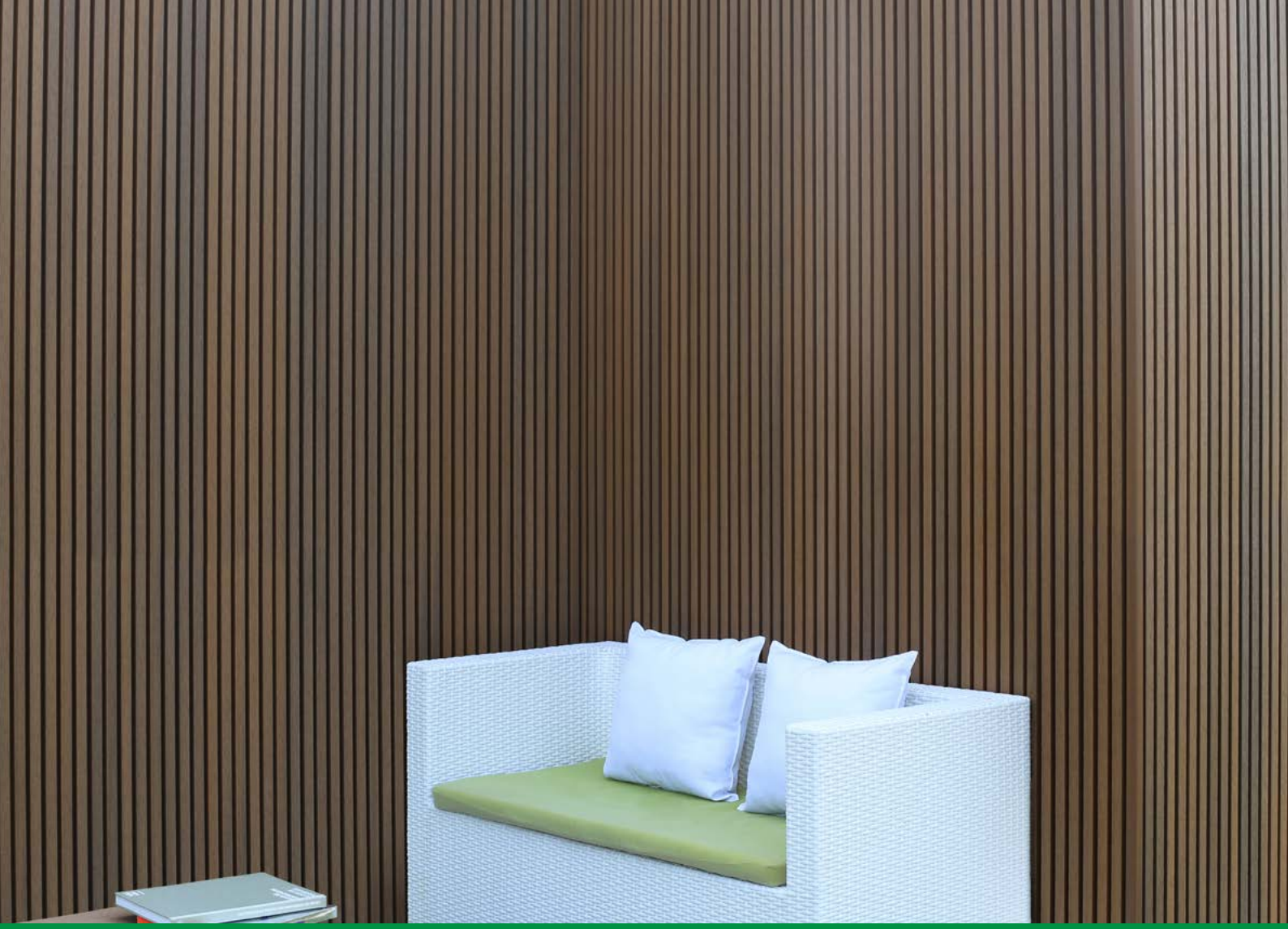


Contemporary Cladding System Vertical Installation Guide

v20210702

NewTechWood®

CONTENTS

IMPORTANT Note:

Read All Sections Before You Start

For the most up to date information, please visit our website @ www.newtechwood.com

Prior to installing any composite siding system, it is recommended that you check with local building codes for any special requirements or restrictions. The diagrams and instructions outlined in this guide are for illustration purposes only and are not meant or implied to replace a licensed professional. Any construction or use of NewTechWood must be in accordance with all local zoning and/or building codes. The consumer assumes all risks and liability associated with the construction and use of this product.

Safety

When dealing with any type of construction project, it is necessary to wear appropriate safety equipment to avoid any risk of injuries. NewTechWood recommends, but is not limited to the following safety equipment, when handling, cutting, and installing NewTechWood: gloves, a respiratory protection, long sleeves, pants, and safety glasses.

Tools

Standard woodworking tools may be used. It is recommended that all blades have a carbide tip. Standard stainless steel or acceptable coated deck screws and nails are recommended.

Environment

A clean, smooth, flat, and strong surface is needed to install NewTechWood's products correctly. Please check with local building codes before ever installing any type of siding. If installation does not occur immediately, NewTechWood's products need to be put on a flat surface at all times. It should NEVER be put on a surface that is NOT flat.

Planning

Plan a layout for your siding before starting it to ensure the best possible looking siding for your project. Building codes and zoning ordinances generally apply to permanent structures, meaning anything that is anchored to the ground or attached to the house. So nearly every kind of cladding requires permits and inspections from a local building department. We recommend drawing out a site plan of your proposed project that you intend to do to minimize errors and make your perfect Siding.

Pressure wash on a scrap piece of material before using a pressure washer on the profiles to make sure that your settings will not damage the Ultrashield coating.

Construction

NewTechWood UltraShield is NOT intended for use as columns, support posts, beams, joist stringers, support against a force, or other primary load-bearing members. NewTechWood must be supported by a code-compliant substructure. While NewTechWood products are great for retrofits, NewTechWood's products CANNOT be installed on existing cladding boards.

Static

Static can also be more prevalent in areas that are of higher altitude because the humidity is lower. For these areas, be careful of using conducive objects such as metal railing and chairs as static shocks might occur more often. A potential way to lower the amount of static shocks occurring is to apply Staticide (www.aclstaticide.com) on your deck or use anti-static mats before doorways.

Ventilation

NewTechWood products CANNOT be directly installed onto a flat surface. It must be installed onto a substructure, so there is adequate and unobstructed air flow under the cladding to prevent excessive water absorption. A minimum of 25mm of continuous net free area under the siding surface is required for adequate ventilation on all siding, so air can circulate between adjacent members to promote drainage and drying.

Heat and Fire

Excessive heat on the surface of NewTechWood products from external sources such as but not limited to fire or reflection of sunlight from energy efficient window products. Low-emissivity (Low-E) glass can potentially harm NewTechWood products. Low-E glass is designed to prevent passive heat gain within a structure and can cause unusual heat build-up on exterior surfaces. This extreme elevation of surface temperatures, which exceeds that of normal exposure, can possibly cause NewTechWood products to melt, sag, warp, discolor, increase expansion/contraction, and accelerate weathering.

Current or potential NewTechWood customers that have concerns about possible damage by Low-E glass should contact the manufacturer of the product, which contains Low-E glass for a solution to reduce or eliminate the effects of reflected sunlight.

Fasteners

When fastening NewTechWood's products all screws that are face fastened should always be driven in at a 90 degree angle to the siding surface. Toe nailing/screwing should never be done to the products. An extra furring strip should be added if a 90 degree angle cannot be driven into the board. All fasteners should be on their own independent joists, when two boards ends meet each other there must be a sister joist. The end of each board must sit on its own joist.

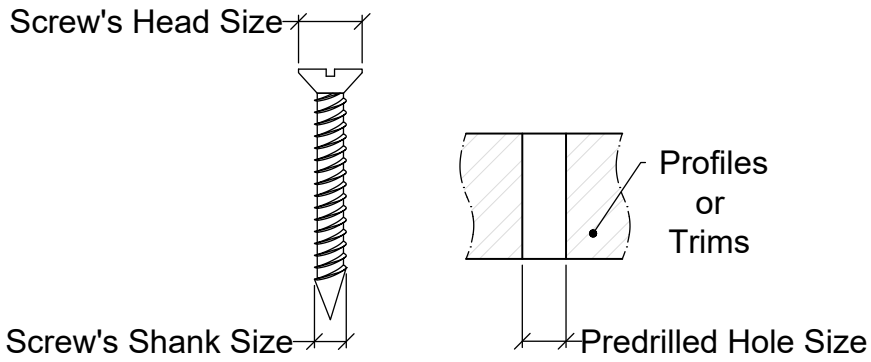
Use white chalk, straight boards, or string lines as templates for straight lines. NEVER USE COLORED CHALK. Colored chalk will permanently stain NewTechWood's products and are highly not recommended.

All nails/screws that are face fixed should always be stainless steel. Depending on the screws that you use when face fixing, there could be potential bulging or mushrooming. It is recommended to take care of these mushrooms/bulges by taking a rubber mallet and patting them down to give your cladding a better look.

When choosing which screws/nails to use, always check first with your local home centers and hardware stores to see if they have screws that are engineered specifically for composite wood. These screws/nails will always work and give NewTechWood's products the best looking outcome, using other screws/nails that are not recommended for composite could potentially damage/harm the cladding. If you are unsure which screw/nail to use, contact your manufacturer for more information.

