw (not included) and a $\varnothing 5$ mm pre-drill.
→ Distance: every 60 cm maximum
4. Position the wooden corner profile
5. Secure the corner profile to the battens with the appropriate fasteners on alternating sides of the profile.

The wooden corner profile can also be used in an inset corner by following the same installation steps above.

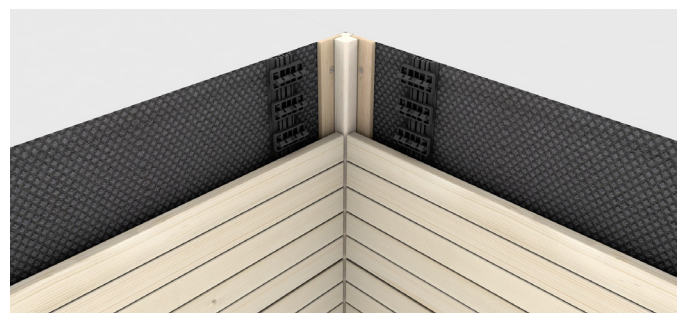


3.



On an exterior corner

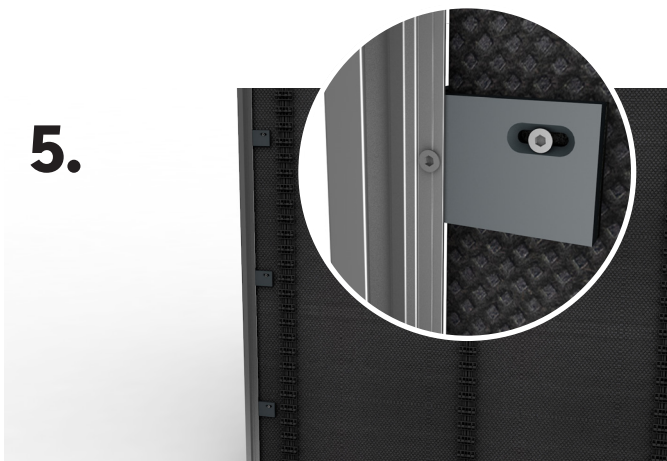
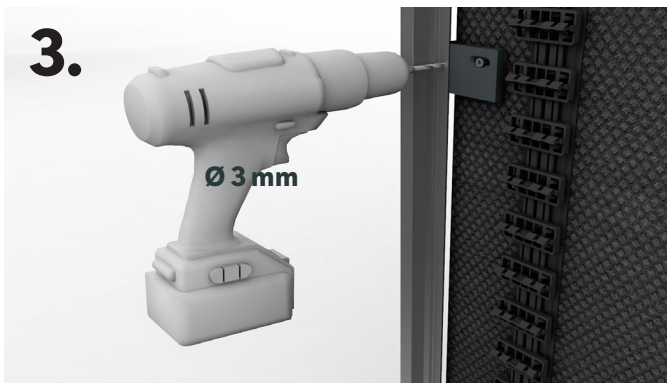
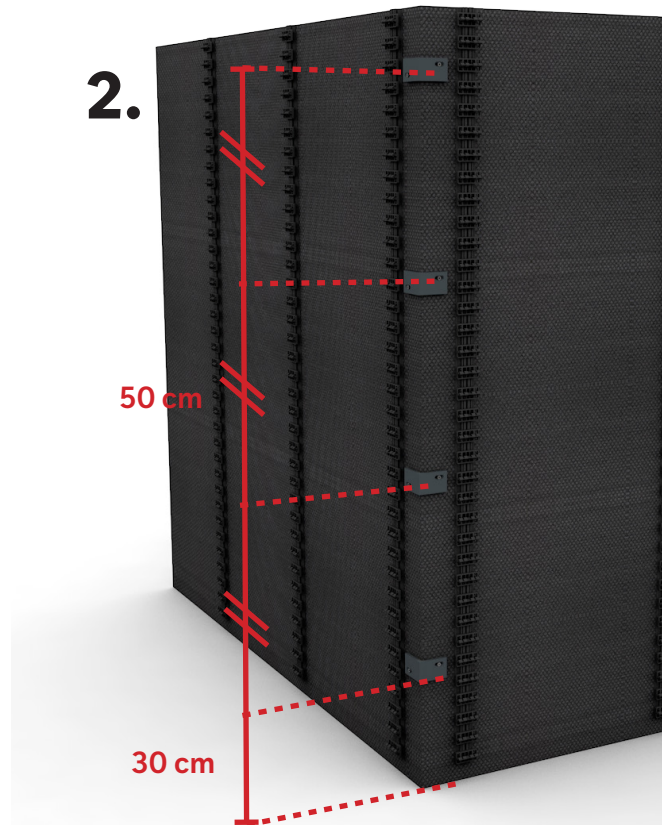
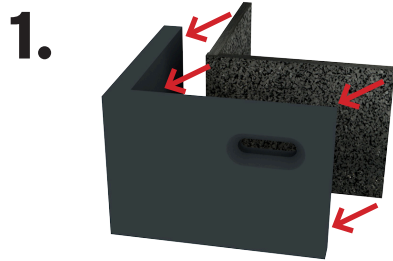
In an inset corner



