



# Shadowline Siding Vertical Installation Guide

v06 US



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**IMPORTANT Note:**  
**Read All Sections Before You Start**

For the most up to date information, please visit our website @ [www.newtechwood.com](http://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 siding 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 siding 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 siding boards.

## Ventilation

NewTechWood products CAN be directly installed onto a flat surface. If the wall is uneven, it is essential to build a furring strips framing for the siding installation.

## Heat and Fire

Excessive heat on the surface of NewTechWood products from external sources such as but not limited to fire or reflection of focussing sunlight from some optical objects can potentially harm NewTechWood products. 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.

## 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 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 furring strips, when two boards ends meet each other there must be a sister furring strip. The end of each board must sit on its own furring strip.

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 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 siding a better look.

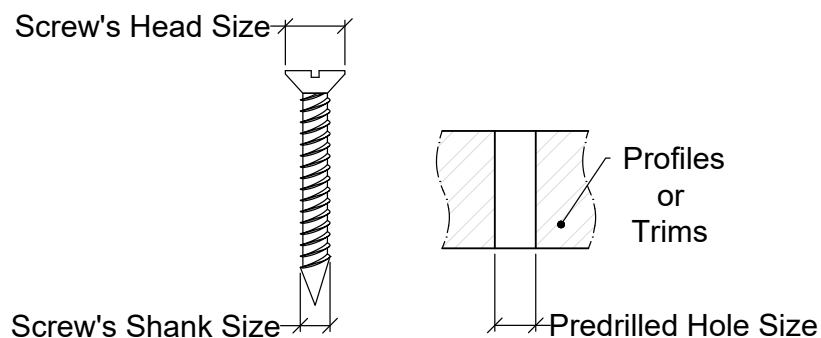
When choosing which screws to use, always check first with your local home centers and hardware stores to see if they have screws that are engineered specifically for composite wood. These screws will always work and give NewTechWood's products the best looking outcome, using other screws that are not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

## Maximum Installation Length

The recommended **Maximum Installation Length is 32 feet.** If higher than that could be hard to hide the movement with the expansion and contraction.

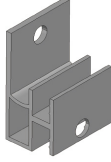

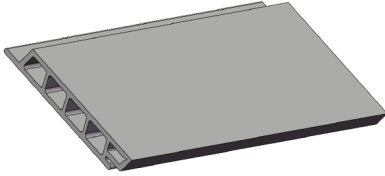
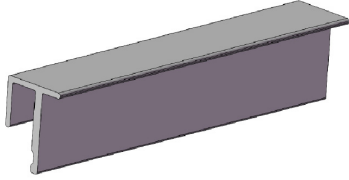
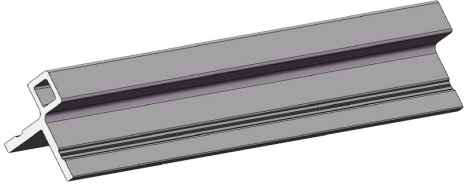
## Predrill

It is recommended to use the #8 bugle head screw for face fixing the boards and the trims onto the furring strip. When face fixing, it is recommended to predrill a slightly bigger hole on the board and the trim to allow for expansion and contraction, as shown in below diagram,






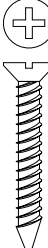
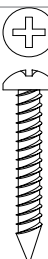
The predrilled hole size should be larger than the screw thread size, from 1/16" (1.5 mm) to 5/64" (2 mm). Moreover, the predrilled hole size should also be smaller than the screw head size, at least 5/64" (2 mm). A washer can be applied if the predrilled hole size is smaller than the screw head size below 5/64" (2 mm).

## Shadowline Siding Parts

Product	Application	Part
AW-08	Used to fix the boards to the furring strips	
T-7	Used on the last Siding board	
UH68	Siding Board	
US73	F-Trim Used on the outermost edges	
UH51	Outside Corner Trim Used on the outside corners	

## Siding Screws (For Wood Furring Strip)

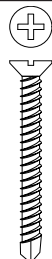




The table below shows the screws recommended to use for the installation, but not included.

Product	Appication	Part
#6 x 1 1/4" Stainless Steel SS304 (Bugle Head)	Used when locking the board into the Clip (AW08)	
#8 x 3" Stainless Steel SS304 **depends on the thickness of your furring strips (Bugle Head)	Used when installing the furring strips onto the wall	
#8 x 1" Stainless Steel SS304 (Bugle Head)	Used when installing the Clip (AW08) onto the wood furring strips	
#8 x 1 1/4" Stainless Steel SS304 (Bugle Head)	Use when face fixing the boards and the trims onto the wood furring strips	
#8 x 1-1/4" Stainless Steel SS304 (Pan Head)	Used when installing the Rubber Stopper (T-7) onto the wood furring strips	



## Siding Screws (For Aluminum Furring Strip)

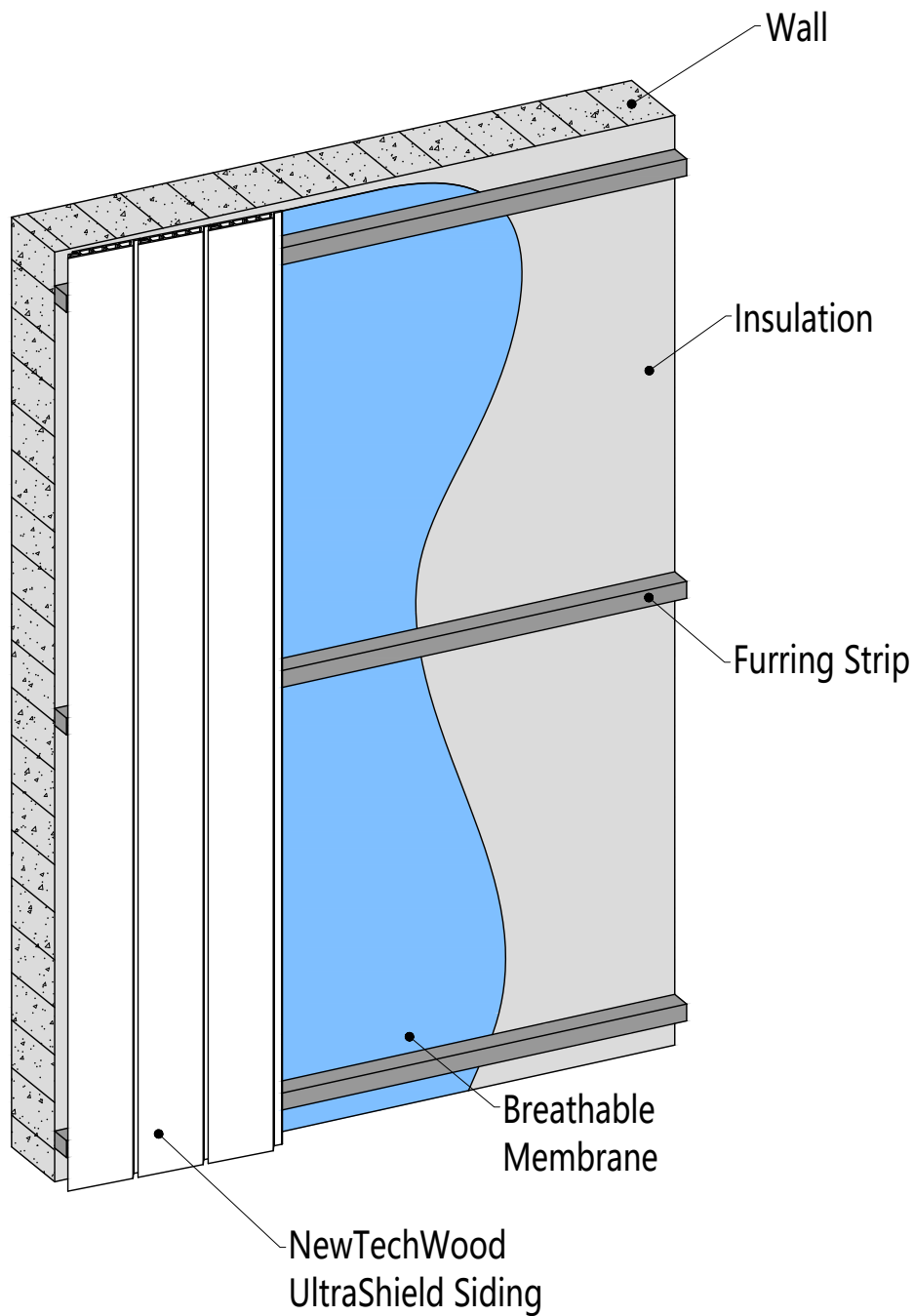
The table below shows the screws recommended to use for the installation, but not included.

Product	Application	Part
#6 x 1 1/4" Stainless Steel SS304 (Bugle Head Self Tapping)	Used when locking the board into the Clip (AW08)	
#8 x 3" Stainless Steel SS304 **depends on the thickness of your furring strips (Bugle Head Self Tapping)	Used when installing the furring strips onto the wall	
#8 x 1" Stainless Steel SS410 (Bugle Head Self Tapping)	Used when installing the Clip (AW08) onto the aluminum furring strips	
#8 x 1 1/4" Stainless Steel SS410 (Bugle Head Self Tapping)	Use when face fixing the boards and the trims onto the aluminum furring strips	
#8 x 1 1/4" Stainless Steel SS410 (Pan Head Self Tapping)	Use when installing the Rubber Stopper (T-7) onto the aluminum furring strips	



## Under Construction

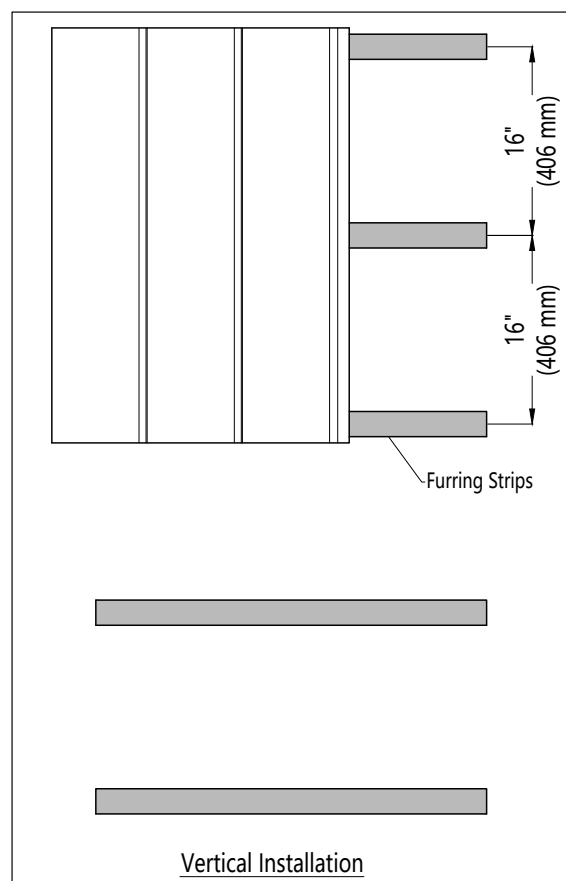
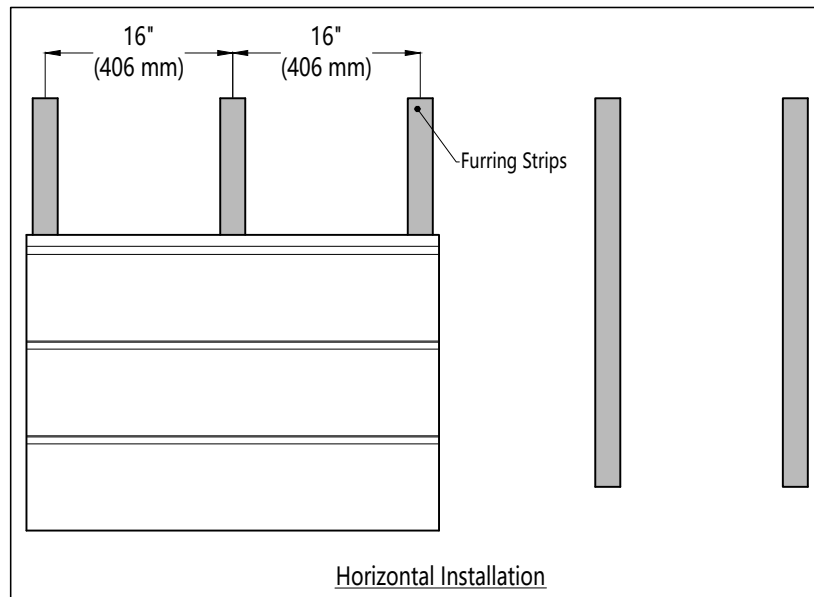
We recommend the construction of Aluminum or pressure-treated wood joists. Each Siding board must be supported by a furring strip **NOT MORE** than 16" (406 mm) on centers. Extra care is required for sufficient joisting in and around obstacles such as windows, fascia, soffits, guttering, ventilation points, etc. Below is an example of the layers that would occur in a typical installation, but a licensed professional should always be consulted before any installation.



# Furring Strips 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 furring strips. The furring strip should be 1" nominal or 3/4" actual in thickness..

Wood furring strips should be fixed into position at a maximum of 16" (406mm) centers using a suitable 4# Stainless Steel Countersunk Wood/Masonry screw. All furring strips needs to be flat and leveled against the wall surface use shims if necessary.



