



THERMOWOOD®

CLADDING INSTALLATION GUIDE



FOREWORD

Timber cladding provides an attractive, economical and often unique way to finish and protect a building's exterior. Its versatility makes it ideal for any project – refurbished and new build.

Correctly designed, specified and installed, timber cladding will have a long and lower maintenance life.

In this guide we outline some of the important considerations in the design and implementation phase of a timber cladding project.



Low maintenance



Wood from sustainable
managed forests



Long lifespan up to 20 years



Optional certified in-house
fire retardant treatment

LDCWOOD®

Innovative Belgian ThermoWood® producer & member of the International ThermoWood® Association.

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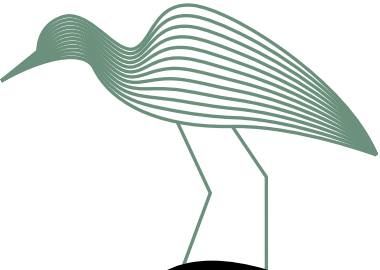
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KEY TIPS FOR CORRECT INSTALLATION

LDCwood® ThermoWood® is a modified wood product that is heat-treated to enhance its properties, making it more durable, stable, and resistant to decay. Before installing a LDCwood® ThermoWood® facade, there are several important factors to consider to ensure a successful and long-lasting installation. Here are some general tips to take into account:

- 1. Product selection** - Choose the appropriate type of LDCwood® ThermoWood® for your facade project. LDCwood® ThermoWood® is available in various wood species, and each species has unique characteristics in terms of color, grain pattern, and durability. Select a species that suits your design preferences and the environmental conditions of the installation site.
- 2. Quality of material** - LDCwood® ThermoWood® complies with product class Thermo-D. The “D” stands for “Durability” thus ensuring a higher stability and -resistance to decay and weather.
- 3. Fire-retardant treatment considiration** - Assess whether the ThermoWood® requires fire retardant treatment. This can be organized industrially in advance. We can give timber products a fire-retardant treatment with Burnblock® in our autoclave under pressure.
- 4. Acclimatization** - Allow the LDCwood® ThermoWood® to acclimate to the local climate and humidity before installation. This helps minimize dimensional changes that could occur after installation due to moisture fluctuations.
- 5. Moisture content** - Check the moisture content of the LDCwood® ThermoWood® boards. Ideally, they should have a moisture content that is appropriate for the local climate to avoid excessive expansion or contraction after installation ($\pm 4-7\%$).
- 6. Substrate and structural support** - Ensure that the substrate (the underlying surface) is appropriate for cladding installation and provides adequate structural support. The substrate should be flat, even, and free from defects that could affect the cladding's performance.
- 7. Weather barrier** - Install a weather-resistant barrier between the LDCwood® ThermoWood® cladding and the substrate to prevent moisture infiltration. This barrier between the strapping and the structure is essential to protect the structure from water damage.
- 8. Spacing and fastening** - Follow the manufacturer's recommendations for spacing and fastening the LDCwood® ThermoWood® boards.
- 9. Ventilation and drainage** - Incorporate proper ventilation and drainage systems behind the cladding to allow moisture to escape. This prevents moisture buildup that can lead to decay or other issues.
- 10. Finishing and coating** - LDCwood® ThermoWood® is often used without a finish, as it weathers gracefully to a silver-gray color over time. However, you can choose to apply a protective finish or coating if you prefer to maintain its original color. If applying a finish, ensure it's compatible with LDCwood® Thermowood® and suitable for exterior use.
- 11. Dimentional stability** - LDCwood® ThermoWood® has reduced expansion and shrinkage compared to untreated wood, but it is still important to take this into account during installation. Leave expansion gaps and use appropriate, stainless steel fixings to accommodate these changes.
- 12. Consultation:** - If you have no experience of installing cladding, we recommend that you contact our experts at protectedbynature@LDCwood.com. They have expertise in LDCwood® ThermoWood® and cladding systems and can advise you on correct installation.
- 13. Regulations and codes** - Check local building codes and regulations to ensure that your LDCwood® ThermoWood® facade installation complies with safety, reaction to fire class, and other relevant standards.
- 14. Maintenance considerations** - While LDCwood® Thermowood® is more durable than untreated wood, it still requires some maintenance. Consider the long-term maintenance requirements, including cleaning, refinishing, and any necessary repairs.

By carefully considering these factors and following the manufacturer's guidelines, you can ensure a successful and visually appealing installation of your LDCwood® ThermoWood® facade that will withstand the weather and the test of time.

HOW FACADES AGE AND ADAPT DIFFERENTLY

LDCwood® ThermoWood® facades age and adapt differently compared to other building materials due to the unique properties. Several factors, including the specific type of wood used, environmental conditions, aesthetic changes and design choices, influence the aging and adaptation of these wooden facades. Let's explore the aging and adaptation of wooden exteriors.

In summary, LDCwood® ThermoWood® facades age and adapt differently due to the natural properties of wood and the interactions between the material and its environment. While aging can lead to changes in color, texture, and surface features, proper design, maintenance, and finishing practices can help enhance the prolonged durability and aesthetic appeal of such facades.

1. Initial Appearance and Aging

When initially installed, a ThermoWood® facade by LDCwood® presents a vibrant and fresh appearance. As time passes, the wood's natural aging process takes effect, resulting in a transition to a silvery-grey tone, due to exposure to sunlight and air. The rate and extent of this change depends on the ThermoWood® species, shrinkage, expansion, local climate and orientation.

2. Swelling and shrinkage due to moisture

The decreased equilibrium moisture content of LDCwood® ThermoWood® minimizes its swelling and shrinkage due to moisture. The thermal modification process notably decreases tangential and radial swelling in ThermoWood®. Thanks to reduced swelling and shrinkage, LDCwood® ThermoWood® is more dimensionally stable than standard wood. It retains its dimensions well, even without surface treatment. Minor cracks, a common occurrence, are generally of little concern, with some individuals even viewing them as contributing to the facade's character.

3. Maintenance and Finishing

The ageing process of facades can be influenced by maintenance. Regular cleaning, sealing, and refinishing can help prolong the life of the facade and maintain a desired appearance. Applying pre-finished stains, paints, or protective coatings can alter the rate of weathering and provide additional protection against UV rays and other environmental factors. We can assist you in making the optimal choice between achieving your desired look and ensuring impeccable protection.

4. Environmental Impact

The local climate plays a significant role in how LDCwood® ThermoWood® facades age and adapt. Regions with high UV exposure can accelerate the color change process, while areas with heavy rain and wind might contribute to a more weathered appearance.

5. Design Considerations

The way a LDCwood® ThermoWood® facade is designed can also impact its aging and adaptation. Factors such as the orientation of the facade, the presence of overhangs, and the use of protective elements like eaves can affect the amount of exposure to environmental elements. Proper detailing and construction techniques can help minimize moisture infiltration and extend the life of the facade.



2019



**Aging process
LDCwood® ThermoWood® Ayous
RCC Maria Assumptia Dilbeek
(Belgium)**

2023



CLADDING ORIENTATION

The orientation of cladding can greatly influence the visual appearance and overall aesthetics of a building's facade. The choice of orientation can also impact how sunlight, rain, and other environmental factors interact with the cladding. Here are some options for the orientation of LDCwood® ThermoWood® cladding:

HORIZONTAL ORIENTATION

This is probably the most common orientation for cladding installation. The boards are placed horizontally, running parallel to the ground. Horizontal cladding can create a sense of stability and width, making the building appear grounded. It's suitable for a wide range of architectural styles.

VERTICAL ORIENTATION

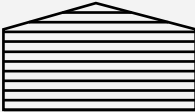
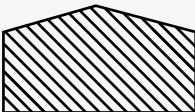
Vertical cladding involves installing the boards vertically, running perpendicular to the ground. Vertical orientation can visually elongate a building, making it appear taller and more elegant. It can also enhance the sense of height for low-rise structures. However, vertical cladding may require more attention to detailing at joints. Also here some specific profiles are more suitable than others, consult LDCwood® for any further advice.