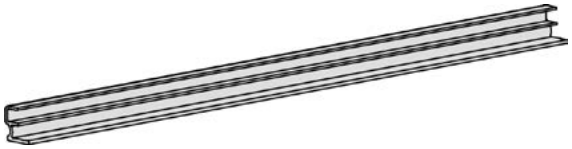
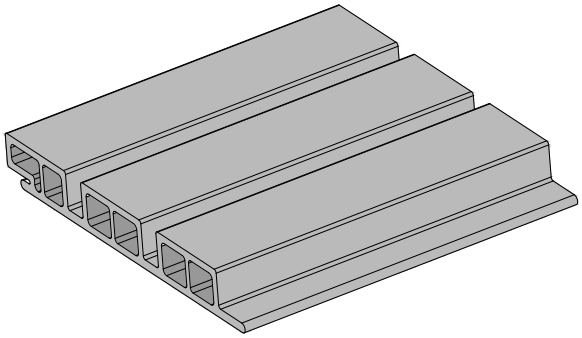
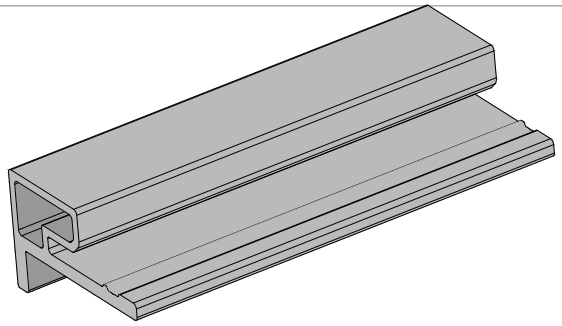
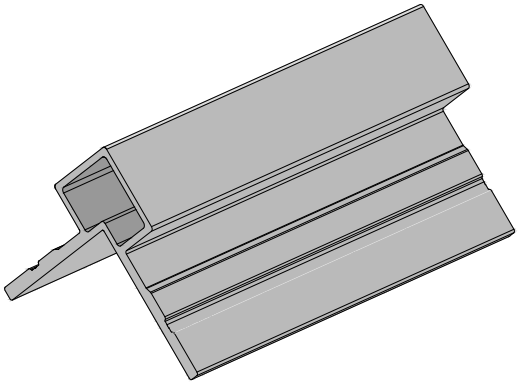
Predrill

It is recommended to use the M4 pan head screw for face fixing the profiles and the trims onto the furring strips.
When face fixing, it is recommended to predrill the holes slightly larger on the profiles and the trims to allow for expansion and contraction response to temperature change, as shown in below diagram,



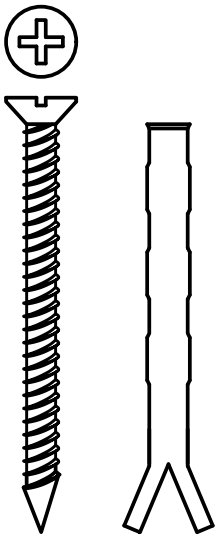
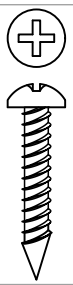
The predrilled hole size should be larger than the screw thread size, from 1.5 mm to 2 mm. Moreover, the predrilled hole size should also be smaller than the screw head size, at least 2 mm. A washer can be applied if the predrilled hole size is smaller than the screw head size below 2 mm.

Contemporary Cladding Parts

Product	Purpose	Part
AW-02	Used for the installation of the first board	
AW-08	Used at every joist to fix each board to the joist	
T-7	Used on the supporting for the last board	
UH58	Contemporary Cladding Board	
UH59	F-Trim, used for the UH58 installation on the outermost edge	
UH60	Outside Corner Trim, used for the UH58 installation on the outside corners	

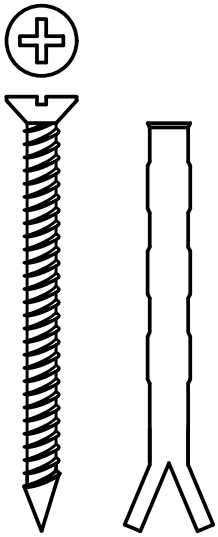
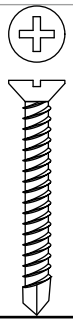
Contemporary Cladding Screws (For Wood joist)

The table below shows the screws recommended to use for the installation, but not included.

Product	Purpose	Part
M3 x 12 Stainless Steel SS304	Used when locking the board into the Clip (AW08)	
M4 x 80 Stainless Steel SS304 **depends on the thickness of your joists	Used when installing the joists onto the wall	
M4 x 20 Stainless Steel SS304 (Pan Head)	Used when installing the Clip (AW08) and the Rubber Stopper (T-7) onto the wood joists	
M4 x 20 Stainless Steel SS304 (Flat Head)	Used when face fixing the boards and the trims onto the wood Joists	

Contemporary Cladding Screws (For Aluminum Joist)

The table below shows the screws recommended to use for the installation, but not included.

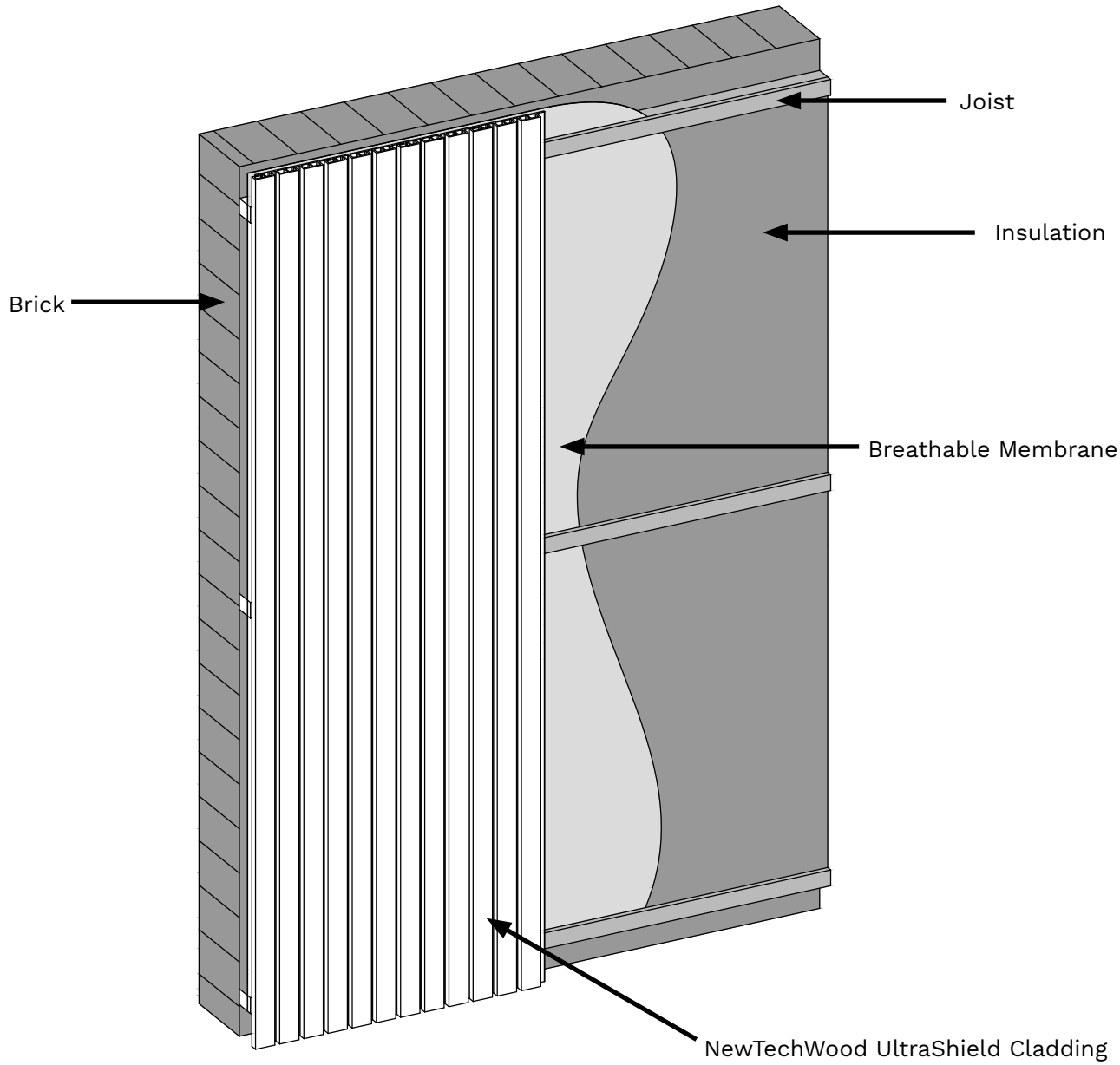
Product	Purpose	Part
M3 x 12 Stainless Steel SS304	Used when locking the board into the Clip (AW08)	
M4 x 80 Stainless Steel SS304 **depends on the thickness of your joists	Used when installing the joists onto the wall	
M4 x 20 Stainless Steel SS410 (Pan Head)	Used when installing the Clip (AW08) and the Rubber Stopper (T-7) onto the aluminum joists	
M4 x 20 Stainless Steel SS410 (Flat Head)	Use when face fixing the boards and the trims onto the aluminum joists	

*Note: All screws are based on our recommendation and if the installation requires something different than what is shown, a professional should be consulted before installing.

The following installation guide will use the above screw sizes.

Under Construction

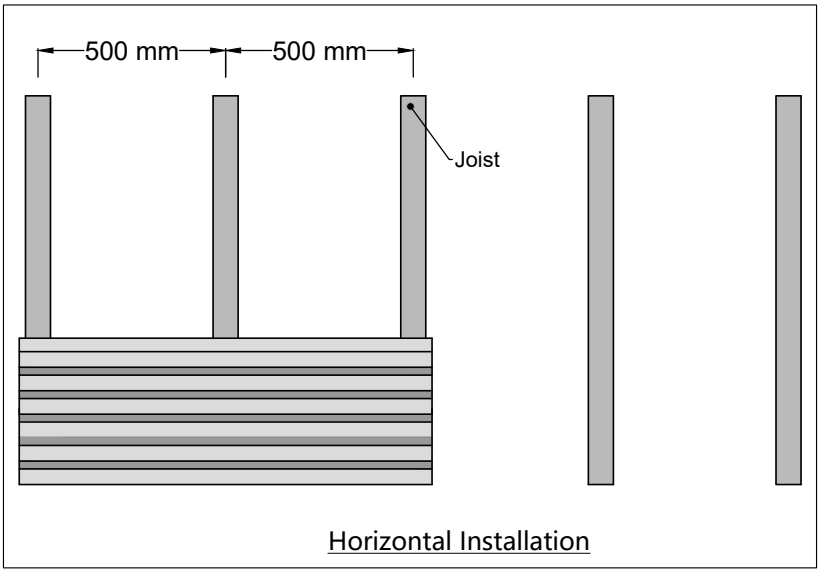
We recommend for the under construction aluminum or pressure treated wood joists. Each cladddding board needs to be supported by a joist NO MORE than 500mm from center to center. Extra care is required in order to provide sufficient joisting in and around obstacles such as windows, fascia's, soffits, guttering, ventilation points etc. Below is an example of the layers that would occur in a typical installation, but a licensed professional should always be consulted prior to any installation.