05. INSTALLING AN ALUMINIUM CORNER PROFILE

To install an aluminium corner profile:

1. Fit the corner mounting brackets with a piece of elastomer band.
2. Place the first mounting bracket 30 cm from the ground, then every 50 cm.
3. Position the aluminium profile against the brackets and pierce the profile with a $\varnothing 3$ mm drill bit, also making a mark on the mounting brackets.
4. Remove the corner profile and finish pre-drilling the mounting brackets.
5. Reposition the corner profile and secure it to the mounting brackets with the appropriate screws.
→ Screws are not provided. We recommend a 3.5x10 flat head screw.



06. INSTALLING A DRIP EDGE PROFILE

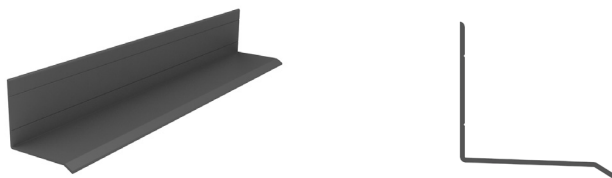
If there's an opening in the wall (e.g. a window), it is recommended to install a drip edge profile.

The drip edge is an easy-to-install aluminium profile designed to prevent water from infiltrating the cladding. It slopes down and outwards to encourage water to drain away from the building's structure and acts as a protective barrier by diverting rainwater that might run down the façade, preventing it from seeping behind the cladding.

In addition to keeping the wall watertight, this profile also adds an aesthetic finishing touch to the project.



SCAN ME!



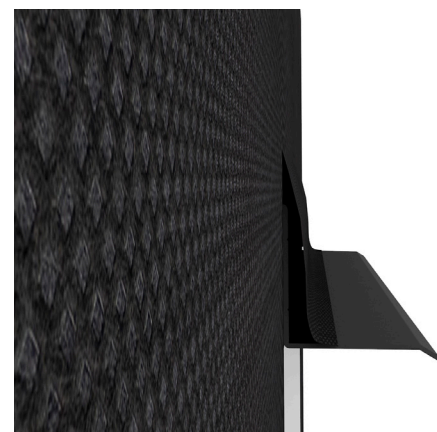
Drip Edge Profile Information

Reference	Product Name
2994	Drip Edge 45

Mounting the drip edge profile

1. Using a level, position the profile along the wall above the opening.
2. Secure the profile using screws suitable for the substrate.