DIAGONAL OR ANGLED ORIENTATION

Installing the cladding at a diagonal or angled pattern adds a dynamic and distinctive visual effect to the facade. This orientation can add movement and energy to the building's appearance. However, it might be more complex to install and may require more precise cutting and detailing.

CLIMATE AND WEATHER

When deciding on the orientation of LDCwood® ThermoWood® cladding, consider the architectural style of the building, the desired visual effect, and how the orientation will interact with other design elements. Additionally, take into account the climate and weather conditions in the building's location, as some orientations may be better suited to shedding water and minimizing moisture retention. Consulting with design professionals or architects can help you make an informed decision that aligns with your design goals and functional requirements.

ORIENTATION		WATER DRAINAGE	SUITABLE FOR
	HORIZONTAL	slow	with caution in areas with high rainfall
	VERTICAL	quick and uniform	any location
	DIAGONAL	medium	to be avoided in areas with high rainfall

CLADDING DESIGN CONSIDERATIONS

Designing a LDCwood® ThermoWood® cladding system involves careful consideration of various factors to achieve both aesthetic appeal and functional performance.

Here are some key design considerations to keep in mind when working on a LDCwood® ThermoWood® cladding project:

ARCHITECTURAL STYLE AND CONTEXT

The design of the LDCwood® ThermoWood® cladding should complement the architectural style of the building and the surrounding environment. Whether it's modern, traditional, rustic, or contemporary, the cladding should harmonize with the overall design language.

MATERIAL SELECTION

Choose the right LDCwood® ThermoWood® species based on factors such as durability, aesthetic preferences, and local availability. Consider whether you want the LDCwood® ThermoWood® to age naturally or maintain its original color through finishes.

ORIENTATION AND PATTERN

Decide on the orientation of the cladding boards, such as horizontal, vertical, diagonal, or a mix. The pattern, spacing, and arrangement of the boards also contribute to the visual impact of the facade.

SCALE AND PROPORTION

Consider the size and proportions of the cladding boards in relation to the scale of the building. Wide boards can provide a more contemporary and bold appearance, while narrow boards might suit traditional or cottage-style designs.

COLOR AND FINISH

Determine whether you want the LDCwood® ThermoWood® to weather naturally or if you want to apply a protective finish. The finish can affect the color and sheen of the wood and therefore the overall appearance of the facade.

JOINTING AND DETAILING

Pay attention to how the cladding boards meet at corners, edges, and intersections. Proper detailing and joinery techniques ensure a clean and cohesive appearance while preventing water infiltration.

TEXTURE AND DIMENSION

The texture of the LDCwood® ThermoWood® can range from smooth to rough, and the dimensional profile of the boards can vary. The texture can influence the tactile experience and visual interest of the facade.

INTEGRATION WITH OTHER MATERIALS

Consider how the LDCwood® ThermoWood® cladding will interact with other building materials, such as stone, metal, glass, or concrete. A balanced integration can create visual contrast and highlight architectural features.

FUNCTIONAL CONSIDERATIONS

Ensure that the cladding provides effective weather protection, thermal insulation, and moisture management. Proper detailing, ventilation, and drainage are crucial for preventing moisture-related issues.

ENVIRONMENTAL IMPACT

Choose LDCwood® ThermoWood® from sustainably managed forests and consider the life cycle of the materials used. Sustainable design methods can reduce the ecological footprint of the project.

MAINTENANCE REQUIREMENTS

Determine how much maintenance the siding will require over time. Untreated wood will age beautifully, but like any siding, will require occasional cleaning. With surface treatment, on the other hand, it will need regular maintenance to maintain the desired appearance.

REGULATIONS AND CODES

Adhere to local building codes and regulations that govern exterior cladding. Ensure compliance with fire safety, insulation, and structural requirements.

LIGHTING AND SHADOWS

Consider the interaction between lighting and cladding. The interplay of light and shadow can enhance the visual appeal of the facade.

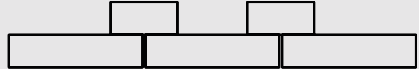
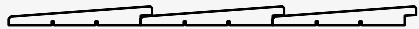
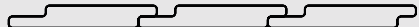
LONG-TERM VISION

Think about how the LDCwood® ThermoWood® cladding will age and adapt over time. Consider whether you want the facade to maintain its initial appearance or embrace a more weathered and natural look.

CONSULTATION

Collaborate with architects, designers, and builders who have experience with LDCwood® ThermoWood® cladding. Their expertise can help you make informed decisions and achieve the desired design outcome.

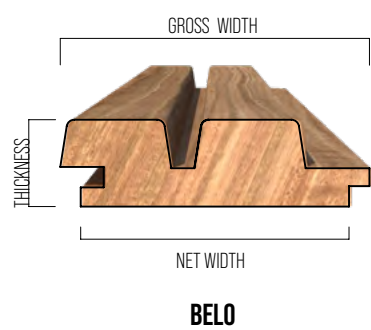
By carefully addressing these considerations, you can create an LDCwood® ThermoWood® cladding system that not only enhances the aesthetics of the building, but also contributes to its overall functionality, durability and longevity.

		RECOMMENDED ORIENTATION			
PROFILE		CLADDING JOINT	HORIZONTAL	VERTICAL	DIAGONAL
	Tongue & Groove (T&G)	Closed			
	Rectangular / batten	Closed - board on board			
	Bevel	Closed			
	Shiplap	Closed			
	Parallelogram	Open			
	Rib	Closed			

Summary of generic characteristics

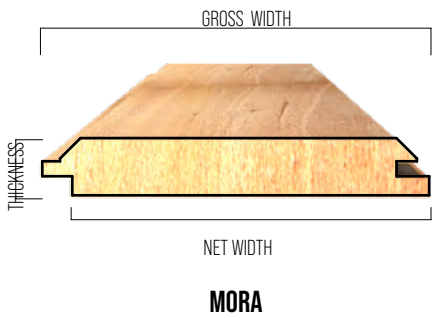
OVERVIEW PROFILES

RIB



PROFIL	THICKNESS (mm)	GROSS WIDTH (mm)	NET WIDTH (mm)
BELO	1 5/16	4 3/4	4 1/8
ELSA (KITE)	13/16	5 1/2	5 3/16
FARO (BODO)	1 5/16	7 5/16	6 11/16
GODO	1 5/16	3 1/4	2 3/4
KYLE	1 1/16	5 5/8	5 1/8
RIB4	13/16	4 1/2	4 3/16
ZAZA	13/16	6 5/8	6 1/8

TONGUE & GROOVE



PROFIL	THICKNESS (mm)	GROSS WIDTH (mm)	NET WIDTH (mm)
ALTA	11/16	5 9/16	5 3/16
BANA	13/16	6 11/16	6 1/4
EDEA	13/16	4 16/16	4 1/2
MORA	13/16	5 9/16	5 3/16
OLLA	9/16	5 9/16	5 3/16

RECTANGULAR



INTERIOR 2

PROFIEL	THICKNESS (mm)	GROSS WIDTH (mm)	NET WIDTH (mm)
INTERIOR 1	13/16	1 3/4	
INTERIOR 2	13/16	1 3/4	
INTERIOR 3	13/16	3 9/16	
INTERIOR 4	13/16	3 9/16	

BEVEL



JAMY

PROFIEL	THICKNESS (mm)	GROSS WIDTH (mm)	NET WIDTH (mm)
JAMY	7/16 & 1	7 1/2	6 7/8
TABY	3/8 & 13/16	5 1/2	5 1/8

SHIPLAP



NOLA

PROFIEL	THICKNESS (mm)	GROSS WIDTH (mm)	NET WIDTH (mm)
NOLA	11/16	4 3/4	4 1/8

PARALLELOGRAM



PARA

PROFIEL	THICKNESS (mm)	GROSS WIDTH (mm)	NETTO LENGTE (mm)
PARA	11/16	2 11/16	

SUPPORT BATTENS

FUNCTIONS OF THE AIR CAVITY

The air cavity behind LDCwood® ThermoWood® cladding serves several important functions in the building envelope. This space, often referred to as a ventilated or drained cavity, is a deliberate design feature that provides various benefits for the cladding, the building structure, and its overall performance. Here are the primary functions of the air cavity behind LDCwood® ThermoWood® cladding:

MOISTURE MANAGEMENT

One of the key functions of the air cavity is to manage moisture that may infiltrate behind the cladding. Rainwater, condensation, and moisture that may have penetrated the cladding are channeled downward and outward, away from the building envelope. This helps prevent moisture accumulation that could lead to decay, rot, or mold growth in the LDCwood® ThermoWood® and underlying structure.

