NewTechWood®

Castellation Cladding Installation Guide

IMPORTANT NOTE – READ ALL SECTIONS BEFORE YOU START
For the most up to date information, please visit our website @ www.newtechwood.com

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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

With any type of construction project, it is necessary to wear appropriate safety equipment to avoid any risk of injuries. NewTechWood recommends, but does not limit it to the following safety equipment, when handling, cutting, and installing NewTechWood: gloves, a respiratory protection, long sleeves, pants, & 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 products correctly. If installation does not occur immediately, NewTechWood's products need to be stored on a flat surface at all times. It should NEVER be stored on an uneven surface.

Planning

Prior to installing any composite cladding system, it is recommended that you check with local building codes for any special requirements or restrictions. Building codes and zoning ordinances generally apply to permanent structures, meaning anything that is anchored to the ground or attached to the house. Plan a layout for your cladding before starting it to ensure the best possible looking cladding for your project. We recommend drawing a site plan for your proposed cladding project to minimize errors and ensure a successful outcome.
Perform a pressure washing test on a scrap piece of material before using a pressure washer on the wall cladding to ensure that your settings will not damage the Ultrashield coating.

Construction

NewTechWood 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 be more prevalent in areas that are of higher altitude because the humidity is lower. For these areas, be careful of using conductive 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.aclst aticide.com)**.

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 25 mm of continuous net free area under the cladding surface is required for adequate ventilation on all cladding, 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, discolour, 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.

Cleaning

We recommend 'Urban Deck-Wash' to clean your cladding, available from all NewTechWood Resellers. Pressure washing on a scrap piece of material before using a pressure washer on the wall cladding to ensure that your settings will not damage the Ultrashield coating.

Fasteners

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

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

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 smooth out and improve the appearance.

Always look to select screws that have been engineered specifically for composite wood. These screws will always work and give NewTechWood 's products the best looking outcome, using other screws that are not recommended for composite could potentially damage/harm the cladding. If you are unsure which screw to use, contact your manufacturer for more information.

Pre-drill

When face fixing, it is recommended to pre-drill the holes slightly larger than the screw's shank size on the cladding profiles and the trims to allow for expansion and contraction response to temperature change, as shown in below diagram.
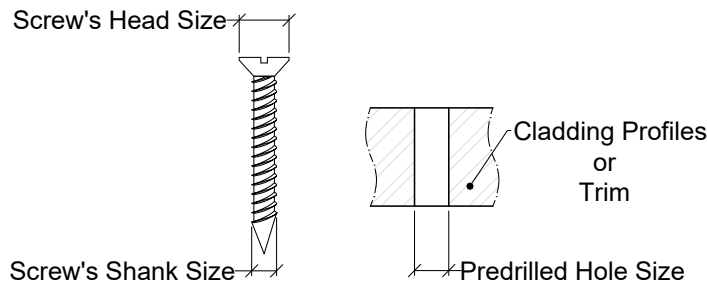
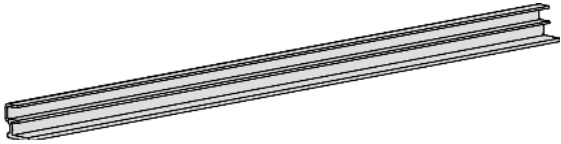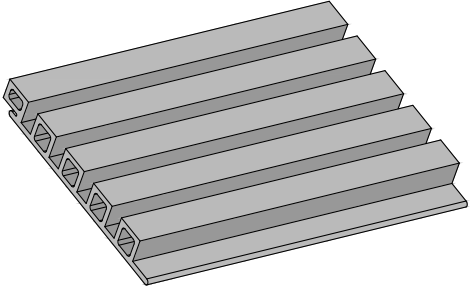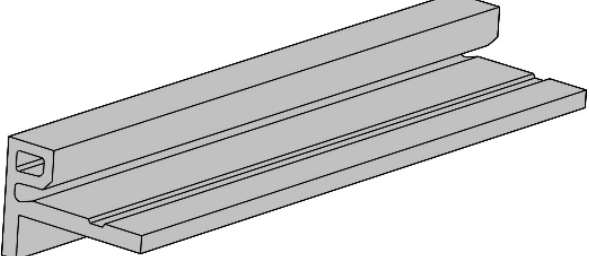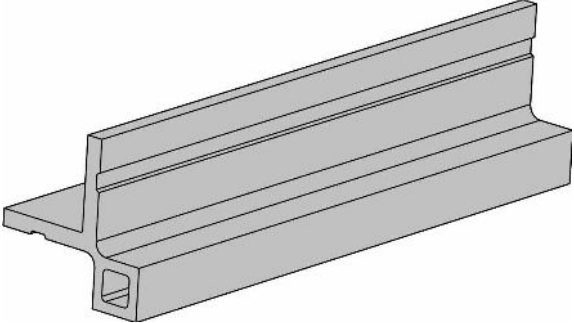## EXPANSION AND CONTRACTION VALUES

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 (METRES)									
		1	2.44	2.8	3	3.66	4	4.88	5.4	
	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	
Installation Temperature (C)	10	1.0	2.4	2.8	3.0	3.7	4.0	4.9	5.4	GAP (mm)
	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 gap to use, contact the manufacturer and they will give you the correct gapping requirements based on your environment and area.

CASTELLATION 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 batten	
T-7	Used on the support for the last board	
UH61	Castellation Cladding Board	
UH50	F-Trim, used as the first and last board	
UH51	Outside Corner Trim, used on the outside corners	

CASTELLATION CLADDING SCREWS

Purpose	For TIMBER Battens	For METAL Battens
Used when locking the cladding board into AW08 clip (Screws supplied by NTW and purchased with cladding boards)	M3 X 12 SS304 Part code: WJ063	
Used when installing AW08 clips into battens (Screws not included, sourced/supplied by builder/ installer)	8G x 20 SS304 (Pan Head)	8G x 20 SS304 (Pan Head)
Used when installing trims into timber battens (Screws not included, sourced/ supplied by builder/ installer)	8G x 20 SS304 (Flat CSK Head)	8G x 20 SS304 (Flat CSK Head)
Used for face fixing the first and last cladding boards next to trims	8G x 50 SS304 Colour Head Composite Screw (Supplied by NTW and purchased with cladding boards)	8G x 20 SS304 (Flat CSK Head) (Screws not included, sourced / supplied by builder / installer)

*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 metal/aluminium Top Hat Battens or Pre-primed H3 Timber Battens. Each cladding board needs to be supported by a batten spanning NO MORE than 500mm on centres. Extra care is required in order to provide sufficient joisting in and around obstacles such as windows, fascia's, soffits, guttering, ventilation points, etc.

Here is an example of the layers that would occur in a typical installation, however, a licensed professional should always be consulted prior to any installation.

Brick

Batten

Insulation

Vapour Permeable

NewTechWood Ultrashield Cladding
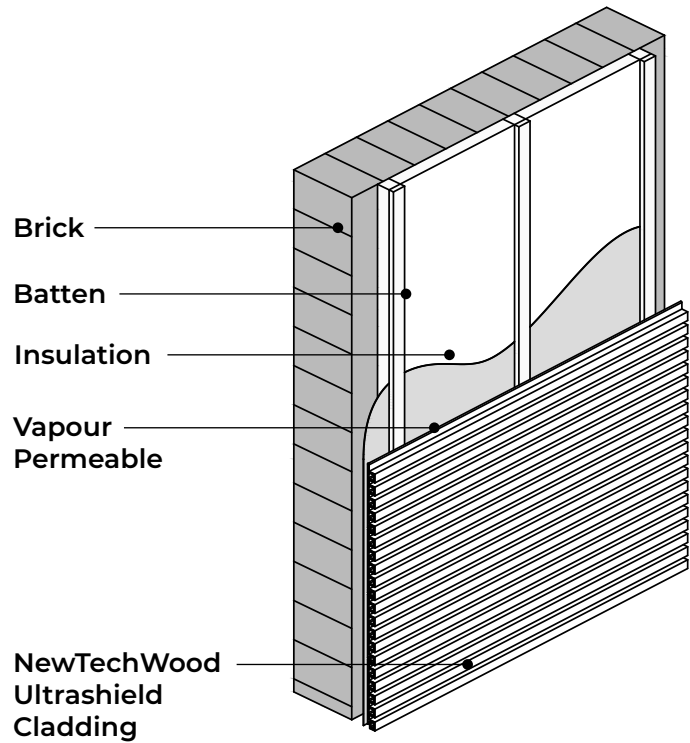
Battens Installation

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

Battens should be fixed into position at a maximum of 500mm centres using a suitable A4 Stainless Steel Countersunk Wood/Masonry screw.

All battens need to be flat and levelled against the wall surface using shims if necessary.

Batten

500mm

Horizonal Installation

Batten

500mm

Vertical Installation
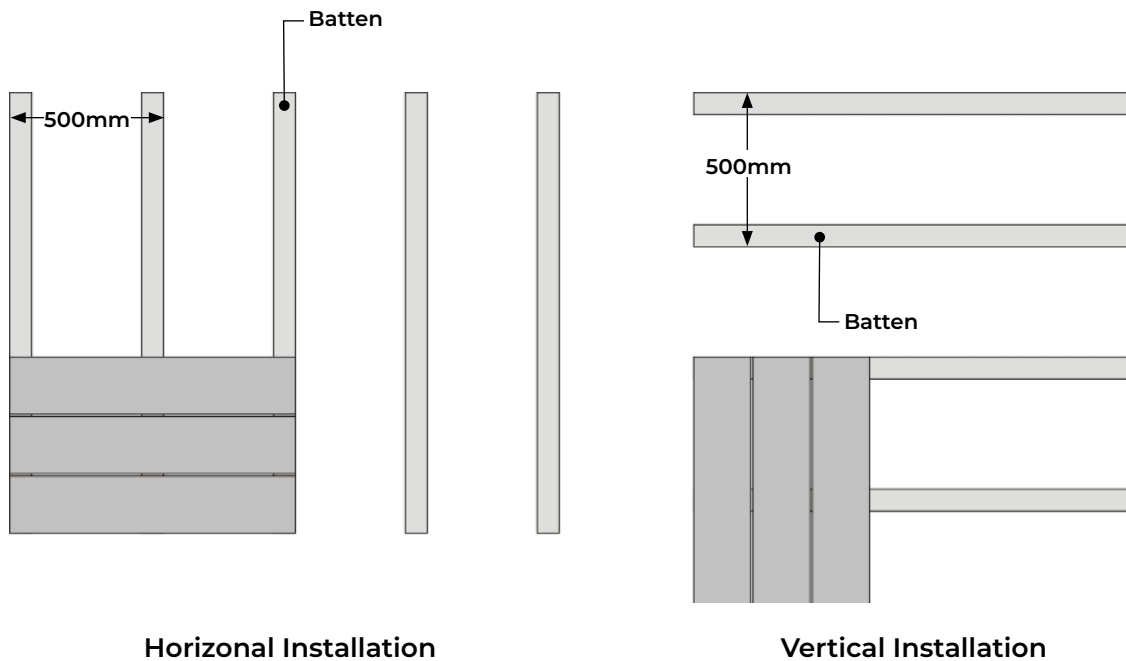
Locking the Wall Cladding Board

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 .

You can see how we lock the board in Diagram A, B, and C.

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

No Locking | Locking with screw
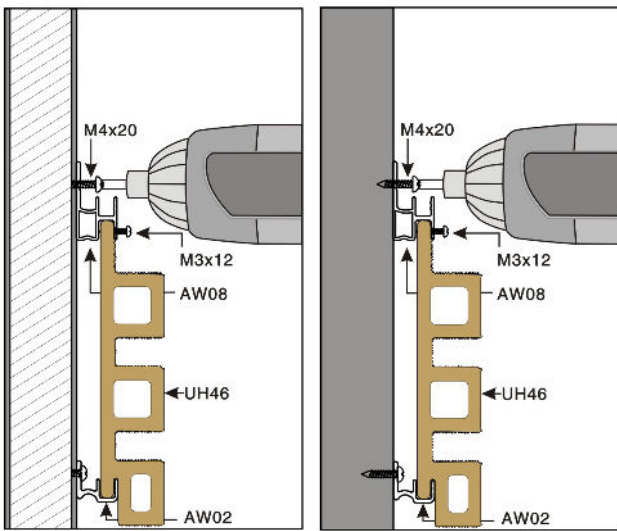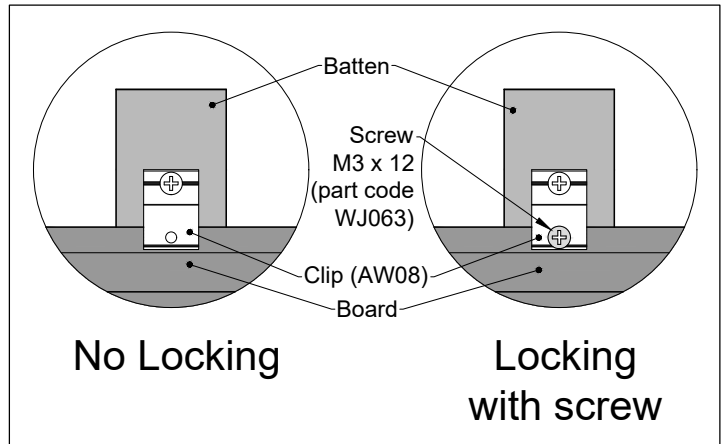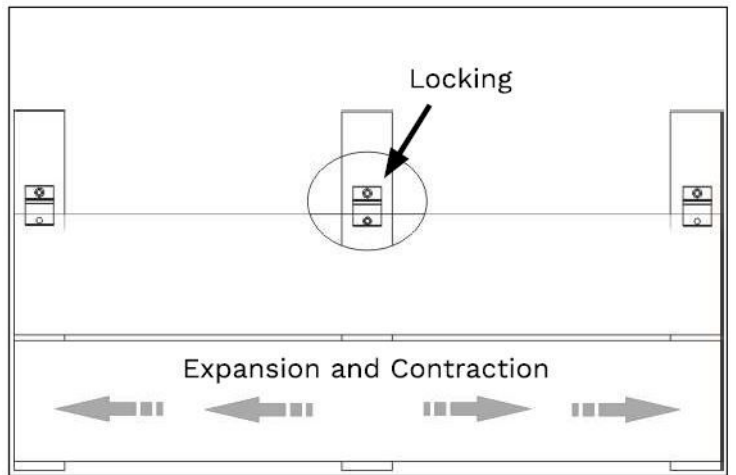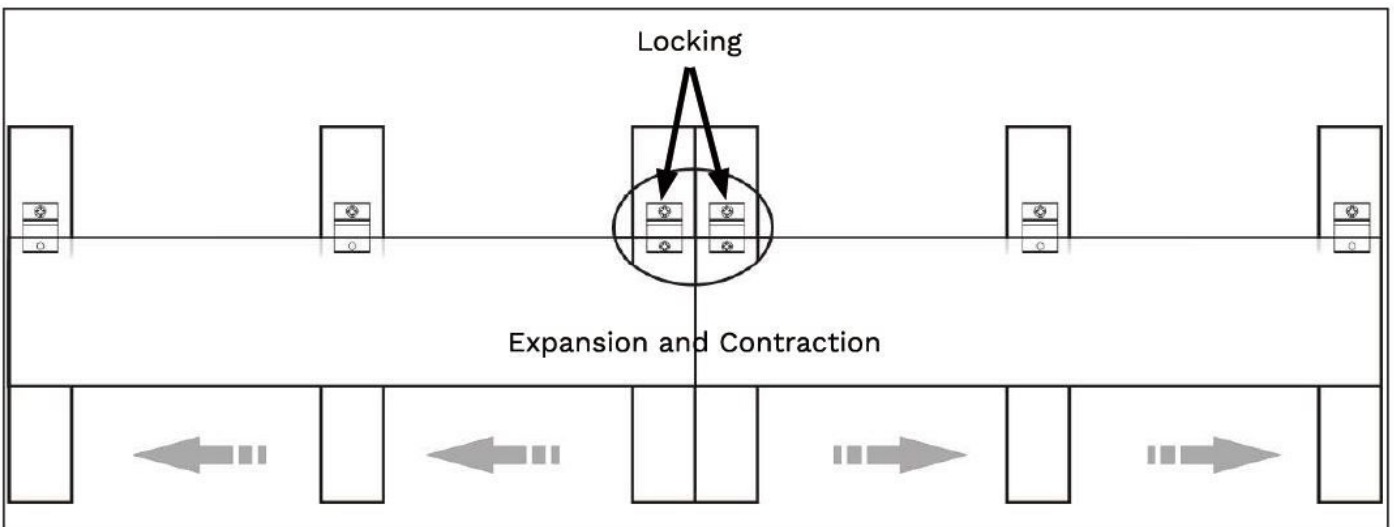
Diagram A

Diagram B

Diagram C

CASTELLATION CLADDING - VERTICAL INSTALLATION

Installation Procedure

Step 1: Framing

- Measure and Chalk the Battens

- Battens Installation Step 2: Trim Installation

Step 3: Cladding 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 cladding boards. **Diagram 1** shows the wall replicating different scenarios potentially occuring when installing the cladding boards.

Wall Side A: Cladding between the F-Trim (UH50) and the Inside Corner
Wall Side B: Cladding between the Inside Corner and the Outside Corner Trim (UH51)
Wall Side C: Cladding between two Outside Corner Trims (UH51)
Wall Side D: Cladding between the Outside Corner Trim (UH51) and the F-Trim (UH50)
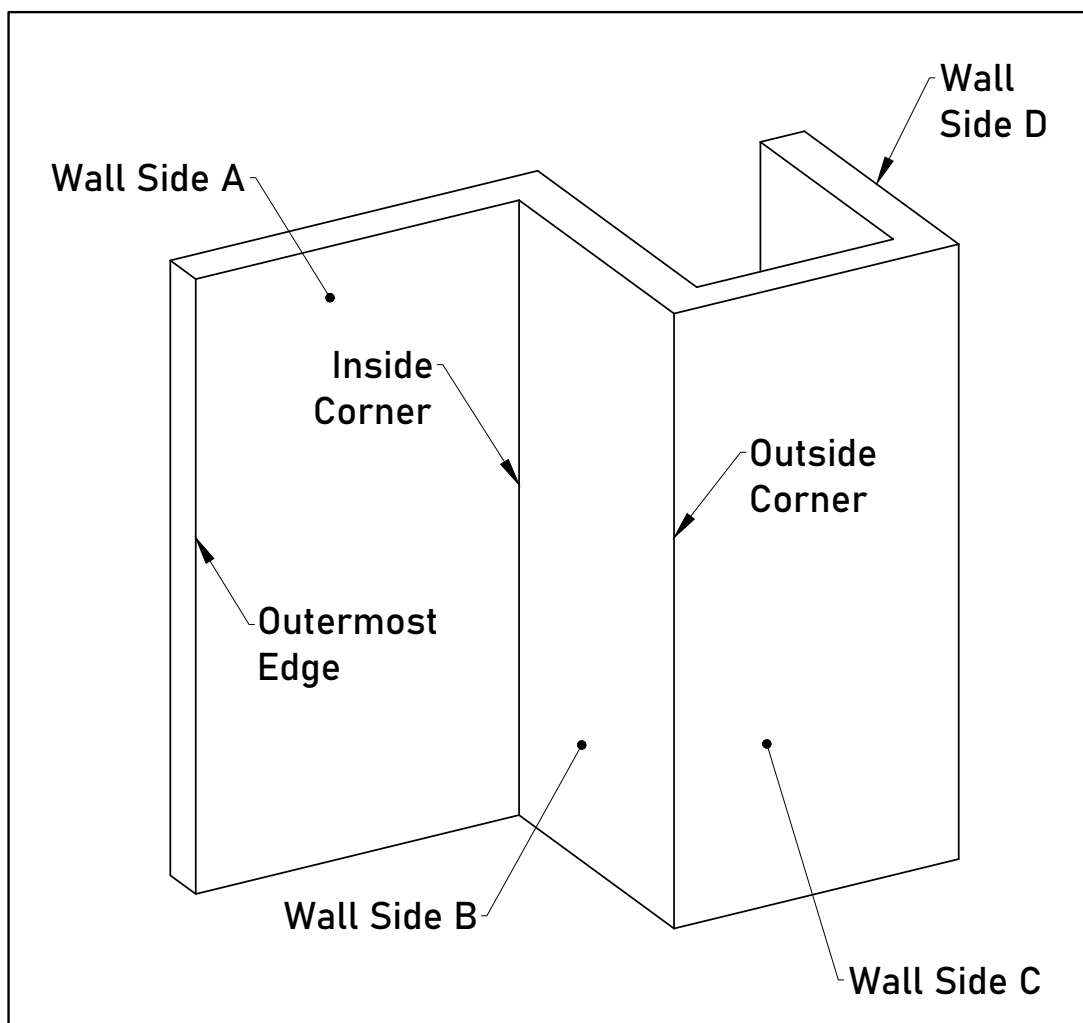
Diagram 1

2 Measure and chalk the battens according to the span data specified on page 4 of this installation guide, as shown in Diagram 2.
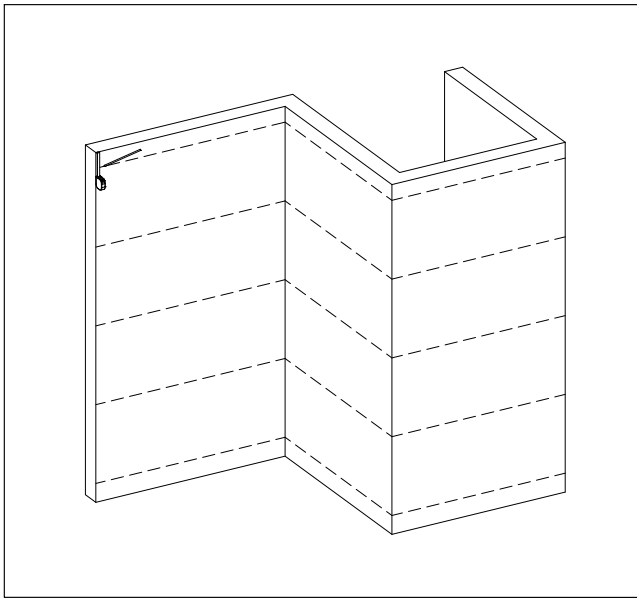
Diagram 2

Please Note:

1. We are using timber battens for this installation. If you are using metal/ aluminium battens, please refer to page 6 of this installation guide for the correct recommended screws.