# Expansion and Contraction Values

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

## Expansion and Contraction table of values for North America, Canada, Australia and Asia

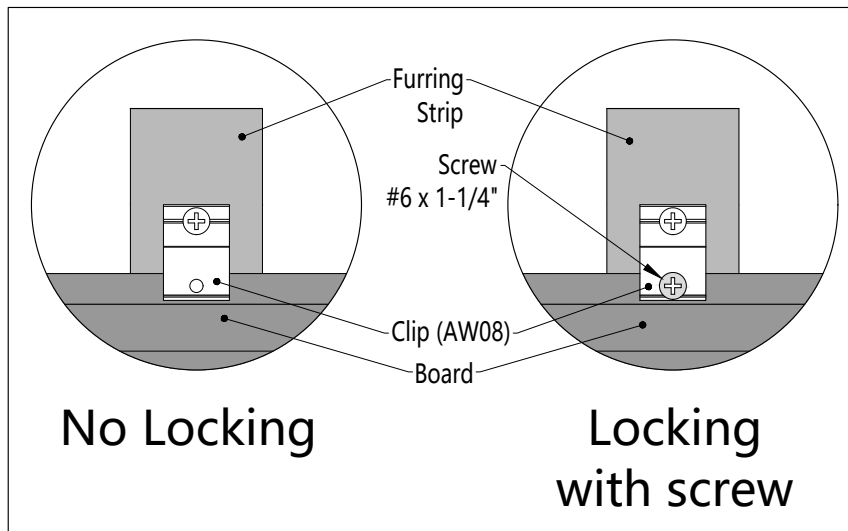
		Length (Feet)							
Installation Temperature (Farhenheit)		3	8	9	10	12	13	16	18
	32	1/16	1/8	1/8	3/16	3/16	1/4	1/4	5/16
	41	1/16	1/8	1/8	1/8	3/16	3/16	1/4	1/4
	50	1/16	1/8	1/8	1/8	1/8	3/16	3/16	3/16
	59	1/16	1/16	1/16	1/8	1/8	1/8	1/8	3/16
	68	3/64	1/16	1/16	1/16	1/16	1/8	1/8	1/8
	77	3/64	1/16	1/16	1/16	1/16	1/16	1/16	1/16
	86	3/64	3/64	3/64	3/64	3/64	1/16	1/16	1/16
		Gap (in)							

Note: 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.

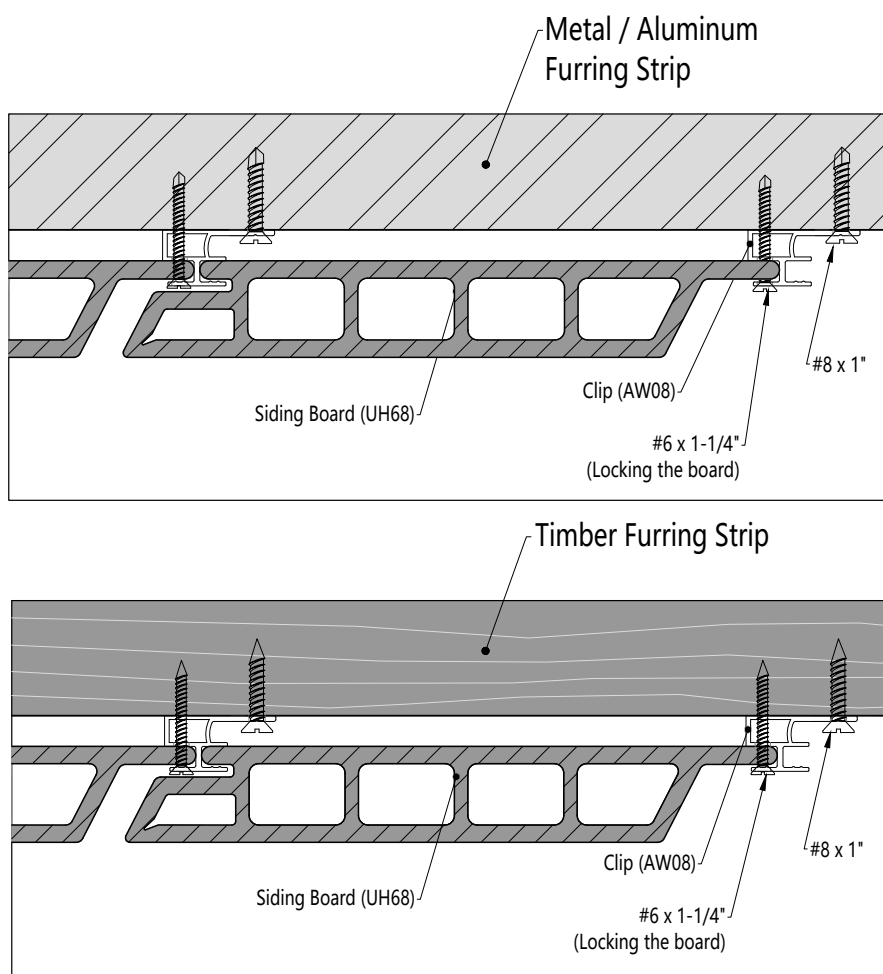
## Locking the Siding Board

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 expand and contract freely. In the case there is a need to lock the board, Clip (AW08) comes with a separate hole.

It is important that **DO NOT LOCK** any other clips for the same board.



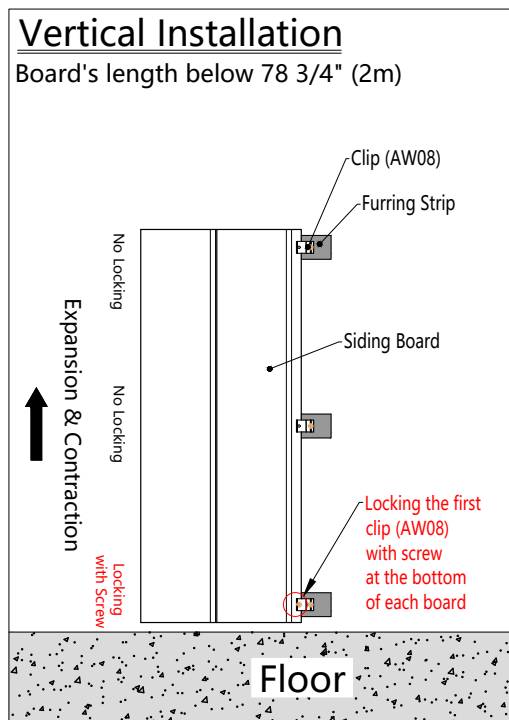
### - Vertical Installation -



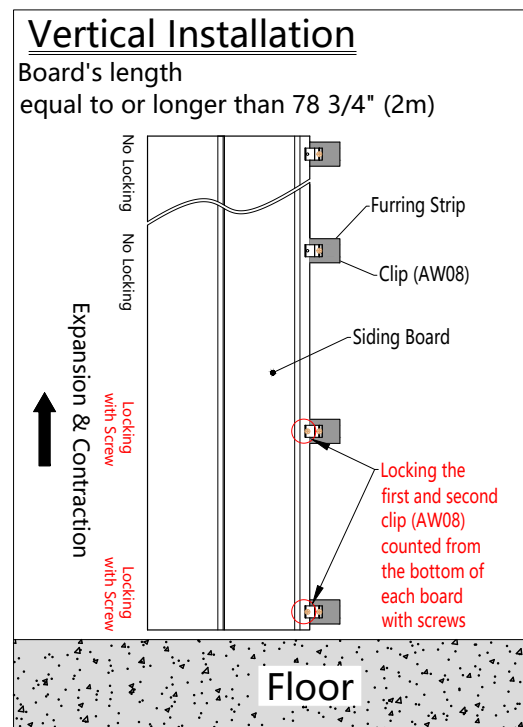
When installing vertically, it is required to lock the Clip (AW08) at the bottom of the board to allow the remaining board to expand and contract freely.

Note:

1. When the board's length is below 78 3/4" (2m), it is only to lock the first clip (AW08) at the bottom of the board, as shown in **Diagram A1**.
2. When the board's length is equal to or longer than 78 3/4" (2m), it is required to lock the first and second clip (AW08) counted from the bottom of the board, as shown in **Diagram A2**.



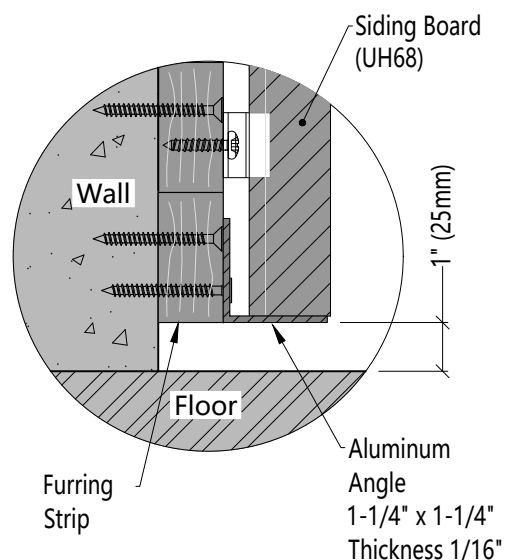
**Diagram A1**



**Diagram A2**

**Please Note:**

Use aluminum angle or equivalent at the bottom of the siding is a must to hold the boards when installing vertically, as shown in the diagram right.



# Shadowline Siding - Vertical Installation

## Installation Procedure

### Step 1: Framing

- Measure and Chalk the Furring Strips
- Furring Strips Installation

### Step 2: Installing the First Trim on the starting point

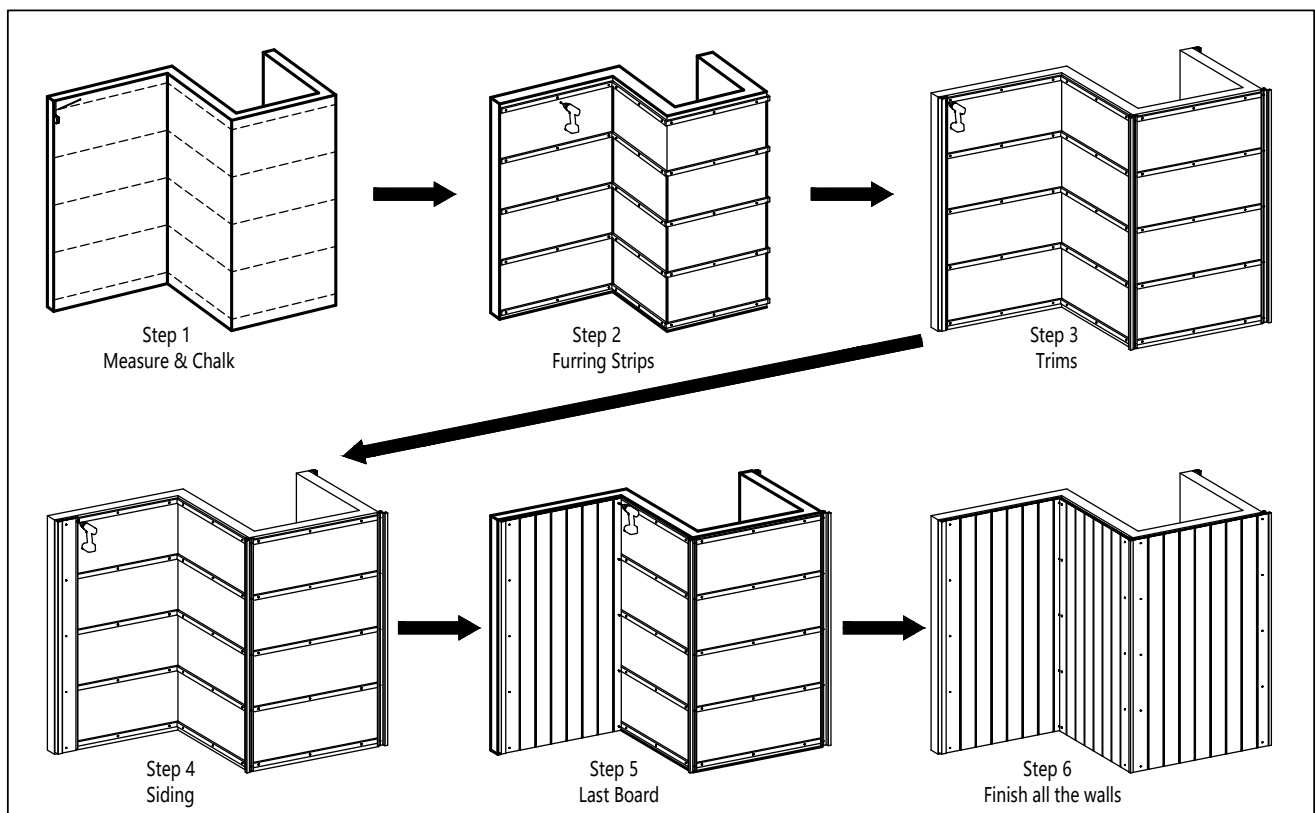
### Step 3: Shadowline Siding Board Installation

- Install the first siding board
- Use the Box Beam Level to check the first siding board to ensure it is plumb

### Step 4: Continuing the remaining installation for the entire wall

### Step 5: Install the last siding board

### Step 6: Finish the installation work for all the walls



# 1 Framing

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

Wall Side A: Presented from the Outermost Edge to the Inside Corner

Use the F-Trim (US73) for the Outermost Edge trimming and no trim at the Inside Corner.