VENTILATION

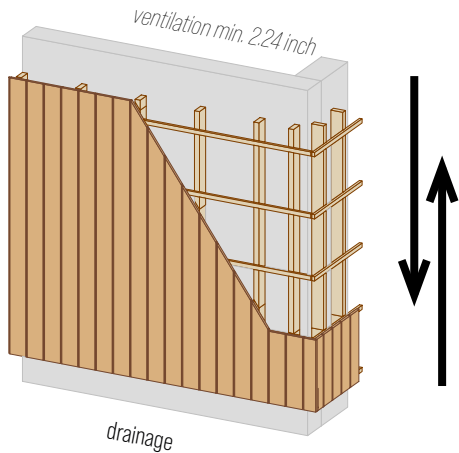
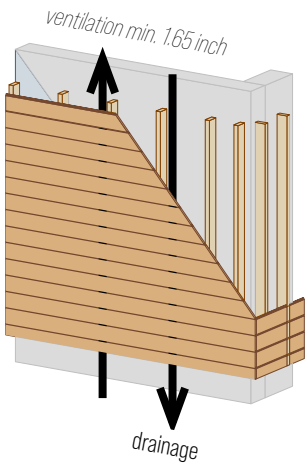
The air cavity allows for natural ventilation between the cladding and the substrate. This promotes air circulation, which aids in the drying process. Proper ventilation helps to evaporate any moisture that does enter the cavity and prevents it from becoming trapped, thereby maintaining a drier and more stable environment.

THERMAL PERFORMANCE

The air cavity can act as an additional layer of insulation, enhancing the overall thermal performance of the building. The air within the cavity creates a buffer zone that helps reduce heat transfer through conduction, convection, and radiation. This can contribute to improved energy efficiency and comfort inside the building.

TEMPERATURE REGULATION

The ventilation provided by the air cavity can help regulate the temperature of the cladding itself. In cold conditions, air movement within the cavity can reduce the risk of freezing and subsequent expansion that could damage the cladding. In hot conditions, the cavity can help dissipate excess heat, reducing the potential for overheating.



REDUCTION OF UV EXPOSURE

Direct sunlight and UV radiation can impact the longevity and appearance of LDCwood® ThermoWood® cladding. The air cavity can provide some shading and reduce the intensity of UV exposure on the cladding's surface, helping to slow down the natural weathering process.

PRESERVATION OF CLADDING FINISH

For cladding with a surface treatment, such as paints or stains, the air cavity can help protect and extend the life of the treatment by reducing direct contact with moisture and environmental elements. This can lead to less frequent maintenance.

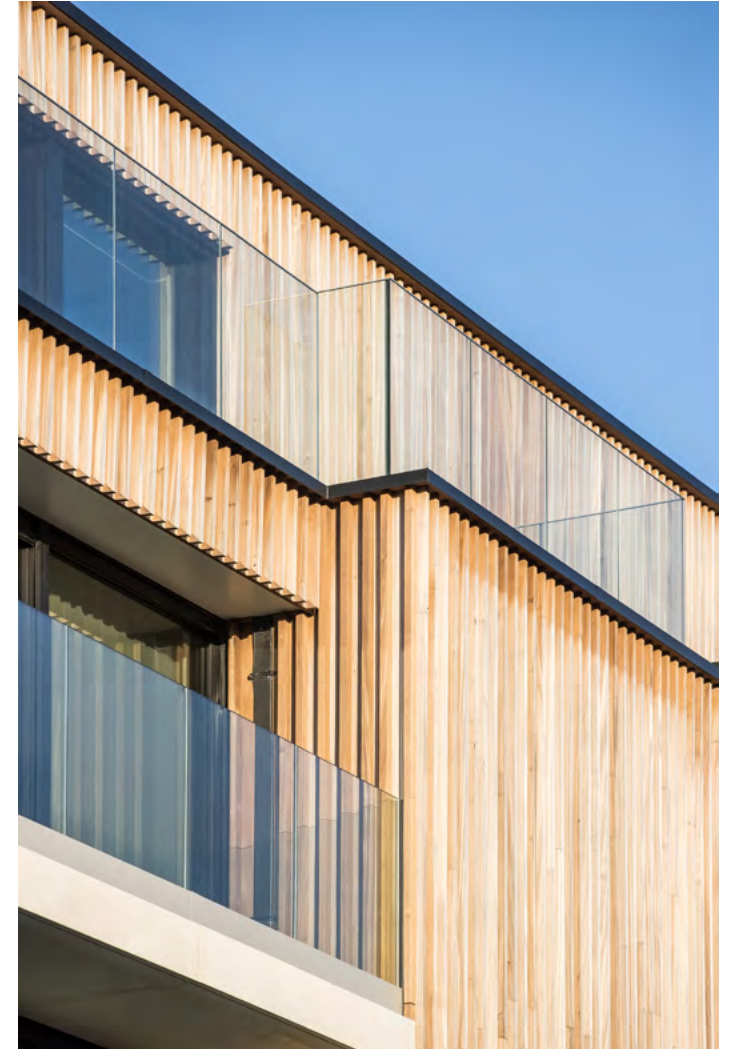
PRESSURE EQUALIZATION

The air cavity helps equalize air pressure between the exterior and interior of the building. This is particularly important in windy conditions, as it prevents the wind from exerting excessive pressure on the cladding, which could lead to damage or stress on the fasteners.

SOUND INSULATION

The air cavity can contribute to sound insulation by creating a barrier that reduces sound transmission from outside. This is particularly beneficial for buildings in noisy environments.

Overall, the air cavity behind LDCwood® ThermoWood® cladding plays a crucial role in maintaining the integrity, performance, and longevity of both the cladding system and the building envelope as a whole. Proper design and installation of the cavity, including ventilation and drainage considerations, are essential to ensure its effectiveness in managing moisture and maintaining a healthy building environment.



WOODEN SUPPORT BATTENS

The correct placement of timber battens is essential for the stability and durability of cladding systems. Vent or support battens are typically horizontal or vertical wooden battens that are fixed to the building substrate and provide a solid base for the cladding material to be fixed to. Here's how to properly install wooden ventilation battens for cladding:

STEP-BY-STEP PLAN

1. PREPARING THE SUBSTRATE

Ensure that the substrate (the surface to which you're fixing the battens) is clean, level and free of debris or obstructions. Apply a weather resistant or moisture barrier to the substrate before applying the battens.

2. MEASURING AND MARKING

Use a tape measure and a pencil or chalk line to mark the positions where the battens will be attached. The spacing between the battens will depend on the cladding material and design considerations. Measure and mark both the horizontal and vertical lines, depending on the orientation of the battens.

3. LEVELLING

Use a plumb line or laser to ensure that the lines you've marked are level or perpendicular, depending on the orientation of the battens. This step is essential to ensure that the cladding is applied evenly and looks good.