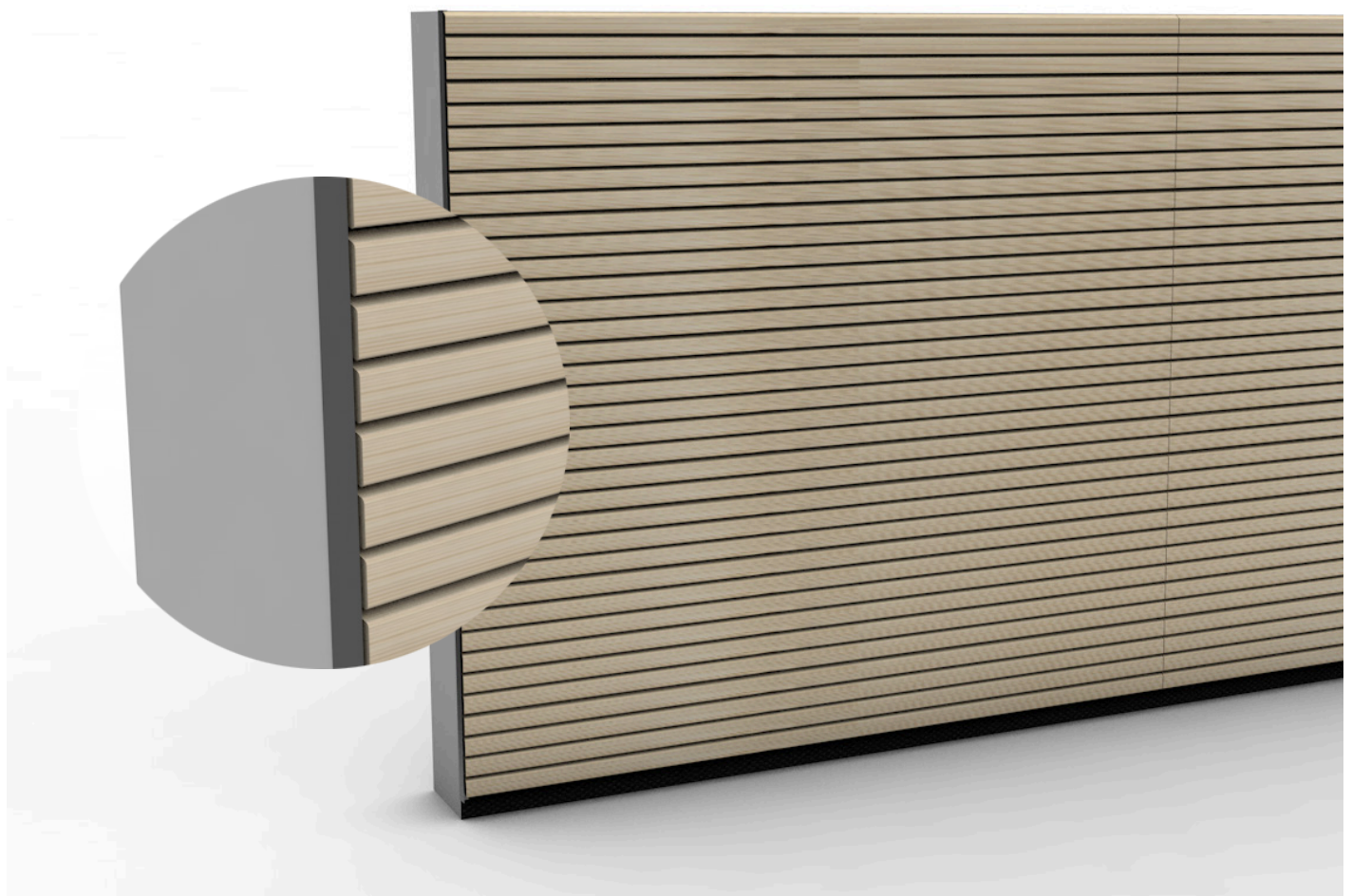
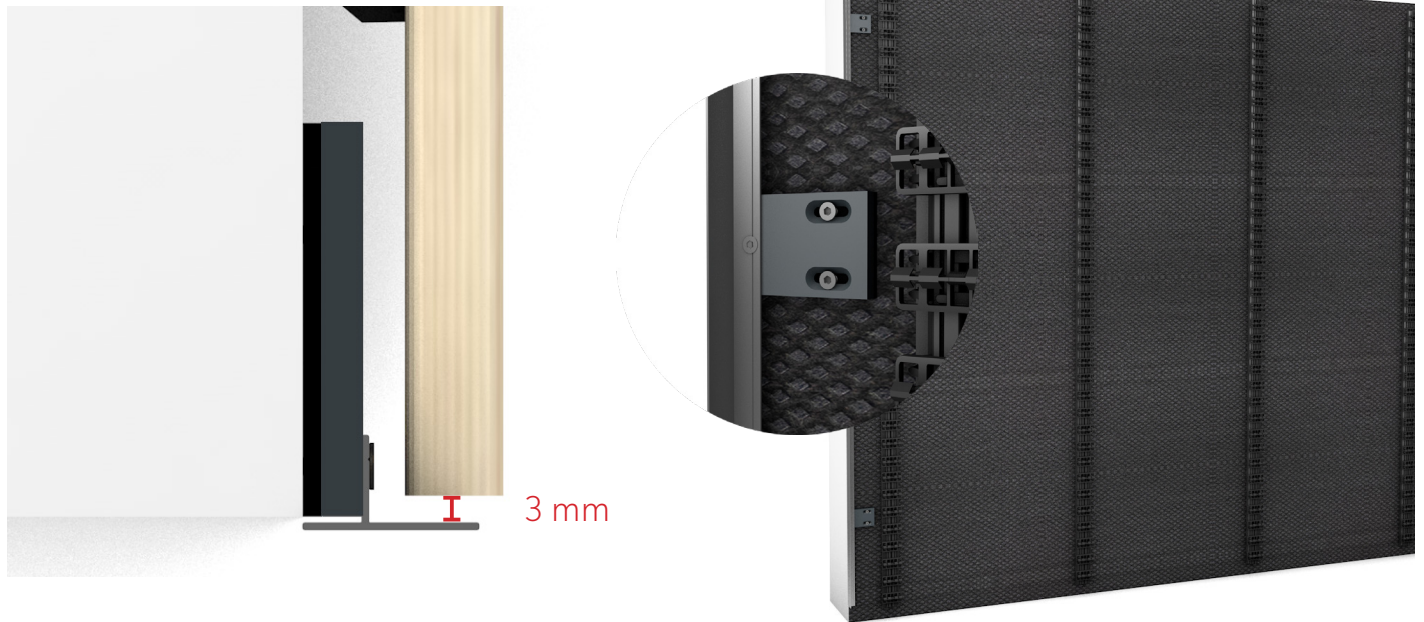
Note: if a rain screen is used, it must cover the top of the drip edge once it is fixed to the wall (see below).