Wall Side B: Presented from the Inside Corner to the Outside Corner.

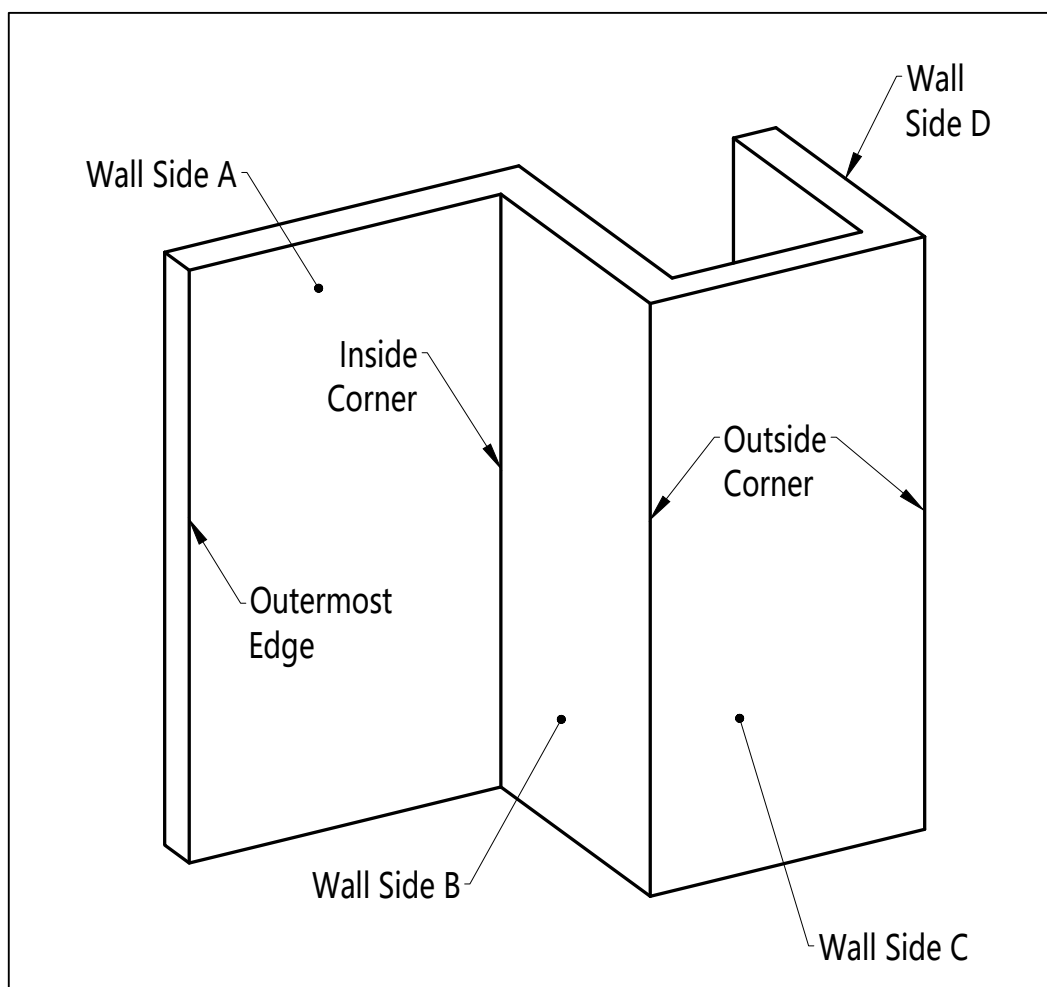
No trim at the Inside Corner and use the Outside Corner Trim (UH51) for the Outside Corner trimming.

Wall Side C: Presented between two Outside Corners.

Use the Outside Corner Trim (UH51) for the Outside Corner Trimming.

Wall Side D: Presented from the Outside Corner to the Outermost Edge.

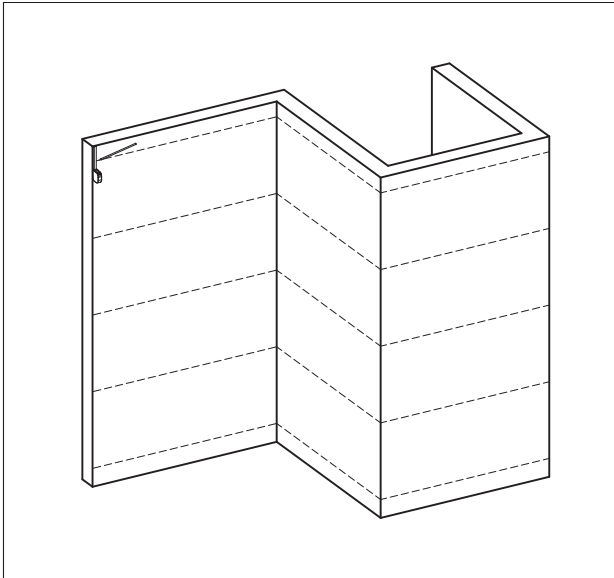
Use the Outside Corner Trim (UH51) for the Outside Corner Trimming and the F-Trim (US73) for the Outermost Edge Trimming.



**Diagram 1**



- 2 Measure and chalk the Furring Strip according to the span data specified on [page 10](#) of this installation guide, as shown in [Diagram 2](#).

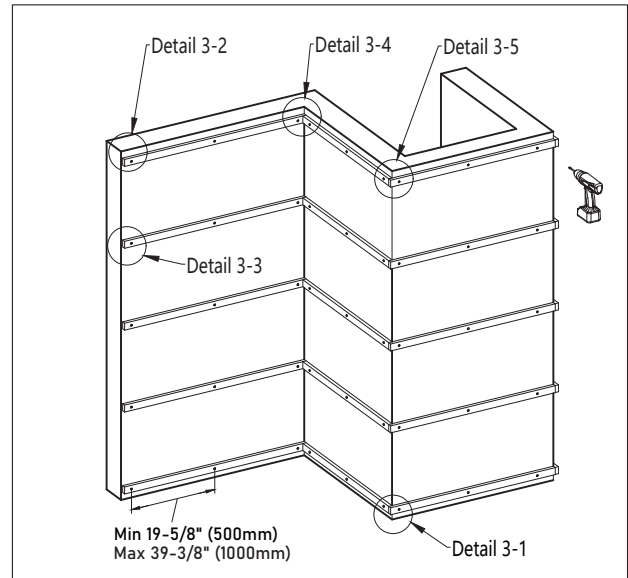


[Diagram 2](#)

**Please Note:**

1. We are using Timber Furring Strips for this installation illustration. If you are using Metal/ Aluminium furring strip, please refer to [page 8](#) of this installation guide for the correct recommended screws.
2. An adequate span between the furring strips is required to keep the siding boards from bending. Please review [page 10](#) of this installation guide to see what span is needed.

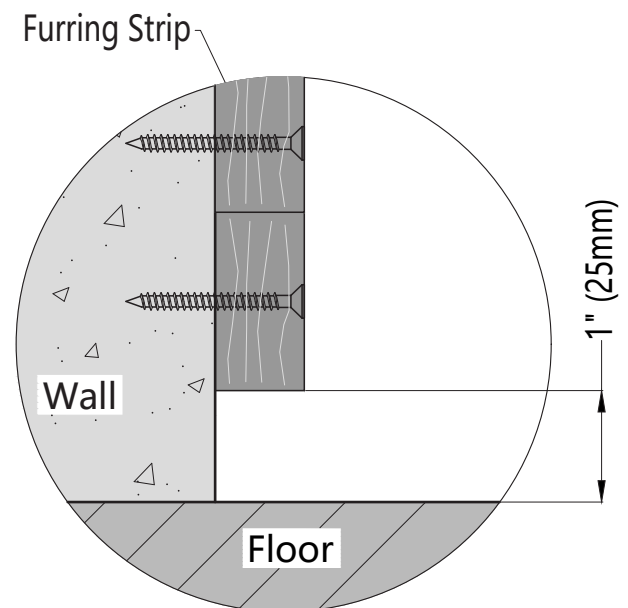
- 3 Use the screws to fix the furring strips onto the wall in the distance at least 19-11/16" (500 mm) and max to 39-3/8" (1000 mm), as shown in [Diagram 3](#).



[Diagram 3](#)

**Please Note:**

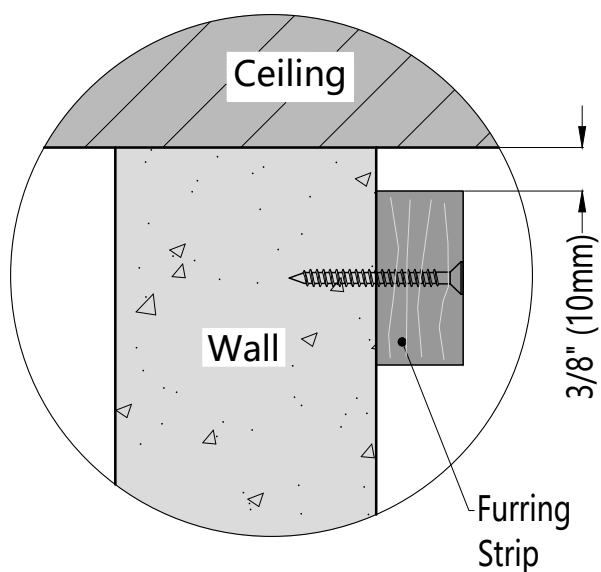
A minimum gap of 1" (25 mm) needs to be left at the bottom of each Furring Strip against the floor, as shown in [Detail 3-1](#).



[Detail 3-1](#)

**Please Note:**

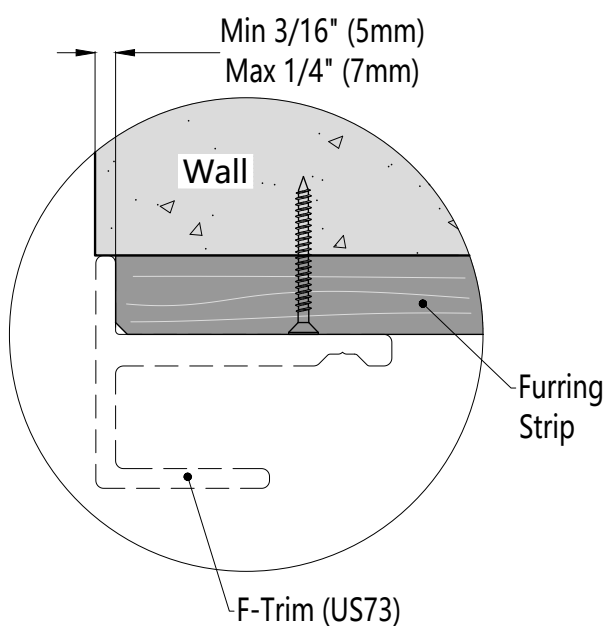
1. A minimum gap of 3/8" (10mm) needs to be left between the uppermost furring strip and the ceiling, as shown in [Detail 3-2](#).



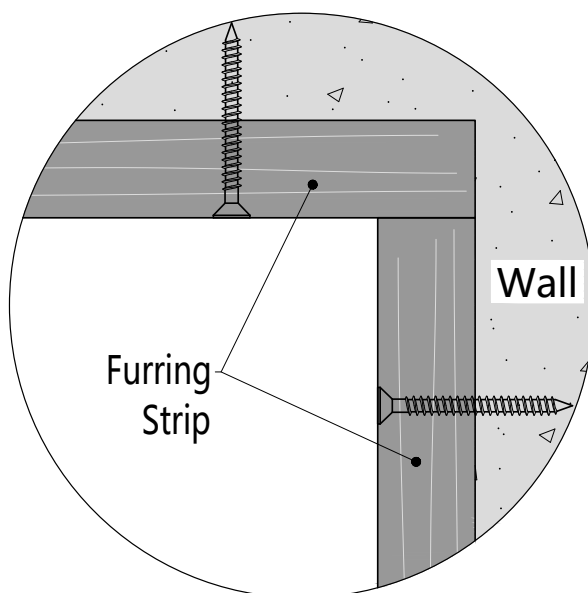
**Detail 3-2**

**Please Note:**

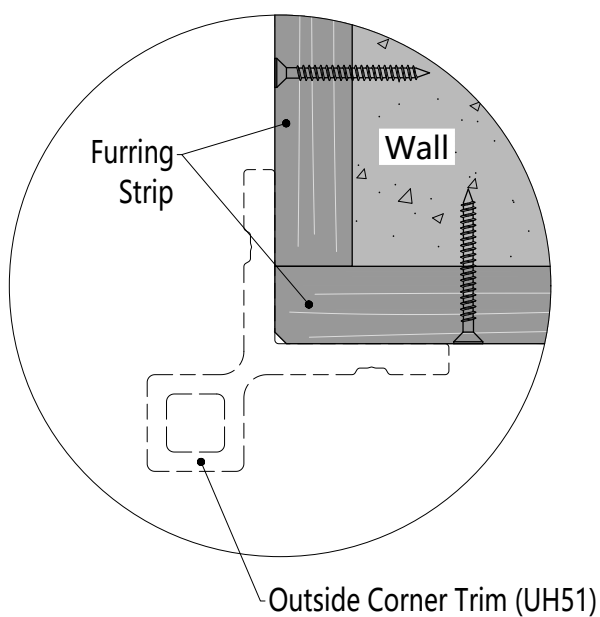
1. For the Outermost Edge, please install according to [Detail 3-3](#).
2. For the Inside Corner, please install according to [Detail 3-4](#).
3. For the Outside Corner, please install according to [Detail 3-5](#).