2. An adequate span between the battens is required to keep the boards from bending. Please review page 4 of this installation guide to see what span is needed

3 Fix the battens onto the wall that you intend to install with screws. Please review page 4 to see what span is needed, as shown in Diagram 3.
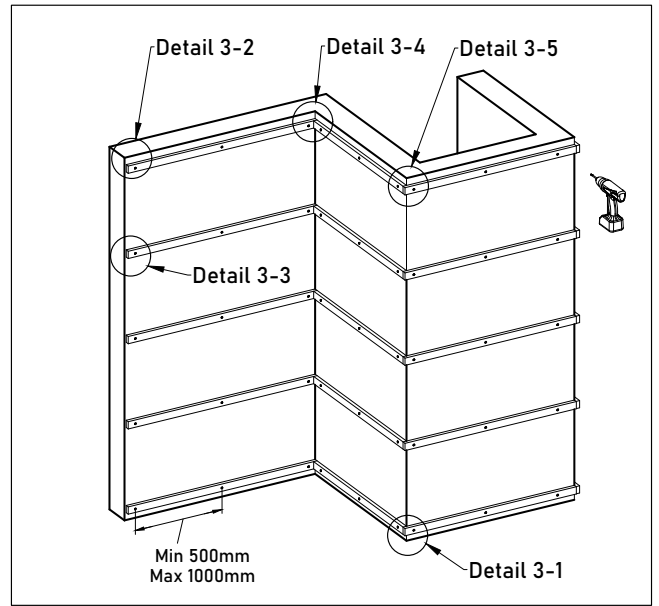
Diagram 3

Please Note:

1. A minimum clearance of 40mm needs to be left between the lowest batten and the floor, as shown in **Detail 3-1.**
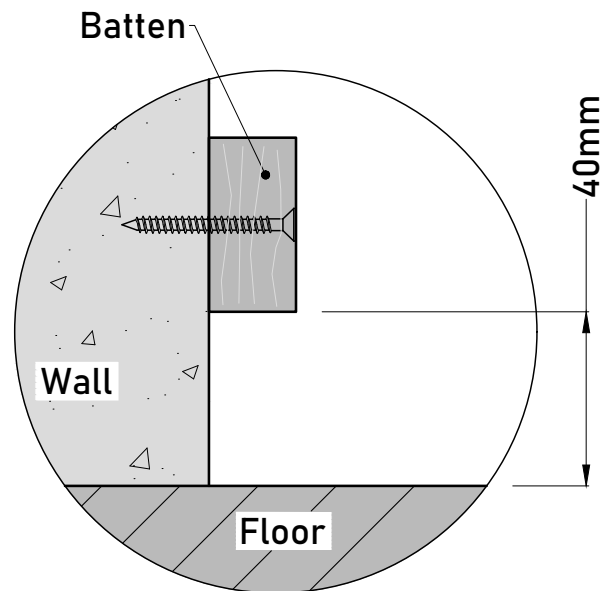
Detail 3-1

Please Note:

2. A minimum clearance of 10mm needs to be left between the ceiling and the top of the battens, as shown in **Detail 3-2**.
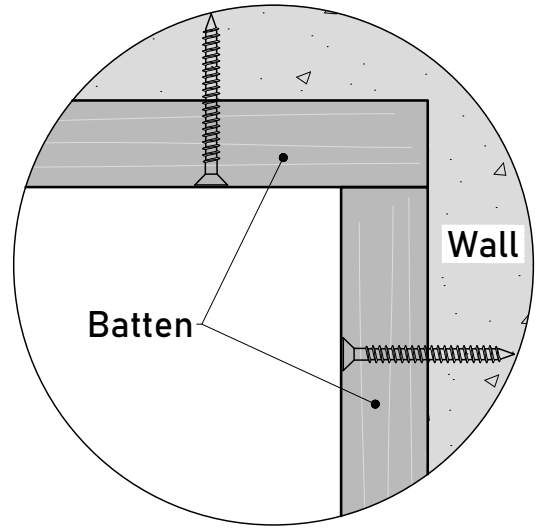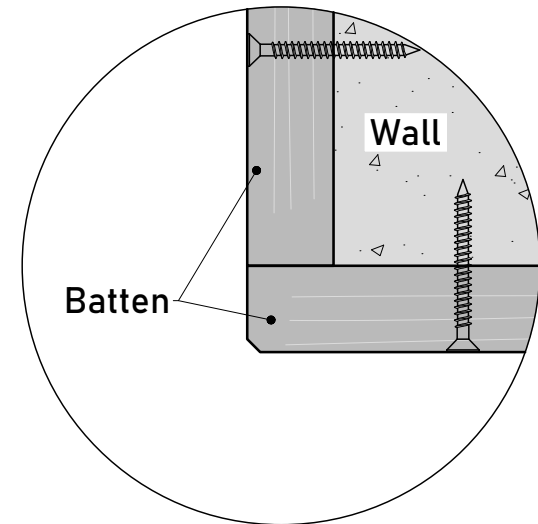

10mm
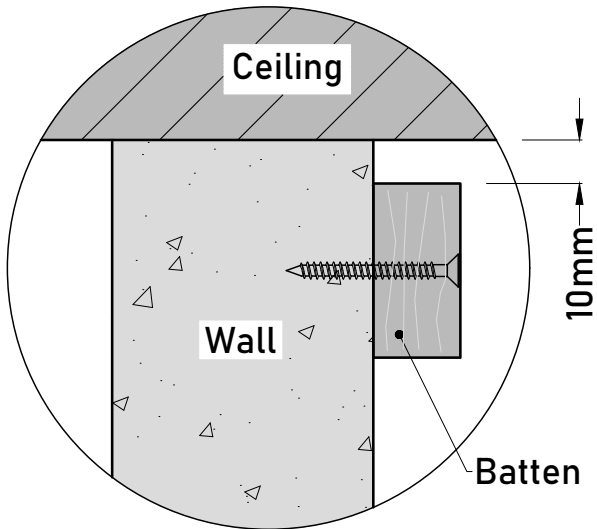
Detail 3-2

Please Note:

3. For the Outermost Edge (F-Trim UH50), please install according to **Detail 3-3**.

4. For the Inside Corner (No trim is needed), please install according to **Detail 3-4**.

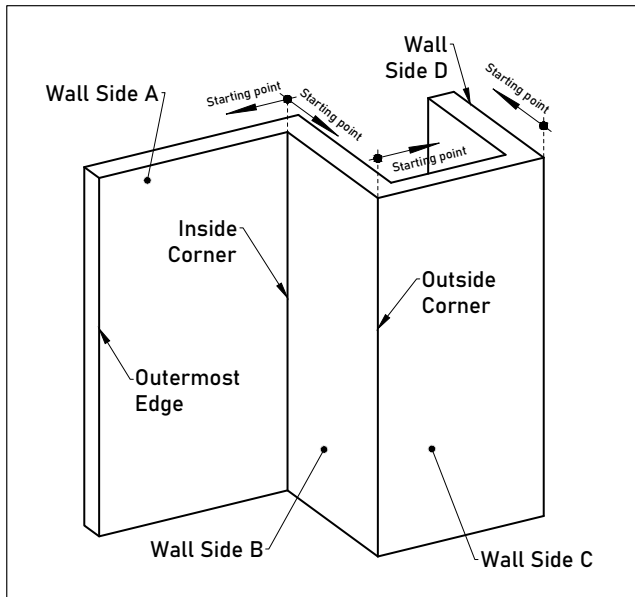5. For the Outside Corner (Outside Corner trim UH51), please install according to **Detail 3-5**.

Min 5mm
Max 7mm

End Trim (ST US44)
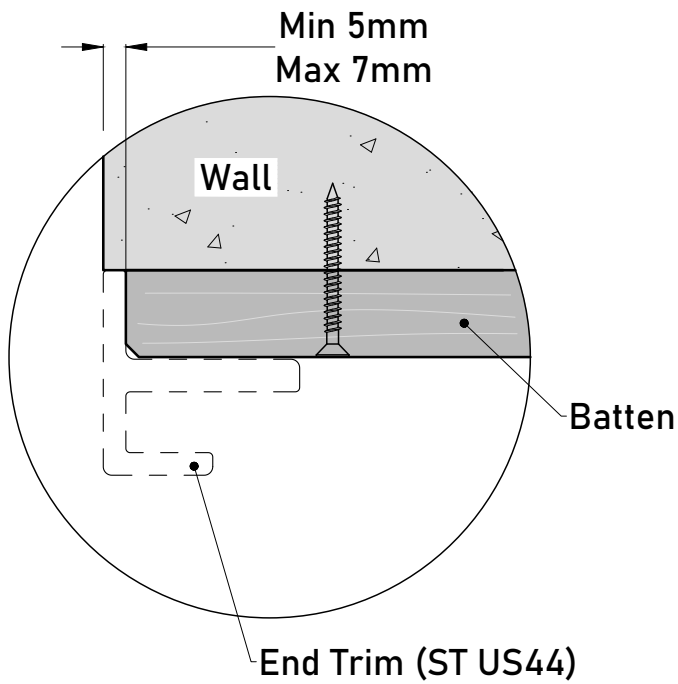
Detail 3-3

Detail 3-4

Detail 3-5

4   **Trim Installation**

Fasten the F-Trim (UH50) onto the outermost edges and the Outside Corner Trim (UH51) onto the outside corners with screws, as shown in **Diagram 4**.

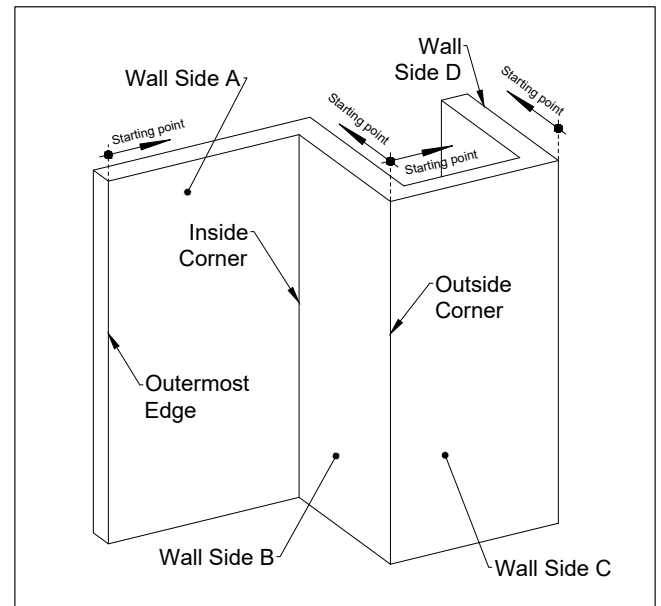**Diagram 4**

Please Note:

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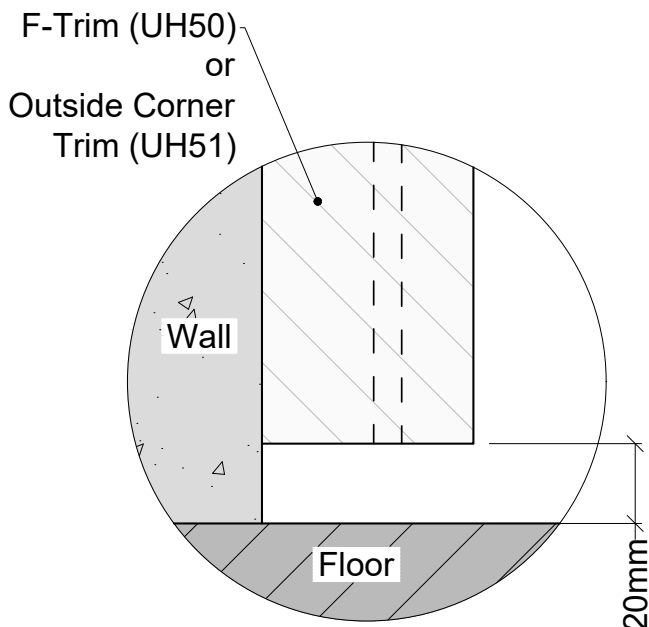
Detail 4-1

5   **Cladding Board Installation**

It is recommended to start the installation according to **Diagram 5**.

Diagram 5

Please Note:

1. Wall Side A: Cladding between the F-Trim (UH50 and the Inside Corner,
- Start from the Outermost Edge.

2. Wall Side B: Cladding between the Inside Corner and the Outside Corner Trim (UH51),

- Start from the Outside Corner.

3. Wall Side C: Cladding between two Outside Corner Trims (UH51),

- Start from one of the Outside Corners.

4. Wall Side D: Cladding between the Outside Corner Trim (UH51 and the F-Trim (UH50),

- Start from the Outside Corner.

6 **Installing the First Course**
- **Wall Side A (Cladding between the F-Trim (UH50) and the Inside Corner**

- **Wall Side B (Cladding between the Inside Corner and the Outside Corner trim (UH51)**

Put the first Castellation Cladding Board (UH61) in place, then face fix it the side next to the trim onto the batten with screws **(NTW 8Gx50 colour head composite screw)**, and fasten its other side onto the batten with Clip (AW08), as shown in **Diagram 6**.

Outermost Edge (F-Trim UH50), as shown in **Detail 6-1**.

Outside Corner (Outside Corner Trim UH51), as shown in **Detail 6-2**.
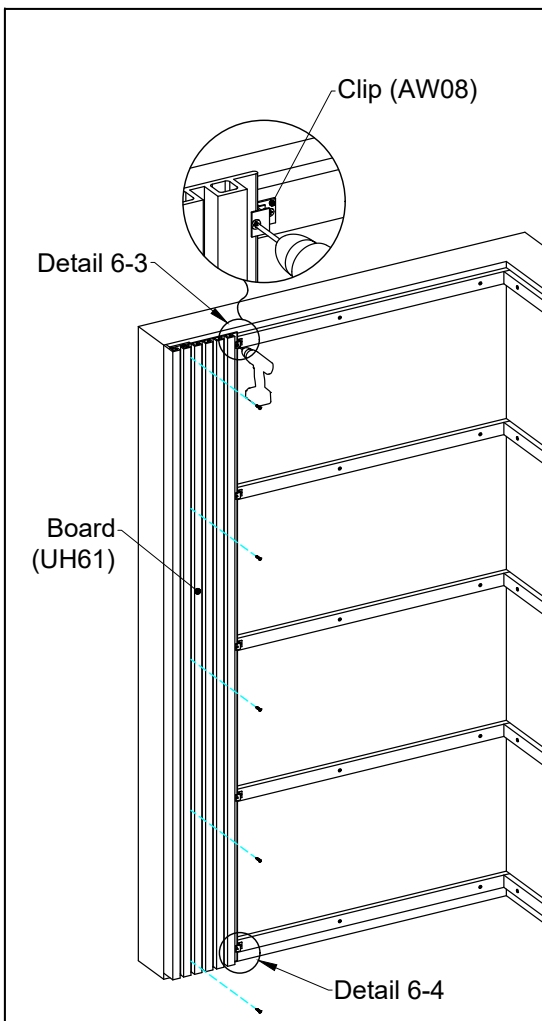
Diagram 6

Please Note:

Pre-drill the face fixing holes on the first board before installation to allow for expansion and contraction. Please review page 4, "Pre-drill", of this installation guide for further information.
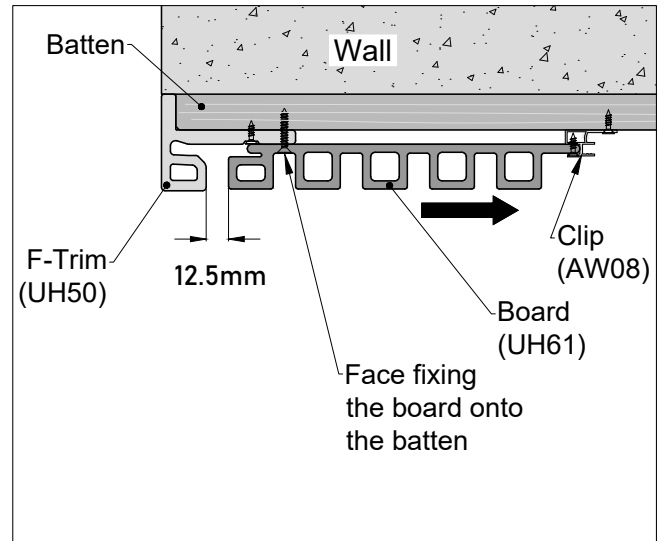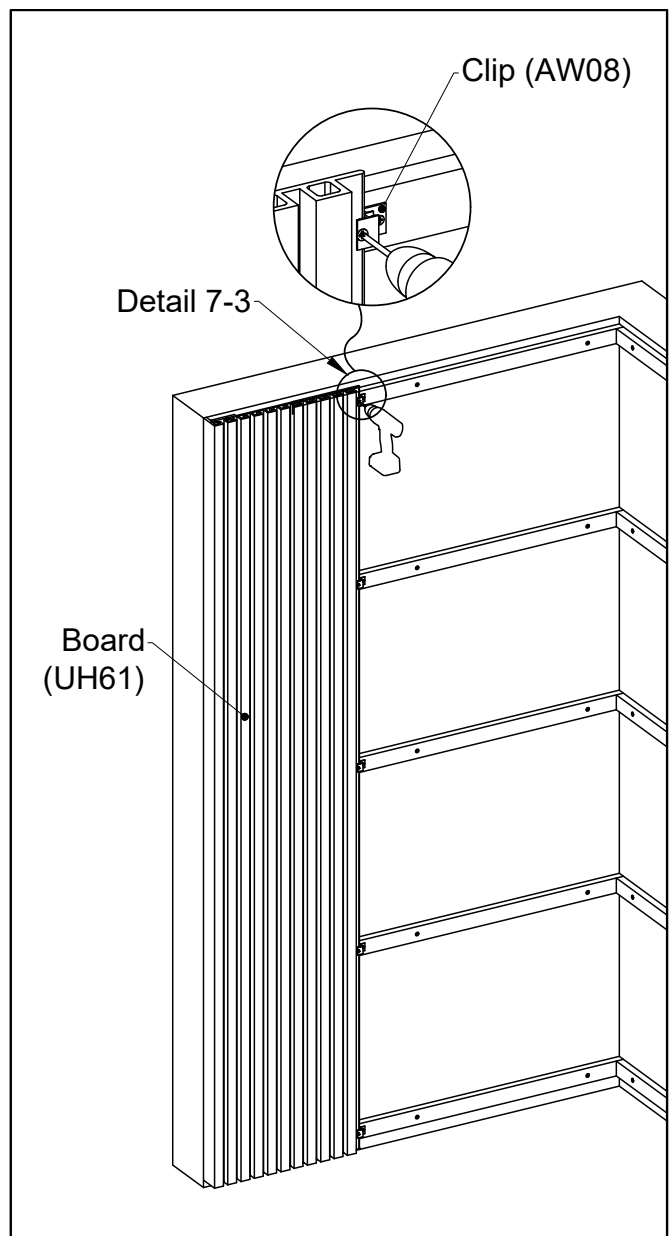

Detail 6-1
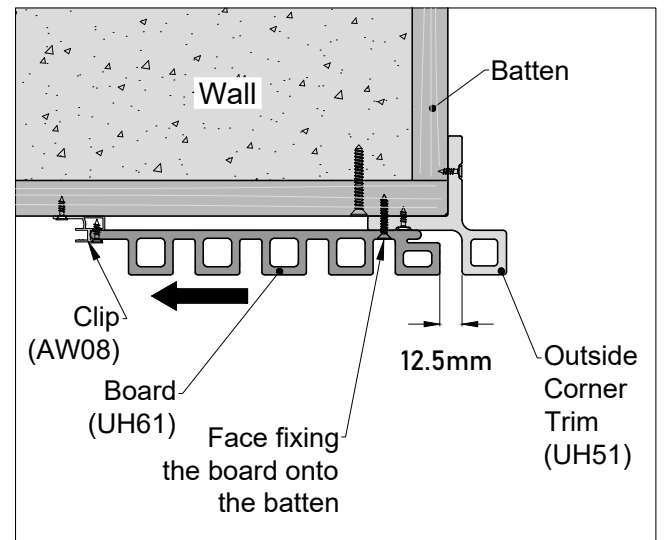
Detail 6-2

Please Note:

1. 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 (AWO8) at the top of each board,** as shown in **Detail 6-3.**

DO NOT LOCK any other Clip (AWO8) for the same board.

Please review page 13, "Locking the Wall Cladding Board" of this installation guide for further information.

Locking the Clip (AW08) at the top of each board

Clip (AW08)
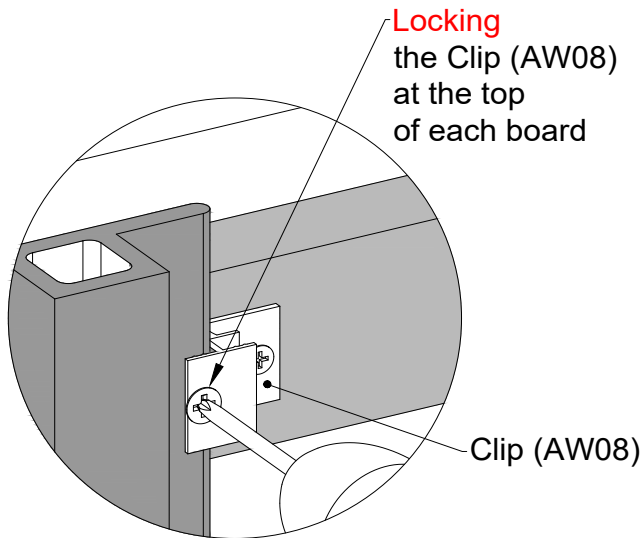
ONLY ONE LOCKING SCREW
TO BE USED PER BOARD

Detail 6-3

Please Note:

Allow a gap of at least 20mm between the floor and the Cladding board.

Clip (AW08)

Board

Wall

Floor

20mm
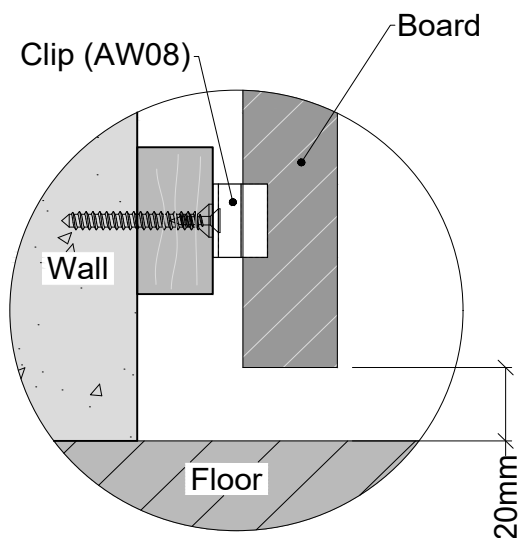
Detail 6-4

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7 **Installing the Second Course**

- Wall Side A (Cladding between the F-Trim (UH50) and the Inside Corner

- Wall Side B (Cladding between the Inside Corner and the Outside Corner trim (UH51)

Put the second Castellation Cladding Board (UH61) over the first board's Clip (AW08) and fasten its other side onto the batten with the Clip (AW08), as shown in **Diagram 7**.
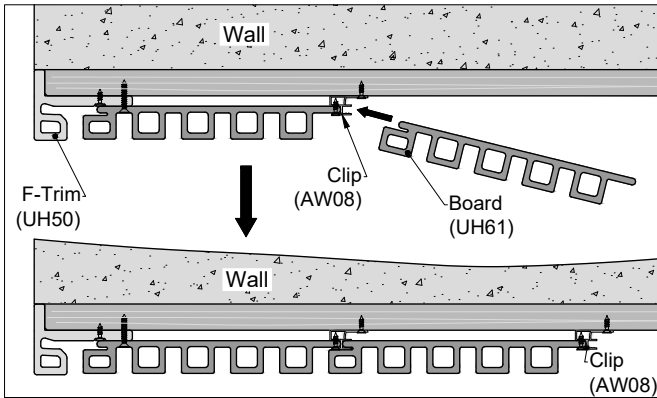
Outermost Edge (F-Trim UH50), as shown in **Detail 7- 1**.

Outside Corner (Outside Corner Trim UH51), as shown in **Detail 7-2** .

Clip (AW08)
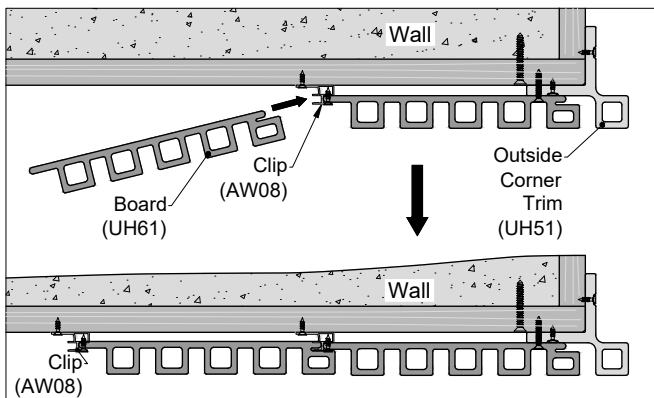
Detail 7-3

Board (UH61)

Diagram 7

Outermost Edge (F-Trim UH50), as shown in **Detail 7-1**.

Detail 7-1

Outside Corner (Outside Corner Trim UH51), as shown in **Detail 7-2**.

Detail 7-2

Please Note:

1. Since the installation of 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 {AWO8) at the top of each board**, as shown in **Detail 7-3**.

DO NOT LOCK any other Clip {AWO8) for the same board.