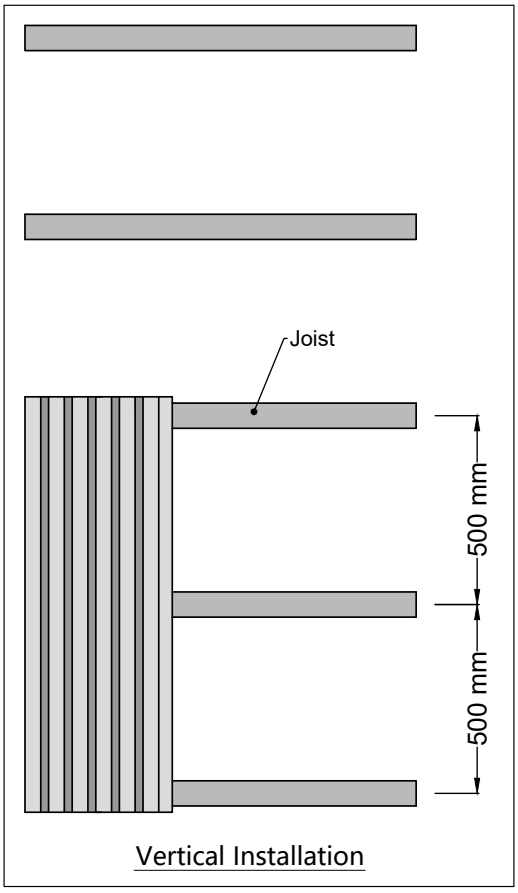
Joists Installation

A building professional should be consulted regarding vapor barriers and insulation for your project. Where a vapor barrier is to be used, it should be a breathable type and must be positioned behind the joists. The joist needs to have a minimum thickness of 25mm.

Wood joists should be fixed into position at a maximum of 500mm centers using a suitable A4 Stainless Steel Countersunk Wood/Masonry screw. All joists needs to be flat and leveled against the wall surface use shims if necessary.



Horizontal Installation



Vertical Installation

Expansion and Contraction Values

NewTechWood cladding boards will experience expansion and contraction with changes in temperature. Expansion and contraction are most significant where extreme temperature changes occur. Fastening the cladding boards according to the gapping requirements noted in the following table accommodates for this movement.

Length (Meters)

Installation Temperature (°C)	1	2.44	2.8	3	3.66	4	4.88	5.4	Gap (mm)
0	1.4	3.4	3.9	4.2	5.1	5.6	6.8	7.6	
5	1.2	2.9	3.4	3.6	4.4	4.8	5.9	6.5	
10	1.0	2.4	2.8	3.0	3.7	4.0	4.9	5.4	
15	0.8	2.0	2.2	2.4	2.9	3.2	3.9	4.3	
20	0.6	1.5	1.7	1.8	2.2	2.4	2.9	3.2	
25	0.4	1.0	1.1	1.2	1.5	1.6	2.0	2.2	
30	0.2	0.5	0.6	0.6	0.7	0.8	1.0	1.1	

Please Note:

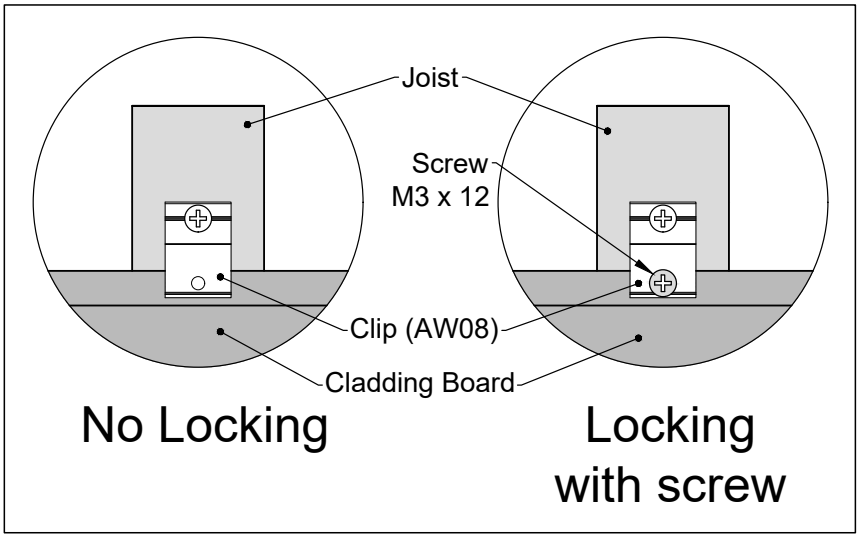
1. The above table shows the overall gap required. If boards have a gap at each end, then halve the value shown.

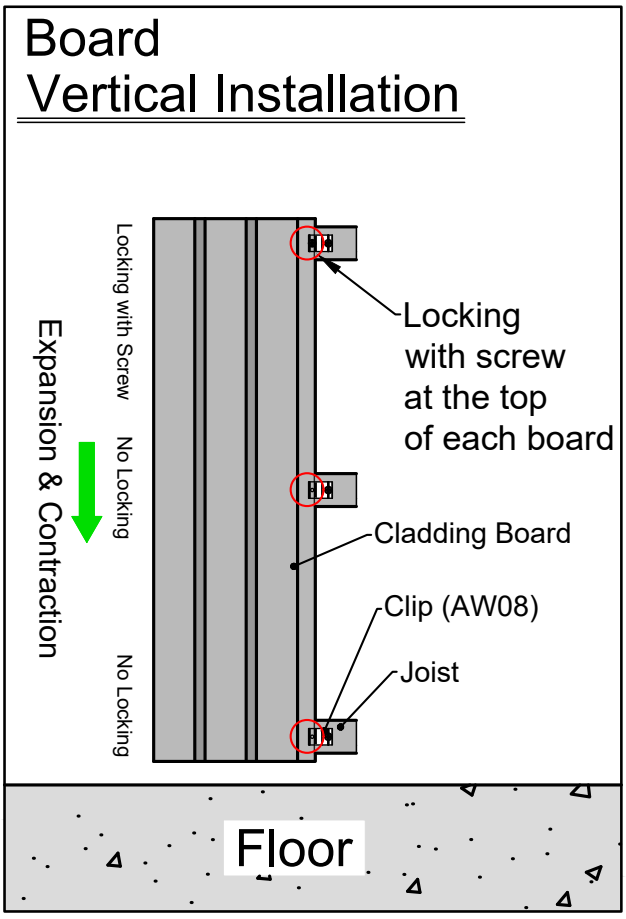
2. If you are still unsure of what gapping to use, contact the manufacturer and they will give you the correct gapping requirements based on your environment and area.

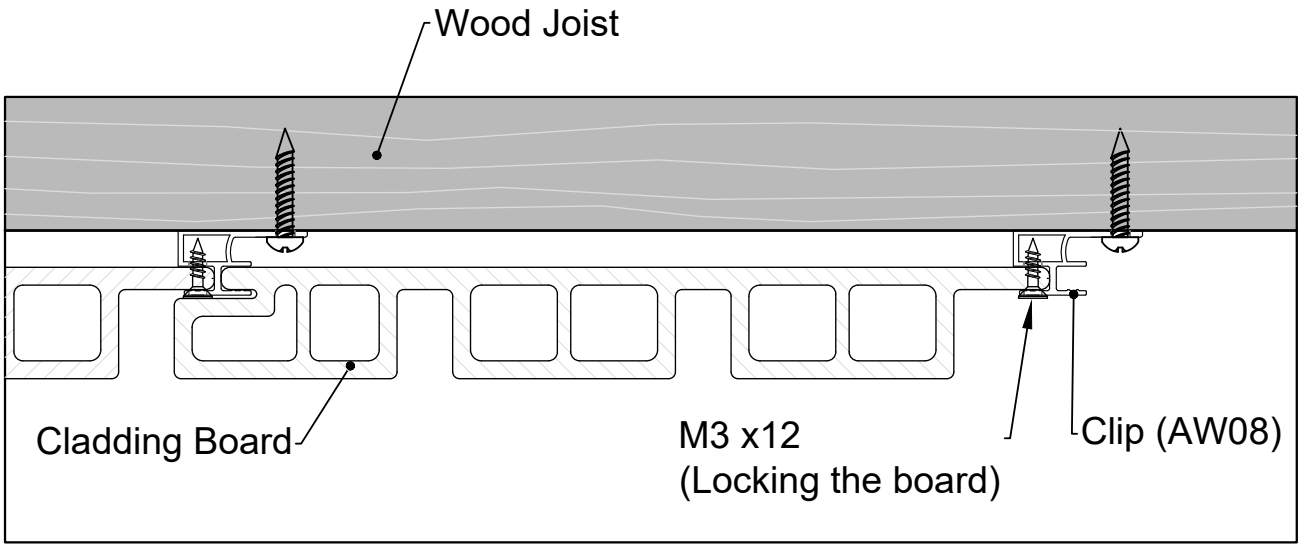
Locking the Cladding Board

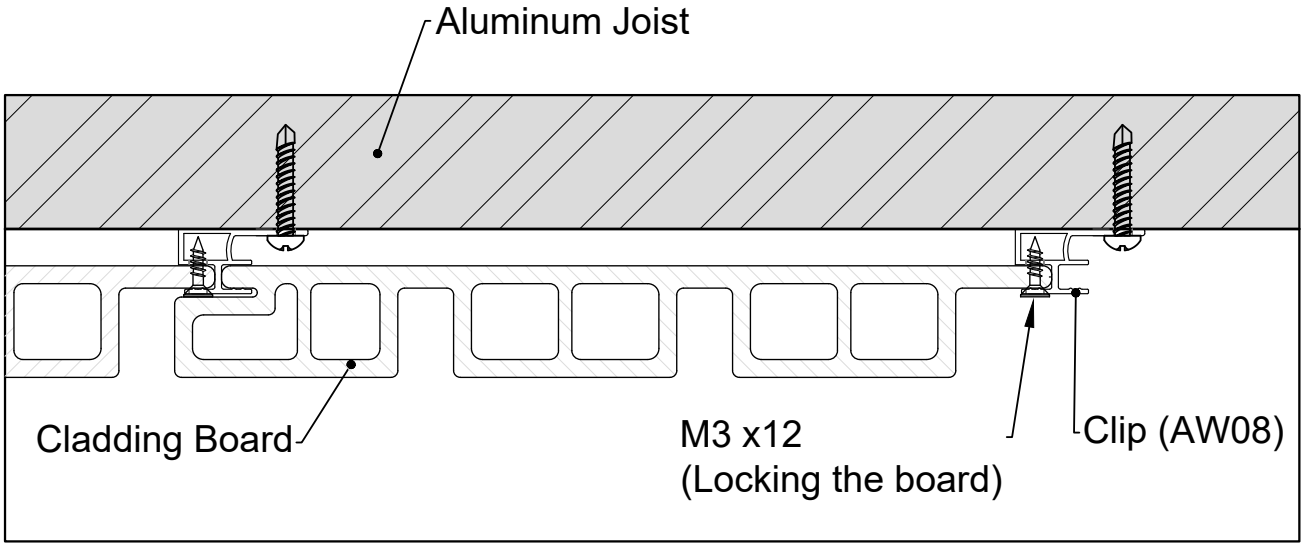
Every AW-08 clip comes with a separate hole in the case there is a need to lock the board. The wall cladding boards will expand and contract and to take care of this movement, we must lock the board in one position, **ONLY ONE LOCKING SCREW USED PER BOARD**, and then allow the board to expand and contract readily in the other direction.