07. INSTALLING AN ALUMINIUM EDGE PROFILE

If the cladding is installed on a single wall section without a corner, an aluminium edge profile can be installed for a more aesthetic finish to the cladding.

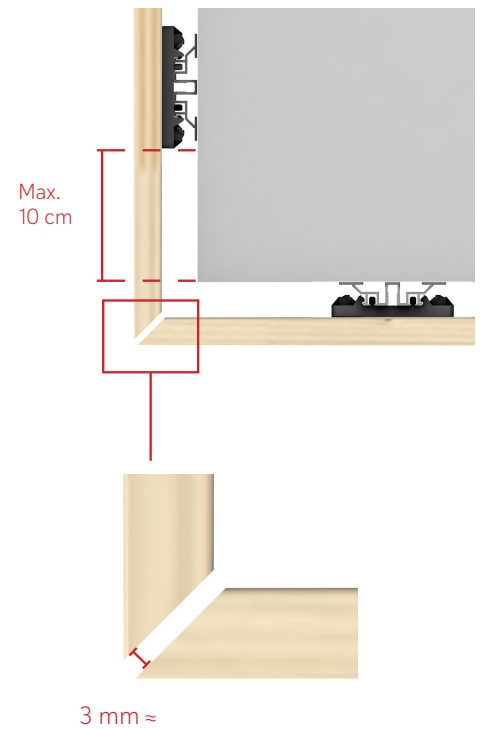
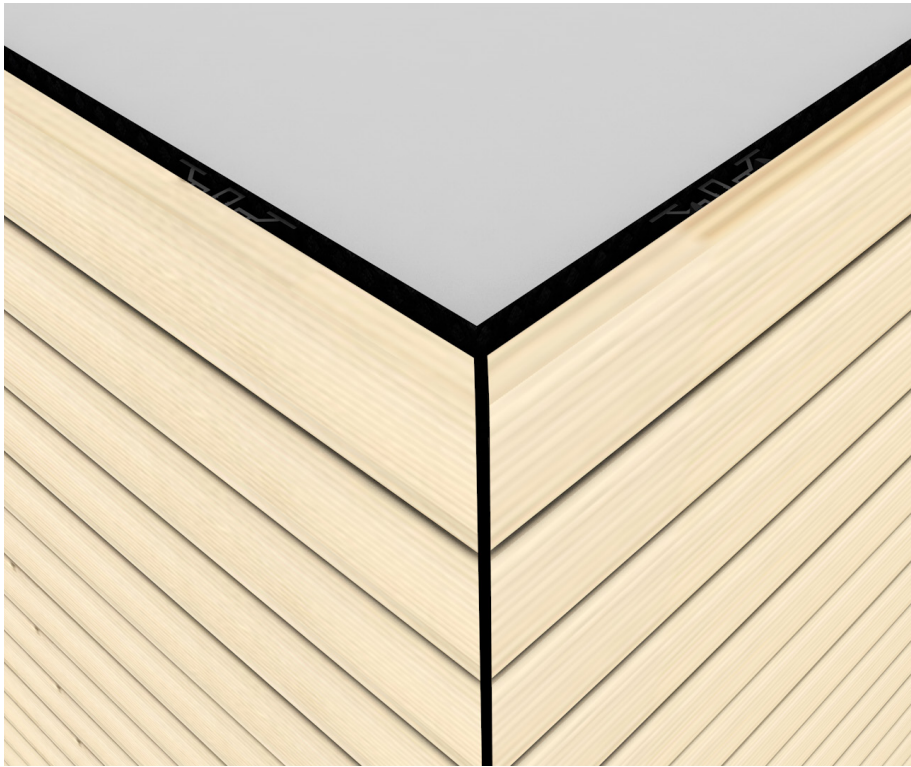
The aluminium edge profile is installed in the same way as the aluminium corner profile (see pg. 14).