Please review page 13, "Locking the Wall Cladding Board" of this installation guide for further information.
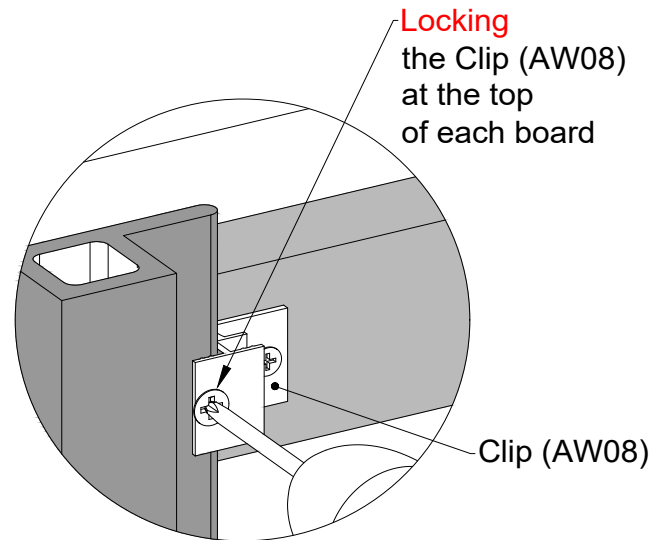
ONLY ONE LOCKING SCREW TO BE USED PER BOARD

Detail 7-3

8 When you are at the last cladding board that the installation is toward the inside corner from the F-Trim (UH50), measure and record the distance between the adjacent batten and the Clip (AW08), as shown in **Diagram 8-1** and **Detail 8 -1**.
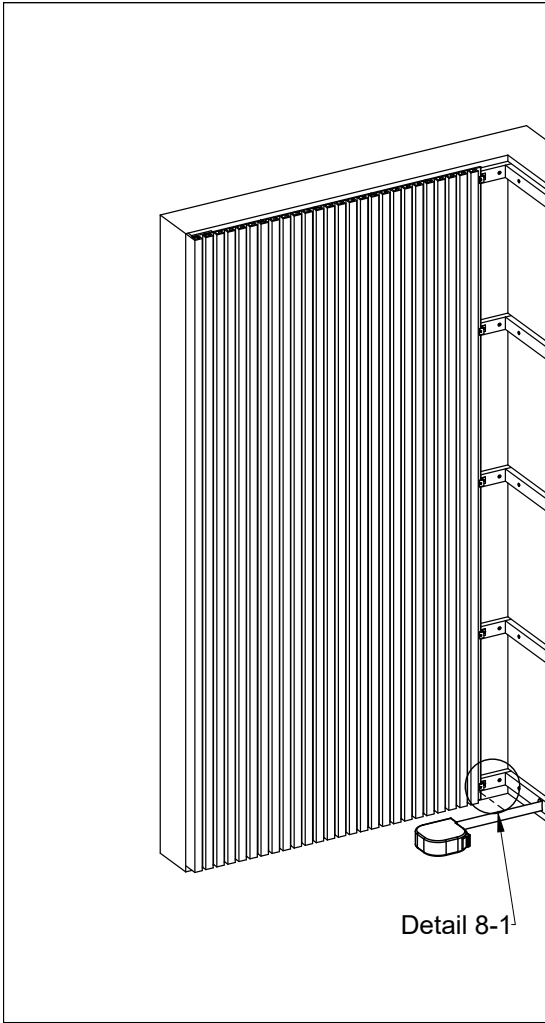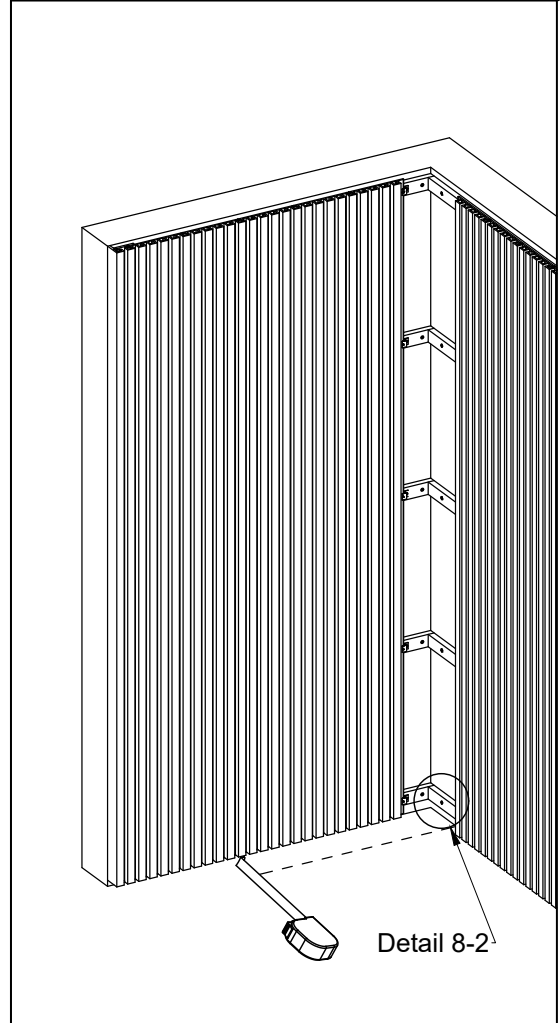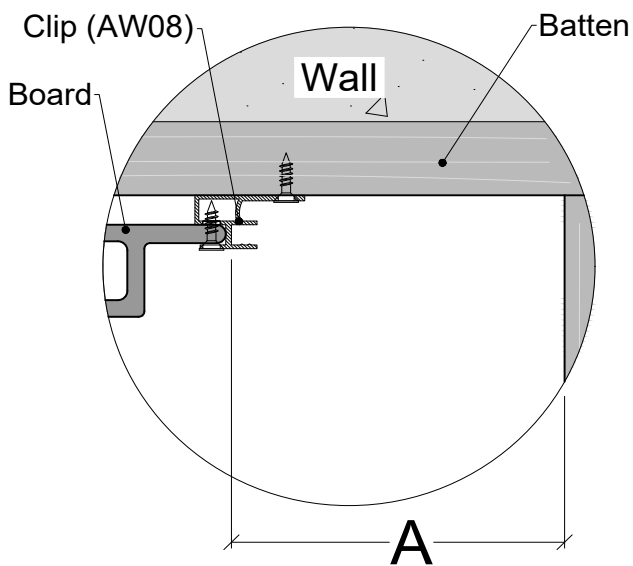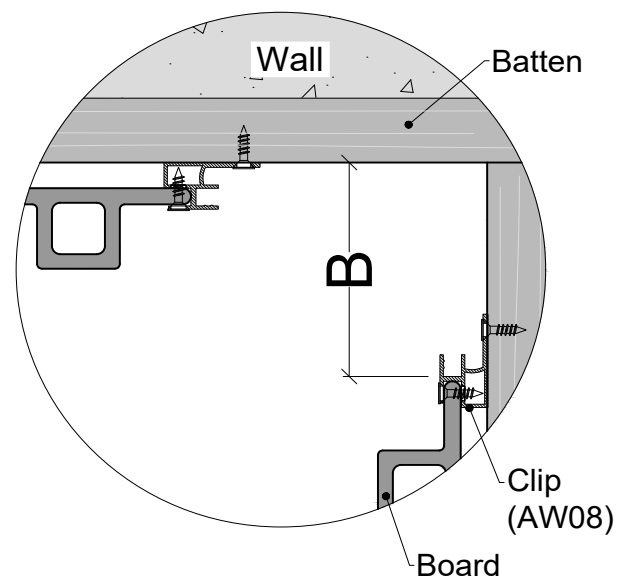
When you are at the last cladding board that the installation is toward the inside corner from the Ouside Corner Trim (UH51), measure and record the distance between the adjacent batten and the Clip (AW08), as shown in **Diagram 8-2** and **Detail 8-2**

Detail 8-1

Diagram 8-1

Detail 8-2

Diagram 8-2

Clip (AW08)   Batten

Board

Wall

A

Detail 8-1

Wall   Batten

B

Clip (AW08)

Board

Detail 8-2

9 Put a 90 degree metal flashing (Black powder-coated) in the inside corner and secure it onto the battens with screws, as shown in **Diagram 9**.
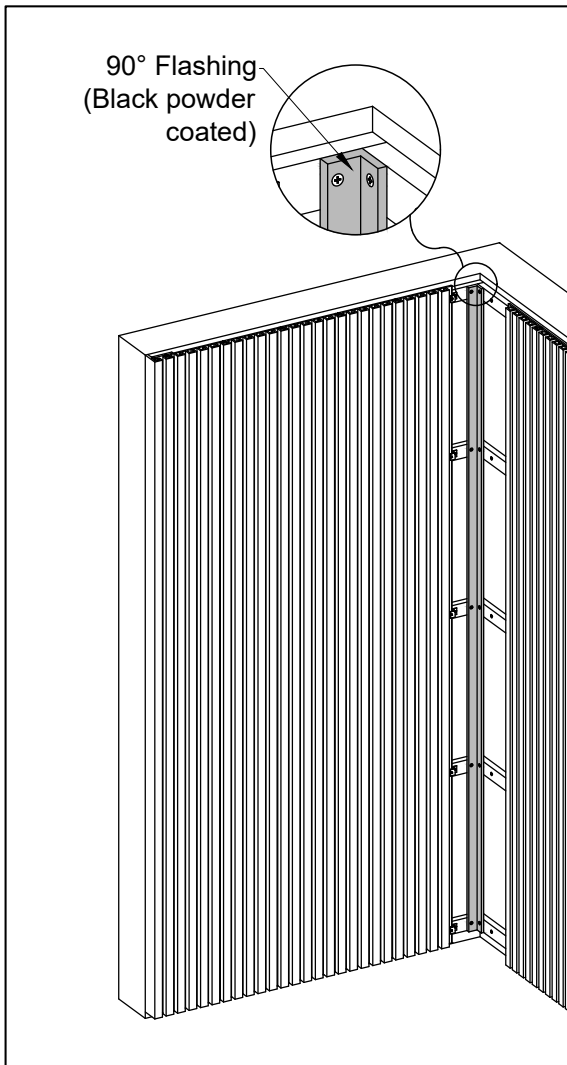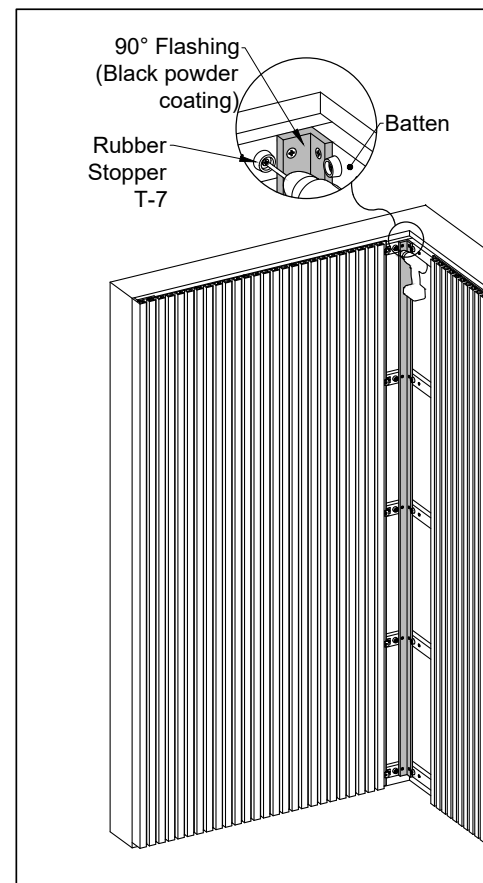

Diagram 9

10 Fasten the Stoppers (T-7) beside both sides of the 90 degree metal flashing, as shown in **Diagram 10-1** and **Diagram 10-2**.
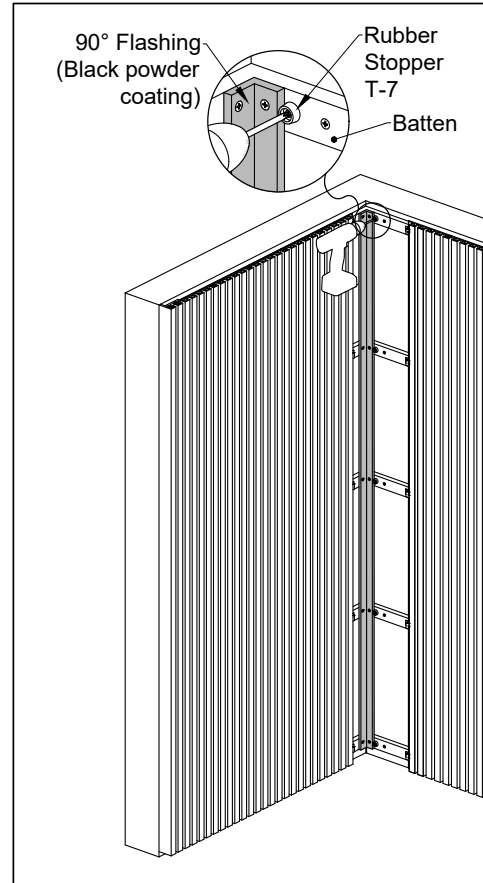
Diagram 10-1

Diagram 10-2

11 Cut the two last cladding boards according to the below calculation options,

Option 1: "A" minus 38mm, "B" minus 10mm

Option 2: "A" minus 10mm, "B" minus 38mm

Prior to cutting the boards, cut the scrap piece of material to determine which options can obtain the better board adjoining appearance, as shown in **Diagram 11** and **Detail 11-1**.
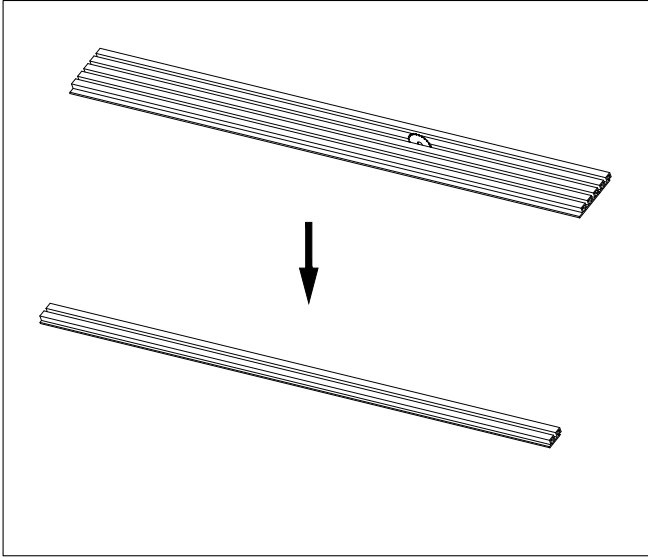
Diagram 11
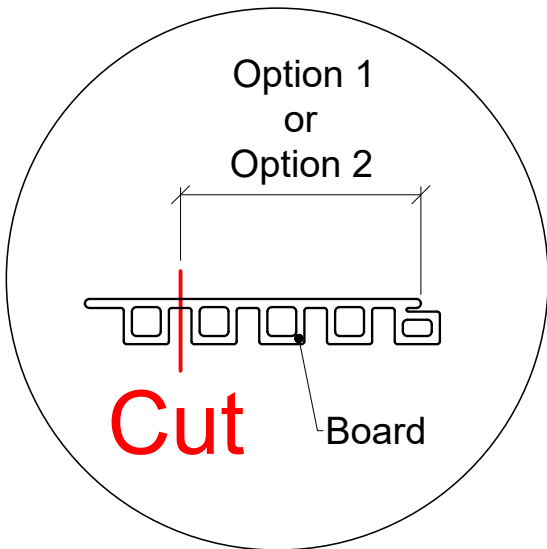
Detail 11-1

12 Face fix the two last cladding boards onto the battens against the Rubber Stopper (T-7) with screws **(NTW 8Gx50 colour head composite screw)**, as shown in **Diagram 12-1** and **Diagram 12-2**.
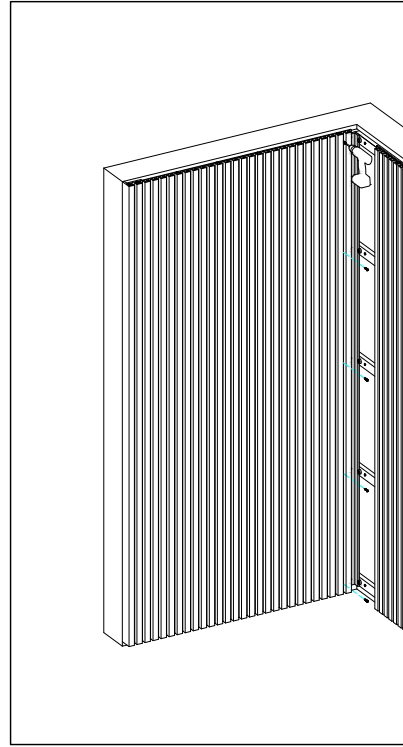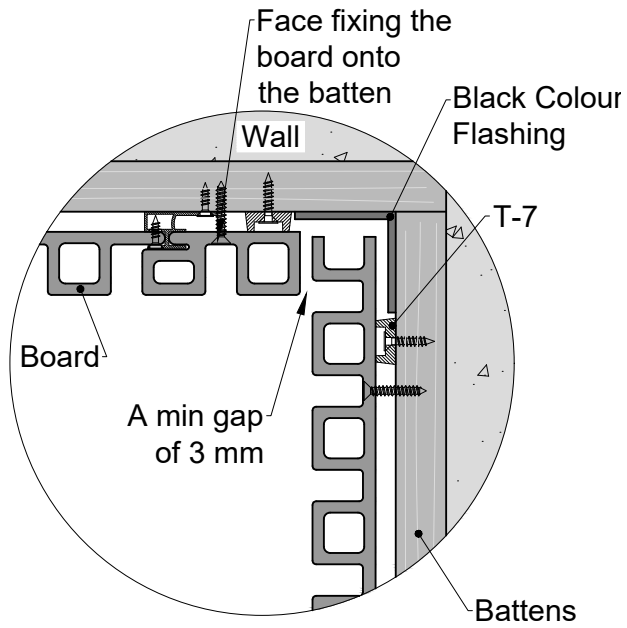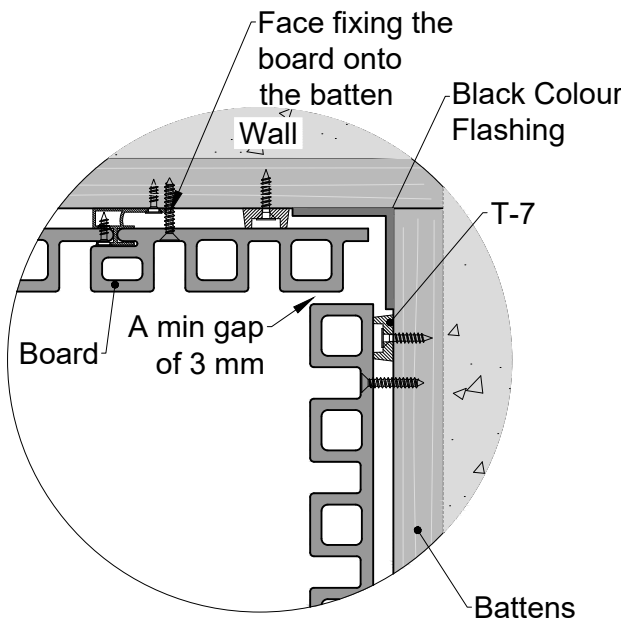

Diagram 12-1
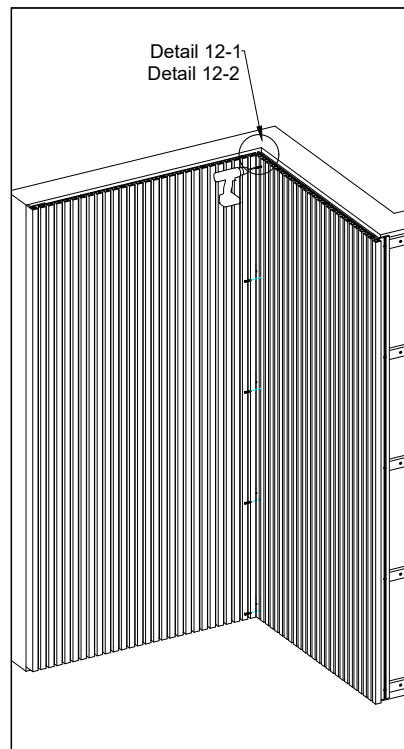
Diagram 12-2

Option 1 installation ("A" minus 38mm, and "B" minus 10mm), as shown in **Detail 12-1**

Face fixing the board onto the batten

Wall

Black Colour Flashing

T-7

Board

A min gap of 3 mm

Battens

Detail 12-1

Option 2 installation ("A" minus 10mm, and "B " minus 38mm), as shown in **Detail 12-2**

Face fixing the board onto the batten

Wall

Black Colour Flashing

T-7

Board

A min gap of 3 mm

Battens

Detail 12-2

Before Installation on

- Wall Side C (Cladding between two Outside Corner trims (UH51)

- Wall Side D (Cladding between the Outside Corner trim (UH51) and the F-Trim (UH50)

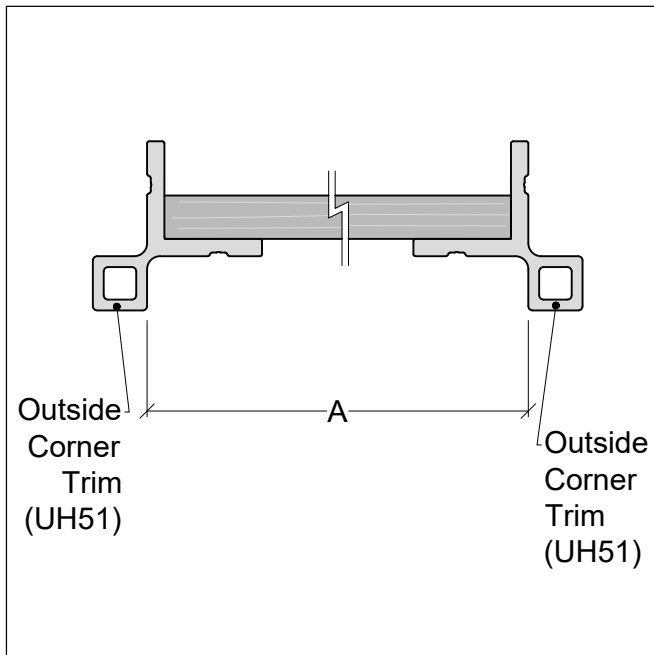Measure the distance in between the trims, as shown in **Diagram 13-1**.
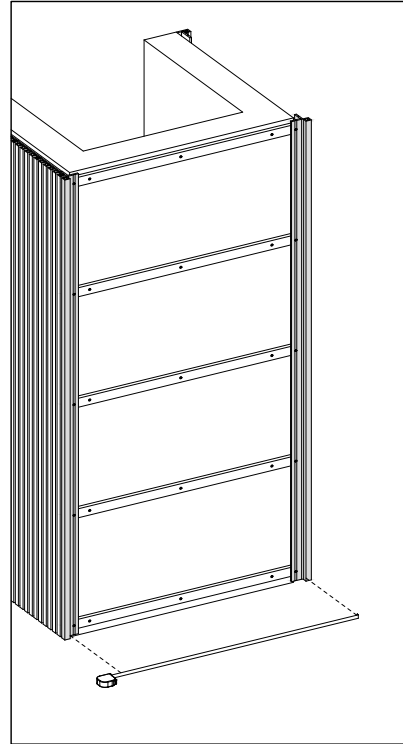
Diagram 13-1

Detail 13-1 shows the measurement "A" in between the Outside Corner trim (UH51) and the F-Trim (UH50).

Outside Corner Trim (UH51)

A

F-Trim (UH50)
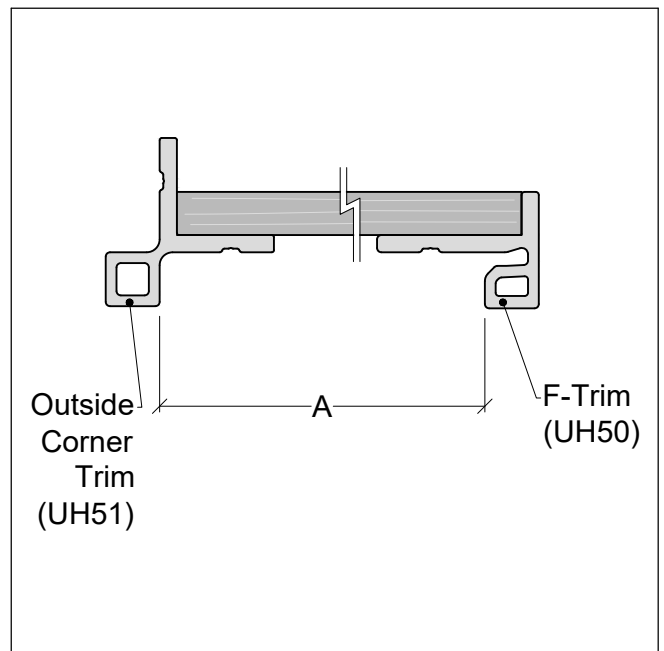
Detail 13-1

Detail 13-2 shows the meaurement **"A"** in between two Outside Corner Trims (UH51).