Please Note: DO NOT LOCK EVERY CLIP. General rule of thumb is every board will only need one locking/ fixation point.






Wood Joist
Cladding Board
M3 x12
(Locking the board)
Clip (AW08)


Aluminum Joist
Cladding Board
M3 x12
(Locking the board)
Clip (AW08)

Contemporary Cladding System Vertical Installation

Installation Procedure

Step 1: Framing
- **Measure and Chalk the Joists**
- **Joists Installation**

Step 2: Trim Installation

Step 3: Siding Board Installation
- **Installing the First course**
- **Installing the Second course**
- **Continuing the remaining installation**
- **Installing the Last board**

1 Framing

The frame needs to be level before installing the siding boards. ***Diagram 1*** shows the wall replicating different scenarious potentially occuring when installing the cladding boards.

Wall Side A: Wall between the Outermost Edge and the Inside Corner
Wall Side B: Wall between the Inside Corner and the Outside Corner
Wall Side C: Wall between two Outside Corners
Wall Side D: Wall between the Outside Corner and the Outermost Edge

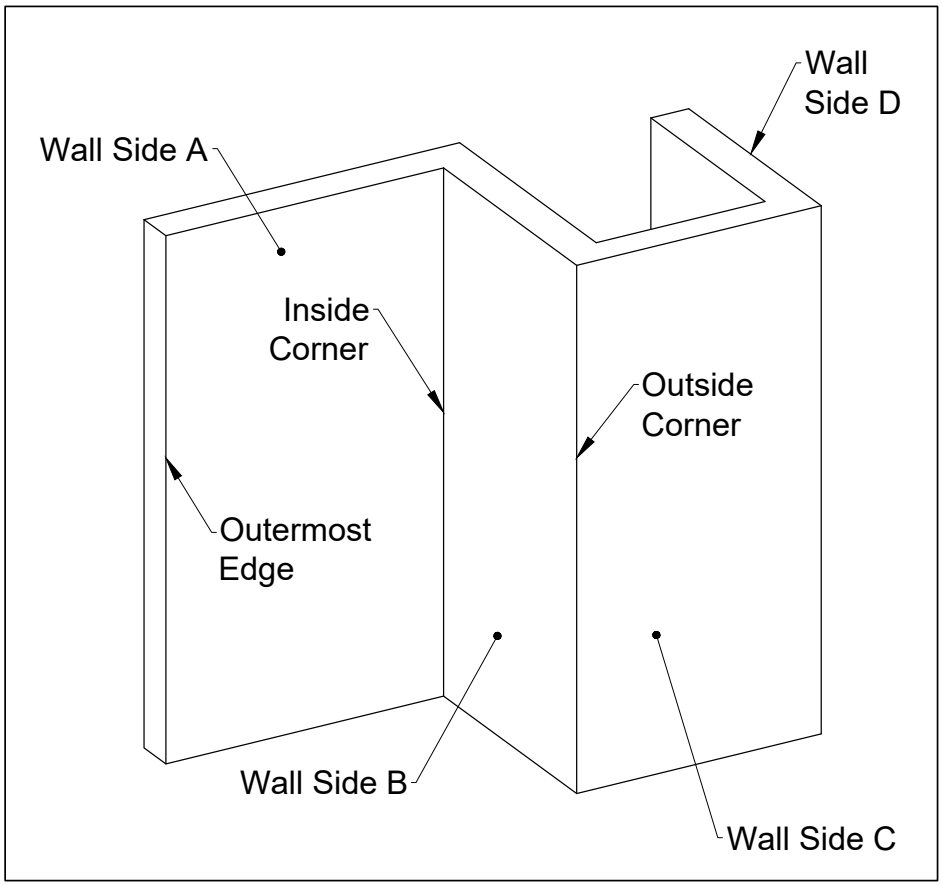


Diagram 1

2 Measure and chalk the joists according to the span data specified on ***page 10*** of this installation guide, as shown in ***Diagram 2***.

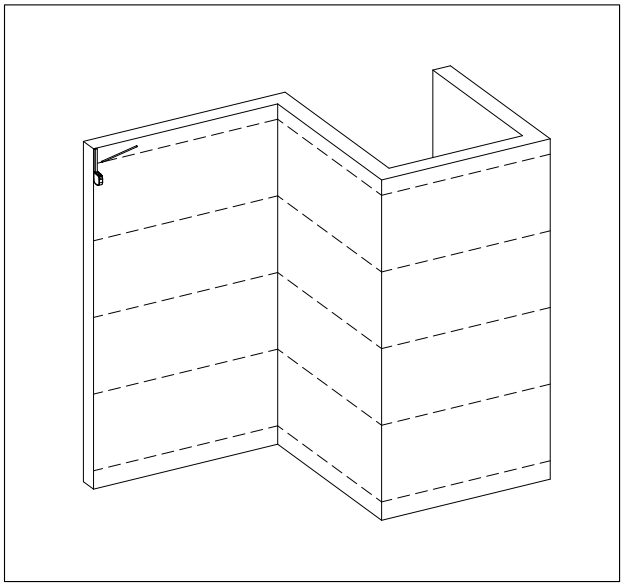


Diagram 2

Please Note:

1. We are using wood joists for this installation. If you are using aluminum joists, please refer to *page 8* of this installation guide for the correct recommended screws.

2. An adequate span between the joists is required to keep the Cladding boards from bending. Please review *page 10* of this installation guide to see what span is needed.

3 Fix the joists onto the wall that you intend to install with screws in the distance at least 500mm and max to 1000mm on center, as shown in ***Diagram 3***.

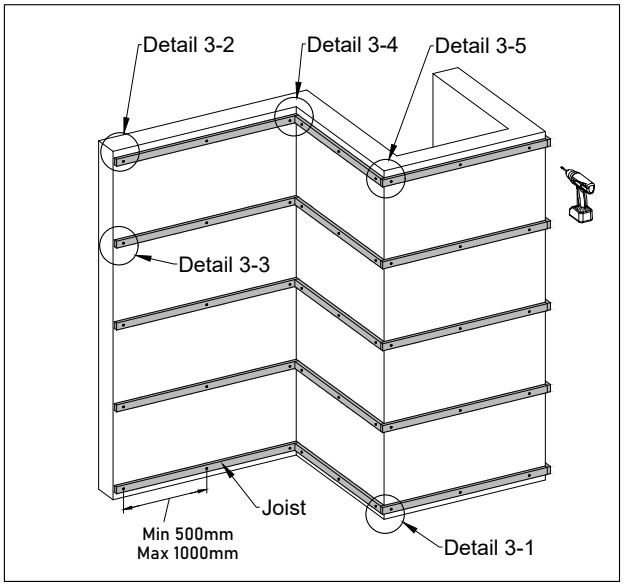
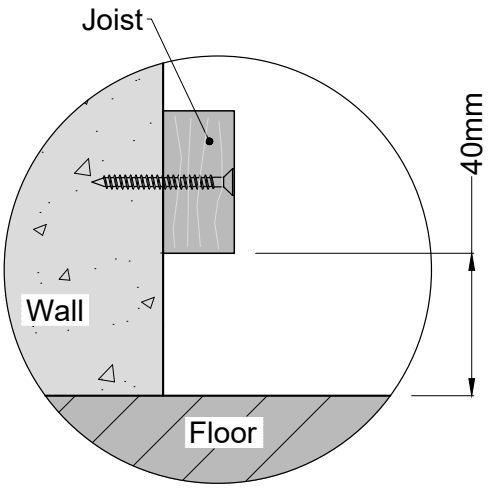


Diagram 3

Please Note:

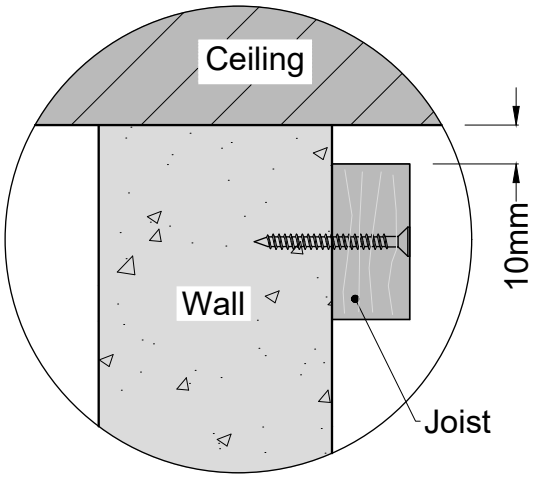
1. A minimum gap of 40mm needs to be left at the bottom of each joist opposite the floor, as shown in *Detail 3-1*.



Detail 3-1

Please Note:

2. A minimum gap of 10mm needs to be left between the Ceiling and the joist's end, as shown in *Detail 3-2*.



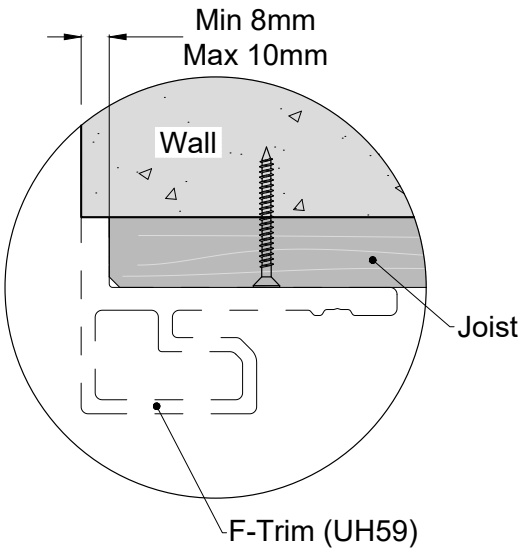
Detail 3-2

Please Note:

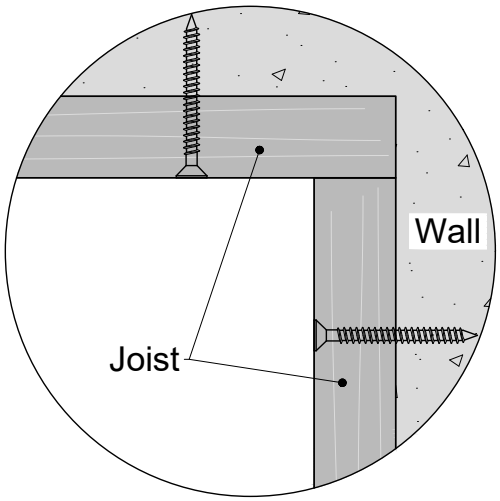
3. For the Outermost Edge, please install according to *Detail 3-3*.