4. FIX THE BATTENS

Depending on the substrate and cladding material, you can screw or nail the battens into place. Ensure that the fasteners are suitable for the substrate and corrosion resistant, especially if the cladding will be exposed to the elements.

5. SCREWS

Pre-drill holes slightly smaller than the diameter of the stainless steel screws through the batten and into the substrate. This will prevent the wood from splitting. Fasten the battens with the stainless steel screws, aligning them with the marked lines.

Tools and Materials you may need

- Wooden battens
- Plump rule
- Measuring tape
- Pencil or chalk line
- Plumb or laser
- Drill
- Stainless steel screws or nails
- Wall plugs (if needed)
- Cladding material

6. NAILING

Use stainless steel nails with a length that is appropriate for securing the battens to the substrate. Hammer the nails into the battens, making sure they are driven straight and secure.

7. SPACING AND ALIGNMENT

When installing the battens, ensure that they are evenly spaced and aligned with the marked lines. Use a spirit level or plumb line to ensure a consistent appearance.

8. WALL PLUGS (IF NEEDED)

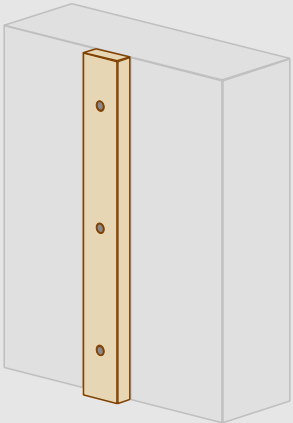
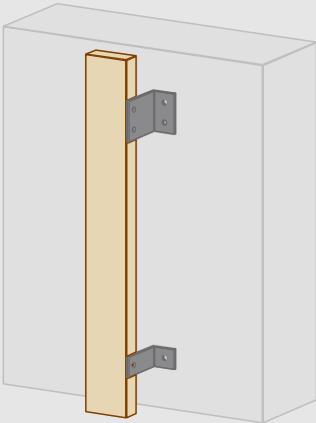
If you're fixing the battens to brickwork or concrete walls, you may need to use wall plugs to provide additional stability and support. Pre-drill holes in the substrate, insert wall plugs and then screw the battens into place.

9. CLADDING INSTALLATION

Once the support battens are firmly in place, you can proceed with the installation of the cladding according to the instructions in this guide. The battens act as anchor points for the cladding.

Remember that the specific method of fixing the battens may vary depending on factors such as the type of substrate, cladding material and local building regulations. It's a good idea to consult a professional.

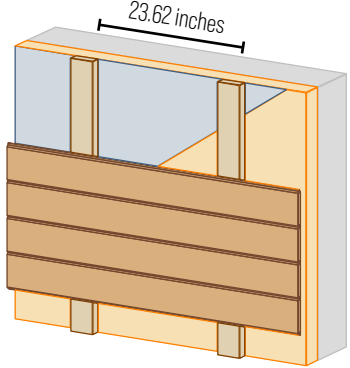
SUPPORT WALL TYPES

TIMBER STRUCTURE - TIMBER FRAME OR CLT	CONCRETE STRUCTURE - MASONRY	
		
Direct fixing to a timber support wall using self-drilling screws suitable for timber made of AISI 304 (A2) stainless steel.	Direct fixing to a timber support wall using plastic plugs and screws suitable for use in concrete and masonry walls.	Fixing through a system of metal fastening brackets that allow adjusting the position of the battens regardless of the support wall flatness.

FACADE WITH WOODEN SUPPORT BATTENS

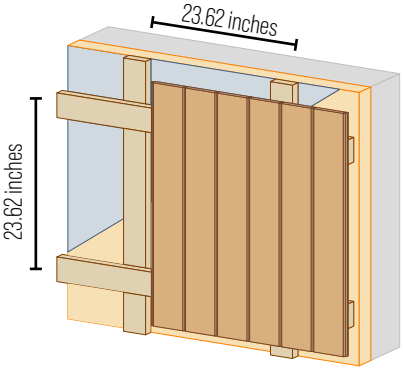
HORIZONTAL ORIENTATION

Horizontal cladding profiles are fixed to vertical battens with a minimum size of 2 x 2 inches spaced 23.62 inches centres.



VERTICAL ORIENTATION

In vertical orientation cladding, a double order of battens must be used to provide adequate ventilation and drainage to the cavity. Vertical cladding profiles are installed onto horizontal battens with a minimum size of 1.18 x 1.97 inches. These horizontal battens are separated from the support wall to guarantee water evacuation using vertical battens with a minimum size of 1.18 x 1.97 inches. It is recommended to space vertical and horizontal battens at 23.62 inches centres. We recommend installing the horizontal timber battens at an angle of 15° towards the interior of the cavity to ensure water drainage.

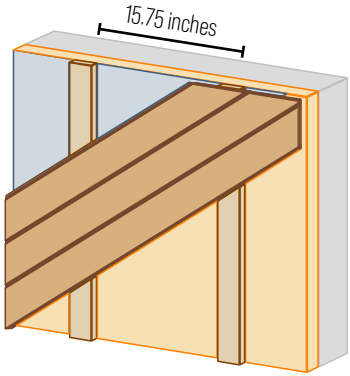


DIAGONAL ORIENTATION

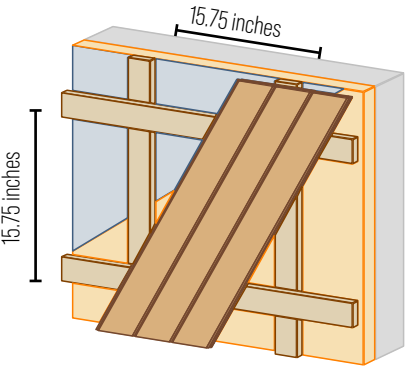
If the cladding profiles form an inclination angle greater than 45° with the horizontal, the installation guidelines are the same as those used in the vertical orientation and a double order of battens will be used. Facade profiles must be fixed to the horizontal battens with a minimum size of 1.18 x 1.97 inches., which must be attached to the vertical battens with a minimum size of 1.18 x 1.97 inches.

If the angle of inclination of the profiles is less than 45° to the horizontal, the installation guidelines are the same as for horizontal installation. In this case, a secondary order of battens is not necessary. Facade profiles must be fixed to the vertical battens with a minimum size of 1.65 x 1.65 inches.

For cladding in diagonal orientation, it is recommended to space battens at 15.75 inches centres.



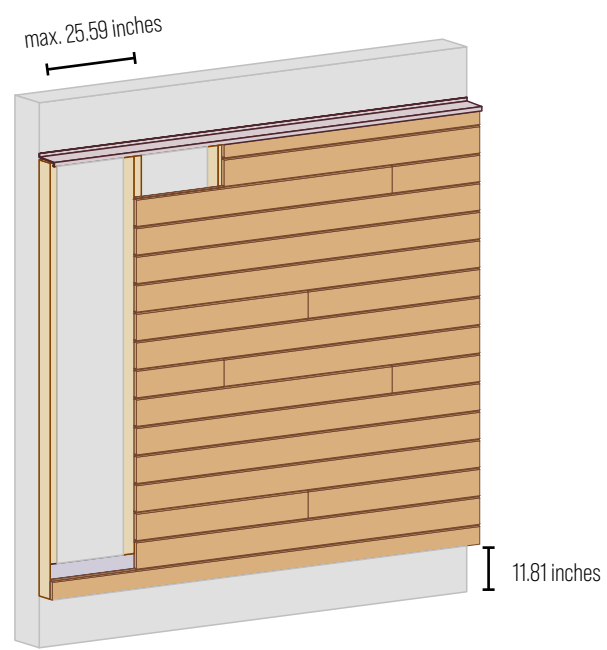
Inclination angle of the facade < 45 degrees