**Detail 3-3**



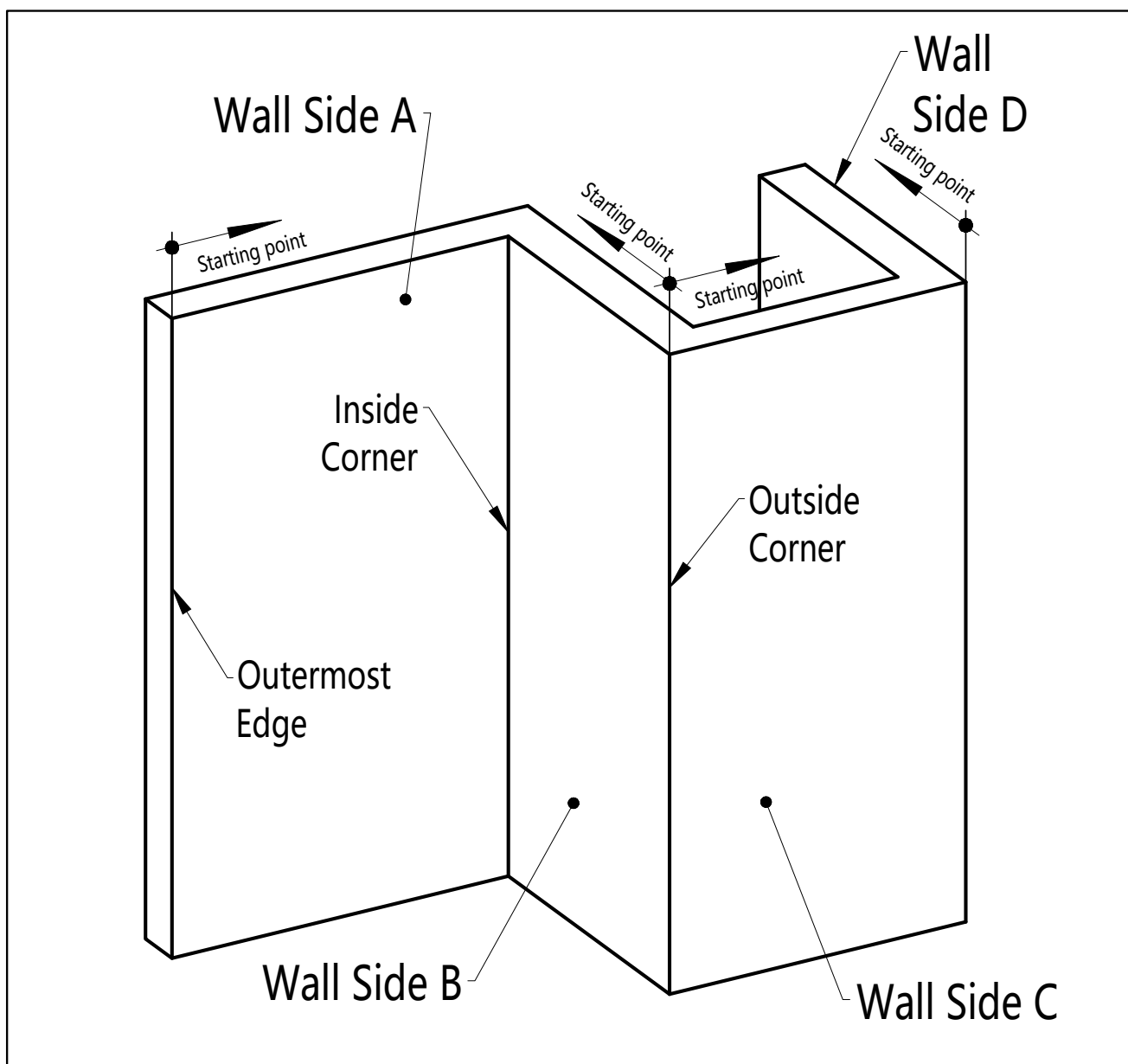
**Detail 3-4**



**Detail 3-5**

## 4 Install the Trim on the Starting Point

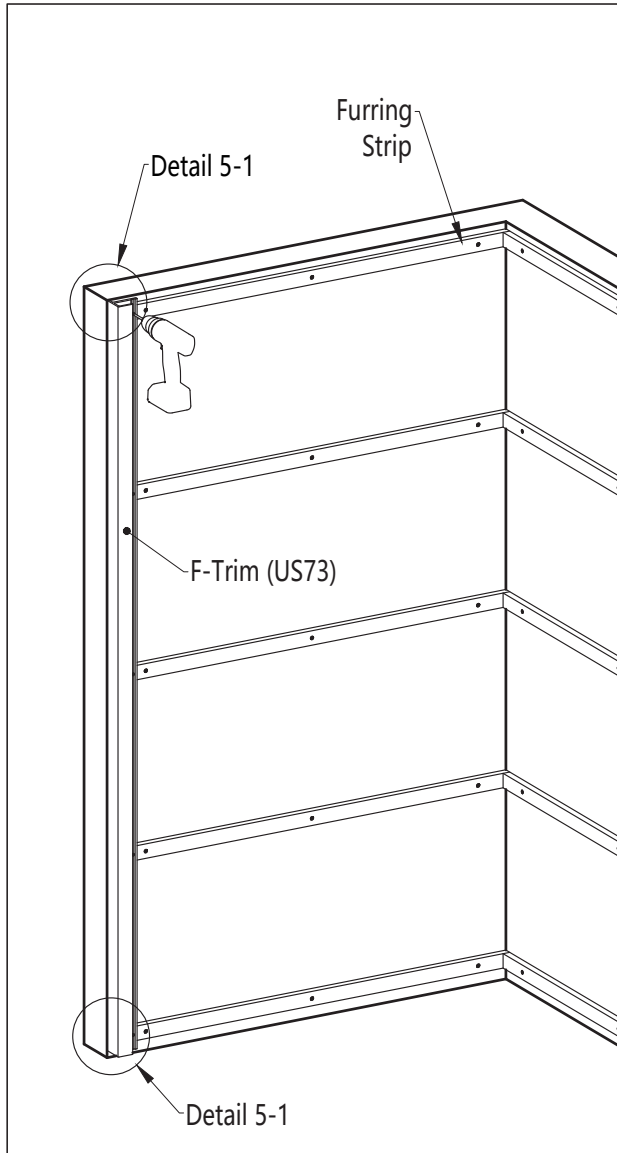
Start the siding board installation from the starting points, as shown in **Diagram 4**.



**Diagram 4**

## 5 Install the F-Trim (US73) on the Outermost Edge

Secure the F-Trim (US73) onto the starting point's furring strips with screws in the distance at least 19-11/16" (500 mm) and max 1000 mm, as shown in [Diagram 5](#).



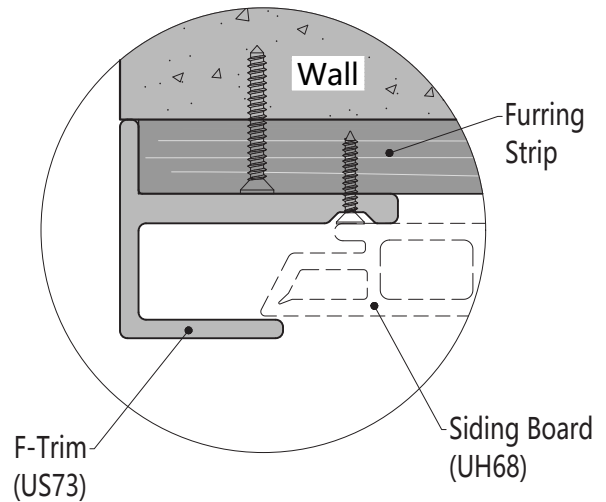
**Diagram 5**

### Please Note:

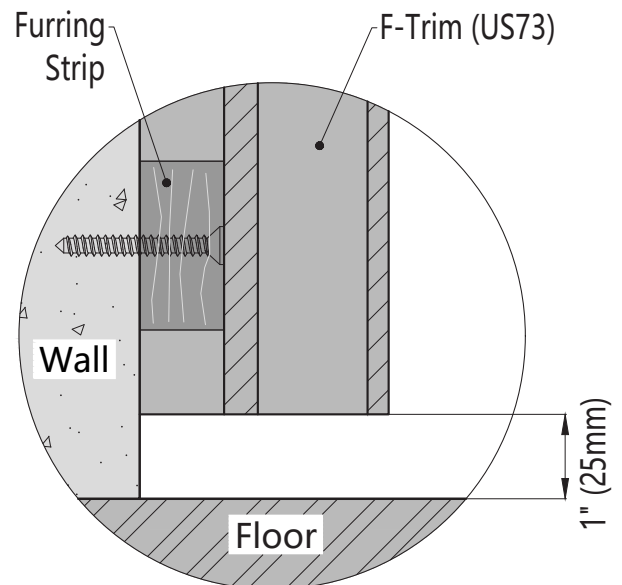
1. Secure the F-Trim (US73) onto the Furring Strip with screws, as shown in [Detail 5-1](#).

2. A minimum clearance of 1" (25mm) needs to be left between the Trims against the floor, as shown in [Detail 5-2](#).

It's except for the area where flooding rises above the flooding line.



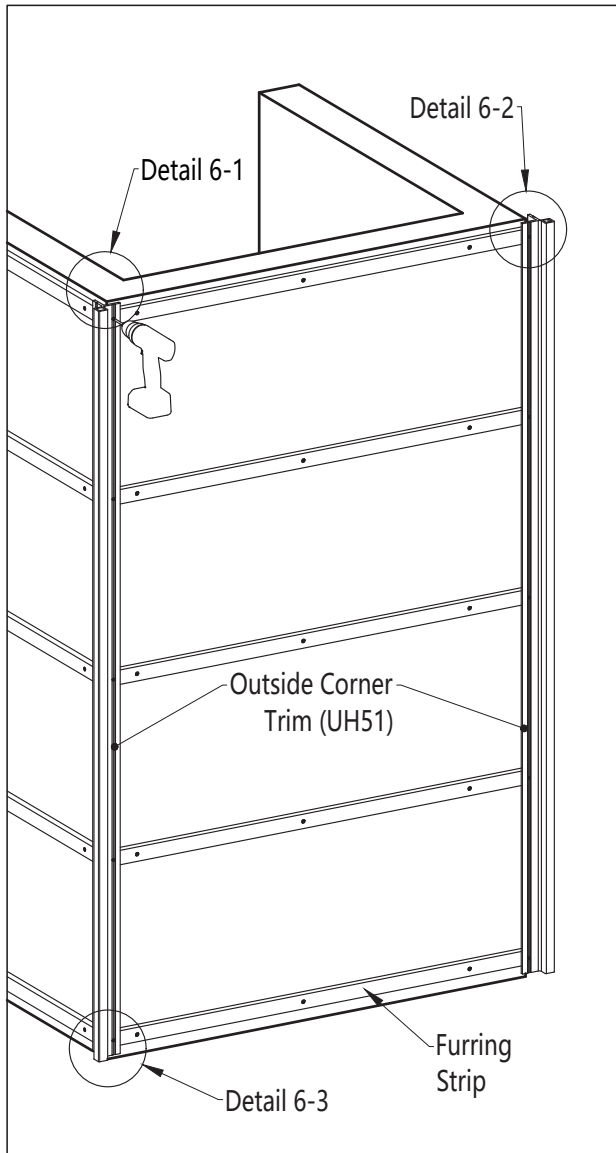
**Detail 5-1**



**Detail 5-2**

## 6 Install the Outside Corner Trim (UH51) on the Outside Corner

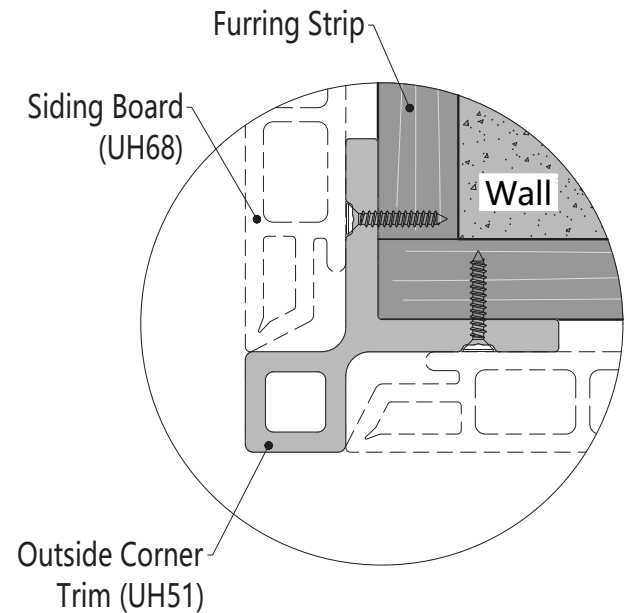
Install the Outside Corner Trim (UH51) on the Outside Corner with screws in the distance at least 19-11/16" (500 mm) and max 39-3/8" (1000 mm), as shown in [Diagram 6](#).