4. For the Inside Corner, please install according to *Detail 3-4*.

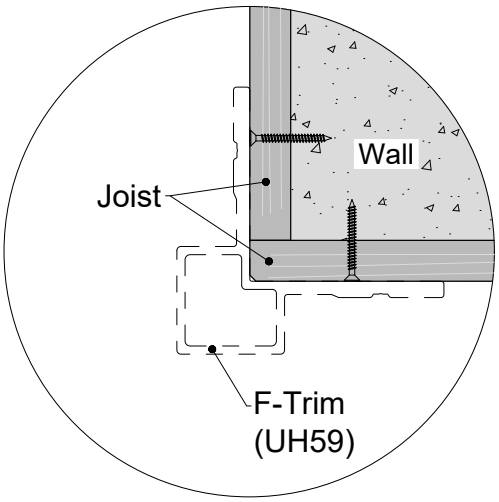
5. For the Outside Corner, please install according to *Detail 3-5*.



Detail 3-3



Detail 3-4



Detail 3-5

4 Trim Installation

Secure the Trims onto the framing with screws in distance at least 500mm and 1000mm on center, as shown in ***Diagram 4***.

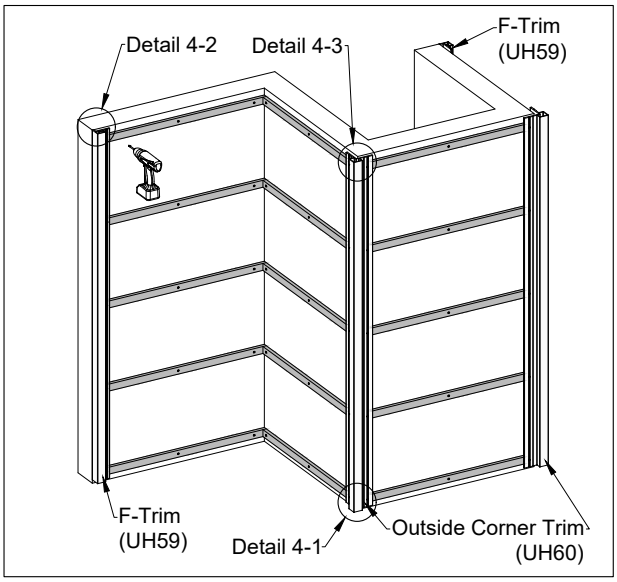
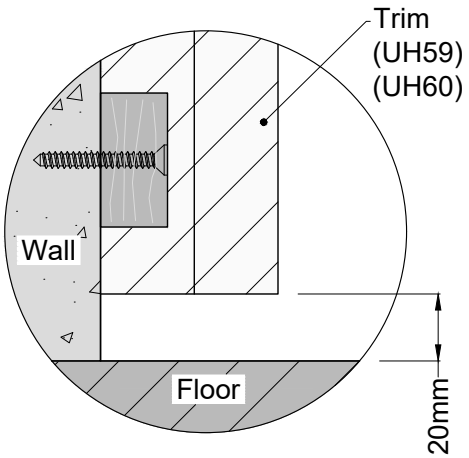


Diagram 4

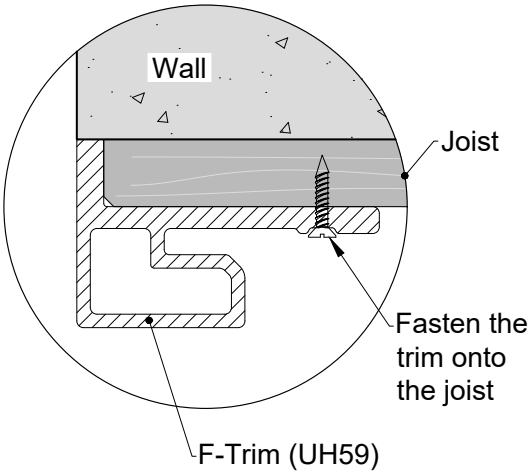
Please Note:

A minimum gap of 20mm needs to be left between the bottom of trims and the floor, as shown in *Detail 4-1*.



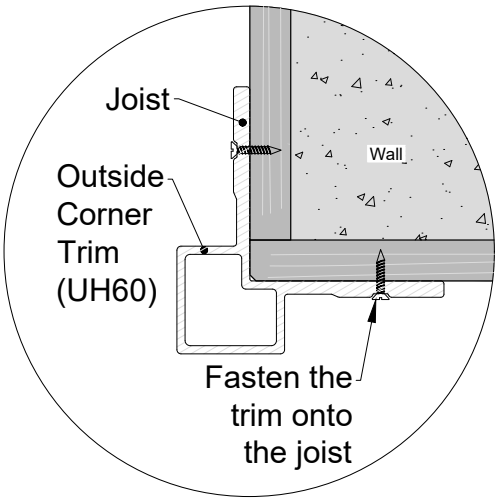
Detail 4-1

Secure the F-Trim (UH59) onto the wall outermost edge joist, as shown in ***Detail 4-2***.



Detail 4-2

Secure the Outside Corner Trim (UH60) onto the wall outside corner joist, as shown in ***Detail 4-3***.



Detail 4-3

5 Cladding Board Installation

Installing the First course

Start the installation according to the ***Diagram 5***.

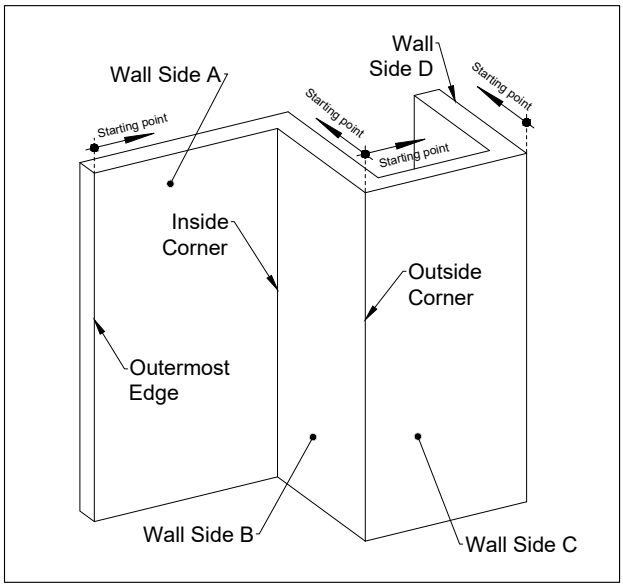


Diagram 5

Please Note:

1. Wall between the Outermost Edge and the Inside Corner:
- Start from the Outermost Edge.

2. Wall between the Inside Corner and the Outside Corner:
- Start from the Outside Corner.

3. Wall between two Outside Corners:
- Start from one of the Outside Corners.

4. Wall between the Outside Corner and the Outermost Edge:
-Start from the Outside Corner.

6

Put the first Cladding Board (UH58) in place over the Trims, then face fix it the side next to the Trim onto the joists with screws, and fasten it's another side onto the joists with Clip (AW08), as shown in ***Diagram 6***.

Please Note:

Pre-drill the face fixing holes on the first board before installation to allow for expansion and contraction. Please review *page 5*, "*Predrill*"**, of this installation guide for further information.**

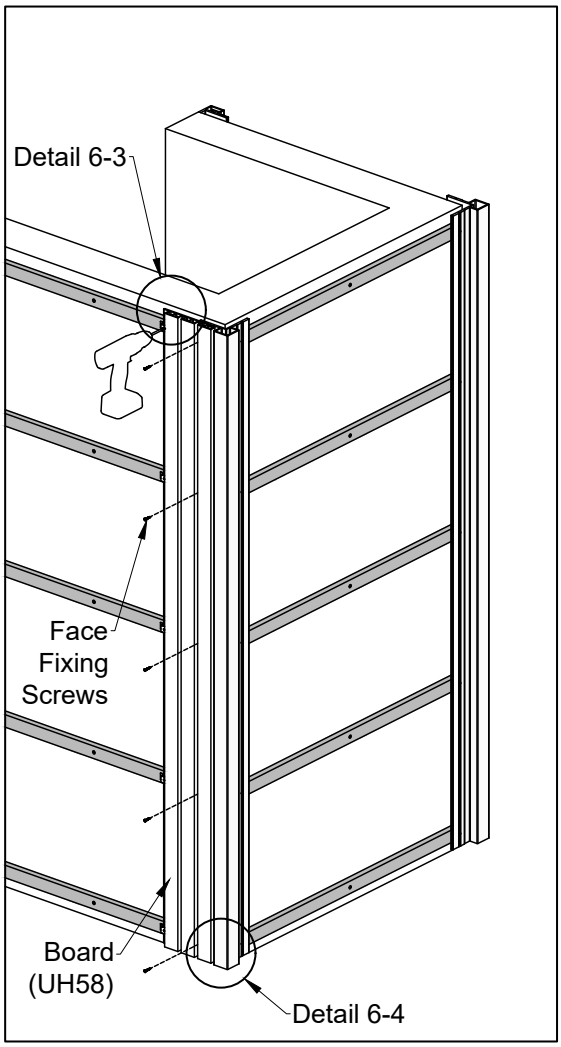
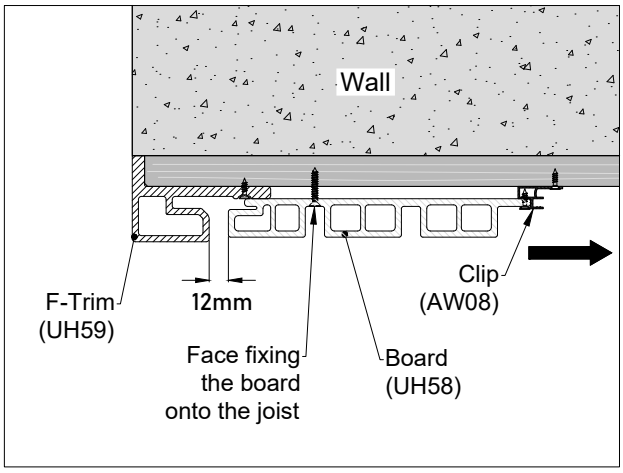


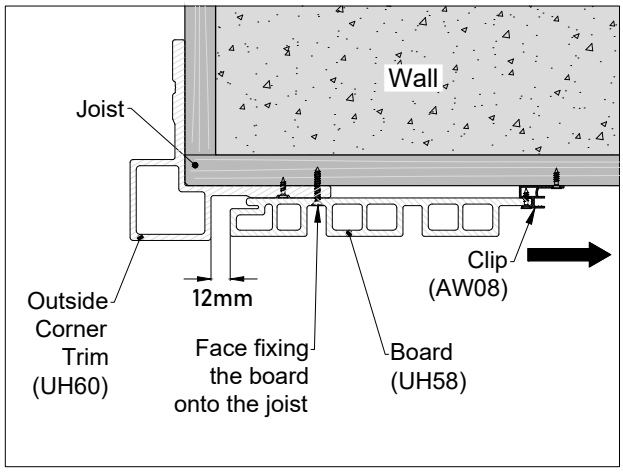
Diagram 6

Detail 6-1 shows the first board installation on the ***Outermost Edge*** with F-Trim (UH50).