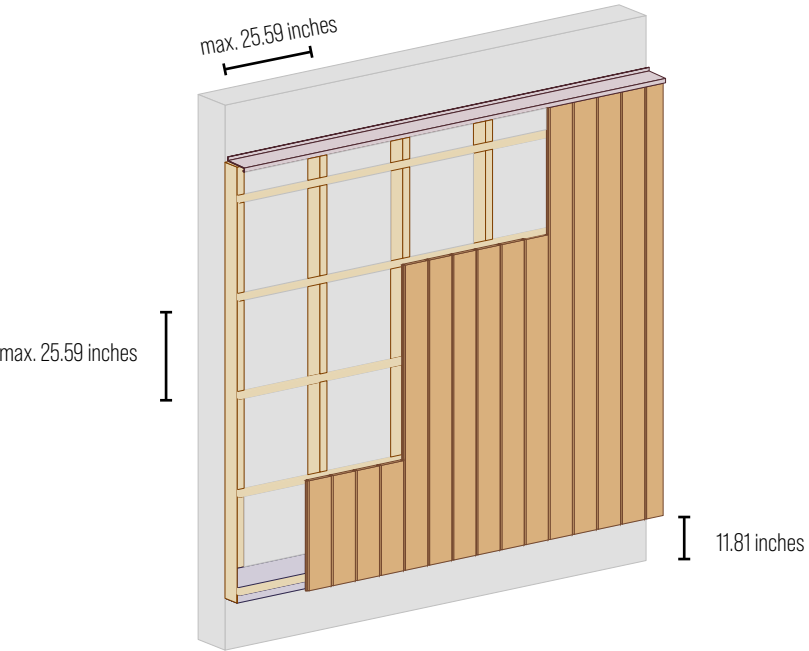
Inclination angle of the facade > 45 degrees

CLADDING INSTALLATION

HORIZONTAL: SINGLE BATTENING



VERTICAL: MANDATORY DOUBLE BATTENING



FASTENERS

Because of LDCwood® ThermoWood® products' pH value (acid), any fasteners must be made of stainless steel or stronger material in order to prevent corrosion. This applies to products used indoors and outdoors.

Other fasteners react with LDCwood® ThermoWood®, causing staining around the fastener. If thermally modified timber is used in combination with other materials, possible reactions between the materials must be determined.

Table 2 presents the minimum requirements for the fasteners' protection against corrosion. The most common class for stainless steel is **Class A2 (AISI 304, EN 1.4301)**.

NAILS & SCREWS

LDCwood® ThermoWood® products can be fixed in a traditional manner with nails and screws like any other timber products. Various hidden fastening systems are also available. The nails or screws used must be sufficiently long to extend through the mounting batten or board. The length of nails or screws must be selected so that they do not pierce any air or moisture barrier or similar structure. When nails or screws are used, they must be fixed so that their head is on the same level as the timber surface (see page 21).



If a nail gun is used to fix exterior cladding or decking boards, the machine must have a depth control mechanism to ensure that the nail head will be on the level with the timber surface. While this also affects visual quality, it is important in preventing water from entering the timber structure via the fastener. With nails and screws, it is important to ensure that they do not cause a crack in the timber (distance from the end). Pre-drilled holes can also be used for the fasteners.

APPLICATION	CLASS	QUALITY	TYPE
Ceiling and wall cladding (dry space)	A2	AISI 304 (EN 1.4301)	Stainless steel
Floor (dy space)	A2	AISI 304 (EN 1.4301)	Stainless steel
Ceiling and wall cladding (bathroom)	A2	AISI 304 (EN 1.4301)	Stainless steel
Decking boards	A2	AISI 304 (EN 1.4301)	Stainless steel
Exterior cladding	A2	AISI 304 (EN 1.4301)	Stainless steel

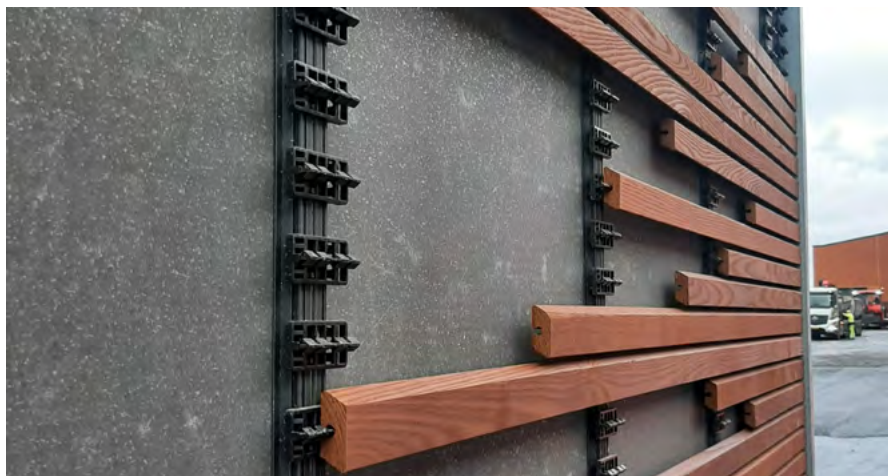
Minimum requirements for fasteners' corrosion protection level in use with LDCwood® ThermoWood® products.

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The Grad® system makes every terrace and facade more sustainable. Due to limited contact with the structure (only the clip), the lifespan of the terrace or facade planks is increased because there is no capillary action between the Grad® clip and the wood. With minimal buildup, maximum ventilation is guaranteed.

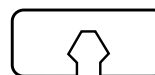
- Invisible fixing
- Demountable
- Quick installation
- Optimal ventilation
- Various finishes possible



© Grad®



© Grad®



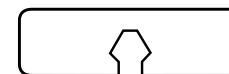
45 x 20 mm
GRAD-45



118 x 20 mm
GRAD-118



40 x 20 mm
GRAD-40



65 x 20 mm
GRAD-65

END JOINTS

End joints in LDCwood® ThermoWood® cladding refer to the points where two pieces of cladding meet at the ends. Properly managing these end joints is crucial for the overall aesthetics and durability of the cladding installation. Here's how to effectively handle end joints in LDCwood® ThermoWood® cladding:

1. MINIMIZE VISIBLE END JOINTS

Whenever possible, try to design the cladding layout in a way that minimizes the number of visible end joints. Longer cladding boards can help reduce the frequency of these joints, enhancing the visual continuity of the facade.

2. SPACING

Maintain an appropriate spacing between end joints to avoid clustering them closely together. Spacing them out evenly across the facade can create a more balanced and visually appealing appearance.

3. OVERLAP

If the cladding boards have a tongue-and-groove or shiplap profile, you can utilize the overlapping feature to conceal the end joints. The overlapping design creates a continuous appearance while providing some protection against moisture infiltration.

4. STAGGERED END JOINTS

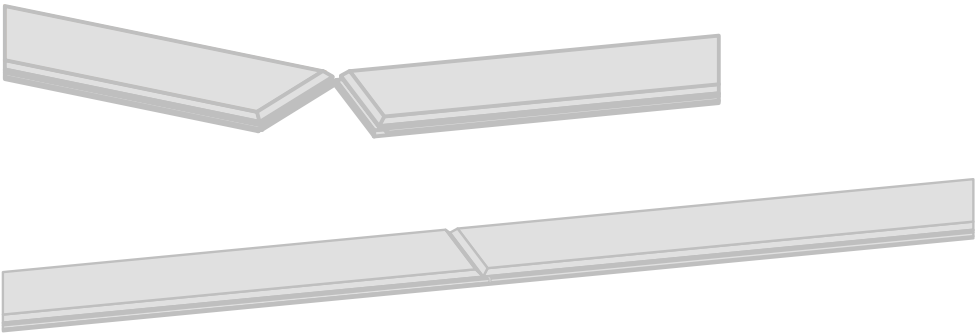
Consider staggering the end joints in a way that they don't align vertically across multiple rows. This prevents a distinct vertical line of end joints, contributing to a more random and natural look.