Outside Corner Trim (UH51)

A

Outside Corner Trim (UH51)

Detail 13-2

Once you know the measurement **"A"**, you must calculate:

- The number of full profiles required - Coverage of 186mm per board

- The width that the final profile will need to possibly be ripped down to

This will allow you to determine the overall gap value of **"E"**, between the trim and the cladding board, as shown in **Detail 13-3**.

NOTE: Depending on your façade size, you could look to create a gauge of installed cladding pieces that can be held up to your façade, to facilitate ease of calculating these values.

E   E

A
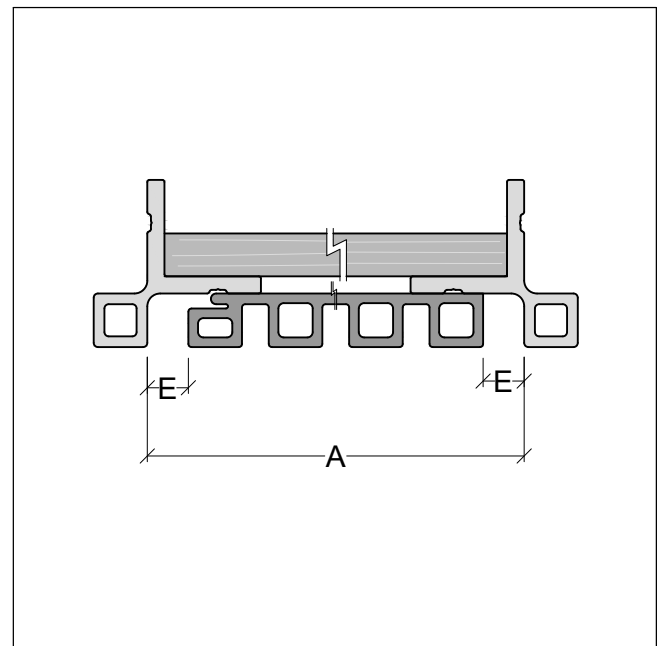
Detail 13-3

14 Installing the First Course

- Wall Side C (Cladding between two Outside Corner trims (UH51)

- Wall Side D (Cladding between the Outside Corner trim (UH51) and the F-Trim (UH50)

Put the first cladding board in place with the clearance value of "E" between the trim, and face fix it the side next to the trim onto the battens with screws **(NTW 8Gx50 colour head composite screw)**, as shown in **Diagram 14**.
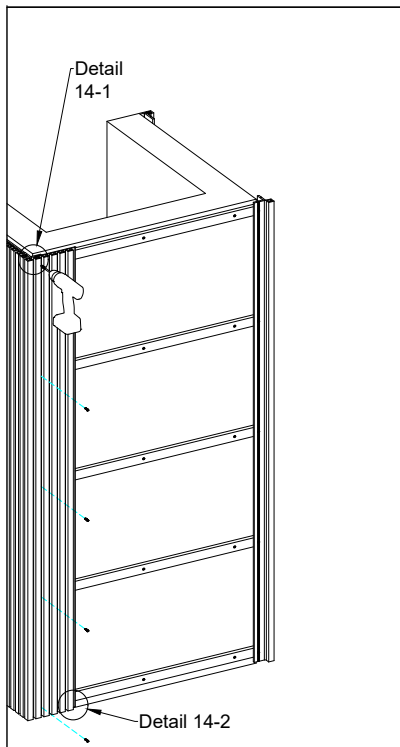

Diagram 14-1

Please Note:

1. Pre-drill the face fixing holes on the first board before installation to allow for expansion and contraction. Please review page 4**, "Pre-drill"**, of this installation guide for further information.

2. A minimum clearance of 20mm needs to be left between the cladding board and the floor, as shown in **Detail 14-2**.

Outside Corner Trim (UH51)

E

Face fixing the board onto the batten

Board

Detail 14-1

Clip (AW08)

Board

Wall

Floor

20mm
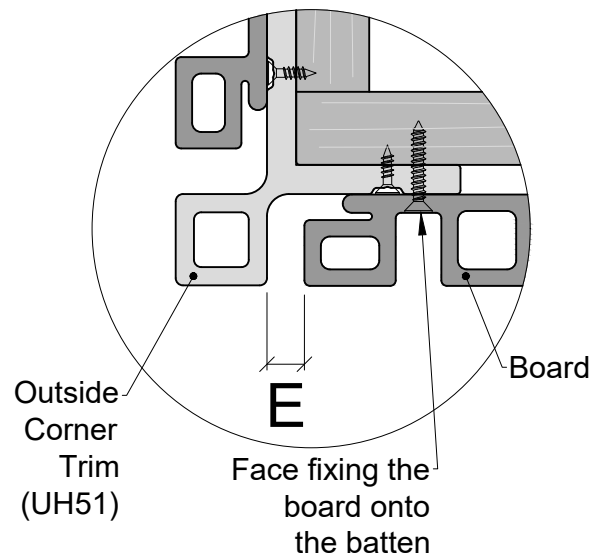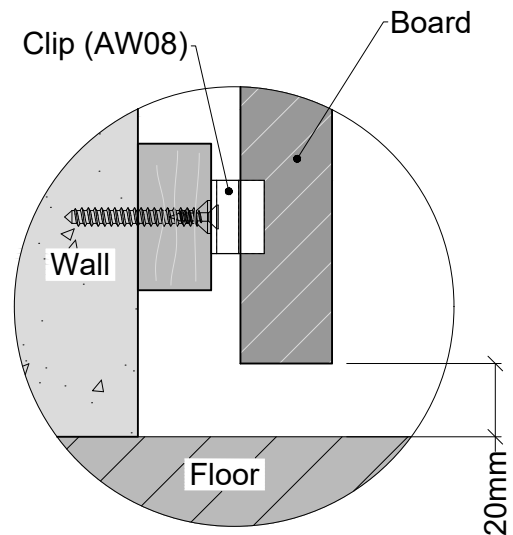
Detail 14-2

Secure the board onto the battens with the Clip (AW08), as shown in **Diagram 20** .

Please Note:

1. 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 14-3**.

DO NOT LOCK any other Clip (AWO8) for the same board.

Please review page 13, "Locking the Wall Cladding Board" of this installation guide for further information.

Locking the Clip (AW08) at the top of each board

Clip (AW08)
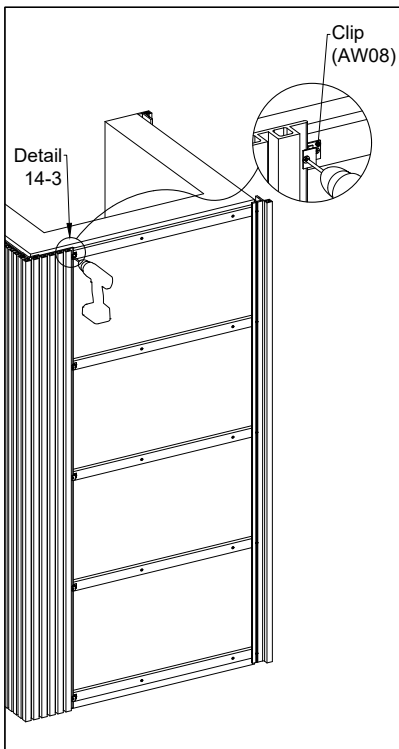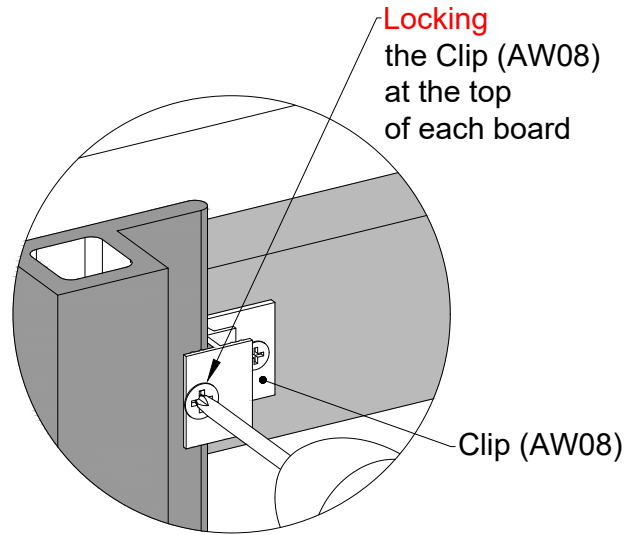
ONLY ONE LOCKING SCREW TO BE USED PER BOARD

Detail 14-3

Diagram 14-2

15 **Installing the Second Course**

- Wall Side C (Cladding between two Outside Corner trims (UH51)

- Wall Side D (Cladding between the Outside Corner trim (UH51) and the F-Trim (UH50)

Please process the installation procedure same as **Step 7** on **page 19 to 20** of this installation guide.

16 **Continuing the Remaining Installation**

- Wall Side C (Cladding between two Outside Corner trims (UH51)

- Wall Side D (Cladding between the Outside Corner trim (UH51) and the F-Trim (UH50)

The width of the cladding boards and the width along the installed cladding boards should be a bit different versus the design due to the tolerance that occurred in the board production process and installation work. Therefore, when you are at near **300mm** beyond the next trim, it is recommended to measure the distance between the Clip (AW08) and the trim again to check with the result generated by the **"your initial measurements and calculations"** spreadsheet and determine whether the last board ripping width needs to be adjusted, as shown in **Diagram**
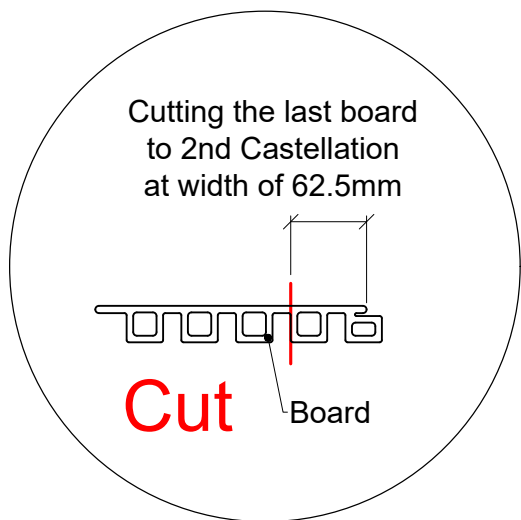

Detail 16-1
Detail 16-2
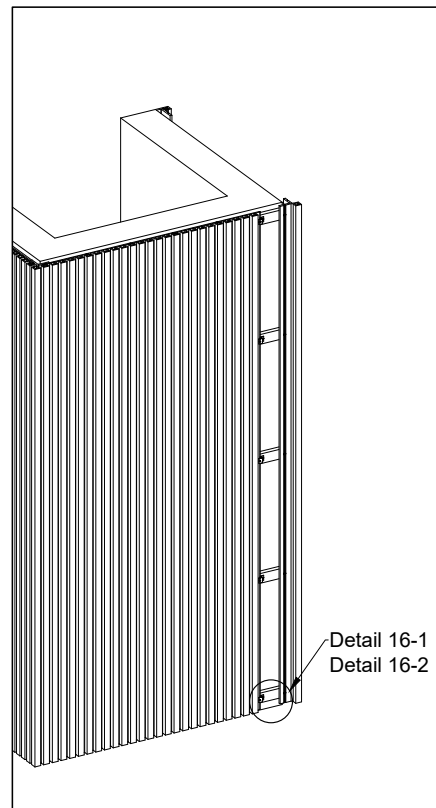
16 -1 .

Diagram 16-1

**Detail 16-1** shows how to measure the determination measurement from the Outside Corner Trim (UH51).

Cutting dimension

Cut — Board
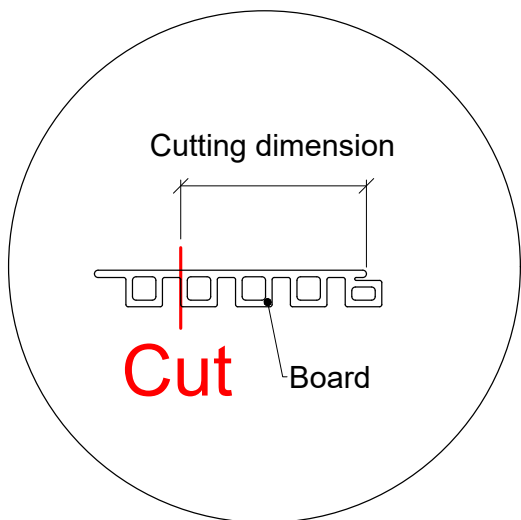
Detail 16-1

Detail 16-2 shows how to measure the determination measurement from the F-Trim (UH50).

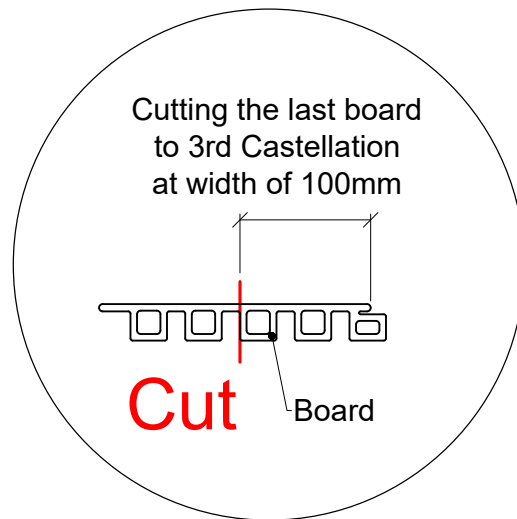Cutting the last board to 2nd Castellation at width of 62.5mm

Cut — Board

Detail 16-2

Rip the cladding board according to the value of final determination, as shown in **Diagram 16-2** and **Detail 16-3**.
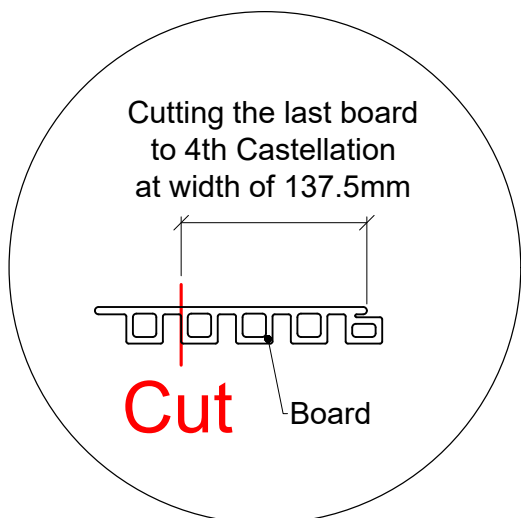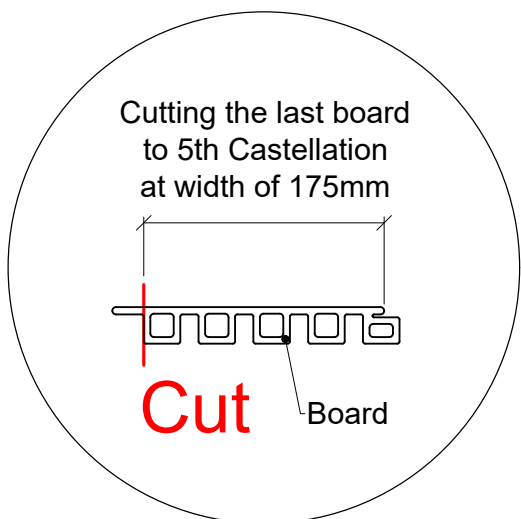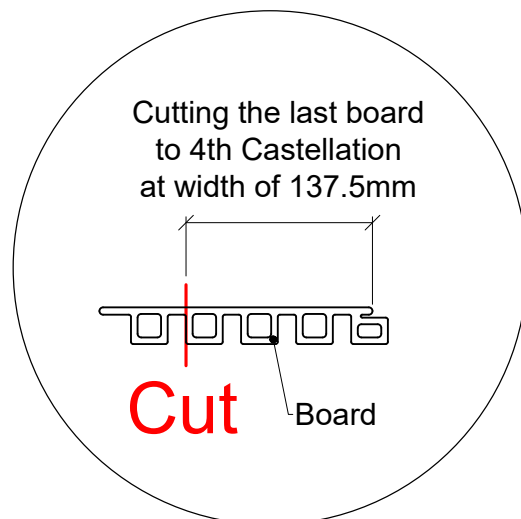
Diagram 16-2

Cutting the last board to 3rd Castellation at width of 100mm

Cut — Board
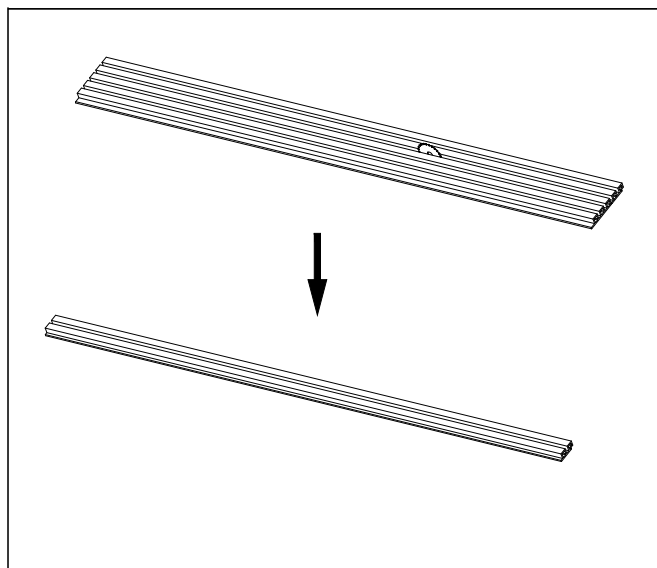
Detail 16-3

It is recommended to rip the Castellation Cladding Board (UH61) as shown in **Detail 16-4** to **Detail 16-7** to gain the optimal profile appearance
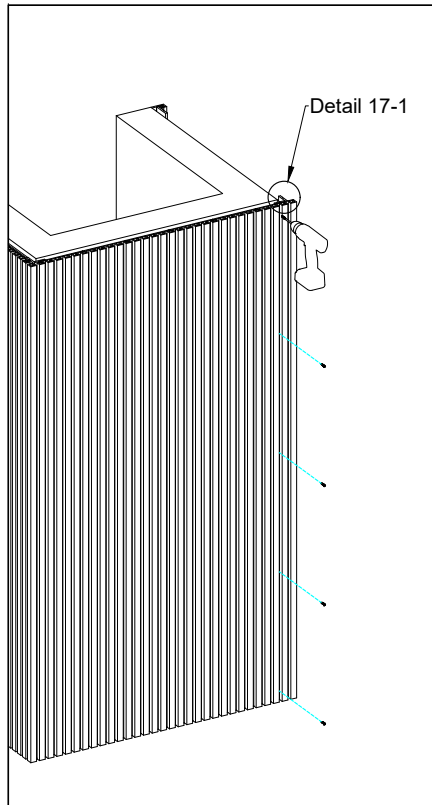
Cutting the last board to 4th Castellation at width of 137.5mm

Cut

Board

Detail 16-4

Cutting the last board to 4th Castellation at width of 137.5mm

Cut

Board

Detail 16-6

Cutting the last board to 5th Castellation at width of 175mm

Cut

Board

Detail 16-5

Cutting the last board to 5th Castellation at width of 175mm

Cut
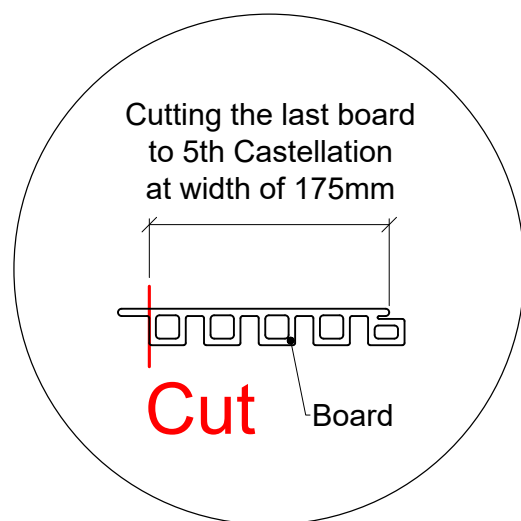
Board

Detail 16-7

17 Face fixing the last ripped cladding board onto the batten with screws (**NTW 8Gx50 colour head composite screw)**, as shown in **Diagram 17-1** and **Detail 17-1** at the outside corner (Outside Corner Trim UH51), **Diagram 17-2** and **Detail 17-2** at the outermost edge (F-Trim UH50) .

Please Note:

1. Pre-drill the face fixing holes on the last board before installation to allow for expansion and contraction. Please review **page 4, "Pre-drill"**, of this installation guide for further information.

Diagram 17-2

Diagram 17-1

Cutting the last board to 2nd Castellation at width of 62.5mm

Cut — Board

Detail 17-1

Batten

Wall

Board

E

Face fixing the last board onto the batten

F-Trim (UH50)
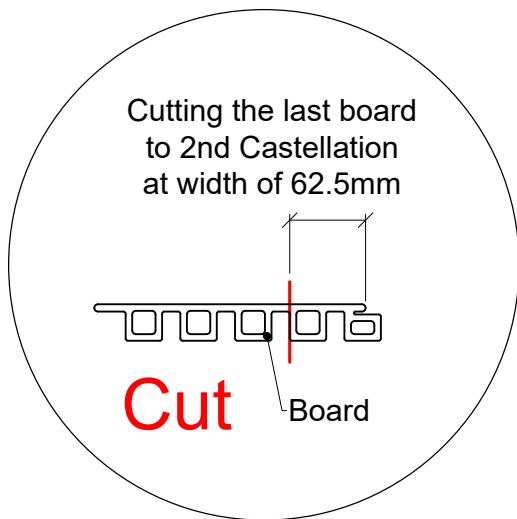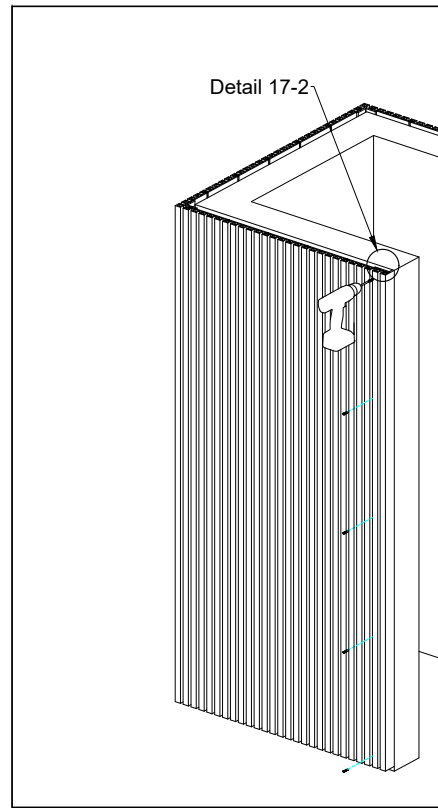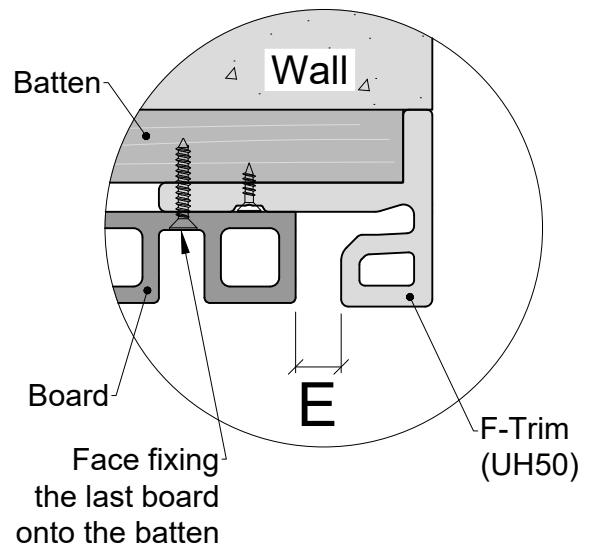
Detail 17-2