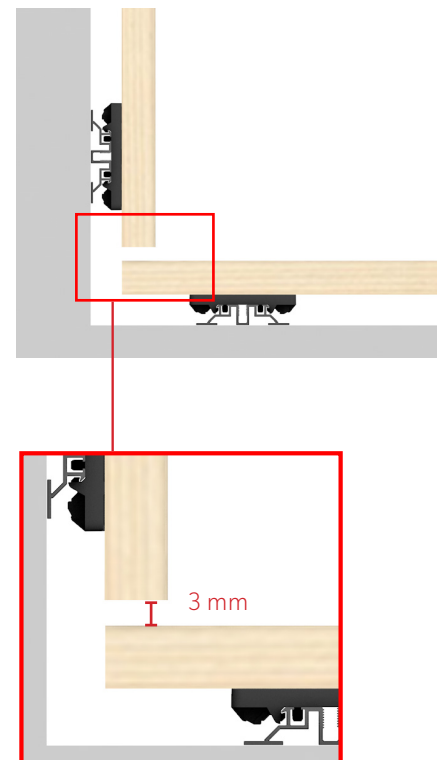
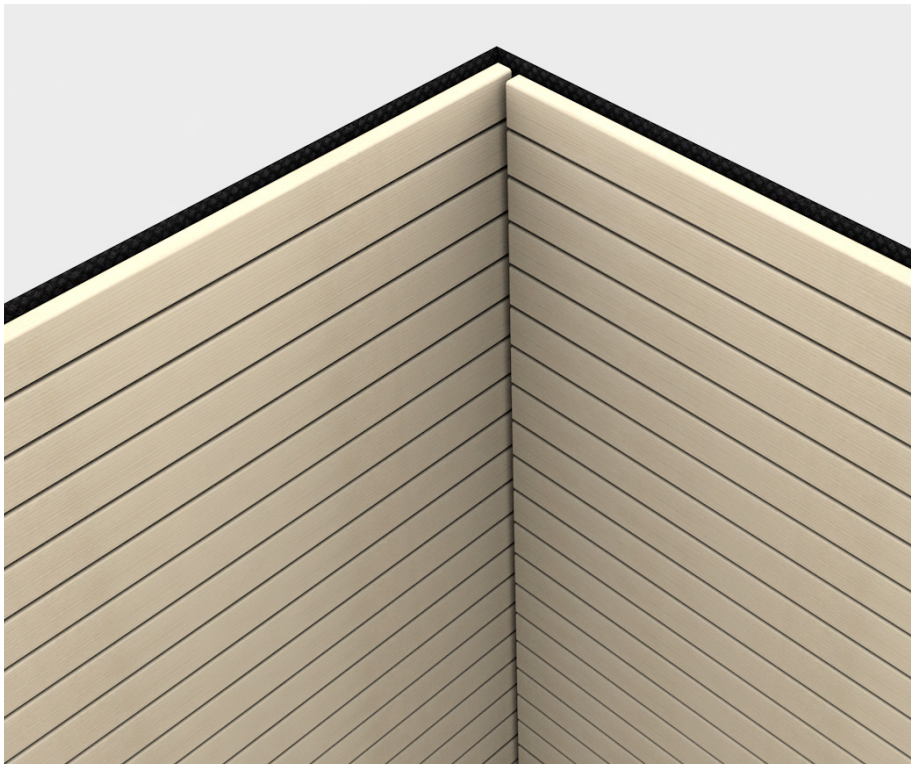
05. FINISHING A CORNER WITHOUT A PROFILE

For a corner finish without using a profile, we recommend finishing the corner with a mitred or butt joint.

Cut the ends of the board at a 45° angle for external corners



Butt joint the boards for inset corners



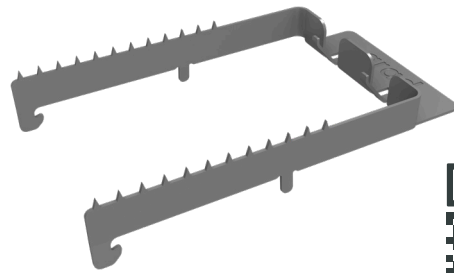
06. ASSEMBLING THE CLADDING

Adding Clip Grips

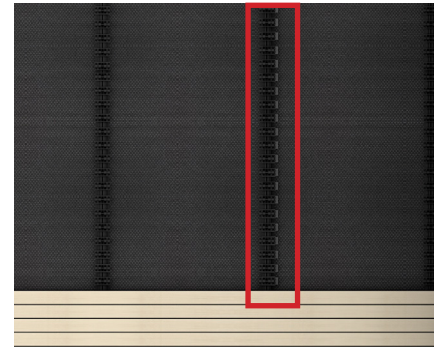
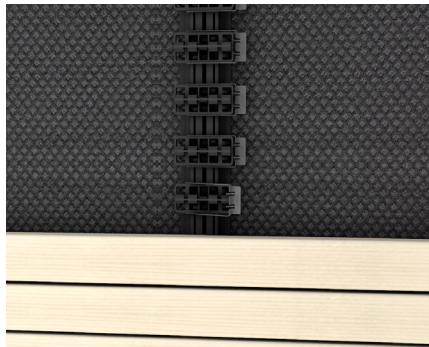
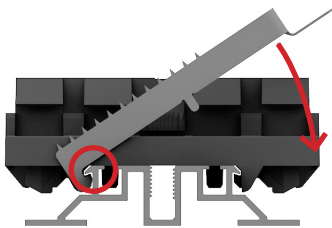
Clip Grips hold the boards in place and prevent them from shifting along the clips.