Detail 6-1

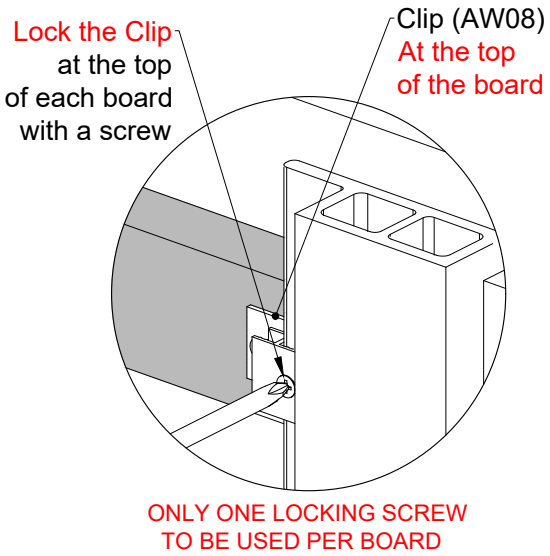
Detail 21-2 shows the first board installation on the ***Outside Corner*** with Outside Corner Trim (UH51).



Detail 6-2

Please Note:

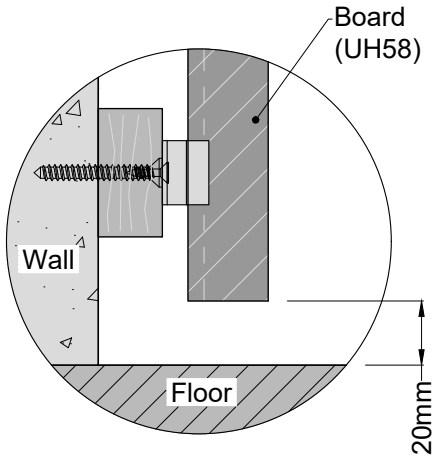
Since the composite wood must allow for expansion and contraction due to temperature change, the board must be locked at one fixed point but only one point to allow the remaining board to move freely. When installing vertically, it is required to lock the Clip (AW08) at the top of each board, as shown in *Detail 6-3*. DO NOT LOCK any other Clips (AW08) for the same board.
Please review *page 12*, *"Locking the Cladding Board"* of this installation guide for further information.



Detail 6-3

Please Note:

Allow a gap at least 20mm between the floor and the cladding board, as shown in *Detail 6-4*.



Detail 6-4

7 Installing the Second course

Put the second board over the first board's Clip (AW08) and fasten it's another side onto the joists with the Clip (AW08), as shown in ***Diagram 7***, ***Detail 7-1***, Outermost Edge ***Detail 7-2*** and Outside Corner ***Detail 7-3***.

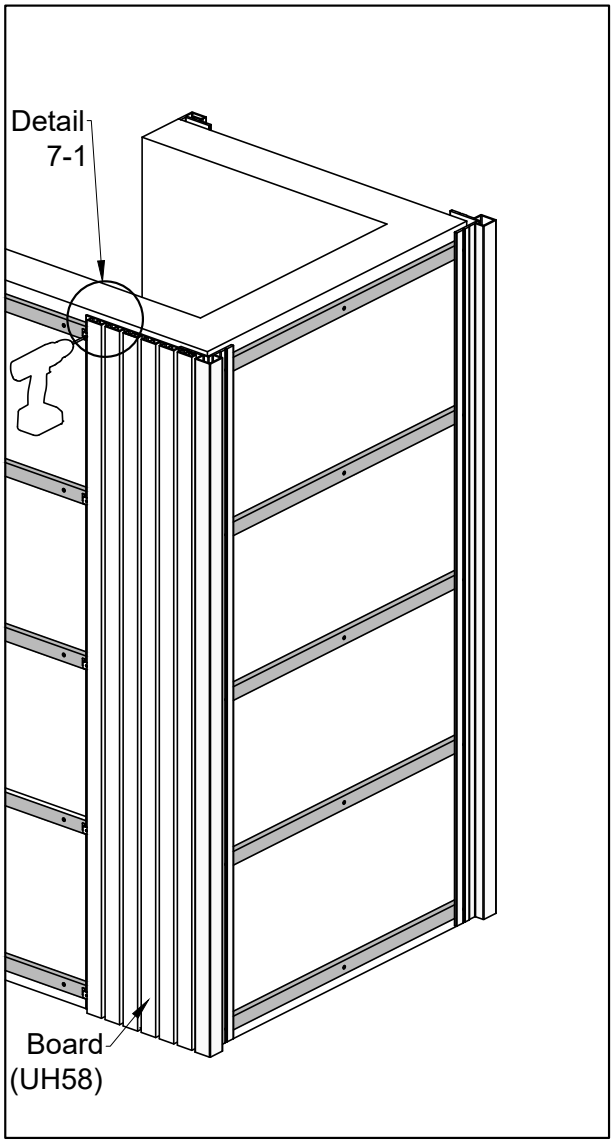
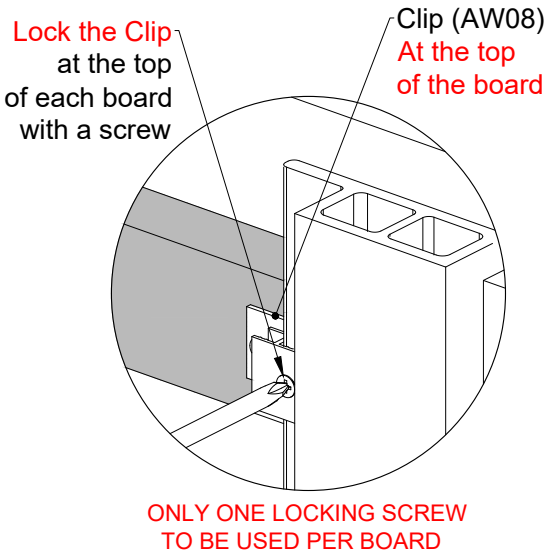


Diagram 7

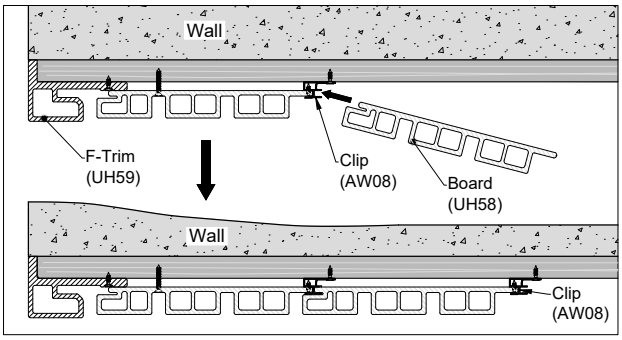
Please Note:

Since the composite wood must allow for expansion and contraction due to temperature change, the board must be locked at one fixed point but only one point to allow the remaining board to move freely. When installing vertically, it is required to lock the Clip (AW08) at the top of each board, as shown in *Detail 7-1*. DO NOT LOCK any other Clips (AW08) for the same board.
Please review *page 12*, *"Locking the Cladding Board"* of this installation guide for further information.



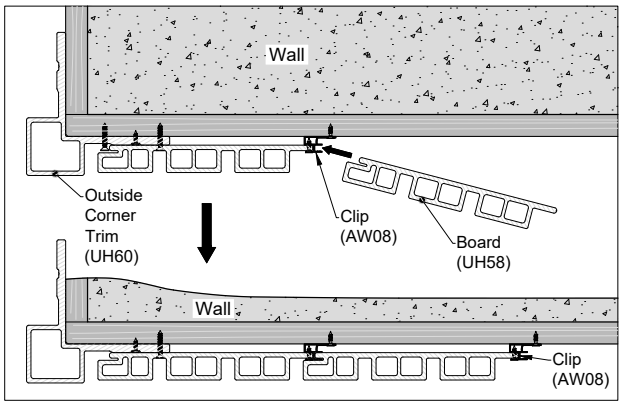
Detail 7-1

Outermost Edge with F-Trim (UH59), as shown in ***Detail 7-2***.



Detail 7-2

Outside Corner with Outside Corner Trim (UH60), as shown in ***Detail 7-3***.



Detail 7-3

8 Installing the Last board

When you are at the last board, measure the distance between the trim or the adjacent installed cladding board and the Clip (AW08) to obtain the appropriate board's cutting dimension, as shown in ***Diagram 8***.