5. BUTTED JOINTS WITH BLOCKING

For cladding with flat profiles, you can create a butt joint where the ends of two adjacent boards meet directly. To ensure stability and proper fastening, install a blocking or backing piece behind the joint before attaching the cladding boards. This strengthens the joint and provides additional support.

6. TREATMENT OF END GRAIN

The end grain of wood is more susceptible to moisture absorption, which can lead to decay or splitting. To mitigate this, consider applying a wood preservative or end-grain sealer to the exposed ends of the cladding boards before installation.



7. MATERIAL SELECTION

Choose cladding materials that offer options for managing end joints effectively. Certain profiles and materials may offer better solutions for concealing or managing these joints.

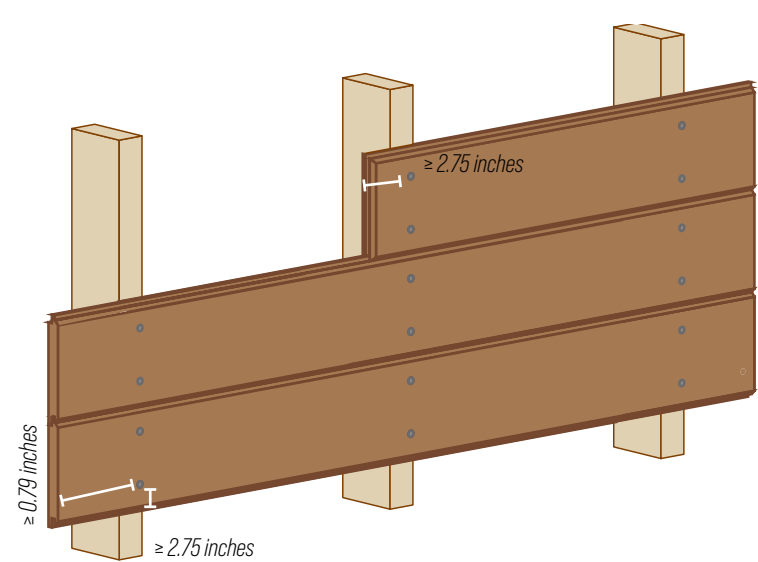
8. PROFESSIONAL INSTALLATION

If you're unsure about the best way to handle end joints, consider consulting our professionals at protectedbynature@LDCwood.com with professionals or experienced contractors who specialize in LDCwood® ThermoWood® cladding. Their expertise can help you achieve the desired look while maintaining structural integrity.

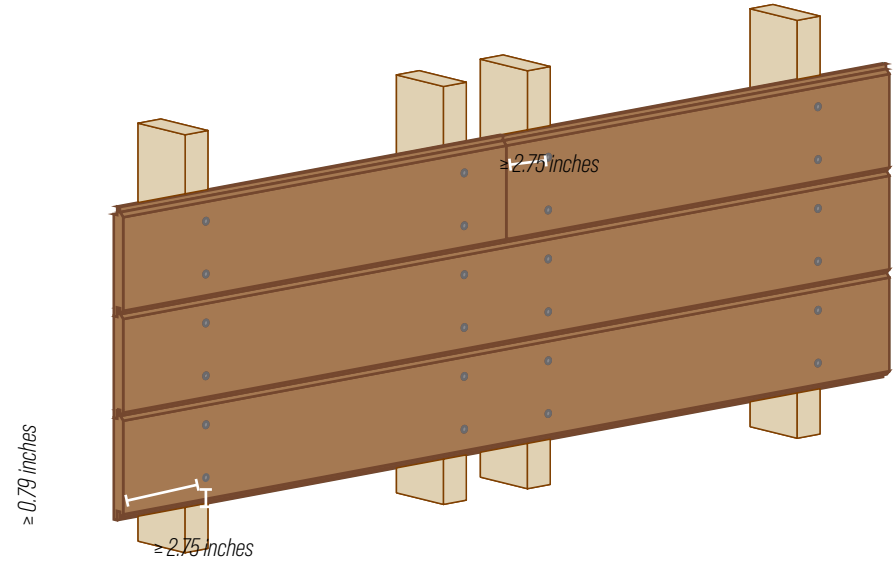
Managing end joints in LDCwood® ThermoWood® cladding requires a combination of thoughtful design, careful planning, and skilled installation techniques. By applying these strategies, you can achieve a visually appealing and durable cladding installation that enhances the overall aesthetics of the building's facade.

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THE RECOMMENDED DISTANCES

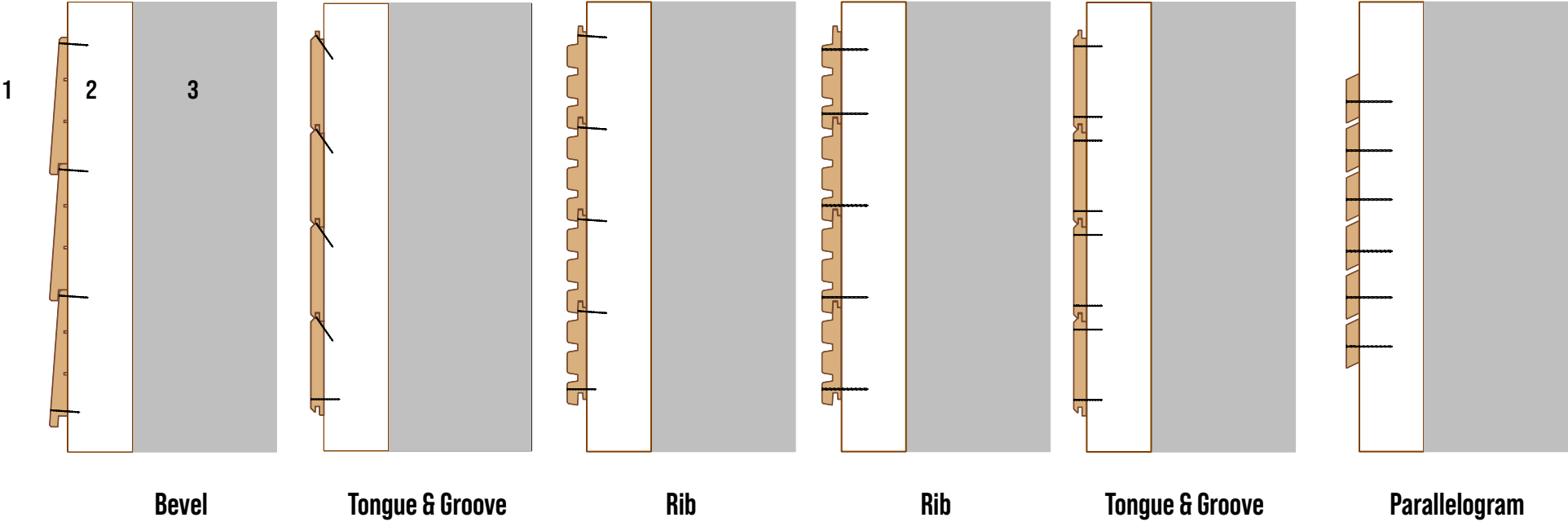


The recommended distances to edges and ends without pre-drilling with LDCwood® ThermoWood® products.



The recommended distances to edges and ends without pre-drilling with LDCwood® ThermoWood® products (without tongue and groove joint).