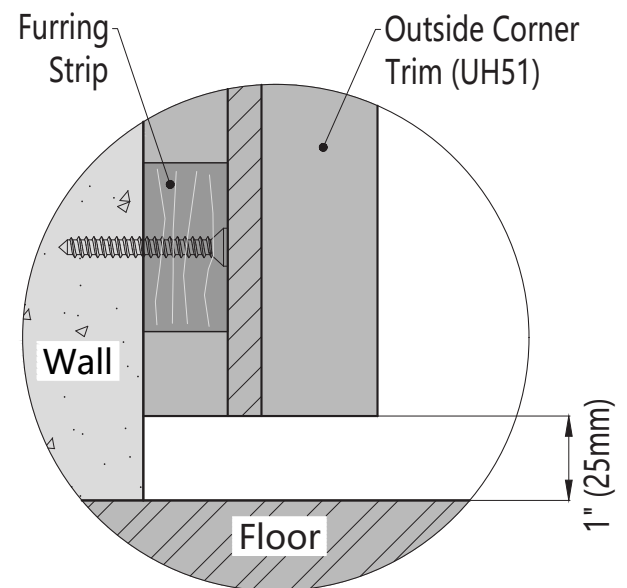
**Diagram 6**

### Please Note:

1. Secure the Outsider Corner Trim(UH51) onto the Furring Strip with screws, as shown in [Detail 6-1](#)
2. A minimum clearance of 1" (25mm) needs to be left between the trims against the floor, as shown in [Detail 6-2](#).



**Detail 6-1**

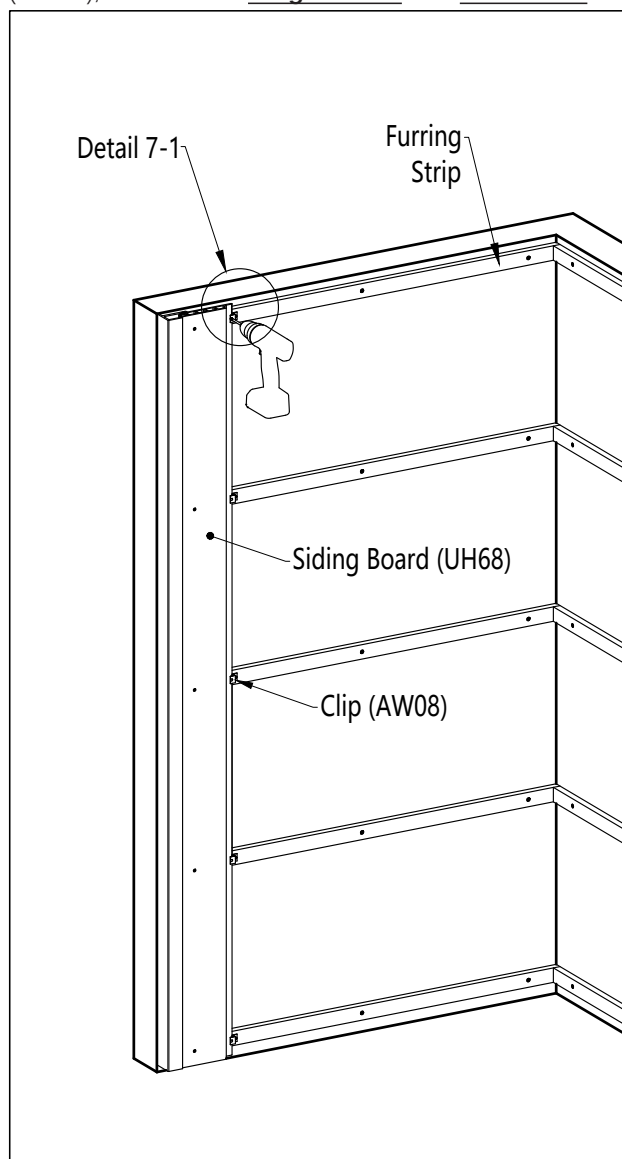


**Detail 6-2**

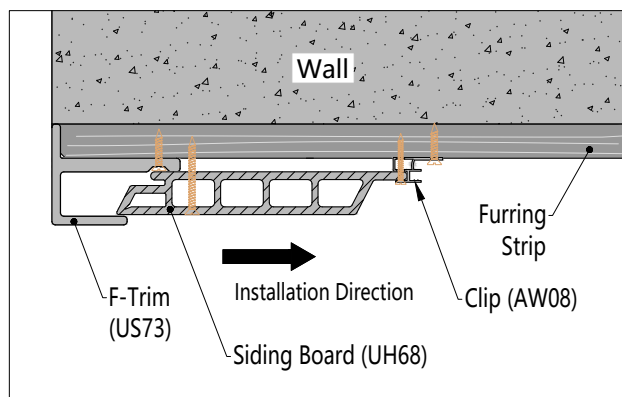
## 7 Install the First Siding Board

### Outermost Edge

Insert the first Siding board (UH65) into the F-Trim (US73), then fasten it onto the furring strip with Clip (AW08), as shown in [Diagram 7-1](#) and [Detail 7-1](#).

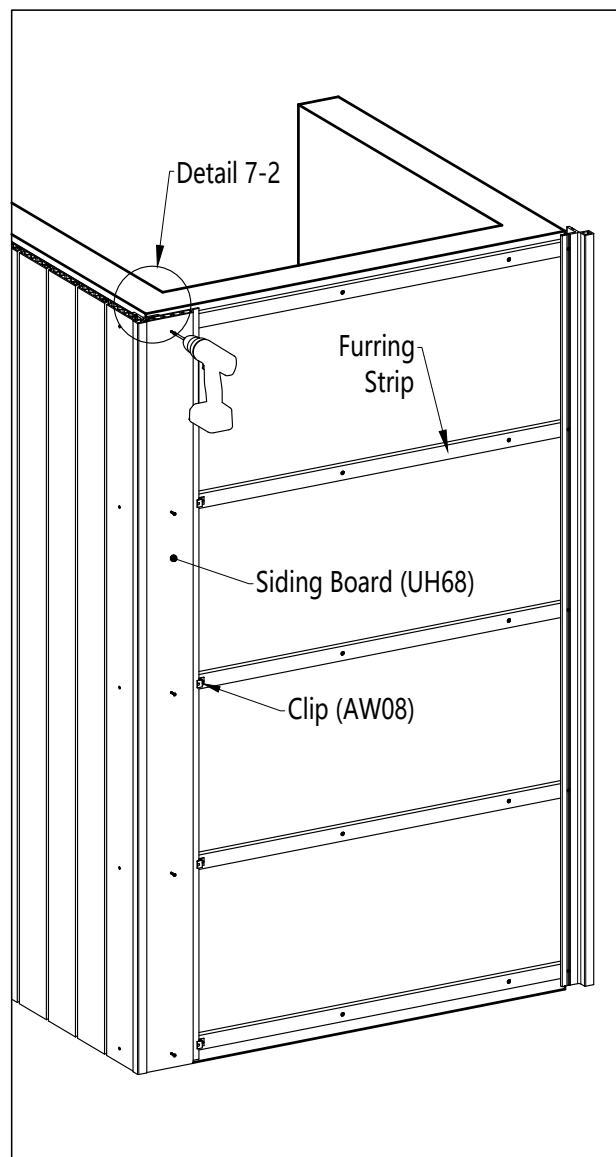


**Diagram 7-1**

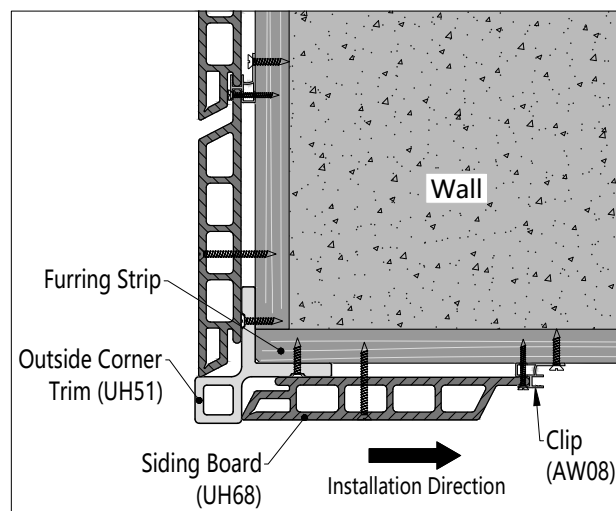


**Detail 7-1**

**Outside Corner** with the Outside Corner Trim (UH51), as shown in [Diagram 7-2](#) and [Detail 7-2](#)



**Diagram 7-2**



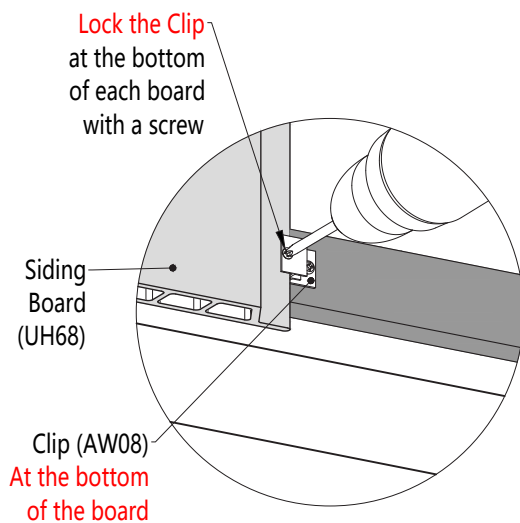
**Detail 7-2**

#### 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 bottom of each board**, as shown in [Detail 7-3](#).

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

Please review [page 12](#), "Locking the Siding Board" of this installation guide for further information.

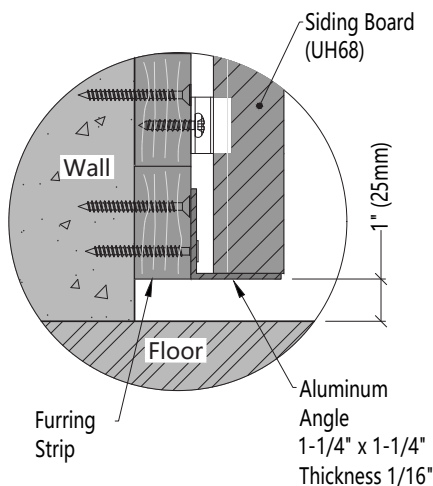


**Detail 7-3**

#### Please Note:

A minimum clearance of 1" (25mm) needs to be left between the Siding Boards against the floor, as shown in [Detail 7-4](#).

It's except for the area where flooding rises above the flooding line.

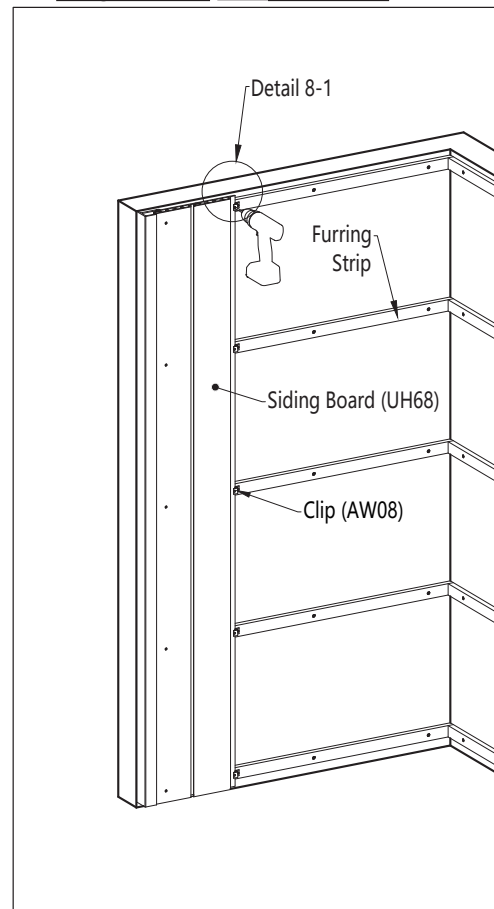


**Detail 7-4**

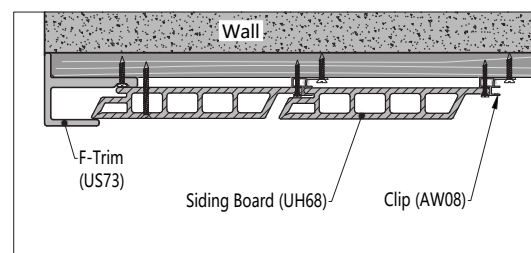
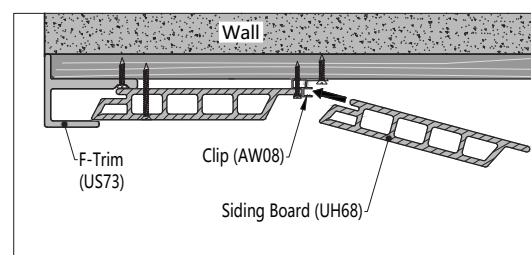
## 8 Install the Second Siding Board

### Outermost Edge

Put the second Siding Board (UH68) in place, then fasten it to the furring strip with Clip (AW08), as shown in [Diagram 8-1](#) and [Detail 8-1](#).