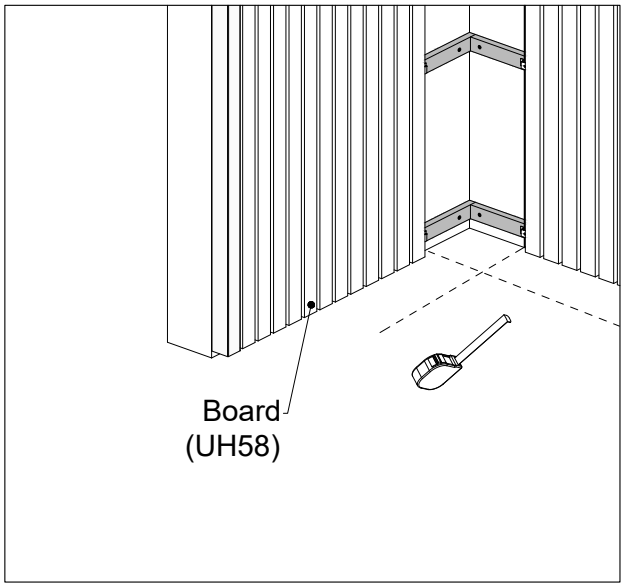
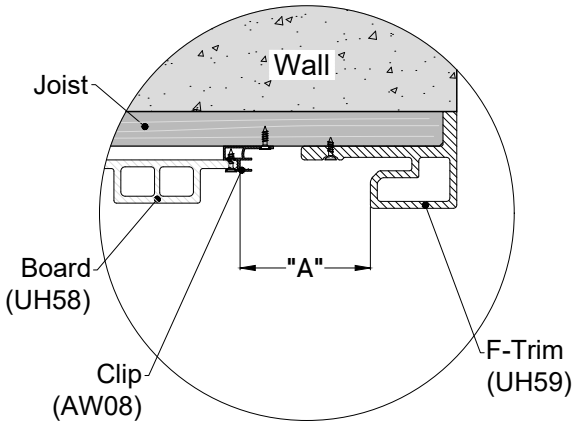


Diagram 8

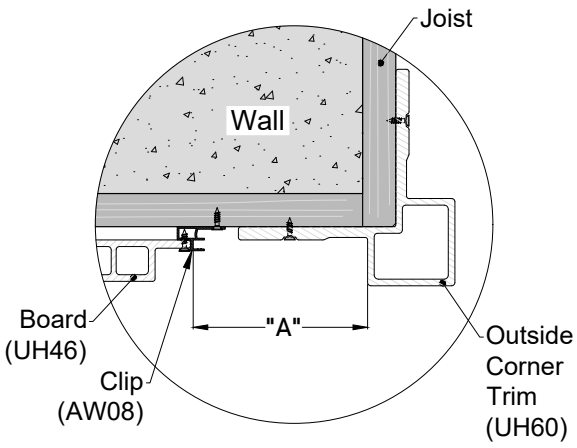
Please Note:

1. Outermost Edge with F-Trim (UH59), as shown in *Detail 8-1*.

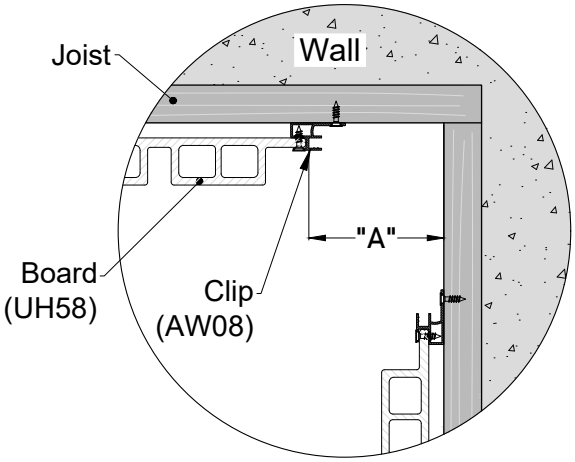


Detail 8-1

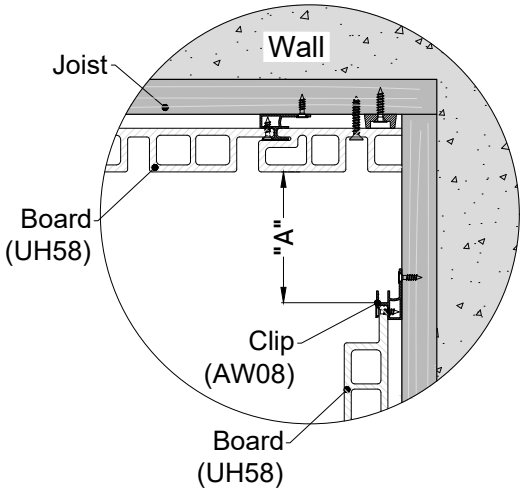
Please Note:
2. Outside Corner with Outside Corner Trim (UH60), as shown in *Detail 8-2*.
3. Inside Corner, as shown in *Detail 8-3* **and** *Detail 8-4*.



Detail 8-2



Detail 8-3



Detail 8-4

9 Cut the board according to the measured dimension, as shown in ***Diagram 9*** and ***Detail 9-1***.

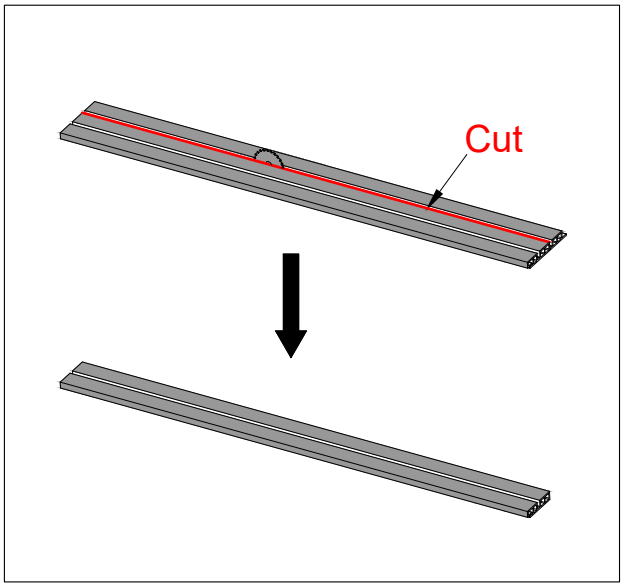
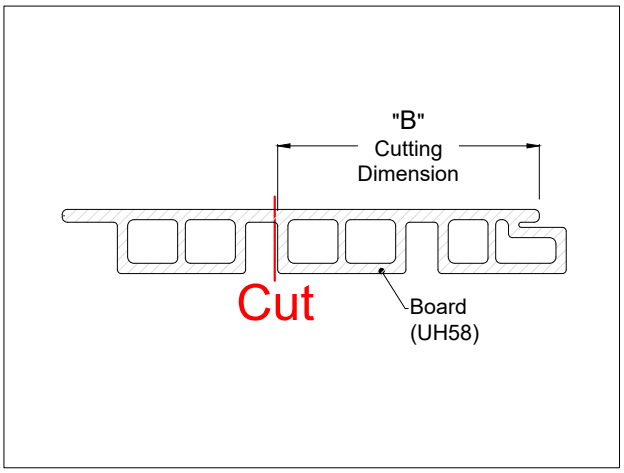


Diagram 9



Detail 9-1

Cutting dimension "B" = "A" (measured dimension)

10 Install the Rubber Stopper (T-7) onto the joists in the ***Inside Corner*** to back up the last board, as shown in ***Diagram 10***.

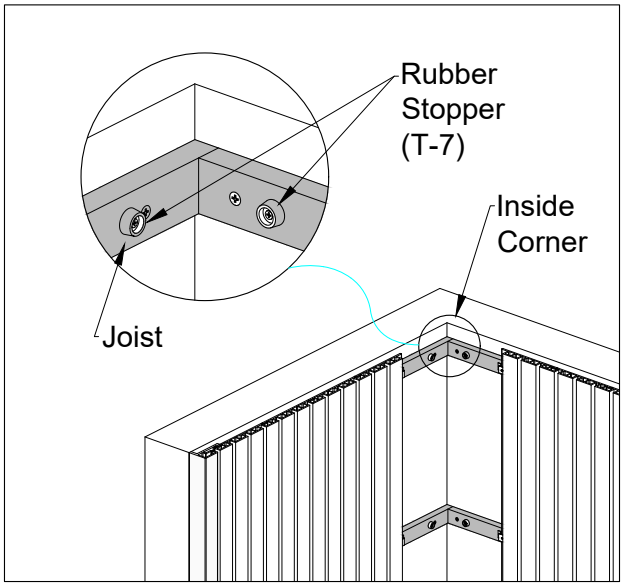


Diagram 10

11 Put the cut cladding board over the Clip (AW08) in place and then face fix it onto the joists with screws, as shown in ***Diagram 11***.

Please Note:

Pre-drill the face fixing holes on the last board before installation to allow for expansion and contraction. Please review *page 5*, "*Predrill*"**, of this installation guide for further information.**

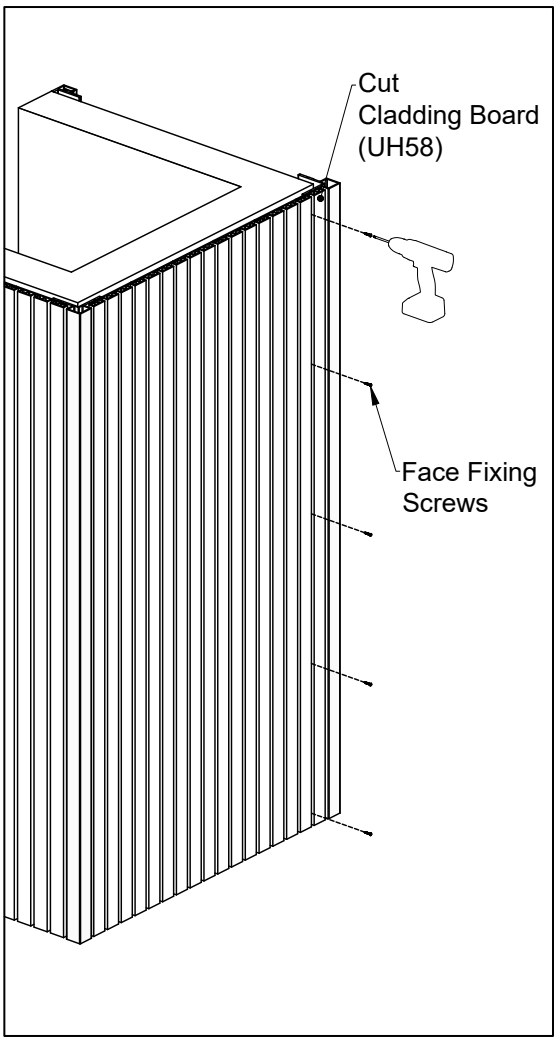
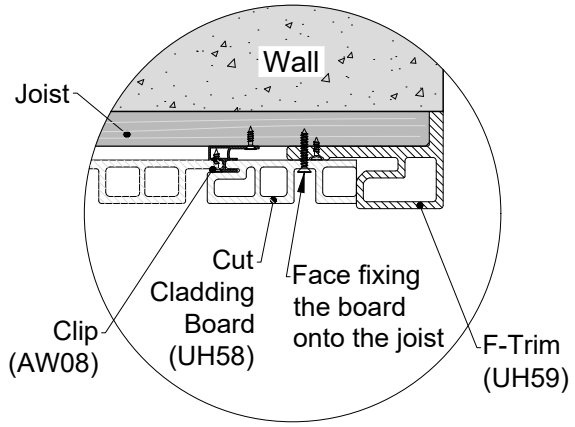


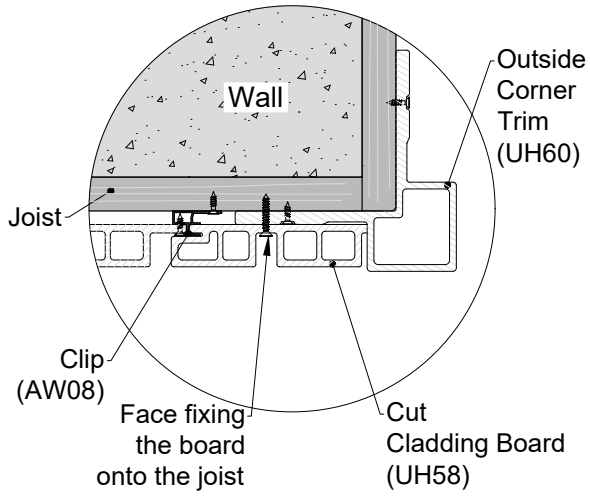
Diagram 11

Detail 11-1 shows the last board installation on the ***Outermost Edge*** with F-Trim (UH59).