BASIC INSTALLATION OPTIONS



- 1. Wood profile
- 2. Fixing system
- 3. Support wall

AG CAMPUS

Bruxelles, Belgium

LDCwood® ThermoWood® pine

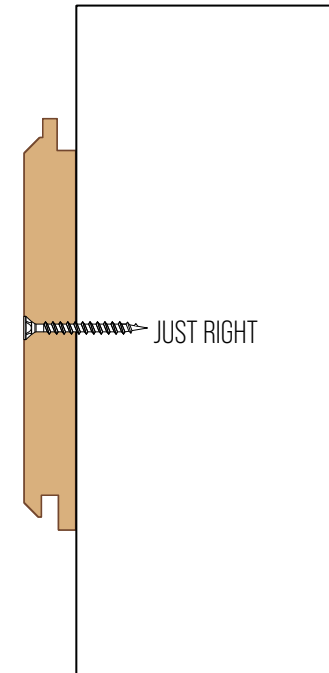
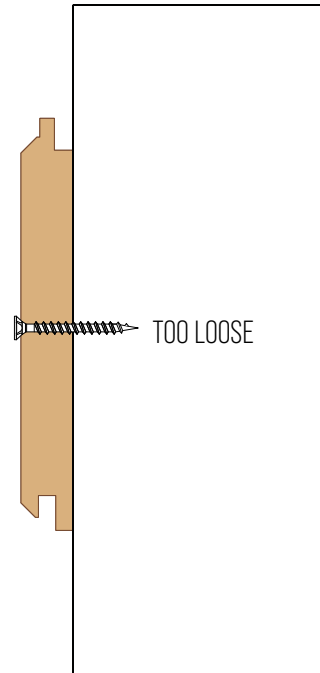
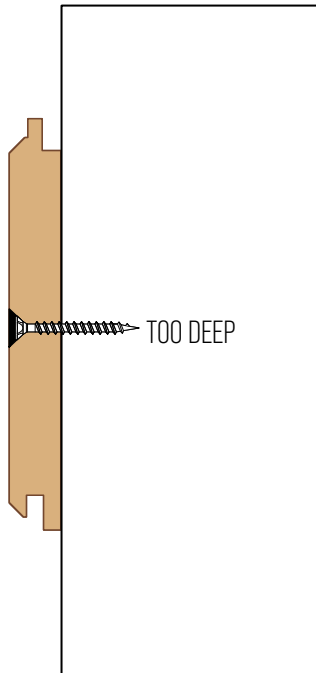
EVR Architects



GENERAL GUIDELINES

FASTEN NAILS OR SCREWS TO THE CORRECT DEPTH

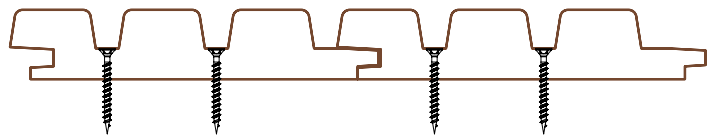
Screw head must not penetrate too deep into the cladding and must be flush with the surface of the tongue to prevent excessive moisture absorption.



INSTALLATION GUIDELINES FOR RIB PROFILES

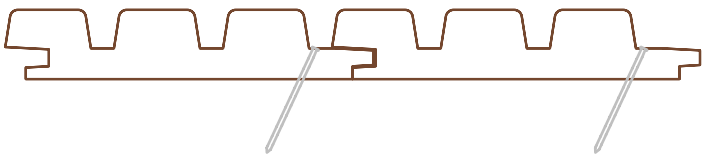
SCREWS - FACE

Stainless steel screw: lenght 1.58 inches Screw head diameter max. 0.28 inches



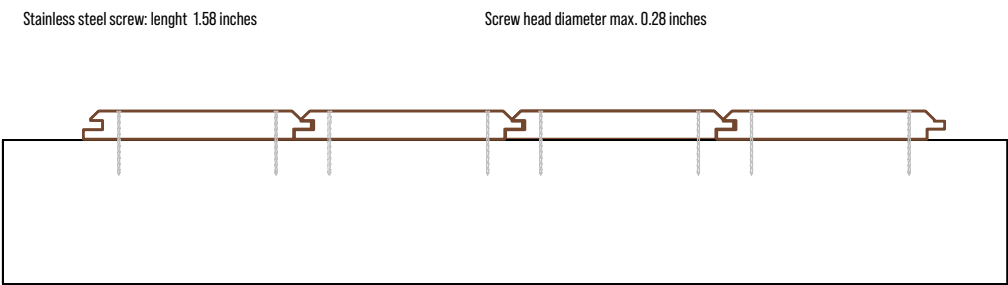
NAILS - HIDDEN

Stainless steel nail: lenght 1.58 inches

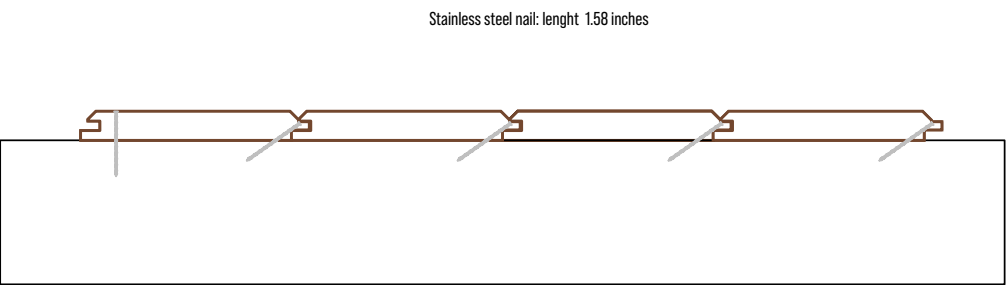


INSTALLATION GUIDELINES FOR TONGUE & GROOVE PATTERNS (T&G)