Clip Grips are installed over removable Grad clips. This step should be carried out before the boards are positioned.

To install a Clip Grip, insert the hooks into the grooves on the side of the rail, then lower the Clip Grip until it locks into place around the clip and onto the rail. **Every board needs to be mounted onto at least one Clip Grip.**



SCAN ME! 



Please note that once the teeth of the Clip Grip are embedded into a board, it is no longer possible to slide the board along the clips. The boards, therefore, need to be positioned with precision.

Clip Grips are not suitable for:

- installation on a half-clip
- installation on a removable clip fitted with a Top Link

Installing the cladding boards

Install the first board by positioning it against the first clips at the bottom of the rails. With your hands, firmly push the board onto the clips to secure it to the rail. **Do not use a hammer or other tools that could damage the board.**

Complete the bottom row with more boards if necessary to reach the other end of the wall. It is recommended to leave a gap (generally 3-5 mm) between the boards to prevent water stagnation and to allow the wood to expand. *Consult the recommendations of the board manufacturer for the minimum space required.*

Continue by clipping the next boards to the next row of clips above the first board and so on until all of the boards are secured.

Boards must be butt-jointed over a rail and must be clipped to at least two rails to guarantee they are properly secured. The board joints can be aligned or staggered, depending on the desired aesthetic result.

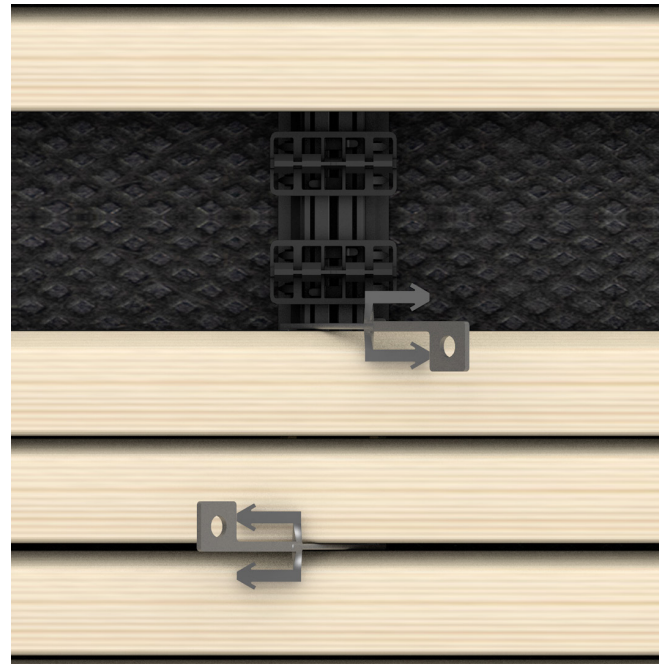
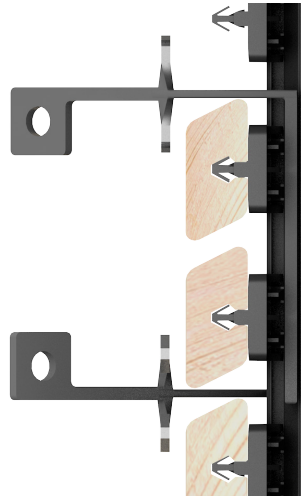
Please don't hesitate to contact Grad customer service for more information or if you have any questions.



07. REMOVING A BOARD

For open-joint cladding, it is possible to remove a board using the dismantling keys. The size of the keys used should correspond with project's cladding board profile and the spacing between the boards.

The keys must be positioned as shown here and slid along the rail until they are wedged between the clip and the rail. Tilt the keys away from each other and they will detach the clips from the rail. Then, carefully slide the clips out of the board and re-clip them into the perforations in the rail.



Rail ref	Dismantling Keys Compatibility	
1188	Keys 120 ref 968	56 mm clip span
1187	Keys 145 ref 1010	69/71 mm clip span



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