**Diagram 8-1**



**Detail 8-1**



## Install the Second Siding Board (Continued)

**Outside Corner**, as shown in Diagram 8-2 and Detail 8-2

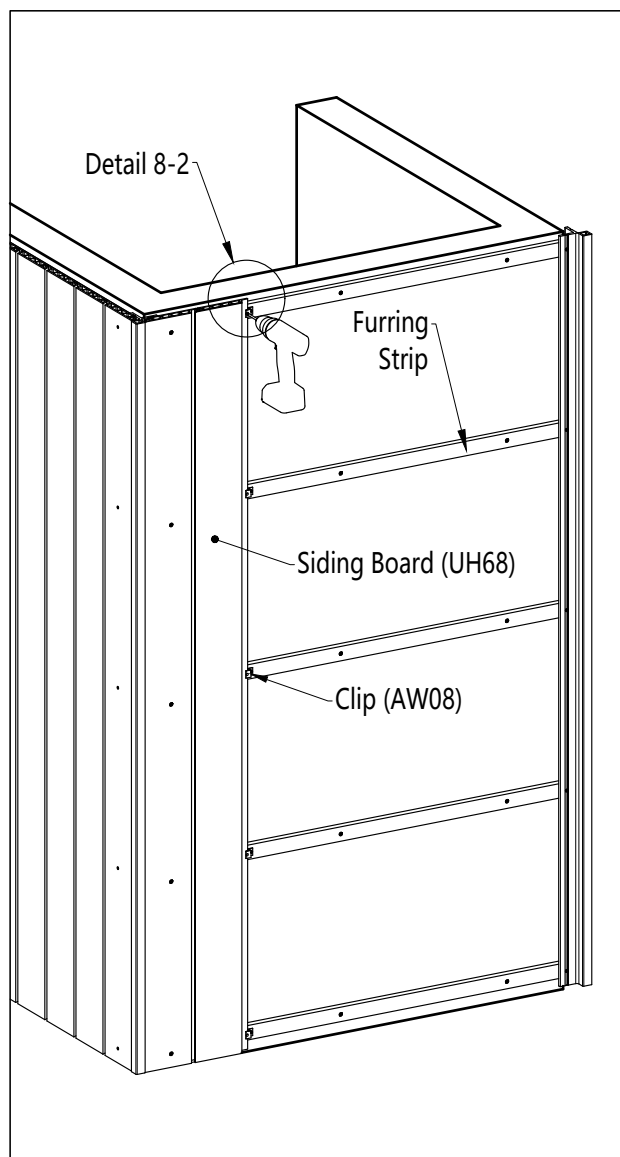
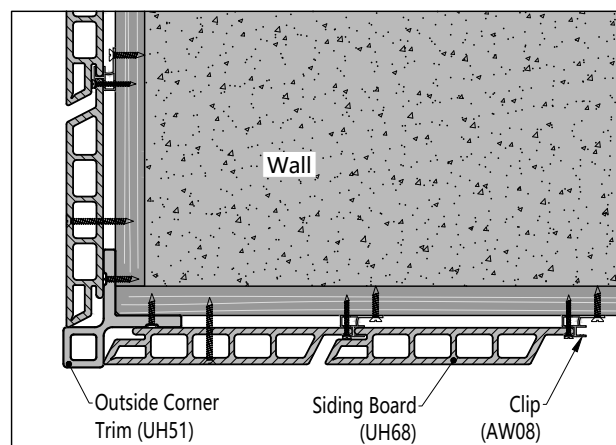
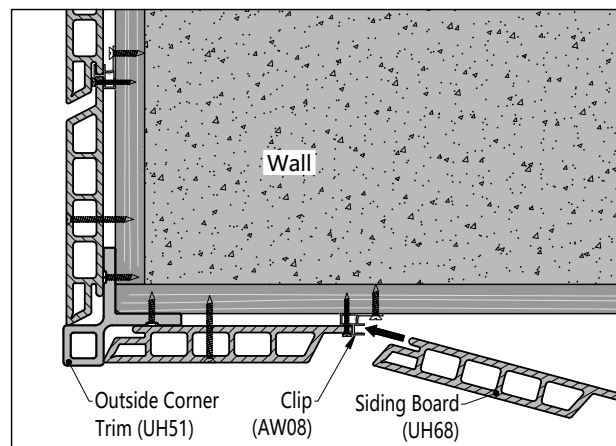


Diagram 8-2



Detail 8-2

## 9 Install the Last Siding Board

When you are at the last board, please measure the distance to obtain the appropriate board's ripping dimension.

### Inside Corner

The installation started from the Outermost Edge

As shown in Diagram 9-1 and Detail 9-1.

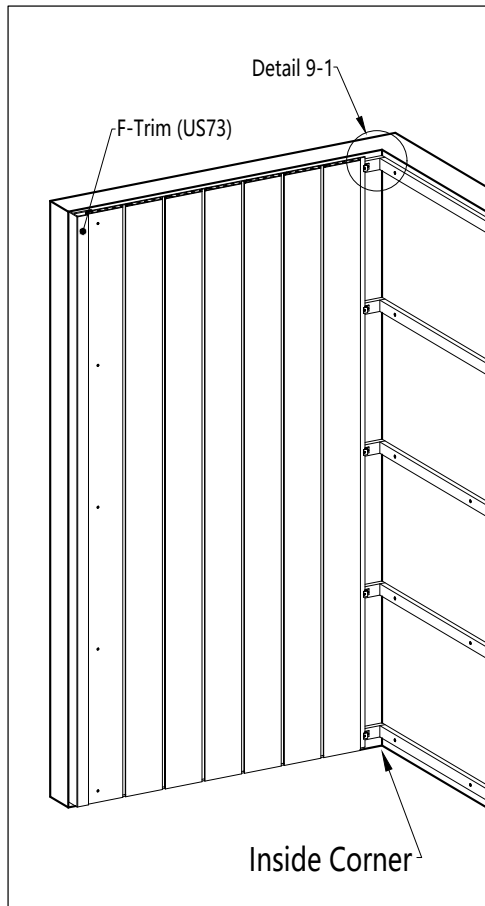
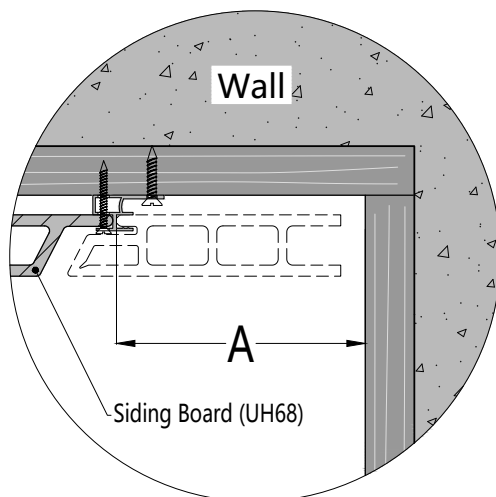


Diagram 9-1



Detail 9-1

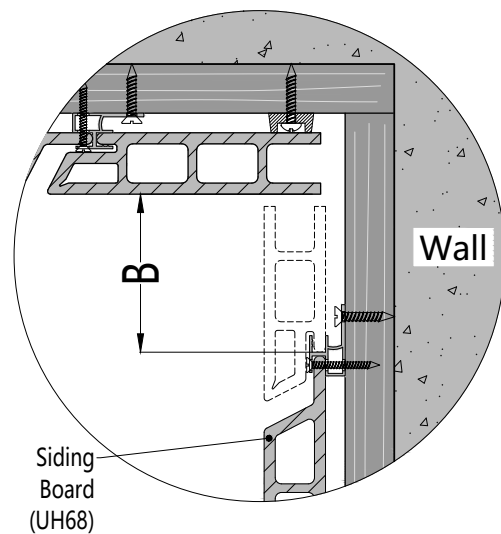
### Inside Corner

The installation started from the Outside Corner

As shown in Diagram 9-2 and Detail 9-2.



Diagram 9-2

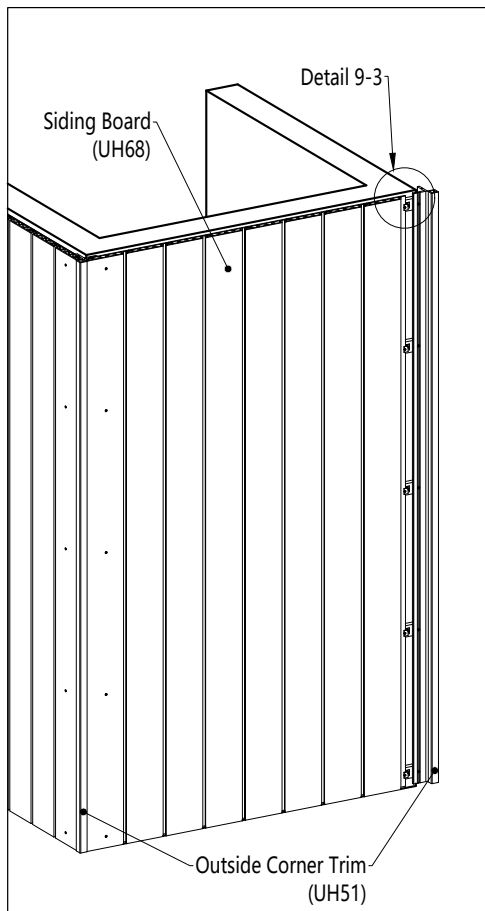


Detail 9-2

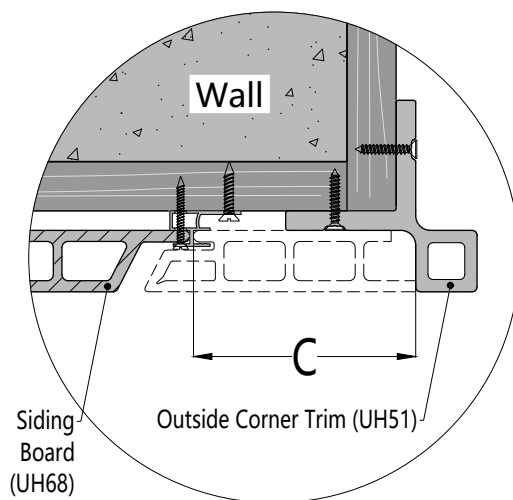
## Install the Last Siding Board (Continued)

### Outside Corner

As shown in [Diagram 9-3](#) and [Detail 9-3](#).



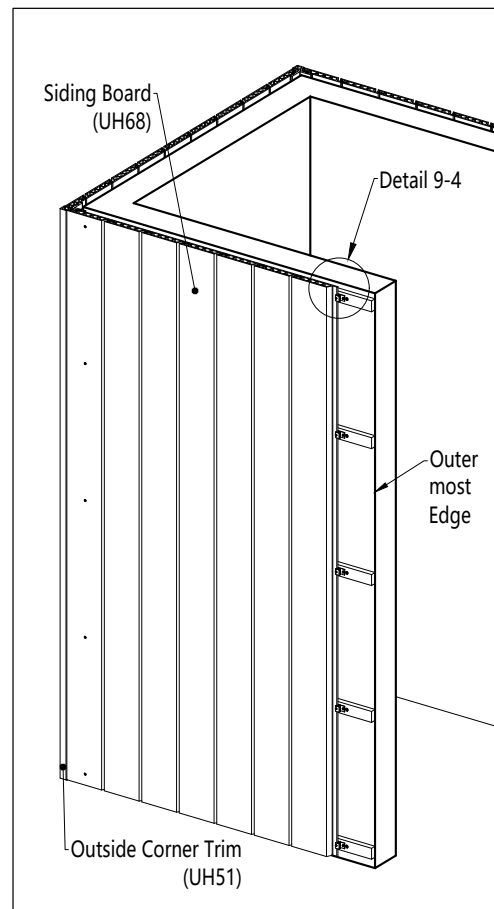
**Diagram 9-3**



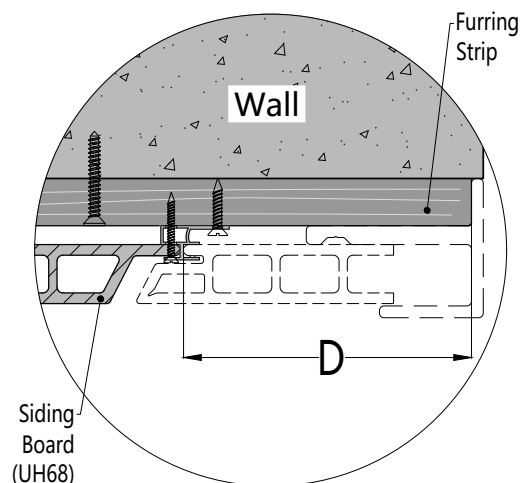
**Detail 9-3**

### Outermost Edge

As shown in [Diagram 9-4](#) and [Detail 9-4](#).