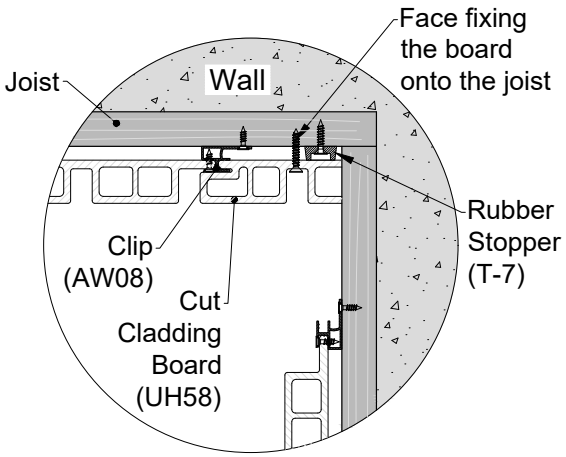
Detail 11-1

Detail 11-2 shows the last board installation on the ***Outside Corner*** with Outside Corner Trim (UH60).

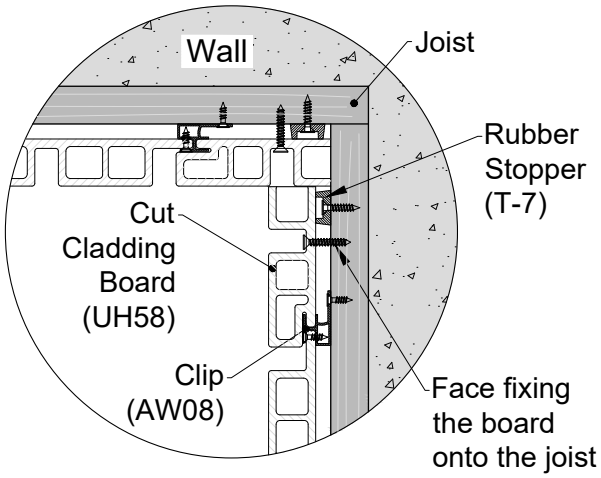


Detail 11-2

Detail 11-3 and ***Detail 11-4*** show the last board installation in the ***Inside Corner.***



Detail 11-3



Detail 11-4

12 ***Diagram 12*** presents the final appearance after the completing of the installation.

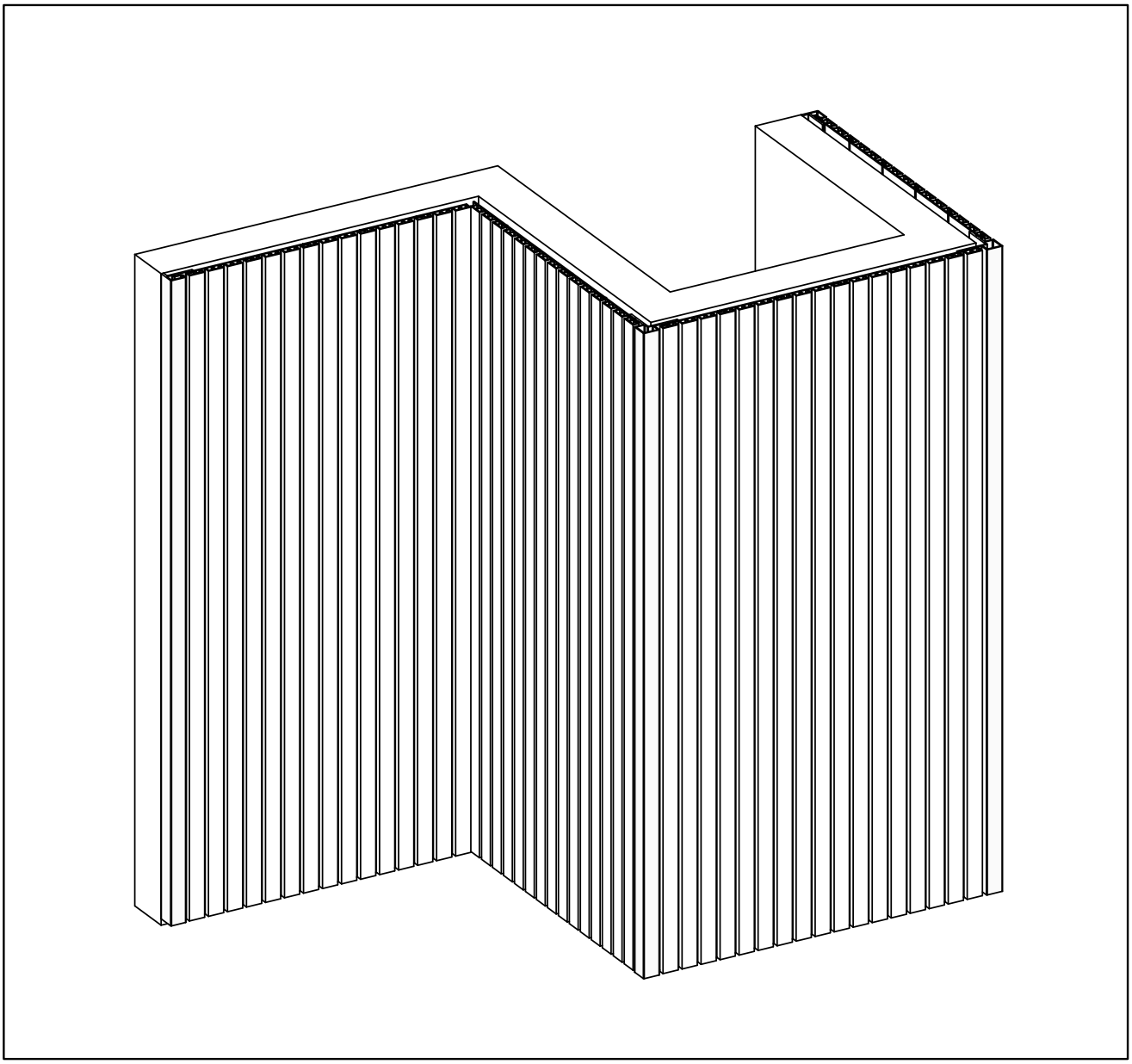
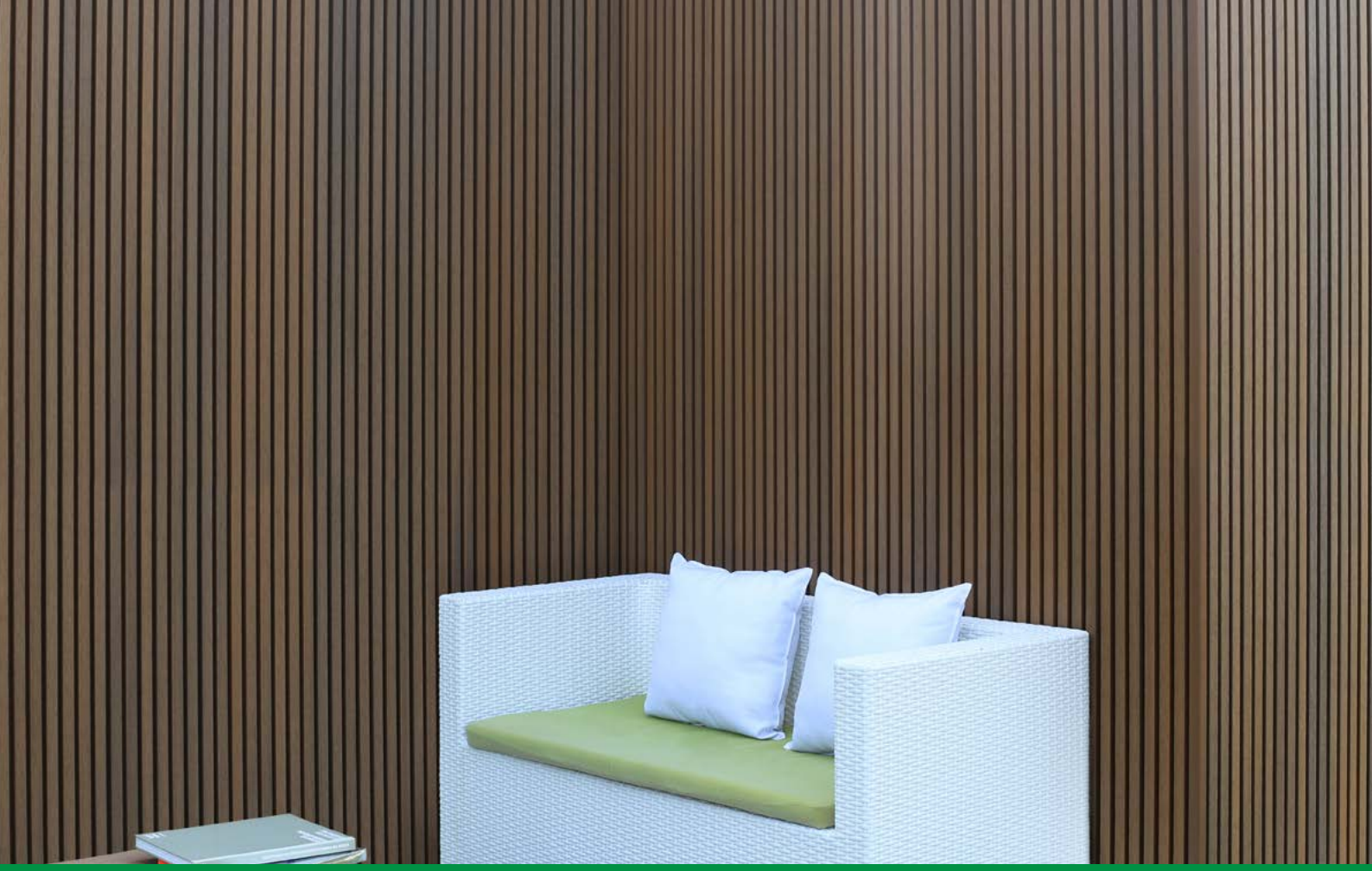


Diagram 12



Contemporary Cladding System Vertical Installation Guide

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