18 **Diagram 18** presents the final appearance after completing the installation.
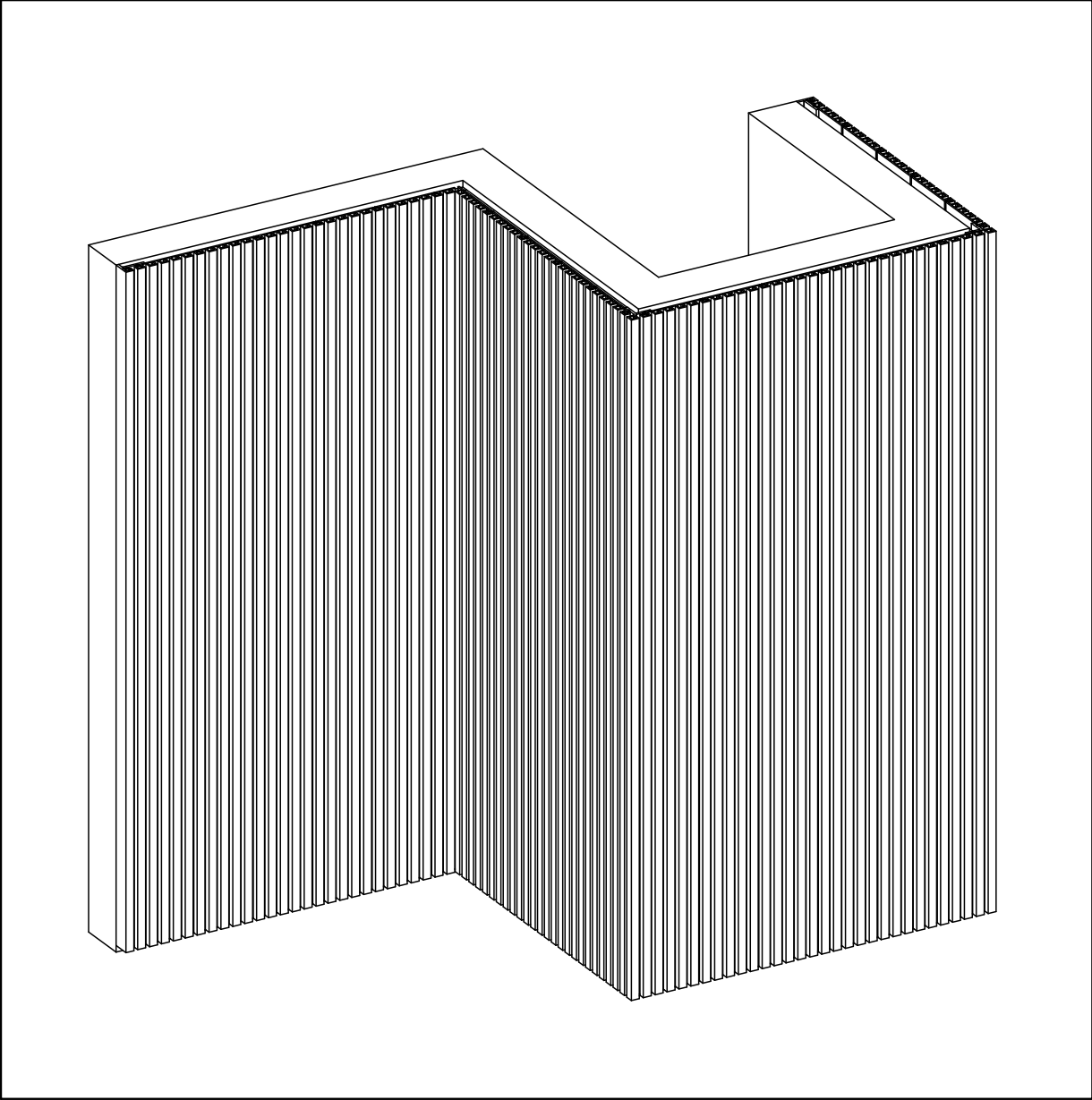
Diagram 18

CASTELLATION CLADDING - HORIZONTAL INSTALLATION

Installation Procedure

Step 1: Framing

- Measure and Chalk the battens
- Battens Installation

Step 2: Installation the Trims on the Starting Point

Step 3: Starting Trim (AW02) Installation

Step 4: Castellation Cladding Board Installation

- Installing the First Course
- Installing the Second Course
- Continuing the Remaining Installation
- Installing the Last Castellation Cladding Board

19 **Framing**
The frame needs to be level before installing the cladding boards. **Diagram 19** shows the wall replicating different scenarios potentially occuring when installing the cladding boards.

Wall Side A: Cladding between the F-Trim (UH50) and the Inside Corner

Wall Side B: Cladding between the Inside Corner and the Outside Corner Trim (UH51)

Wall Side C: Cladding between two Outside Corner Trims (UH51)

Wall Side D: Cladding between the Outside Corner Trim (UH51) and the F-Trim (UH50)
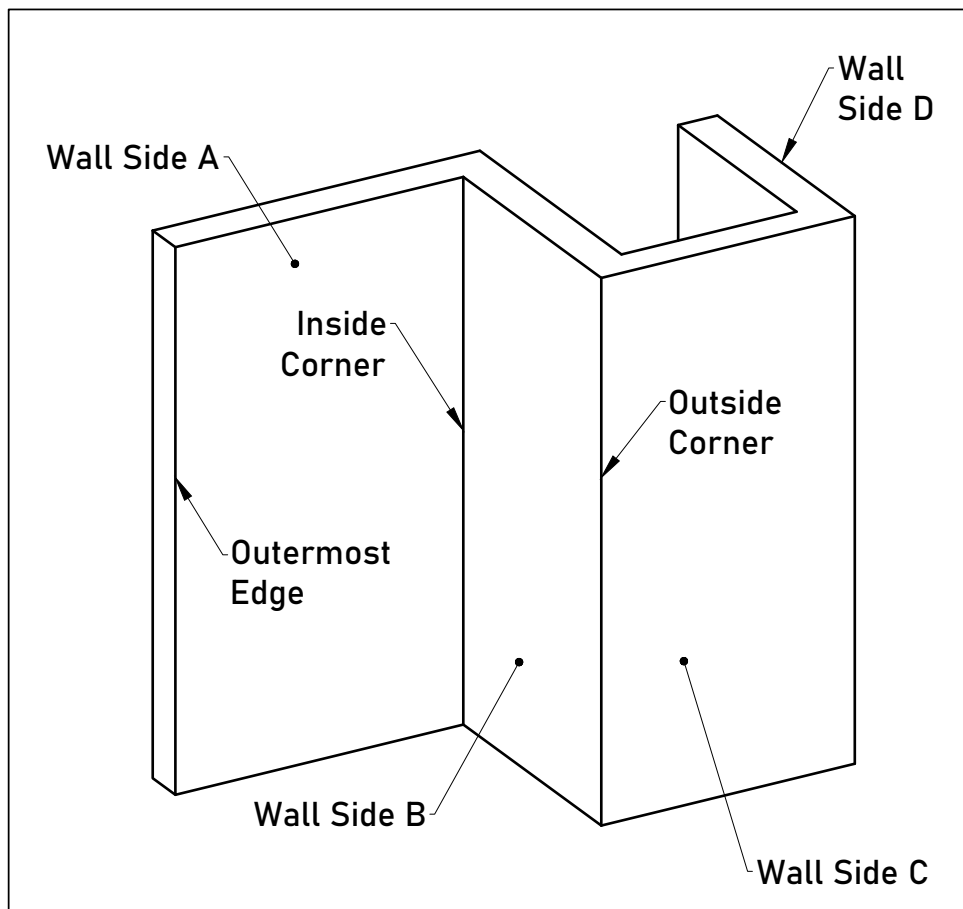
Diagram 19

20 Measure and chalk the battens according to the span data specified on page 4 of this installation guide, as shown in **Diagram 20**.
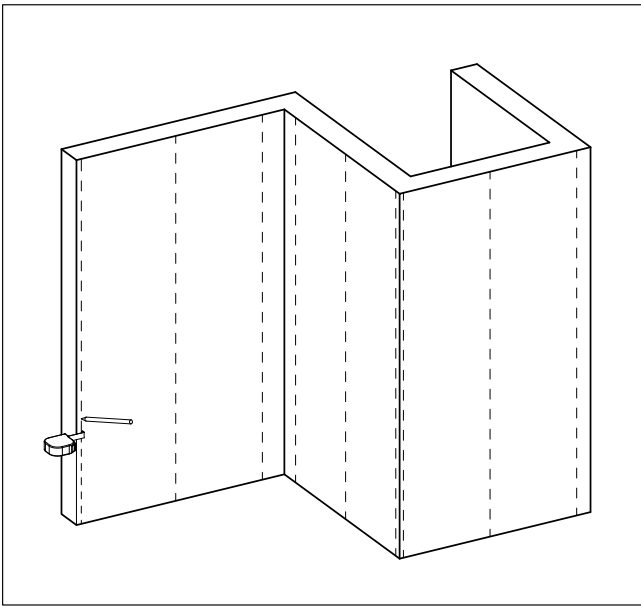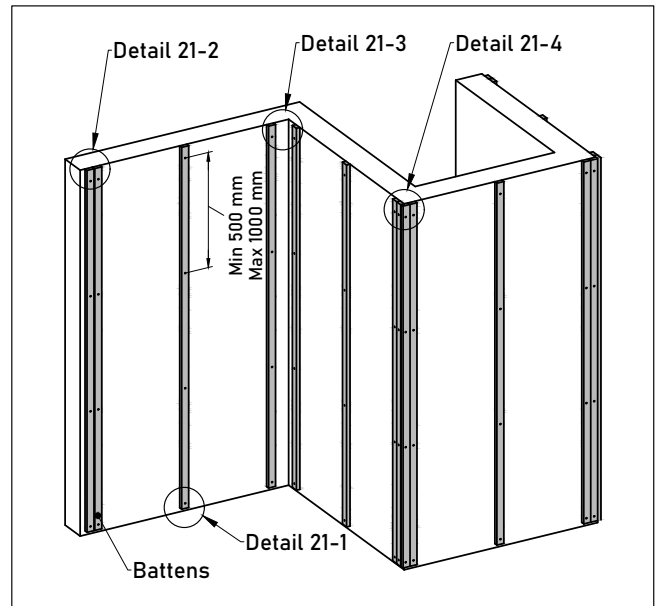

Diagram 20

Please Note:

1. We are using timber battens for this installation. If you are using metal/aluminium battens, please refer to page 6 of this installation guide for the correct recommended screws.

2. An adequate span between the battens is required to keep the boards from bending. Please review page 4 of this installation guide to see what span is needed.

21 Fix the battens onto the wall that you intend to install with screws in the distance at least 500mm and max 1000mm on centre. Please review page 4 to see what span is needed, as shown in **Diagram 21**.

Diagram 21

Please Note:

1. A minimum clearance of 20mm needs to be left at the bottom of each batten against the floor, as shown in **Detail 21-1**.
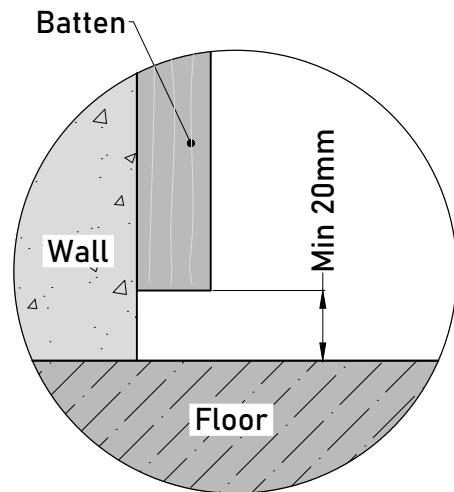
Detail 21-1

Please Note:

2. For the Outermost Edge (F-Trim UH50), please install according to **Detail 21-2**.

3. For the Inside Corner (No trim is needed), please install according to **Detail 21-3**.

4. For the Outside Corner (Outside Corner Trim UH51), please install according to **Detail 21-4**.
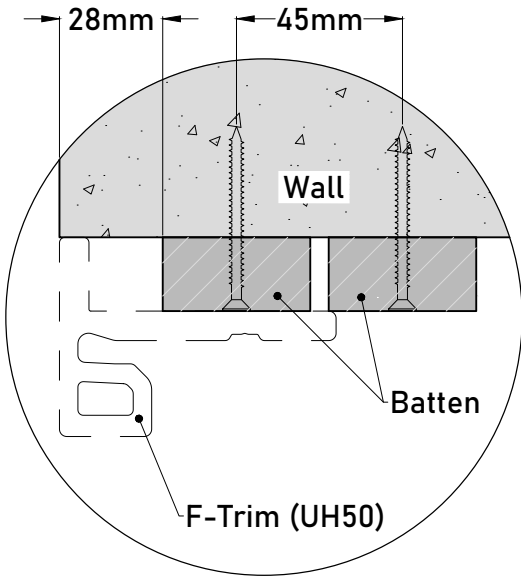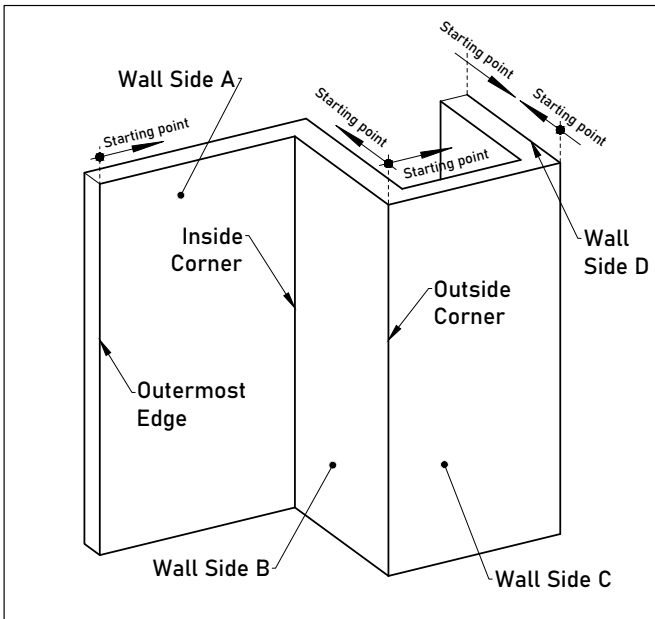

Detail 21-4

Detail 21-2
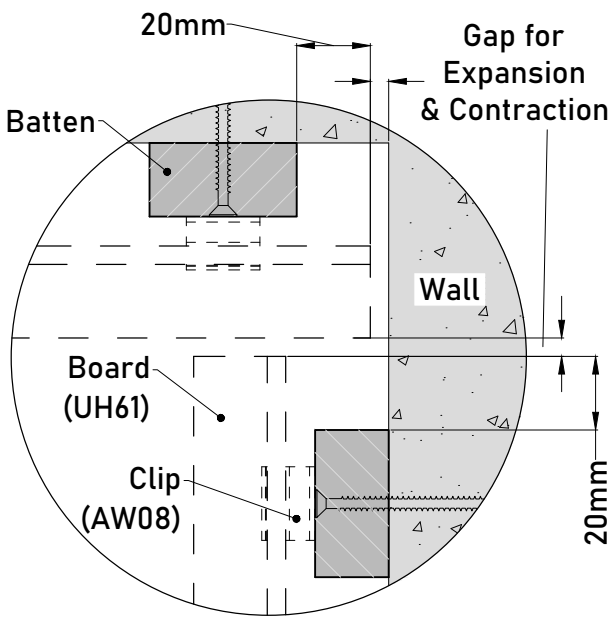
Detail 21-3
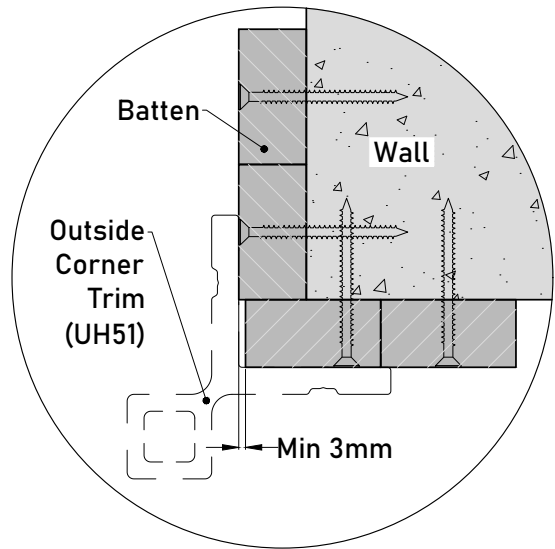
Installing the Trims on the Starting Point

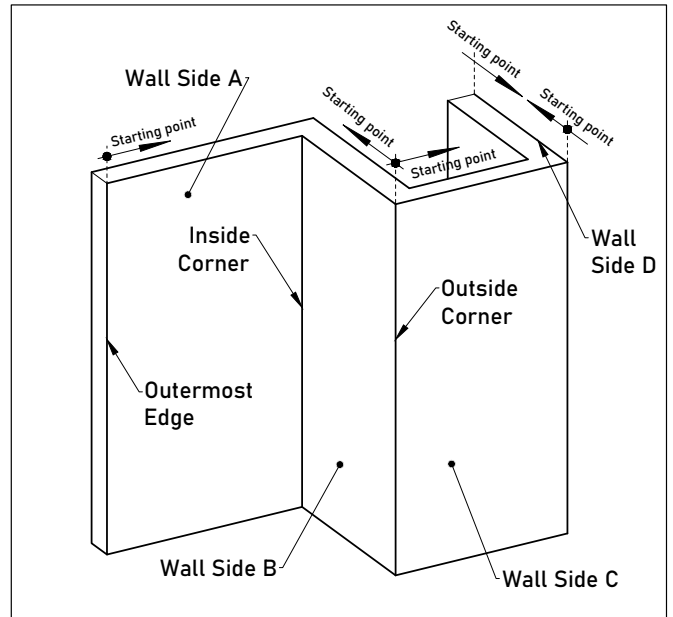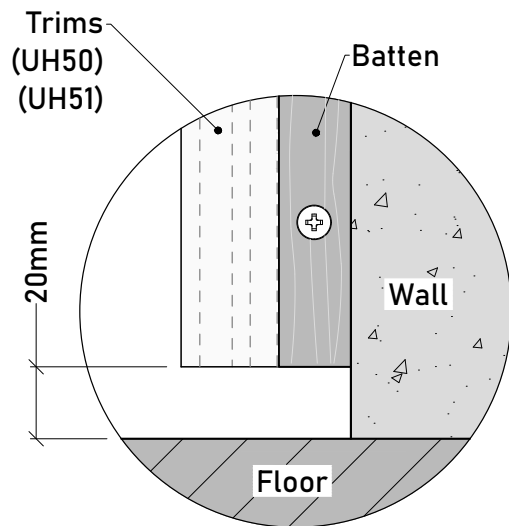It is recommended to fasten the trims on the starting point, as shown in **Diagram 22**.

Diagram 22

23 Secure the trims on the starting point before installation, as shown in **Diagram 23**.

Diagram 23

Please Note:

1. A minimum clearance of 20mm needs to be left between the trims against the floor, as shown in **Detail 23-1**.

Detail 23-1

Please Note:

2. Wall Side A: Cladding between the F-Trim (UH50) and the Inside Corner. Secure the F-Trim (UH50) onto the outermost edge's battens with screws in the distance at least 500mm and max 1000mm on centre, as shown in **Detail 23-2**.

3. Wall Side B: Cladding between the Inside Corner and the Outside Corner Trim (UH51).

Secure the Outside Corner Trim (UH51) onto the outside corner's battens with screws in the distance at least 500mm and max 1000mm on centre, as shown in **Detail 23-3**.

4. Wall Side C: Cladding between two Outside Corner Trims (UH51).

Secure the Outside Corner Trim (UH51) onto the outside corner's battens with screws in the distance at least 500mm and max 1000mm on centre, as shown in **Detail 23-4**.

5. Wall Side D: Cladding between the Outside Corner Trim (UH51) and the F-Trim (UH50).

Secure the Outside Corner Trim (UH51) onto the outside corner's battens and the F-Trim (UH50) onto the outermost edge's battens with screws in the distance at least 500mm and max 1000mm on centre, as shown in **Detail 23-2** and **Detail 23-3**.
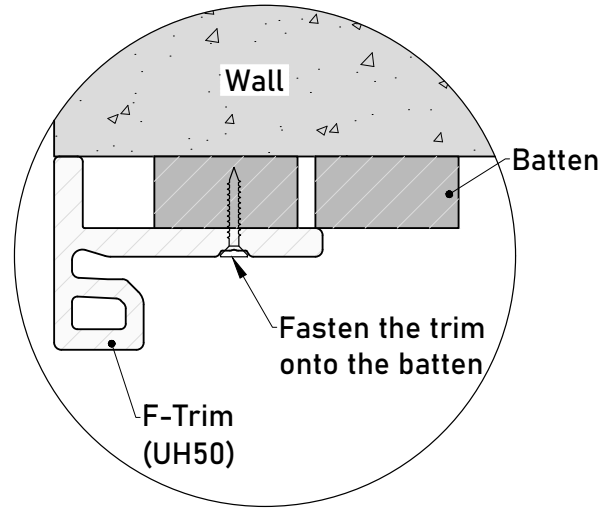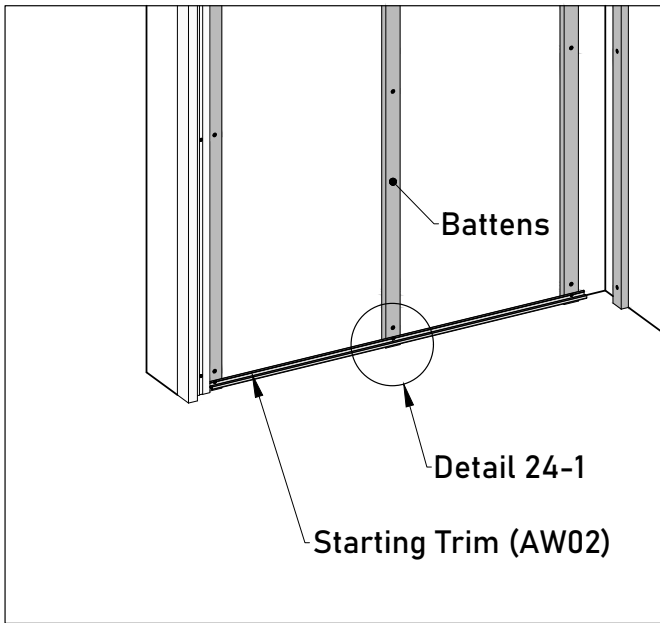

Detail 23-2
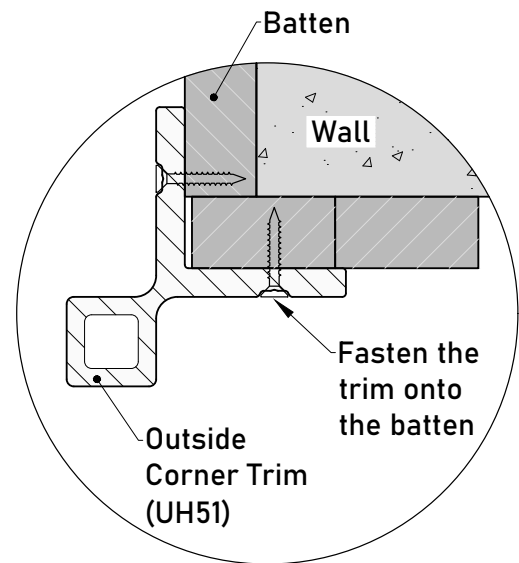
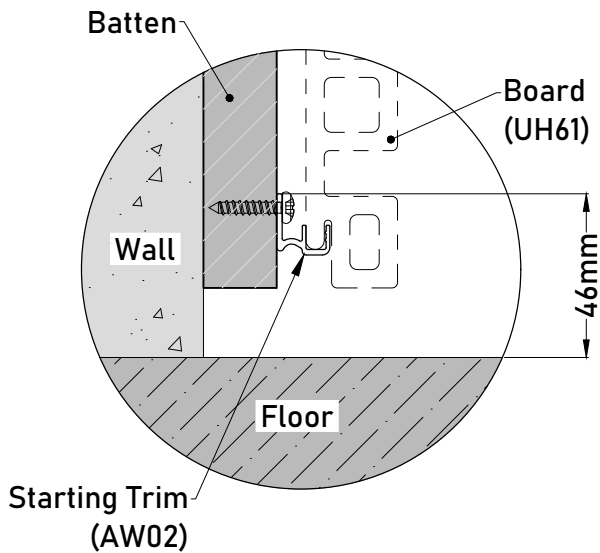

Detail 23-3

24 Trim (AW02) Installation

Install the Starting Trim (AW02) at the end of the battens against the floor with screws, as shown in **Diagram 24**.
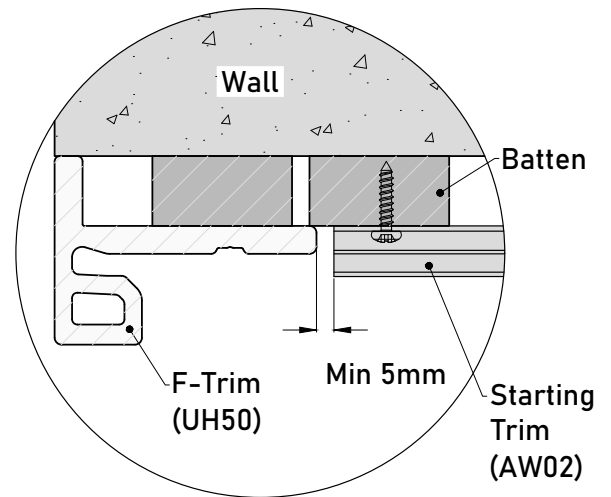

Diagram 24

Please Note:

1. Fasten the Starting Trim (AW02) 46mm height against the floor to get a minimum clearance of 20 mm between the cladding board and the floor, as shown in Detail 24-1.