SCREWS

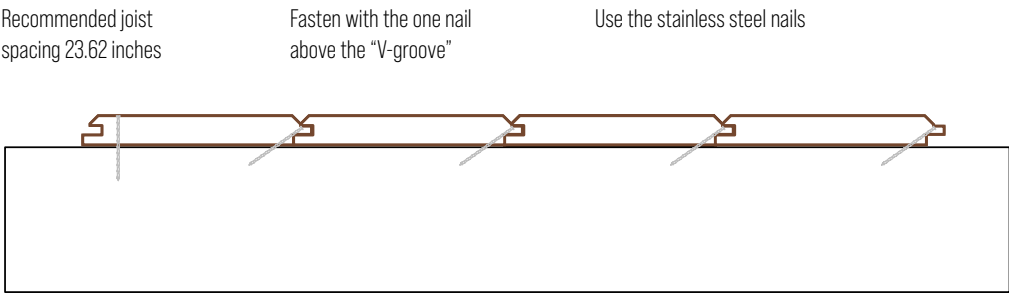


NAILS

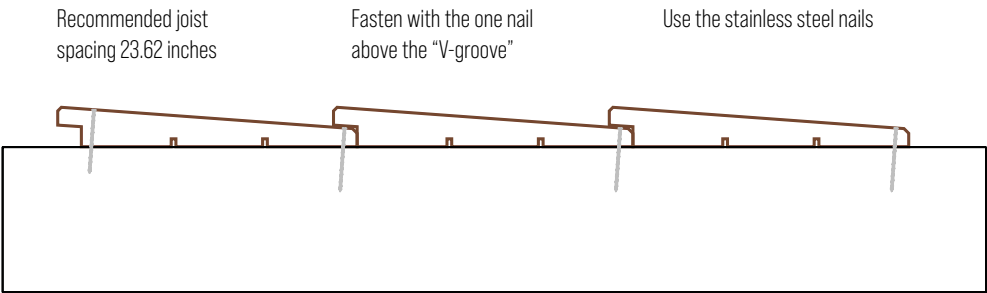


INSTALLATION GUIDELINES FOR HIDDEN NAILING

T&G installation



Bevel edge installation

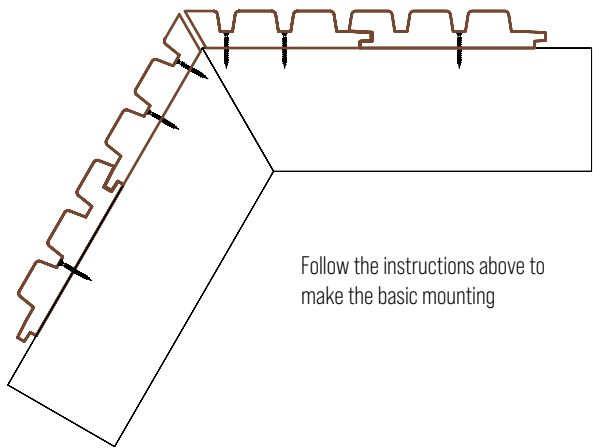


INSTALLATION GUIDELINES FOR CORNER INSTALLATION

Miter 60 degree corner

Split to a 60 degree angle

Screw the corner from opposite sides at different heights

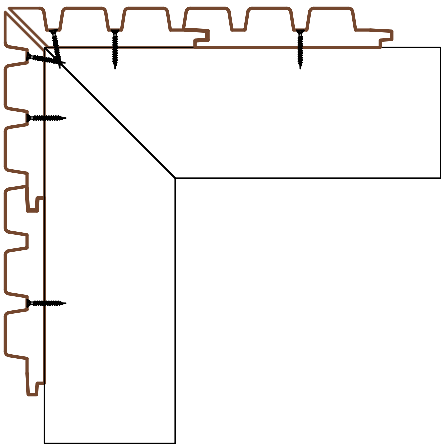


Follow the instructions above to make the basic mounting

Miter 90 degree corner

Split to a 45 degree angle

Screw the corner from opposite sides at different heights



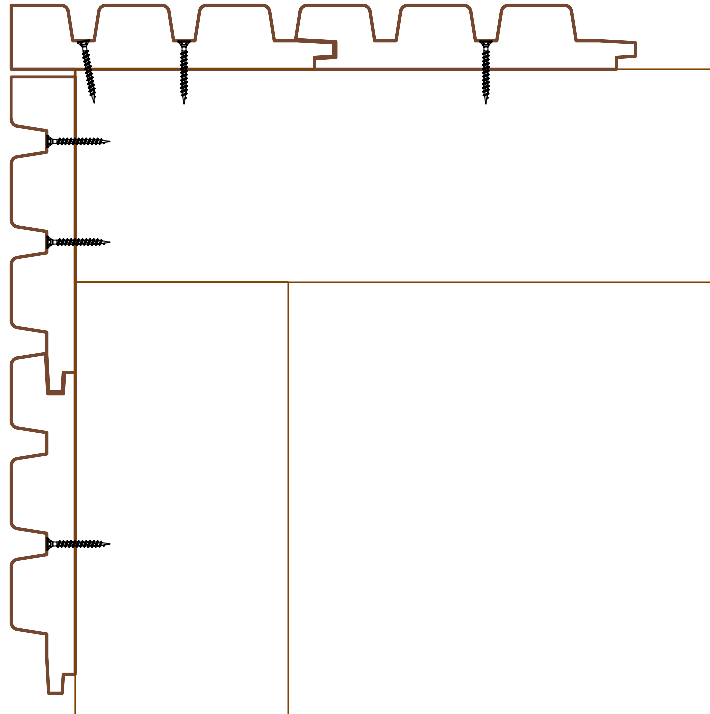
Follow the instructions above to make the basic mounting

Basic 90 degree corner

Split to a 90 degree angle

Screw the corner from opposite sides at different heights

Follow the instructions above to make the basic mounting



MATERIALS HANDLING & STORAGE

HOW TO STORAGE TIMBER ON THE CONSTRUCTION SITE

LDCwood® ThermoWood® products are available from timber retailers and hardware stores that stock other timber products. The stocked products vary depending on the retailer, and special products must be ordered separately.

Whenever possible, LDCwood® ThermoWood® should be stored inside, out of the weather and sun. When this is not possible, LDCwood® ThermoWood® needs to be elevated off the ground, stacked uniformly and covered with a waterproof cover. Leave the ends of the cover open so moisture is not trapped inside, making certain the stored wood is not subjected to the elements or sun as the UV rays will fade the material.

Under no circumstances should LDCwood® ThermoWood®, even in original packaging, be subjected to rain or any moisture as it cannot dry properly when stacked and/or packaged.



An even surface and a sufficient number of base battens.

THESE FACTORS MUST BE TAKEN INTO ACCOUNT IN THE STORAGE OF LDCWOOD® THERMOWOOD®

- A dry ventilated storage space must be used (a dry outdoor space can be used for products for outdoor applications)
- Products to be used for indoor applications must be stored in a heated indoor space
- Products must be protected against dirt and UV radiation
- They must be placed in a horizontal position on an even base (off the ground)
- A sufficient number of battens must be used as the base
- Product bundles must not be loosened before use
- Interior cladding products are used directly from the package
- When lifting long products, bear in mind their reduced bending strength
- Products with a tongue-and-groove finish must be handled with care to avoid damage (particularly with long products)

MAINTENANCE

LDCwood® ThermoWood® has a prolonged life and it doesn't necessarily need a surface treatment applied to it. Some people choose to add a finish or paint to their timber to enrich its color, but if it's left untreated, the wood will naturally change to a silvery grey (similar to that of cedar or larch). This process will begin immediately and, depending on the amount of UV exposure, may take several months to a year. This does not make the wood less resistant to decay.

Unlike pressure impregnated wood, LDCwood® ThermoWood® can be recycled as untreated wood when it is no longer required.



SURFACE TREATMENT

LDCwood® ThermoWood® makes an excellent basis for surface treatment agents because it is resin-free and it only swells and shrinks to a small degree when exposed to moisture.

It should be noted that all surface treatment agents do not sufficiently adhere to the surface because of the acidity and low water absorbance capacity of ThermoWood®.

FIRE PROTECTION TREATMENT

One of the challenges of timber facades is to meet the requirements of the necessary reaction to fire classification.

Optionally, we can give timber products a fire retardant treatment with Burnblock® in our autoclave under pressure. Burnblock® consists of 100% natural ingredients, is 100% biodegradable, and pH-neutral. Moreover, the product also has GOLD-level Cradle-to-Cradle Certification™.

At our production site in Ostend, both our autoclave and the drying kilns guarantee a qualitative treatment in accordance with current standards.

THE MOST COMMONLY USED SURFACE TREATMENT AGENTS

LDCwood® ThermoWood® can be treated with agents similar to those used with standard timber (including paint, lacquer, oil and wax).

Industrial surface treatment is recommended for LDCwood® ThermoWood® as well as for other timber products. This ensures that the surface treatment is carried out in controlled conditions with suitable treatment agents, guaranteeing the high quality and durability of the surface treatment.

Consult our professionals at protectedbynature@LDCwood.com for more detailed information on suitable coatings.



LDCWOOD® THERMOWOOD®

LDCwood® provides a solution for every need with a wide range of wood types and patterns. LDCwood® ThermoWood® can be treated with fire retardant Burnblock® under vacuum pressure, pre-aged, oiled, brushed and varnished.

Our membership in the International ThermoWood® Association guarantees the highest quality of thermally modified timber.
With wood from sustainable managed forests there are no boundaries to choose LDCwood® ThermoWood®.



Low maintenance



Wood from sustainable managed forests



Long lifespan up to 20 years

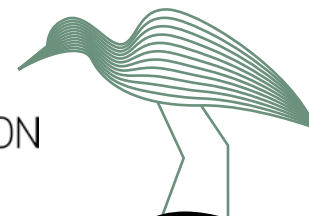


Certified in-house fire retardant treatment



 LDCwood® is part of Lemahieu Group and Decolvenaere.

LDCwood® is a registered trademark. All LDCwood® products are FSC®, PEFC or OLB certified. LDCwood® is a member of the International ThermoWood® Association (ITWA). FSC® (C001899), PEFC (PEFC/07-31-24), BSI ISO 14001 Certified



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THERMOWOOD®



THERMOWOOD®



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