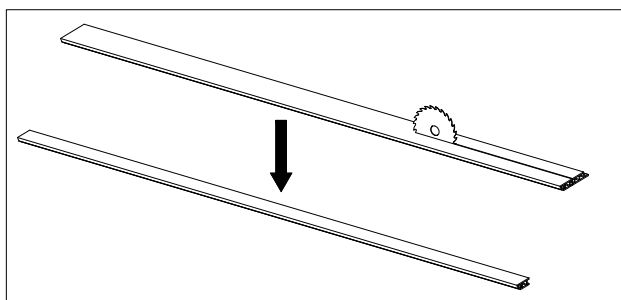


**Diagram 9-4**

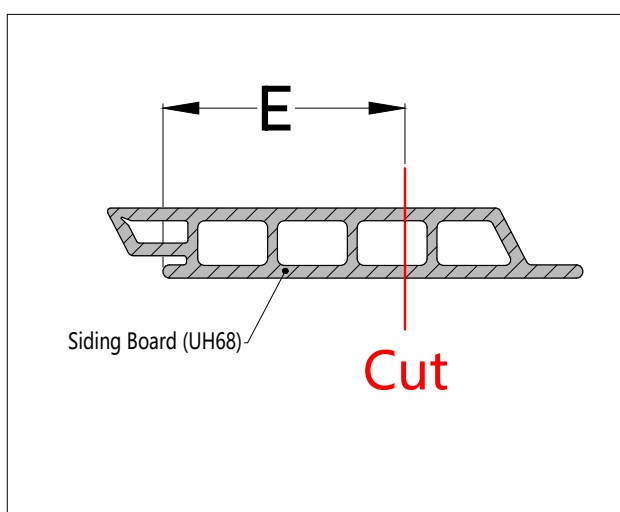


**Detail 9-4**

- 10** Rip the board according to the measured dimension, as shown in **Diagram 10** and **Detail 10-1**



**Diagram 10**



**Detail 10-1**

Please Note:

The E value is obtained as the calculation below,

**Inside Corner (Ref. to Detail 9-1)**

The installation started from the Outermost Edge

$$E = A - 3/16" \text{ (5mm)}$$

**Inside Corner (Ref. to Detail 9-2)**

The installation started from the Outside Corner

$$E = B - 3/16" \text{ (5mm)}$$

**Outside Corner (Ref. to Detail 9-3)**

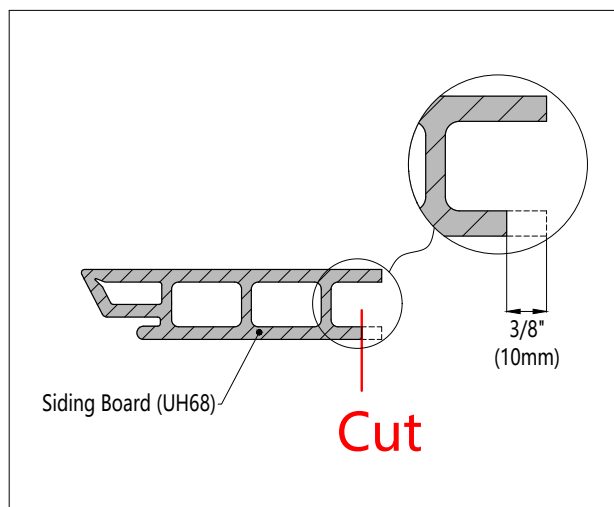
$$E = C - 1/16" \text{ (2mm)}$$

**Outermost Edge (Ref. to Detail 9-4)**

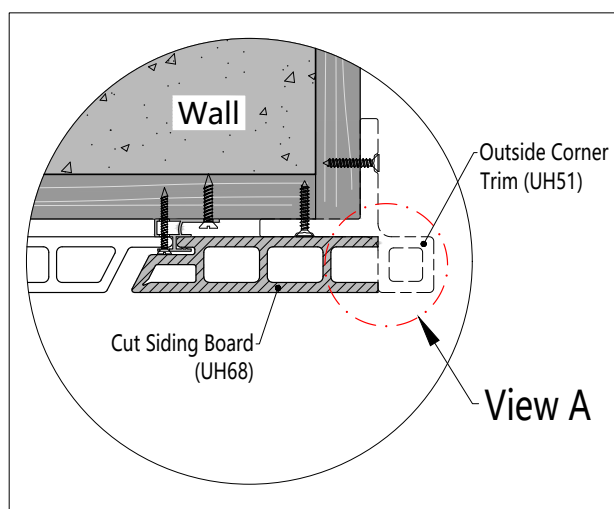
$$E = D - 1 - 5/16" \text{ (33mm)}$$

Please Note:

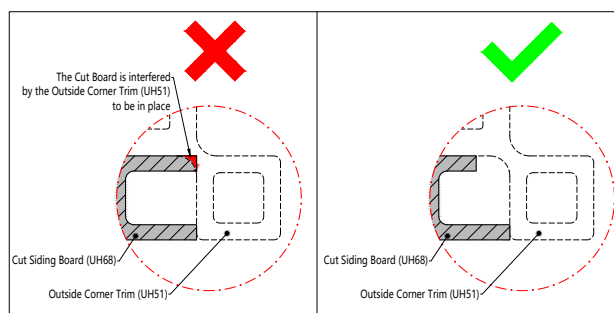
It's recommended to have a downside chamfer cutting for the last board for the Outside Corner, as shown in the Detail 10-2 and detail 10-3.



**Detail 10-2**



**Detail 10-3**



**Detail 10-3**

## Install the Last Siding Board (Continued)

### 11 Preparation for the last siding board installation

#### Please Note:

1. Predrill the ripped Siding Board to allow for expansion and contraction before face fixing it onto the furring strip. Please review [page 5](#), section "Pre-drill" of this installation guide for further information.

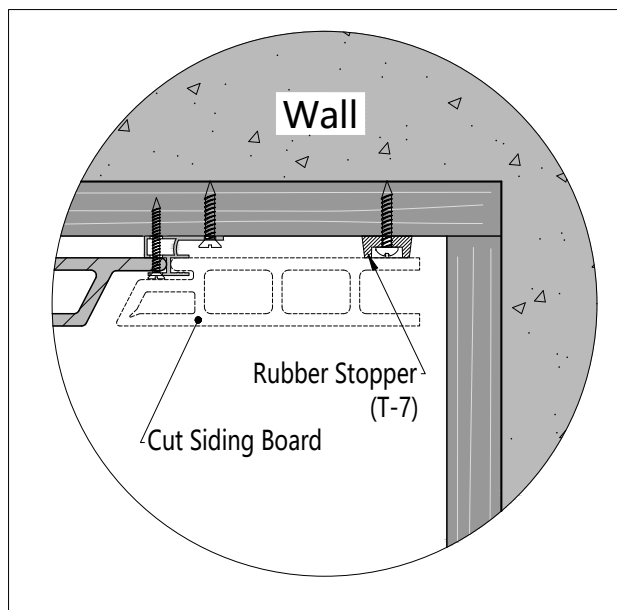
2. For the last Siding Board installed in the inside corner, it's necessary to mount the [Rubber Stopper T-7](#) against the Siding Board's back to support the board is in level, as shown in [Diagram 11-1](#) and [Diagram 11-2](#).

3. Put a block under the cut Siding Board to keep the board with the exact height, as shown in [Diagram 11-3](#)

#### Inside Corner

The installation started from the Outermost Edge

As shown in [Diagram 11-1](#).

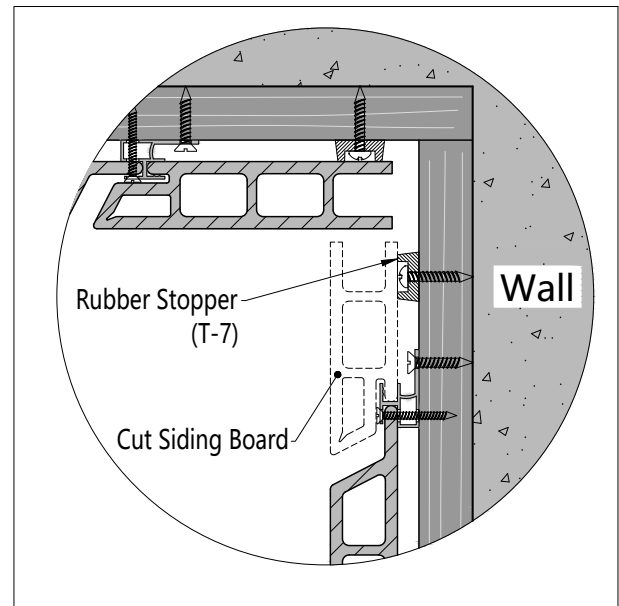


[Diagram 11-1](#)

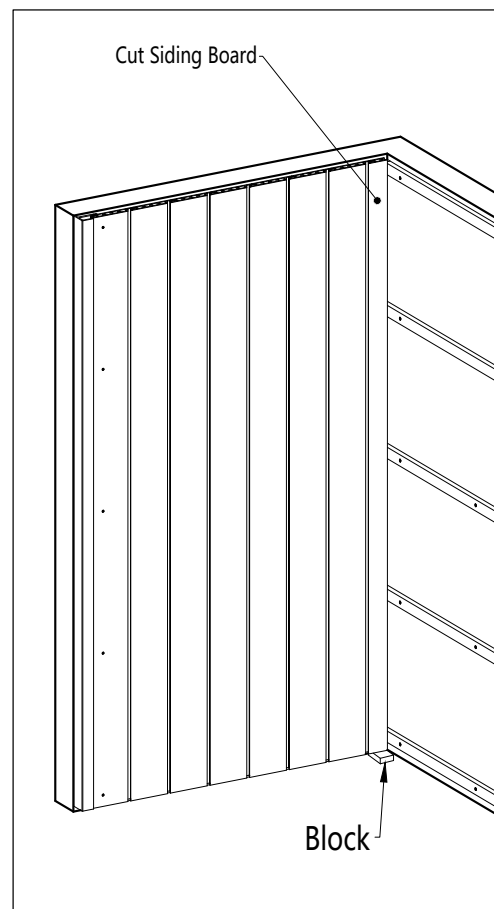
#### Inside Corner

The installation started from the Outside Corner

As shown in [Diagram 11-2](#).



[Diagram 11-2](#)



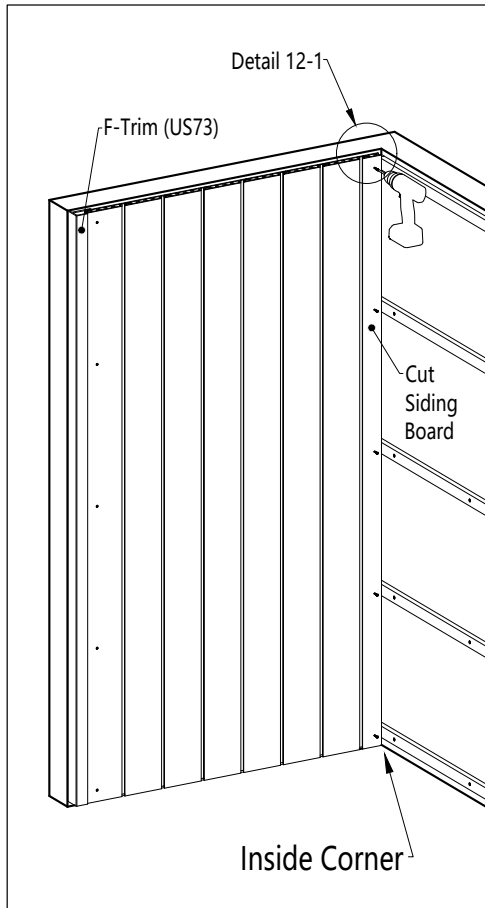
[Diagram 11-3](#)

- 12 Put the ripped Siding Board in place and use the screws to face fix it onto the furring strip.

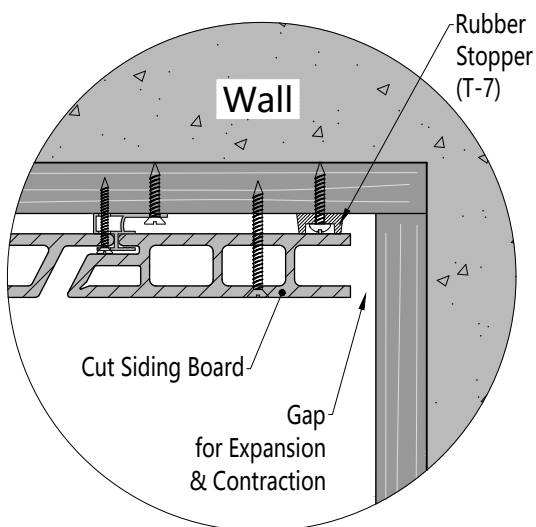
### Inside Corner

The installation started from the Outermost Edge

As shown in **Diagram 12-1** and **Detail 12-1**



**Diagram 12-1**

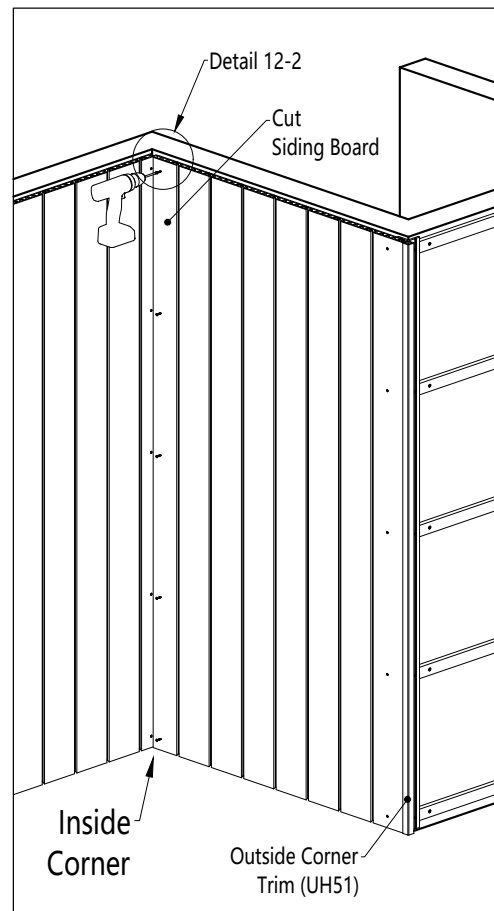


**Detail 12-1**

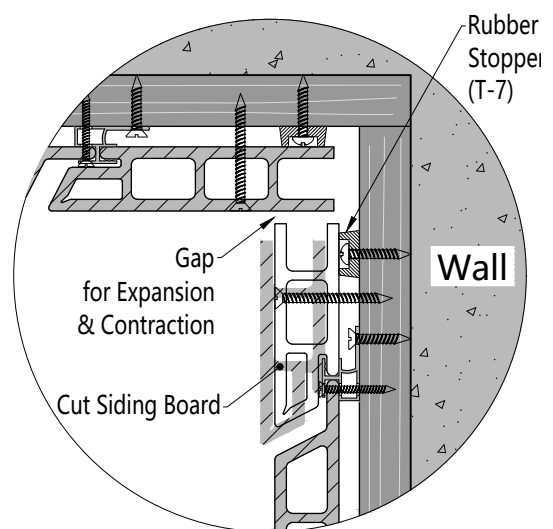
### Inside Corner

The installation started from the Outside Corner

As shown in **Diagram 12-2**.