Detail 24-1

Please Note:

2. Outermost Edge (F-Trim UH50) A minimum gap of 5mm needs to be left between the Starting Trim (AW02) and the F-Trim (UH50), as shown in **Detail 24-2**.

3. Inside Corner (no trim is needed to install)

A minimum clearance of 11mm needs to be left between the Starting Trim (AW02) against Wall Side B in the inside corner, as shown in **Detail 24-3**. And a minimum distance of 63mm needs to be left between the Starting Trim (AW02) against Wall Side A in the inside corner, as shown in **Detail 24-3**.

4. Outside Corner (Outside Corner Trim UH51) A minimum gap of 5mm needs to be left between the Starting Trim (AW02) and the Outside Corner Trim (UH51), as shown in **Detail 24-4**.

Detail 24-2

Batten

Min 11mm

63mm

Wall

Starting Trim (AW02)

Detail 24-3

Batten

Wall

Min 5mm

Outside Corner Trim (UH51)

Starting Trim (AW02)

Detail 24-4

Castellation Cladding Board Installation

Installing the First Course

Put the first Castellation Cladding Board (UH61) over the Starting Trim (AW02) in place and fasten it onto the batten with the Clip (AW08), as shown in Diagram 25 and Detail 25-1.
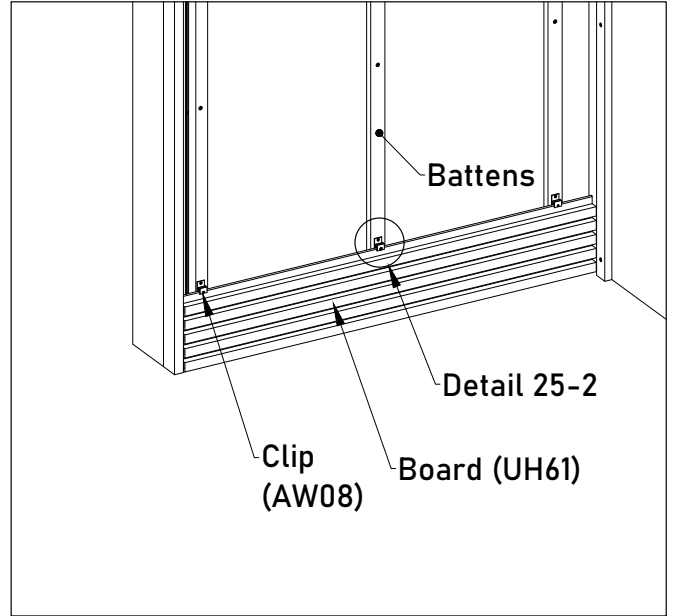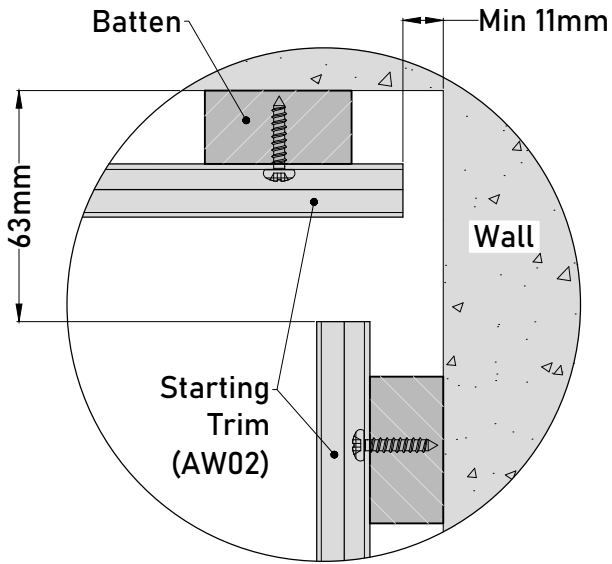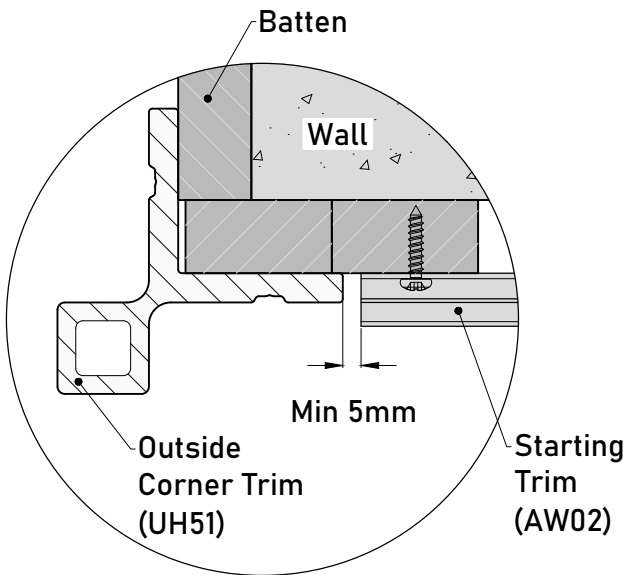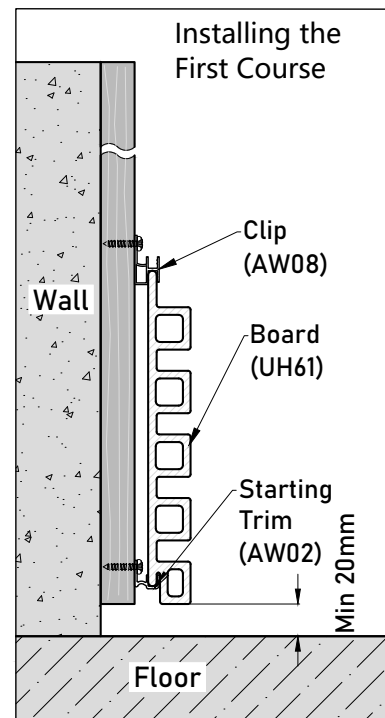
Battens

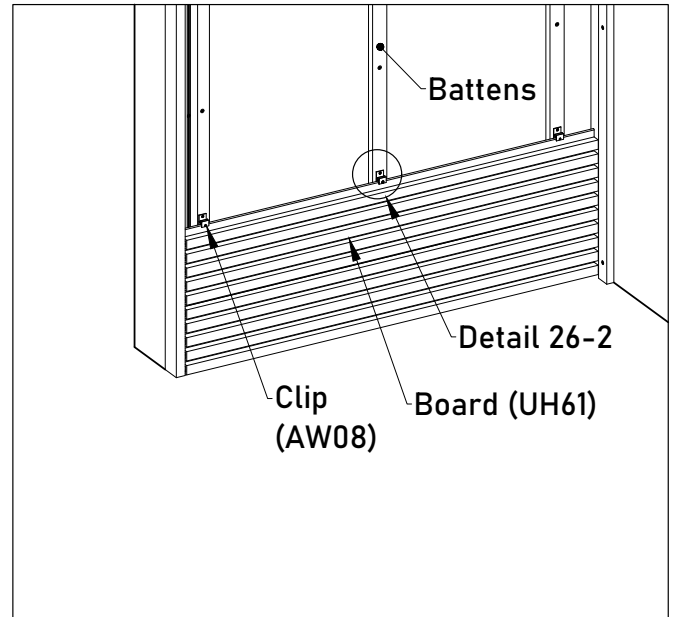**Detail 25–2**

Clip (AW08)

Board (UH61)

Diagram 25

Installing the First Course

Clip (AW08)
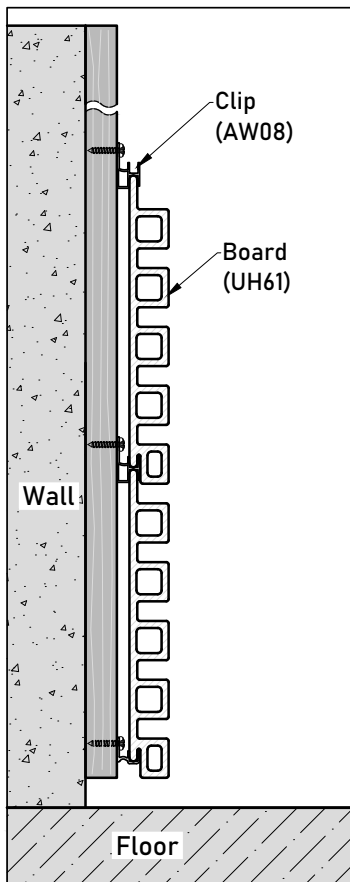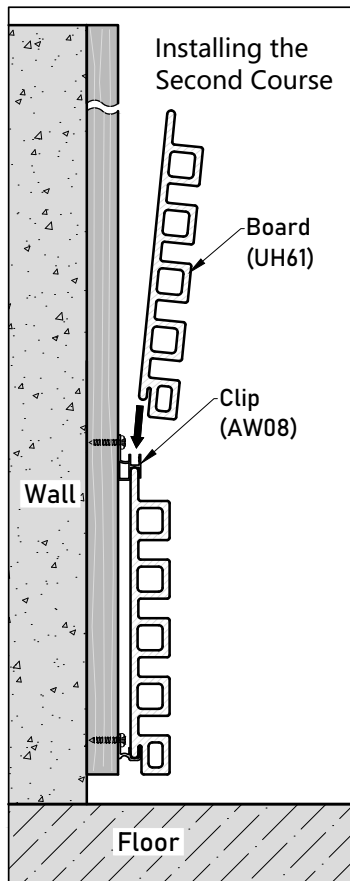
Wall

Board (UH61)

Starting Trim (AW02)

Min 20mm

Floor

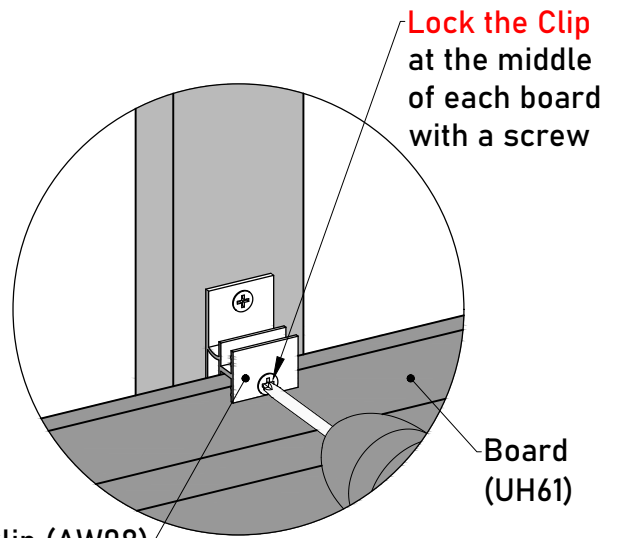**Detail 25-1**

Please Note:

1. 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 horizontally, it is required to lock the Clip (AW08) at the middle of each board, as shown in **Detail 25-2**.

DO NOT LOCK any other Clip (AW08) for the same board.

Please review page 13, "Locking the Wall Cladding Board" of this installation guide for further information.

Lock the Clip at the middle of each board with a screw

Board (UH61)

Clip (AW08) At the middle of the board

ONLY ONE LOCKING SCREW TO BE USED PER BOARD
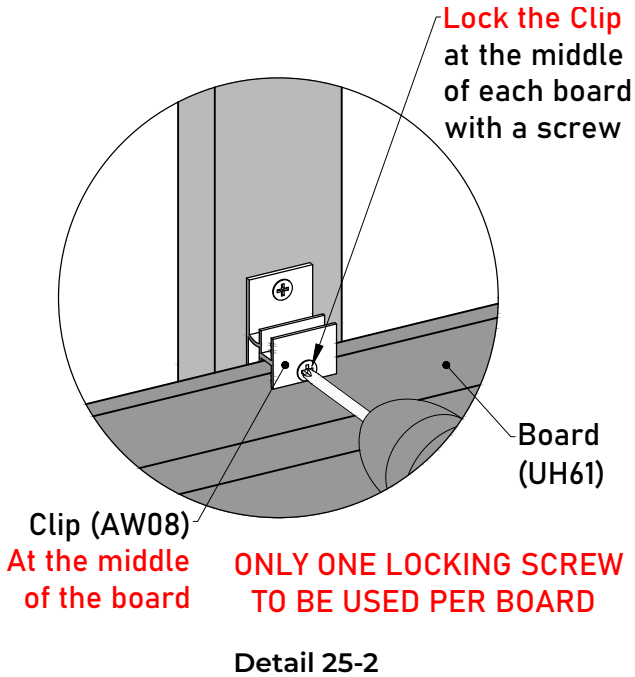
Detail 25-2

Please Note:

2. The gap between the cladding board and the floor should be at least 20mm, as shown in **Detail 25-1**.

3. The gap between the cladding board, F-Trim (UH50), Outside Corner Trim (UH51), adjacent wall in the least corner, and the adjoining cladding board in the inside corner is vital to avoid warping or buckling,

   3.1 Outermost Edge, F-Trim (UH50), as shown in **Detail 25-3**.

   3.2 Inside Corner (no trim is needed), as shown in **Detail 25-4**.

   3.3 Outside Corner, Outside Corner Trim (UH51), as shown in **Detail 25-5**.

Please select the appropriate gap value according to the **"Expansion and Contraction Values Table"** on page 4 of this installation guide.

Detail 25-3

Wall

F-Trim (UH50)

Gap for Expansion & Contraction

Board (UH61)

Gap for Expansion & Contraction

Gap for Expansion & Contraction

Wall

Board (UH61)

Detail 25-4

Board (UH61)

Gap for Expansion & contraction

Wall

Outside Corner Trim (UH51)

Gap for Expansion & Contraction
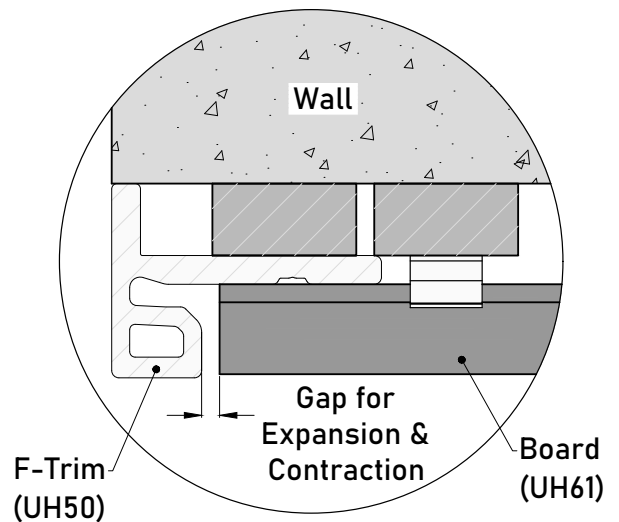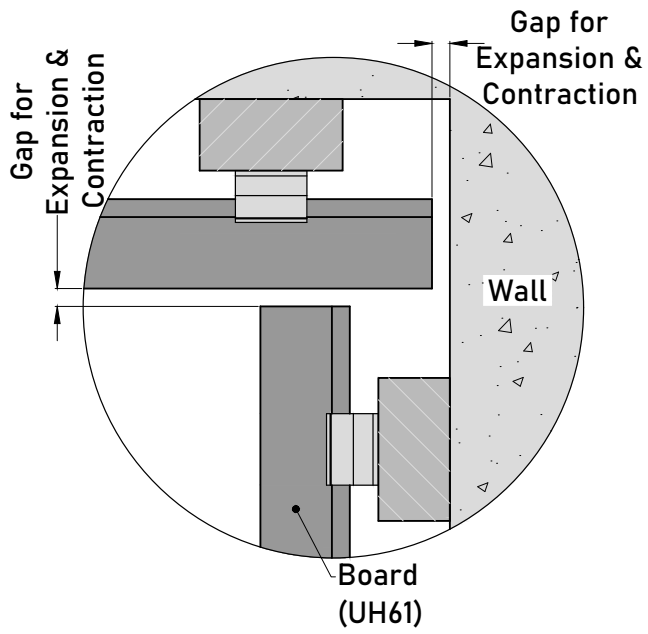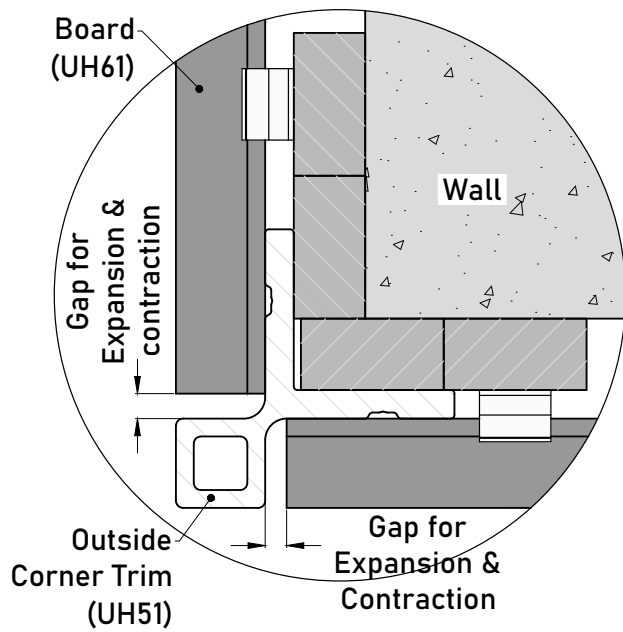
Detail 25-5

Installing the Second course

Put the second Castellation Cladding Board (UH61) over the first board's Clip (AW08) in place and fasten it onto the batten with another Clip (AW08), as shown in **Diagram 26** and **Detail 26-1**.

Battens

Detail 26–2

Clip (AW08)

Board (UH61)

Diagram 26

Installing the Second Course

Board (UH61)

Clip (AW08)

Wall

Floor

Clip (AW08)

Board (UH61)

Wall

Floor

Detail 26-1

Please Note:

1. Since the installation of 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 horizontally, it is required to lock the Clip (AW08) at the middle of each board, as shown in **Detail 26-2**.

DO NOT LOCK any other Clip (AW08) for the same board.

Please review **page 13, "Locking the Wall Cladding Board"** of this installation guide for further information.

Lock the Clip at the middle of each board with a screw

Board (UH61)

Clip (AW08)
At the middle of the board

ONLY ONE LOCKING SCREW TO BE USED PER BOARD

Detail 26-2

27 Installing the Last Castellation Cladding Board

When you are at the last cladding board, measure the distance between the top end of the batten and the Clip (AW08), as shown in **Diagram 27** and **Detail 27-1**.

Board (UH61)

Detail 27-1

Clip (AW08)

Diagram 27

Battens

"A" Measured Dimension

Clip (AW08)

Board (UH61)
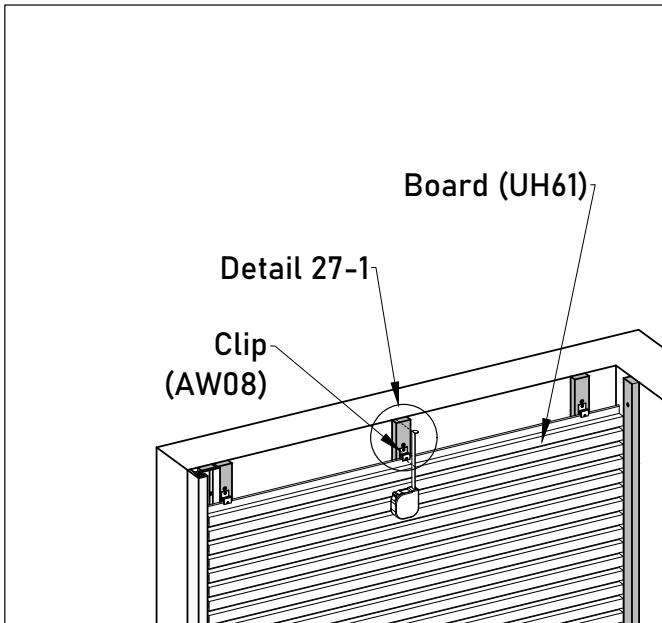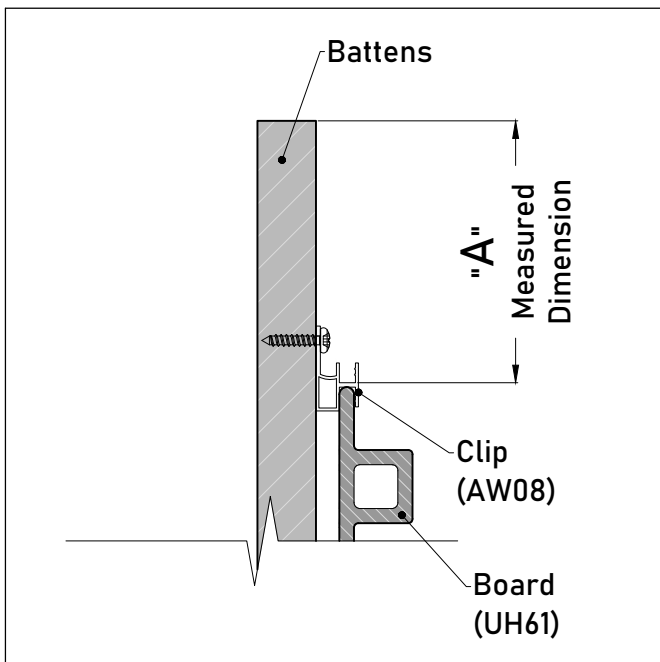
Detail 27-1

28 Rip the cladding board according to measured dimension, as shown in **Diagram 28** and **Detail 28-1**.

Diagram 28

"A" Cutting Dimension

Cut

Board (UH61)
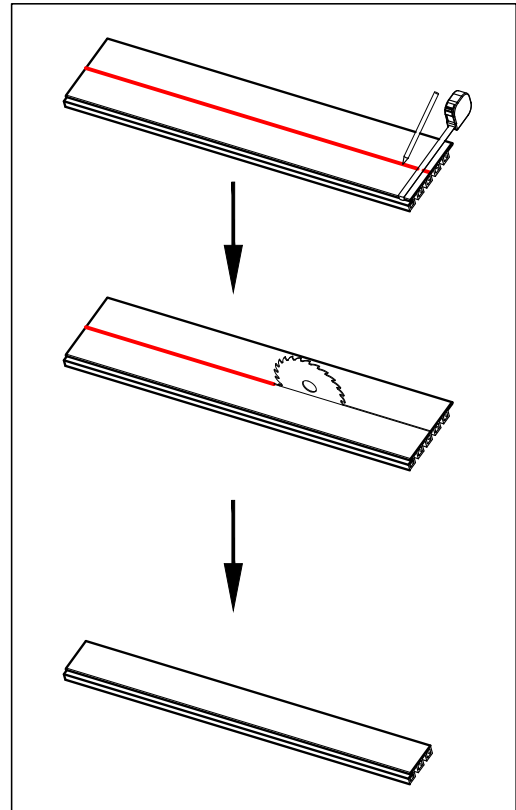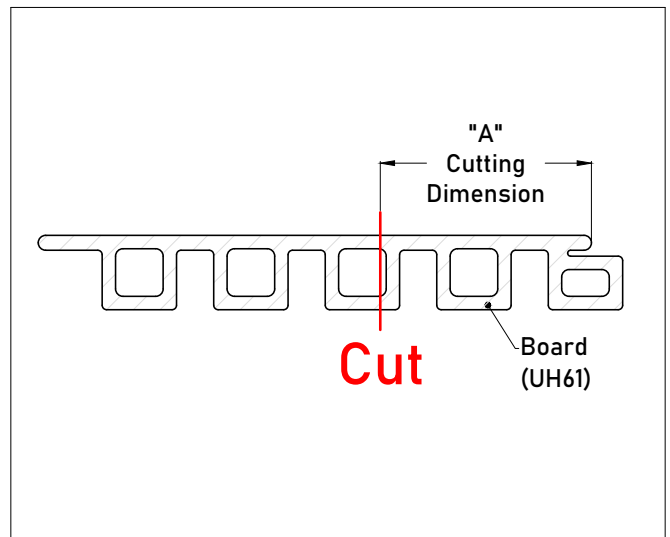
Detail 28-1

29 Install the Rubber Stoppers (T-7) onto each batten with screws, as shown in **Diagram 29** and **Detail 29-1**.

Rubber Stopper (T-7)

Detail 29-1

Board (UH61)

Diagram 29

13mm

Wall

Rubber Stopper (T-7)

Last Board
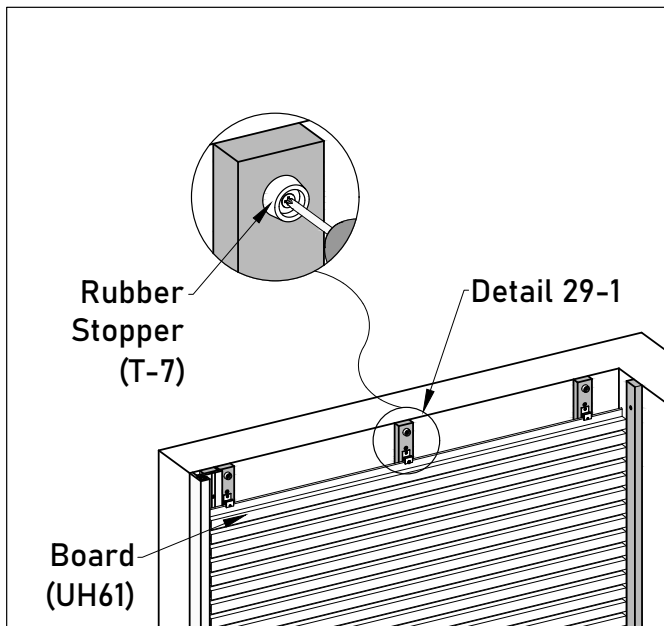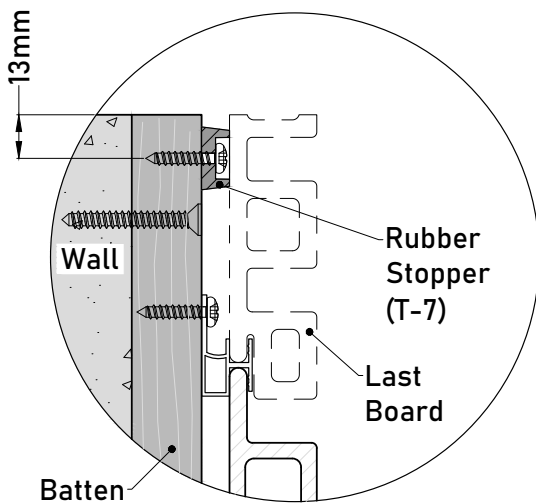
Batten

Detail 29-1

30 Put the ripped cladding board over the Clip (AW08) in place and then face fix it onto each batten along the length of the boards against the Rubber Stopper (T-7), as shown in **Diagram 30** and **Detail 30-1**.

Last Board (UH61)

Detail 30-1

Diagram 30

13mm

Wall

Rubber Stopper (T-7)

Last Board

Batten
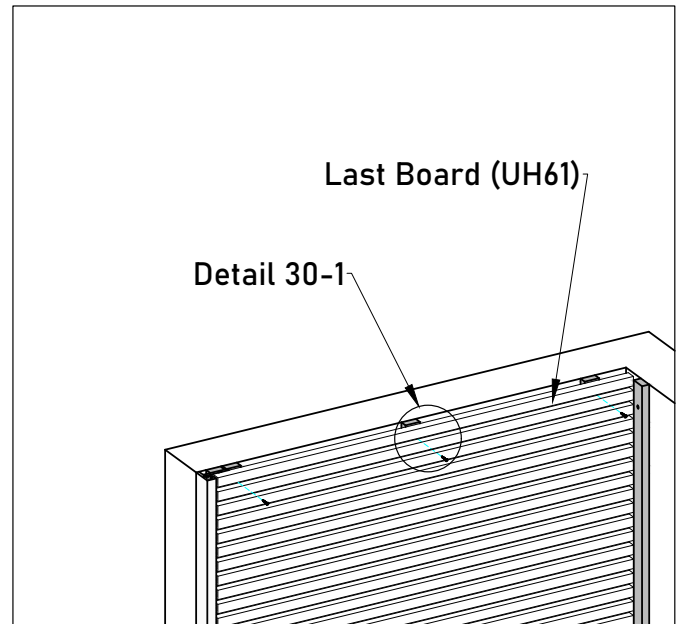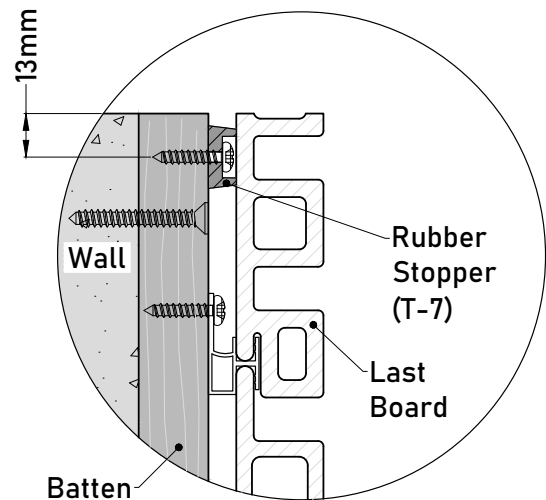
Detail 30-1

Please Note:

Pre-drill the ripped cladding board before installation to allow for expansion and contraction. Please review the section, **"Pre-drill"**, on **page 4** of this installation guide for details.

Diagram 31 presents the final appearance after completing the installation
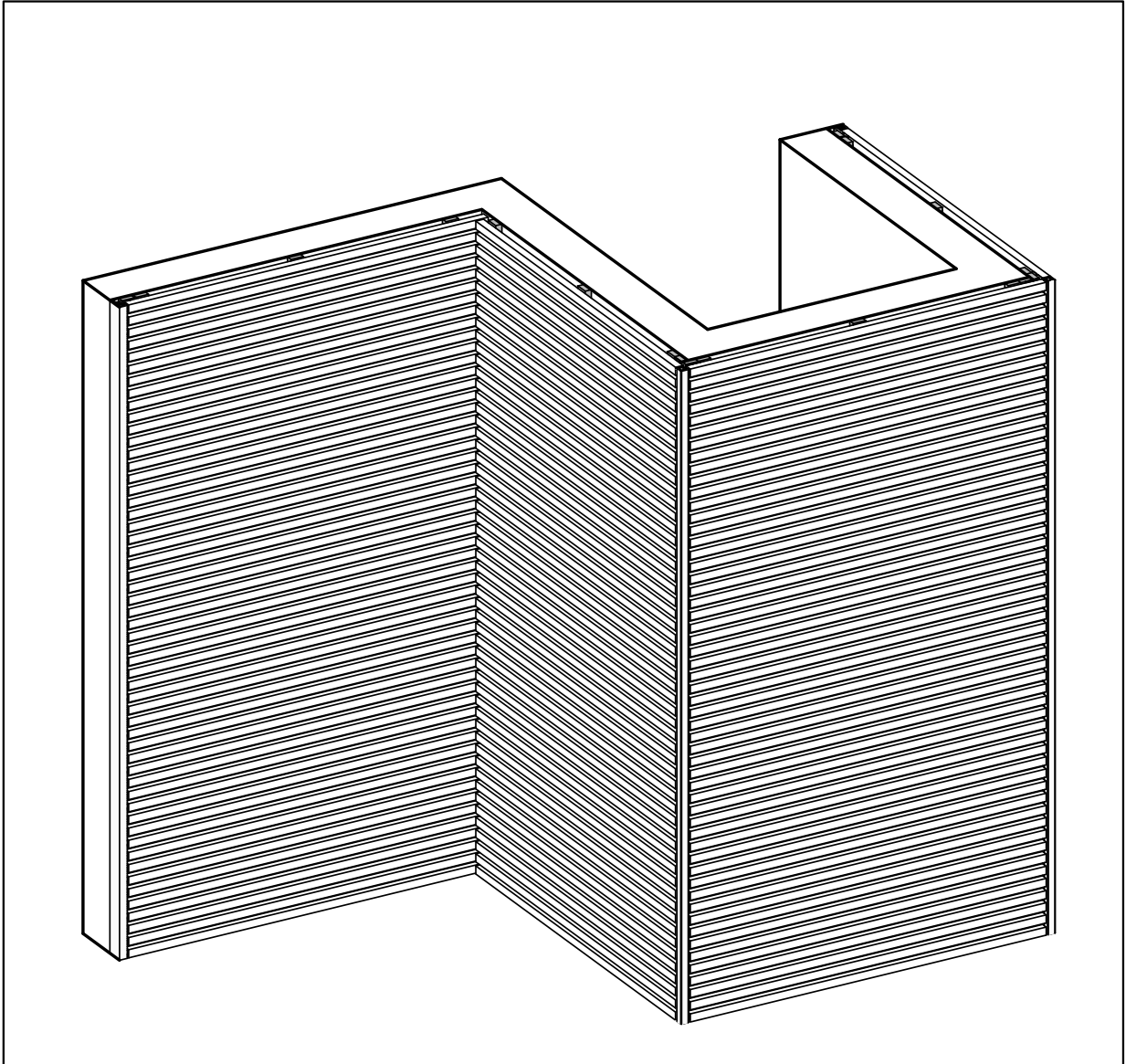
Diagram 31

32 **Framing**

Fix the battens onto the ceiling where you intend to install the board. It is recommended to apply the batten span of not more than 300mm, as shown in **Diagram 32**.
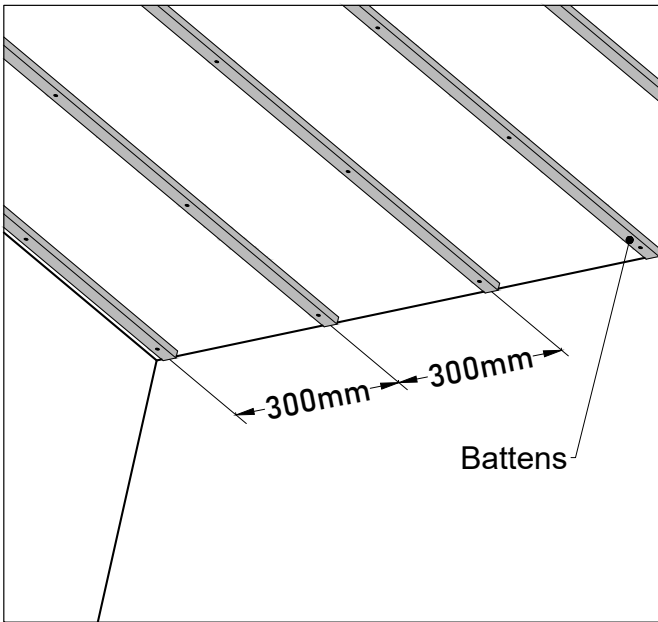
Diagram 32

33 Fasten the Starting Trim (AW02) onto the end of the battens with screws, as shown in **Diagram 33**.
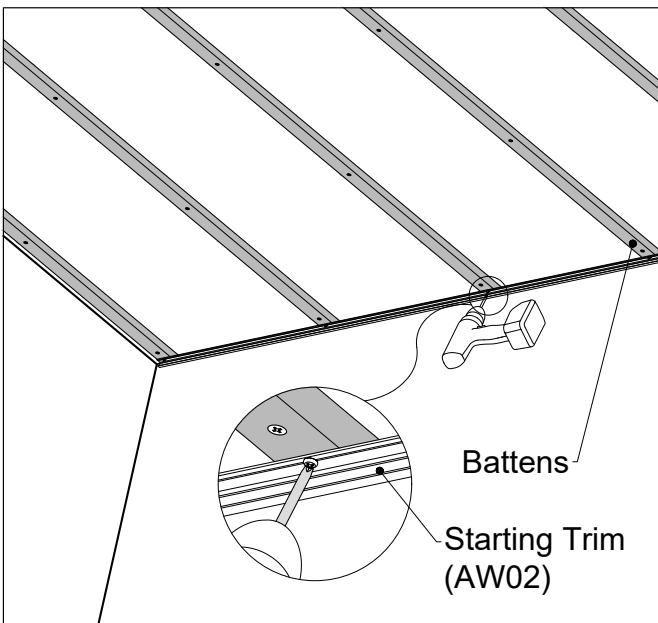
Diagram 33

34 **CEILING BOARD INSTALLATION**

Put the Cladding Board (UH61) over the Starting Trim (AW02) and fasten it to the battens with Clip (AW08), as shown in **Diagram 34** and **Diagram 35**.

Note:

1. Since the installation of 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 horizontally, it is required to **lock the Clip (AW08) at the middle of each board**, as shown in Detail 35-1.

DO NOT LOCK any other Clip (AW08) for the same board.

Please review page 13, "Locking the Wall Cladding Board" of this installation guide for further information.

2. The gap between the Cladding Board (US31) and the adjacent walls is vital to avoid warping or buckling, as shown in Detail 35-2. Please select the appropriate gap value according to the Expansion and Contraction Values Table on page 4 of this installation guide.
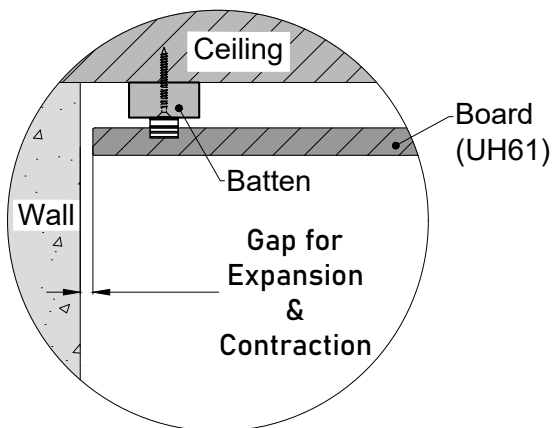

Diagram 34

35

Clip (AW08)
Detail 35-1
Detail 35-2
Board (UH61)

Diagram 35

Lock the Clip (AW08) at the middle of each board with a screw

Clip (AW08)
At the middle of the board

Detail 35-1

Ceiling
Board (UH61)
Batten
Wall
Gap for Expansion & Contraction
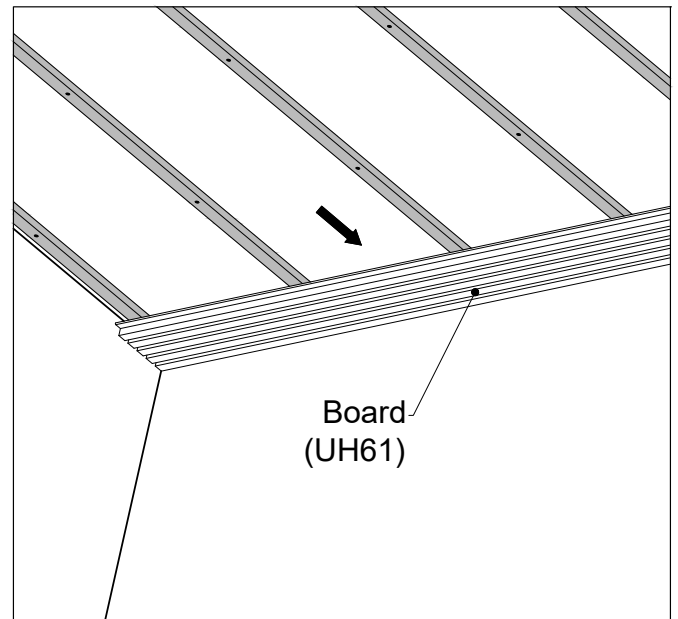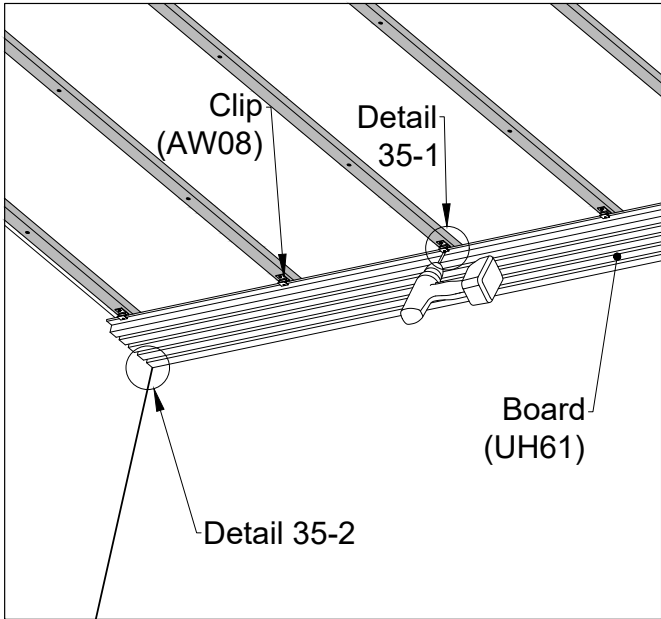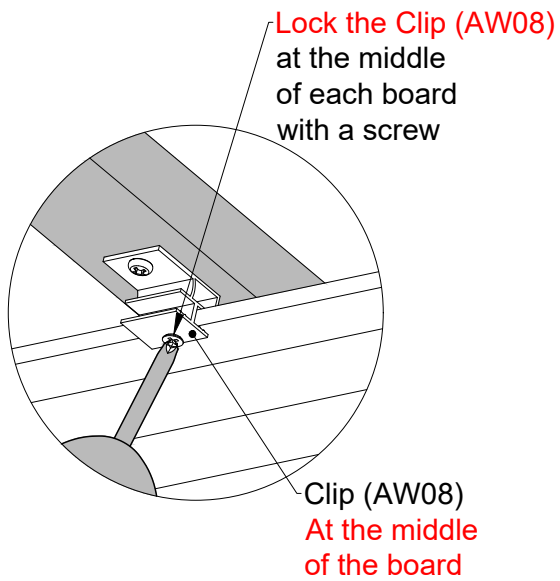
Detail 35-2

36 Put the next Cladding Board (UH61) in place and slide it inside the Clip (AW08) as shown in **Diagram 36**. Then fasten it to the battens with Clip (AW08), repeat the same procedure as installation **Step 34**.
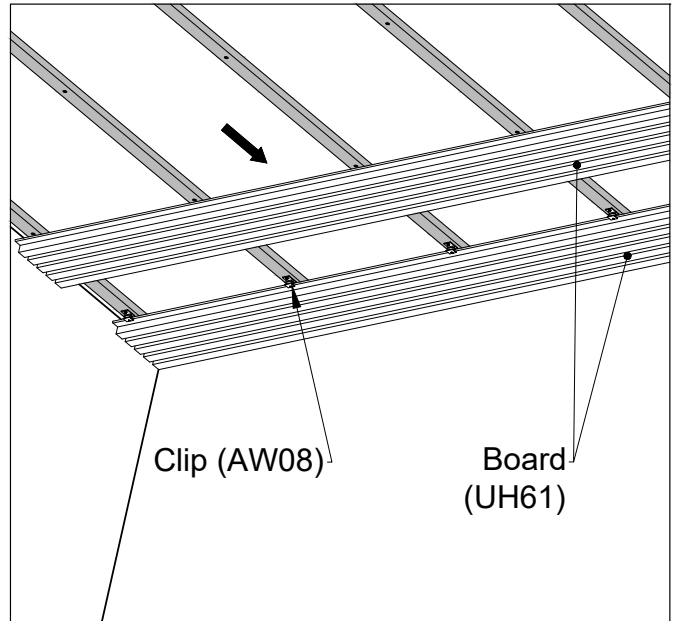

Clip (AW08)
Board (UH61)

Diagram 36

37 When you are at the Cladding's last board, measure the distance between the end of the battens and the Clip (AW08), as shown in Diagram 37 and Detail 37-1.

Detail 37-1

Diagram 37

Batten

Ceiling

Board (UH61)

Clip (AW08)
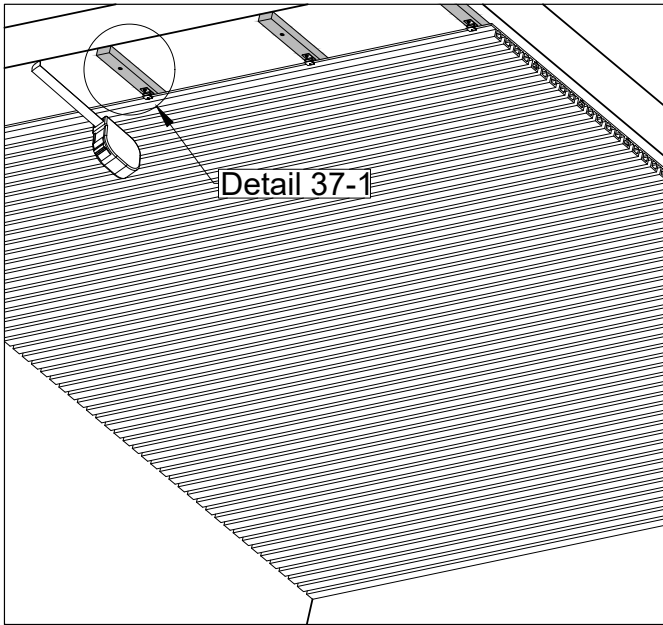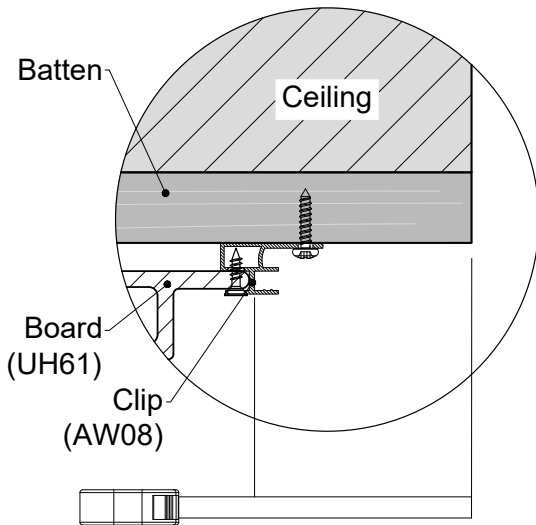
Detail 37-1

38 Rip the Cladding Board (UH61) according to the measured length, as shown in **Diagram 38** and **Detail 38-1**.

Diagram 38

"A" Cutting Dimension

Cut
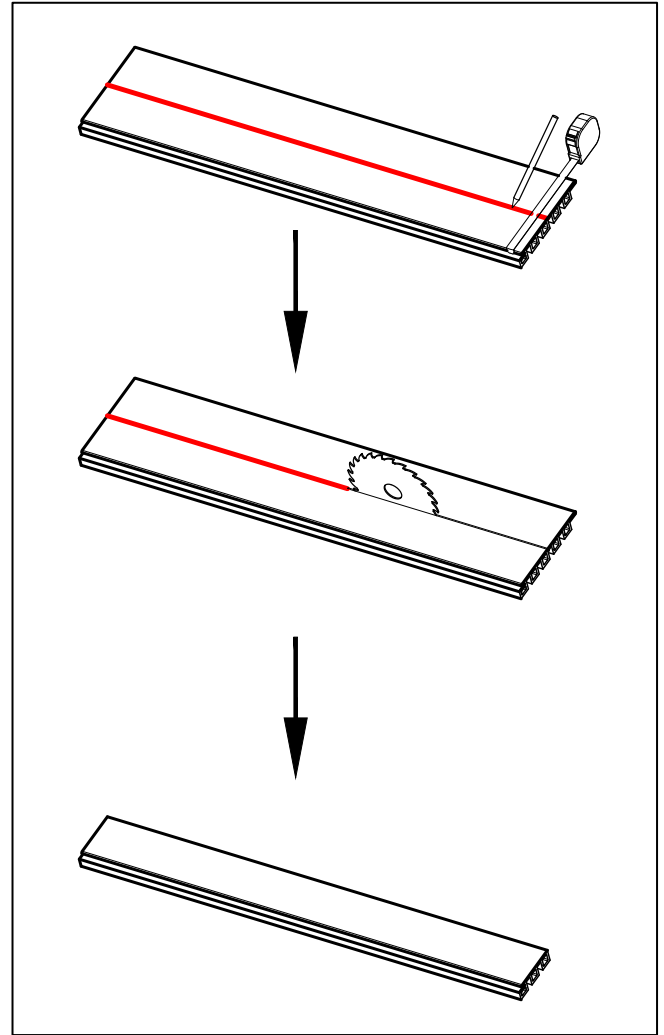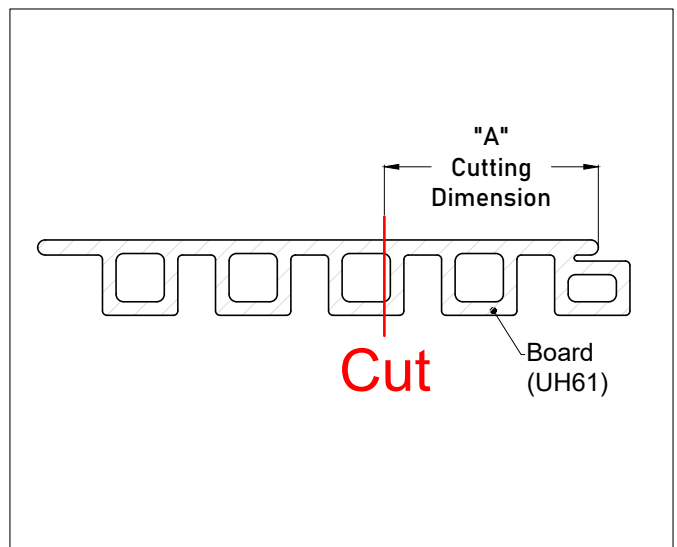
Board (UH61)

Detail 38-1

39 Then install the Rubber Stopper (T-7) onto the battens with screws, as shown in **Diagram 39** and **Detail 39-1**.

Batten

T-7

Detail 39-1

Diagram 39

Batten

Ceiling

Clip (AW08)

T-7

16mm
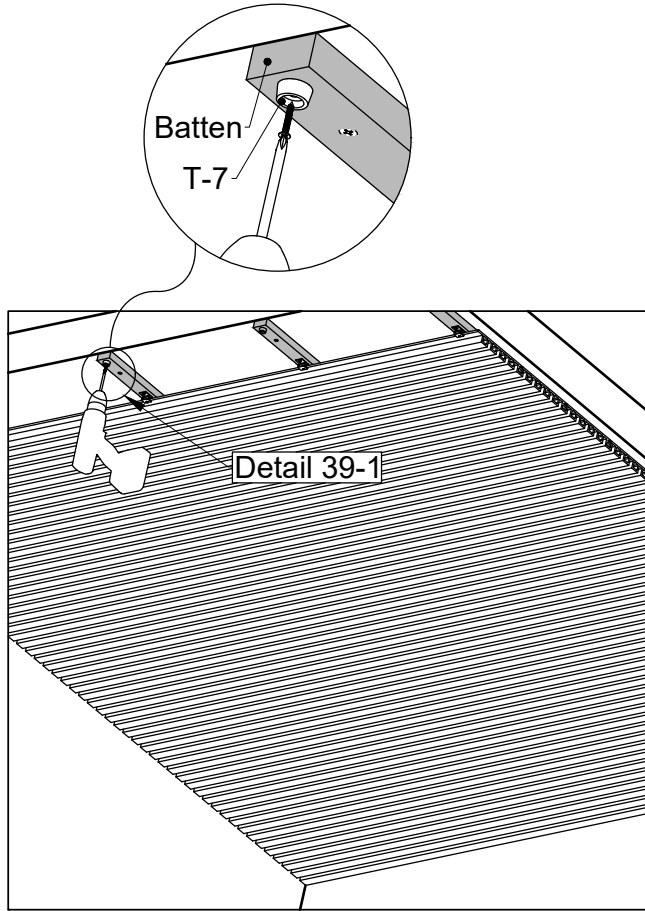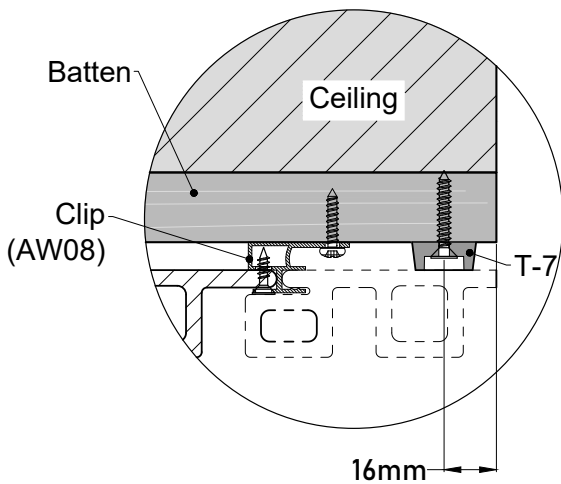
Detail 39-1

40 Put the ripped Cladding Board (UH61) over the Clip (AW08) in position and pre-drill the screw holes before installation, as shown in **Diagram 40** and **Detail 40-1**.

Clip (AW08)

Board (UH61)

Diagram 40

Batten

Ripped Board (UH61)

Pre-drilling screw hole
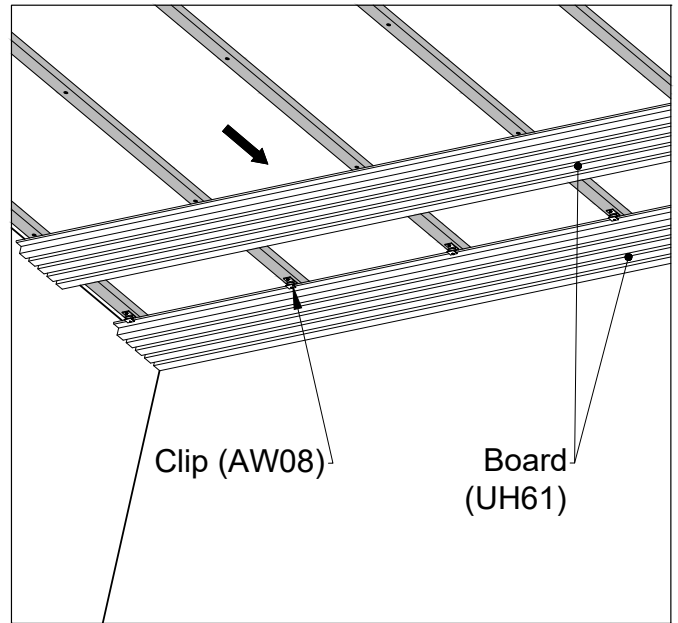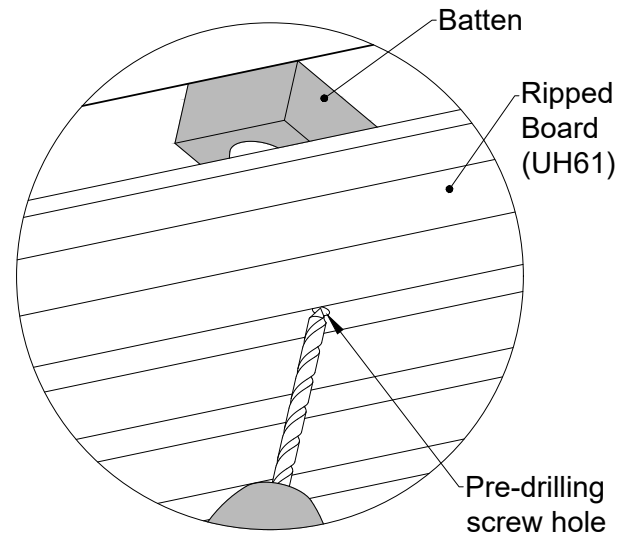
Detail 40-1

41 Face fix the ripped Cladding Board (UH61) onto each batten along the length of the board over the Rubber Stopper (T-7), as shown in **Diagram 41** and **Detail 41-1**.

Batten

Screw

Board (UH61)

Detail 41-1

Diagram 41

Batten

Ceiling

Clip (AW08)

T-7

Fasten the board onto the joist
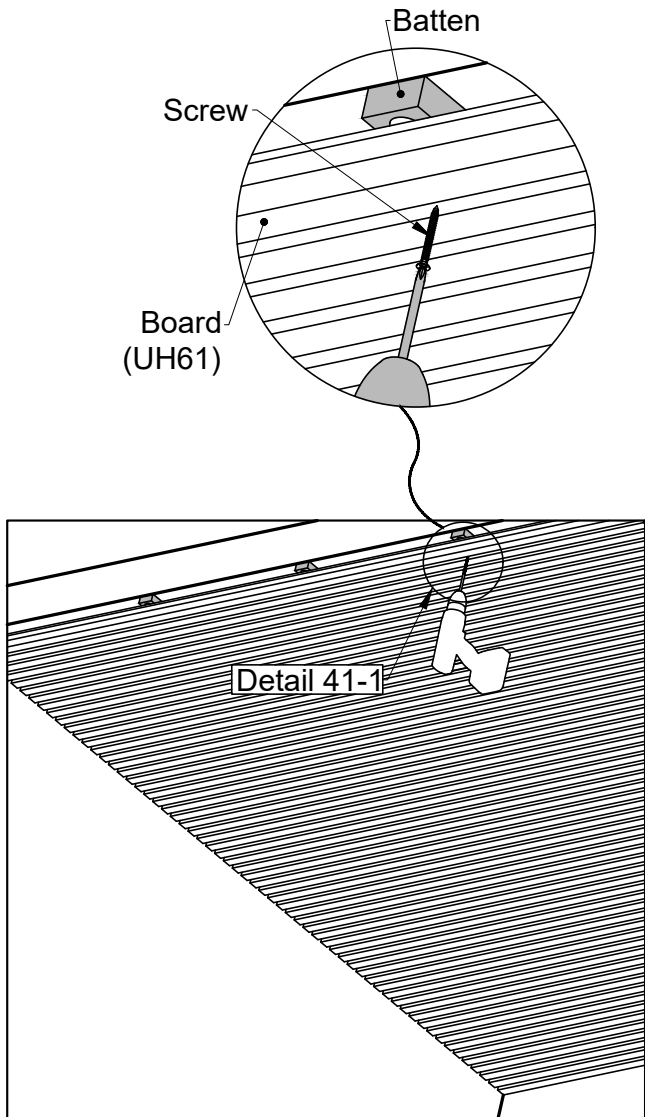
Ripped Board (UH61)
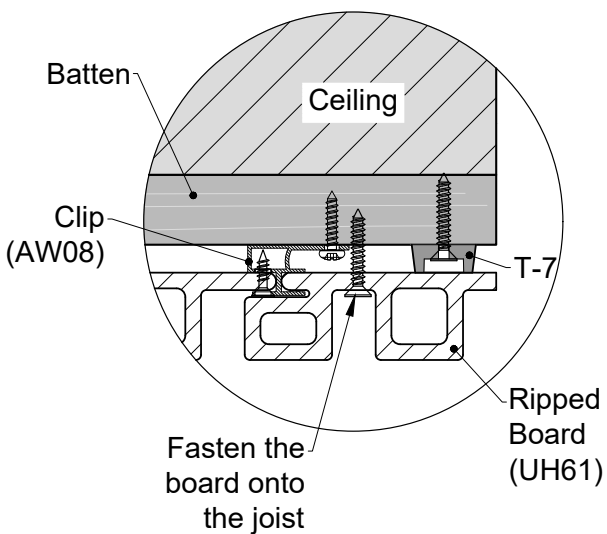
Detail 41-1

42 **Trimming**

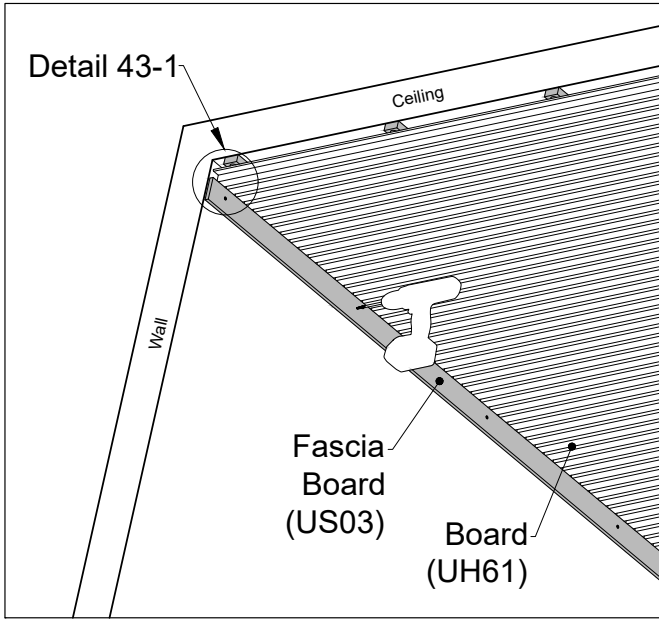Rip the Fascia Board (US03) into halves, as shown in **Diagram 42** and **Detail 42-1**.

Fascia (US03)

Fascia Board (US03)

X 2

Cut the board into halves

Diagram 42

"A" "A"

Cut Fascia Board (US03)
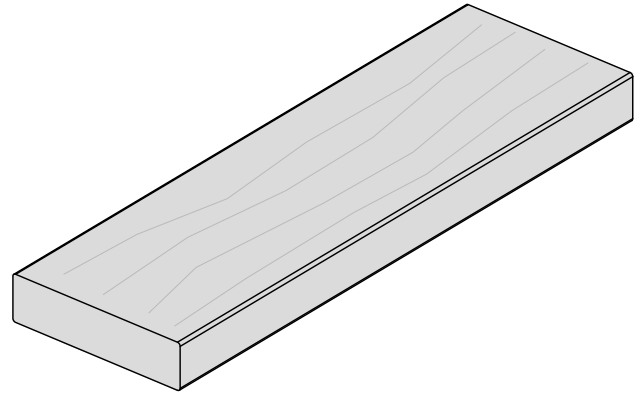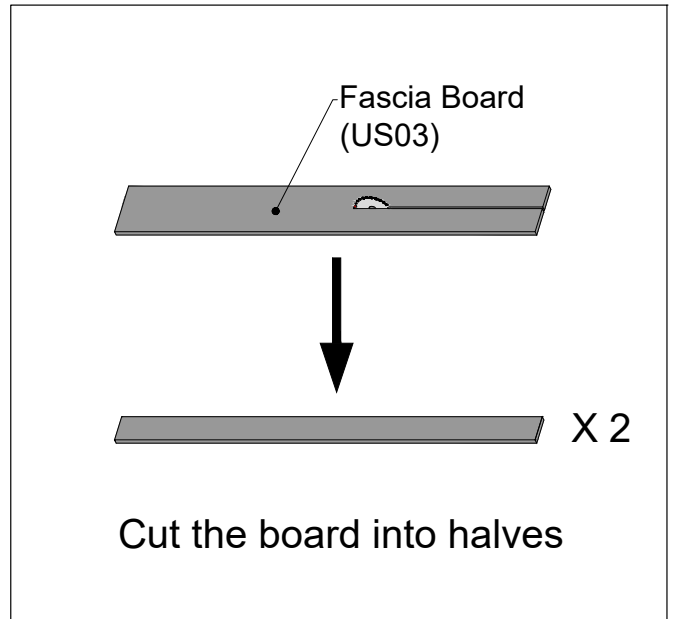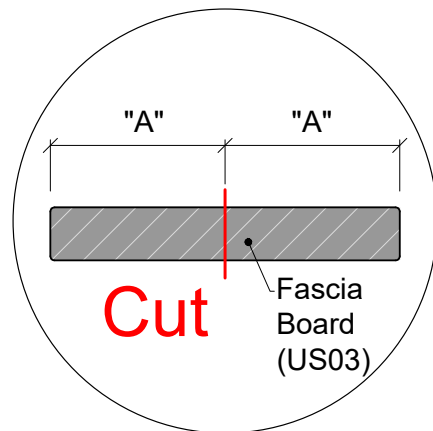
Detail 42-1

43 Put the board's cut edge toward the ceiling board (UH61) underside, then face fix it onto the wall with screws in the distance at least 500mm on centre, as shown in **Diagram 43** and **Detail 43-1**.
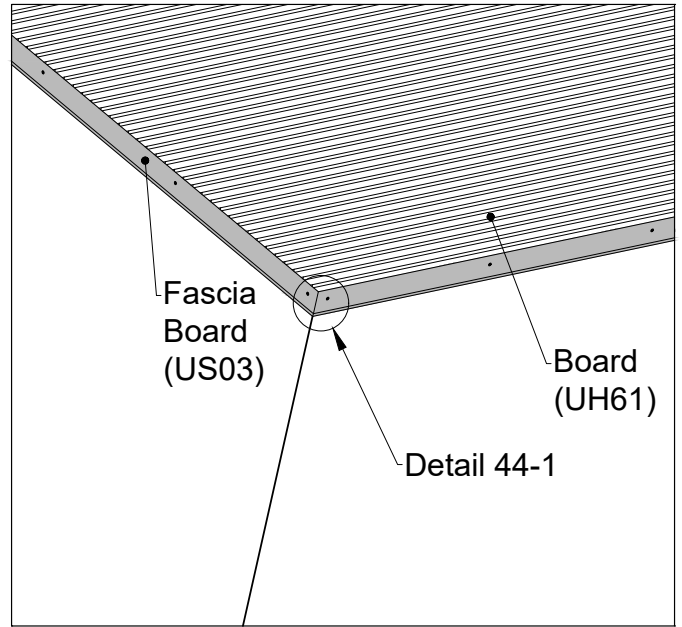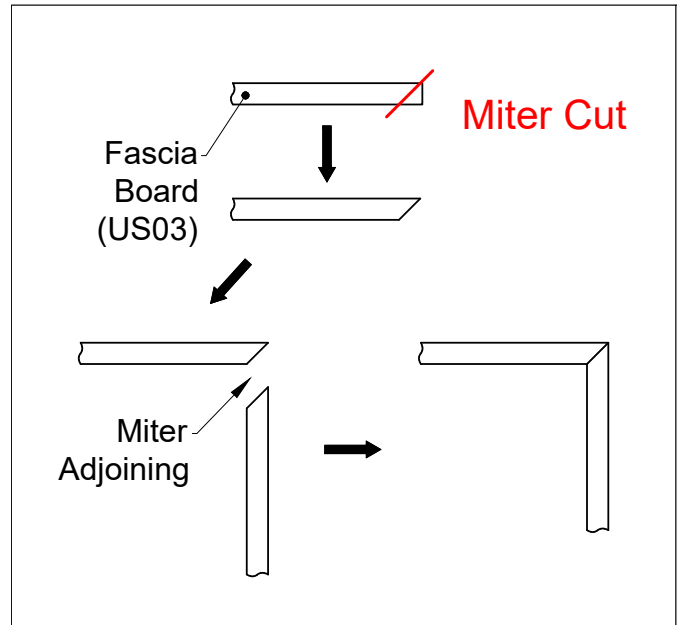

Diagram 43
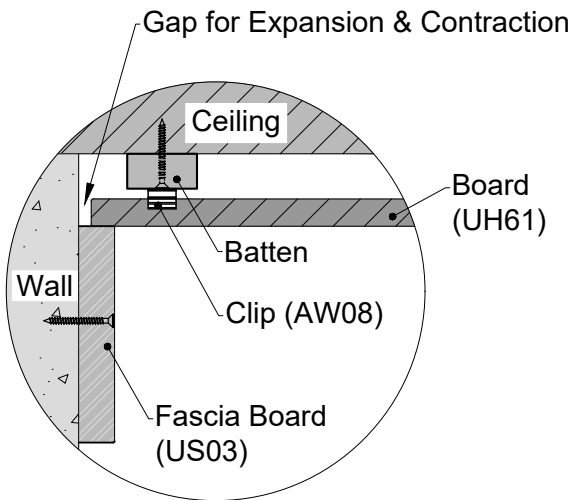
Detail 43-1

44 Miter cut the trims according to the wall corner, as shown in **Diagram 44** and **Detail 44-1**.
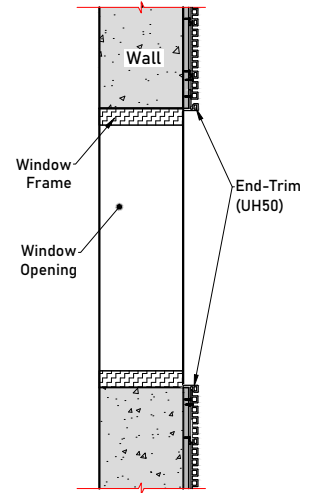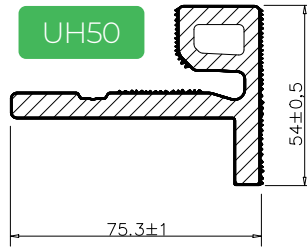

Diagram 40

Detail 40-1

WINDOW REVEALS INSTALLATION

We recommend three window reveals installation options;
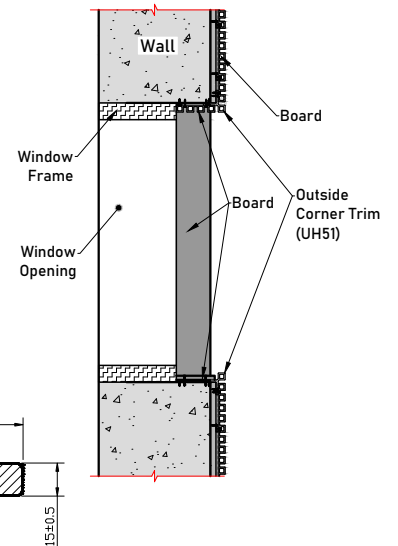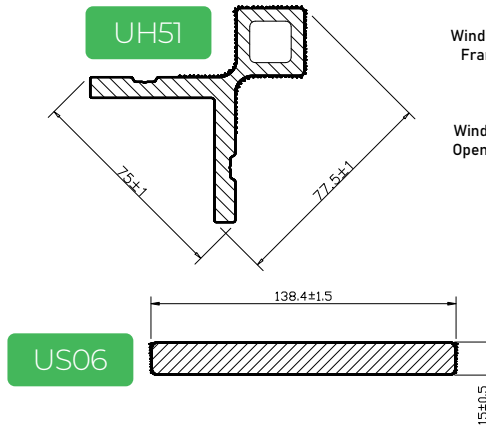
Option 1

More Suitable for Shallow Reveals
Use the End-Trim (UH50) to picture frame around the window.

UH50

54±0,5

75.3±1

Wall

Window Frame

Window Opening

End-Trim (UH50)

Option 2

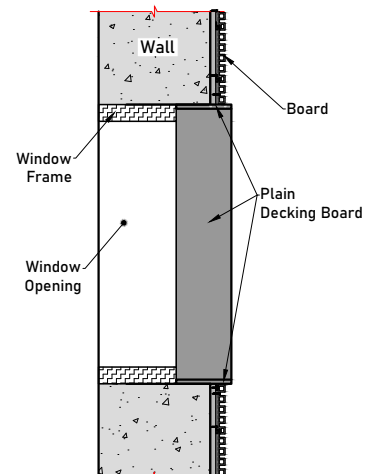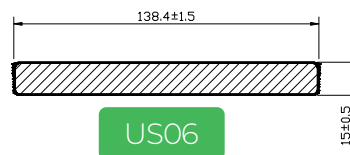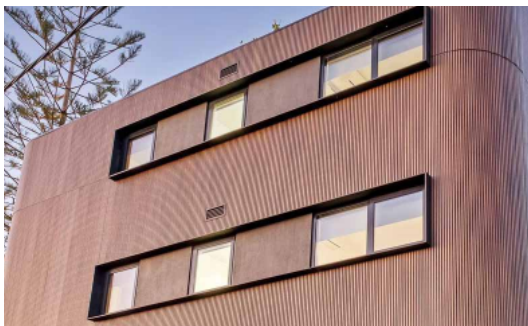### More Suitable for Deeper Reveals
Use the Outside Corner Trim (UH51) to picture frame around the window and use either the UH61 castellation cladding board (UH61) or composite decking board (i.e. US06 Fascia Board), or combination of these profiles on the window returns, to achieve a timber look inside the window.

UH51   US06

UH51

75±1   77.5±1

US06   138.4±1.5   15±0.5

Wall

Window Frame

Window Opening

Board

Board

Outside Corner Trim (UH51)

Option 3

More Suitable for Deeper Reveals
Use a composite decking board (I.e.US06 Fascia Board) to picture frame around the window, then butt the castellation cladding boards against it.

138.4±1.5

15±0.5

US06

Wall

Window Frame

Window Opening

Board

Plain Decking Board

NewTechWood