**Diagram 12-2**

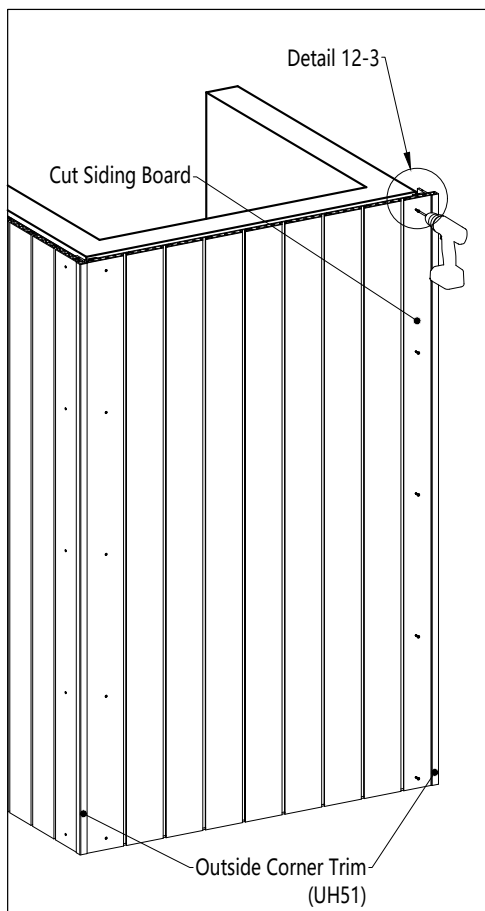


**Detail 12-2**

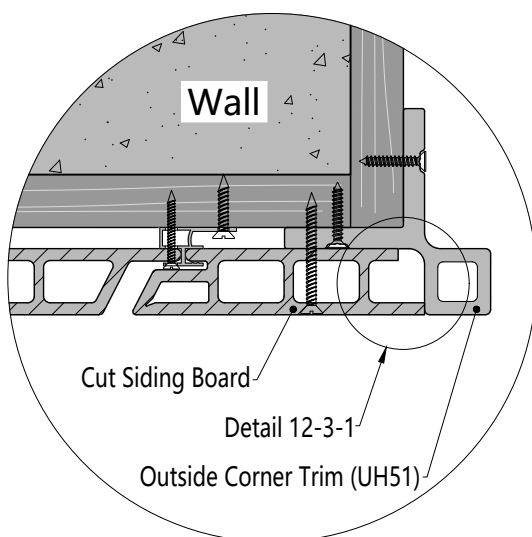
## Install the Last Siding Board (Continued)

### Outside Corner

As shown in [Diagram 12-3](#) and [Detail 12-3](#).



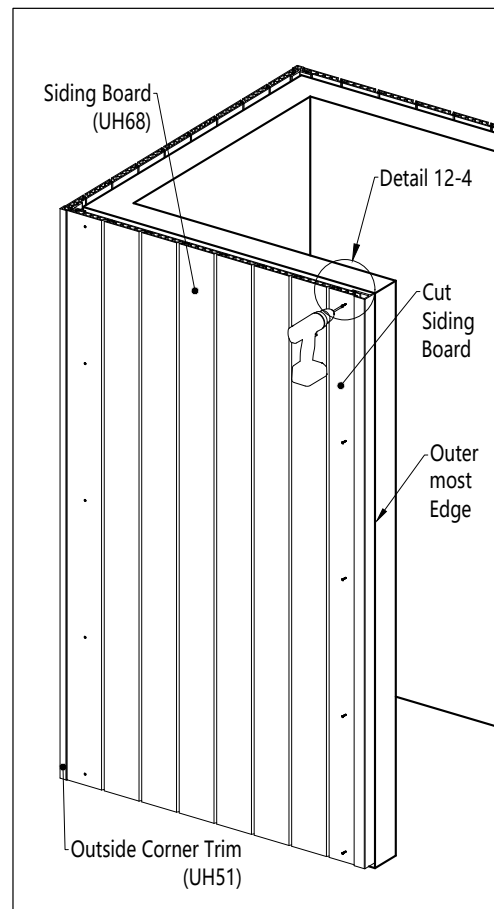
[Diagram 12-3](#)



[Detail 12-3](#)

### Outermost Edge

As shown in [Diagram 12-4](#) and [Detail 12-4](#).

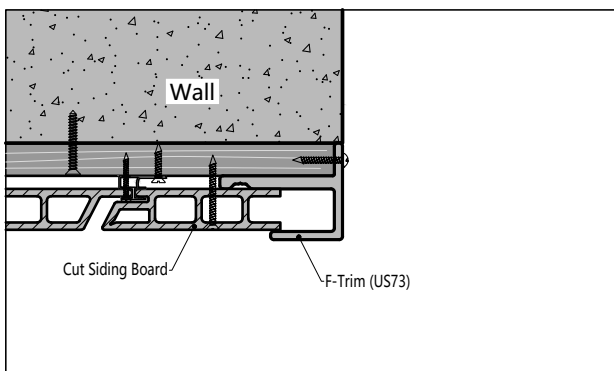
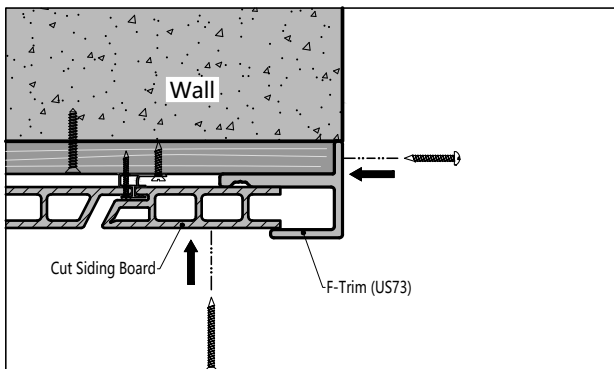
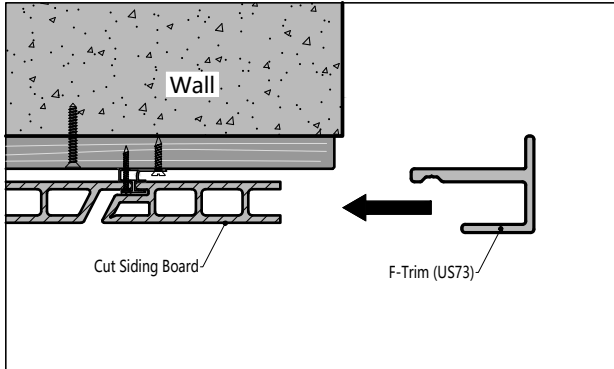


[Diagram 12-4](#)



**Please Note:**

Put the ripped Siding Board in place. Then insert the F-Trim (US73) into the ripped Siding Board. Fix the F-Trim onto the furring strip with the screws. Finally, use screws to face fix the board onto the furring strip, as show in [Detail 12-4](#).



**Detail 12-4**

13 Diagrams below present the final appearance after completing the installation.s

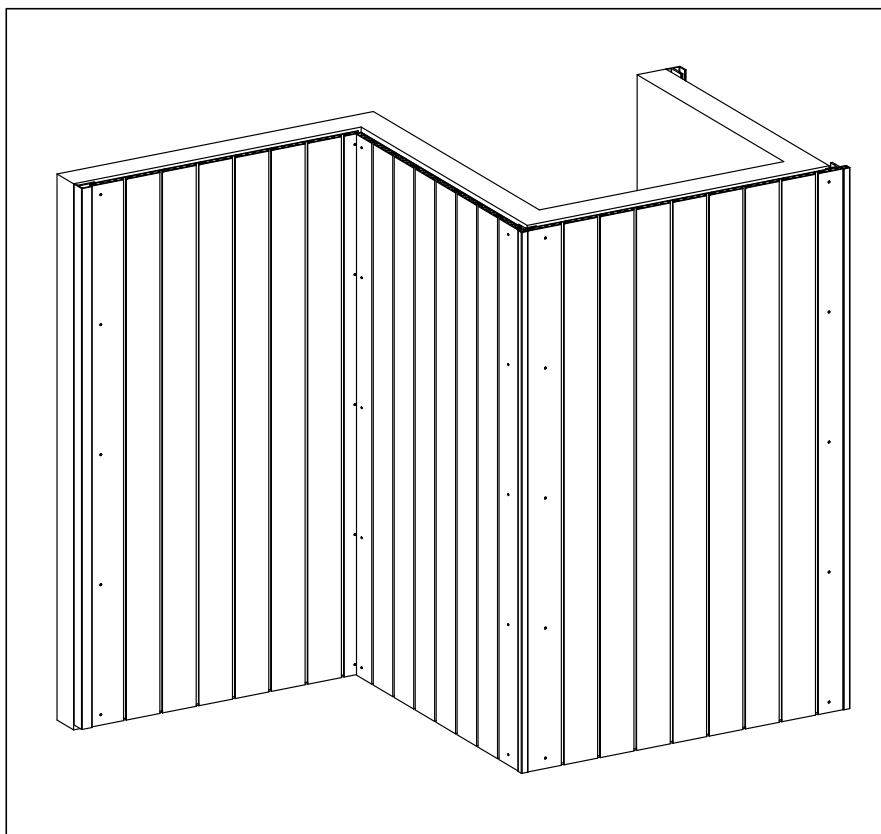


Diagram 13-1

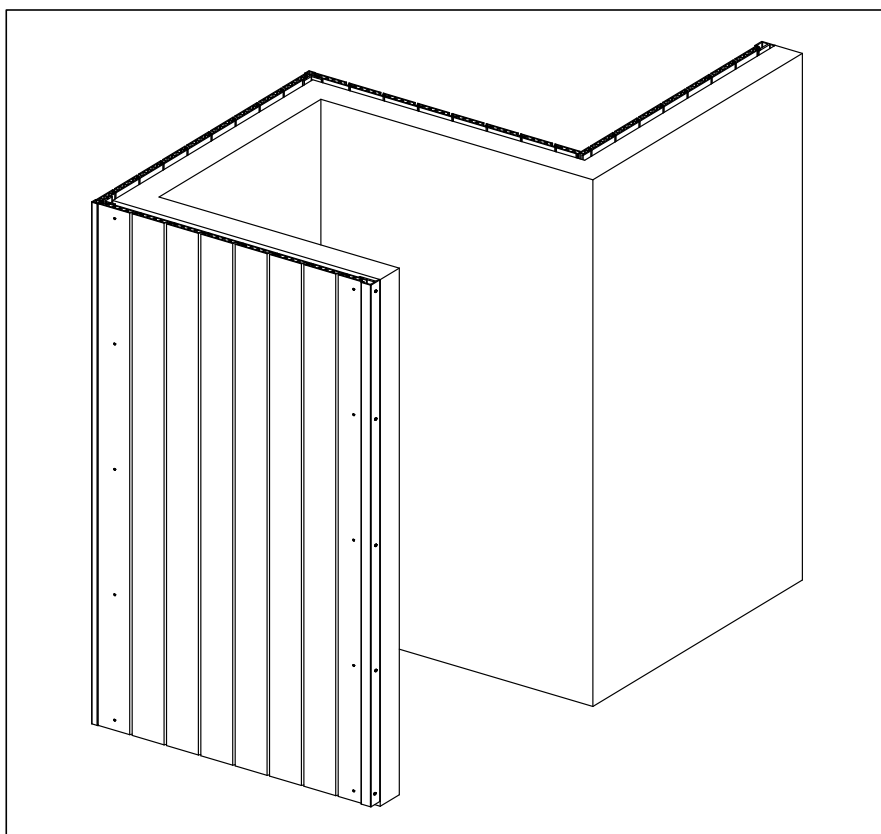


Diagram 13-2

## 14 Butt Joint Installation

### Option 1: Butt Joint Trimming with aluminum angle

It is required to lock the Clip (AW08) at the bottom of each board, and have a gap inbetween the boards to allow the board to expand and contract, as shown in Diagram 14-1.

#### Please Note:

Refer to page 13 to determine the number of locking clips required.

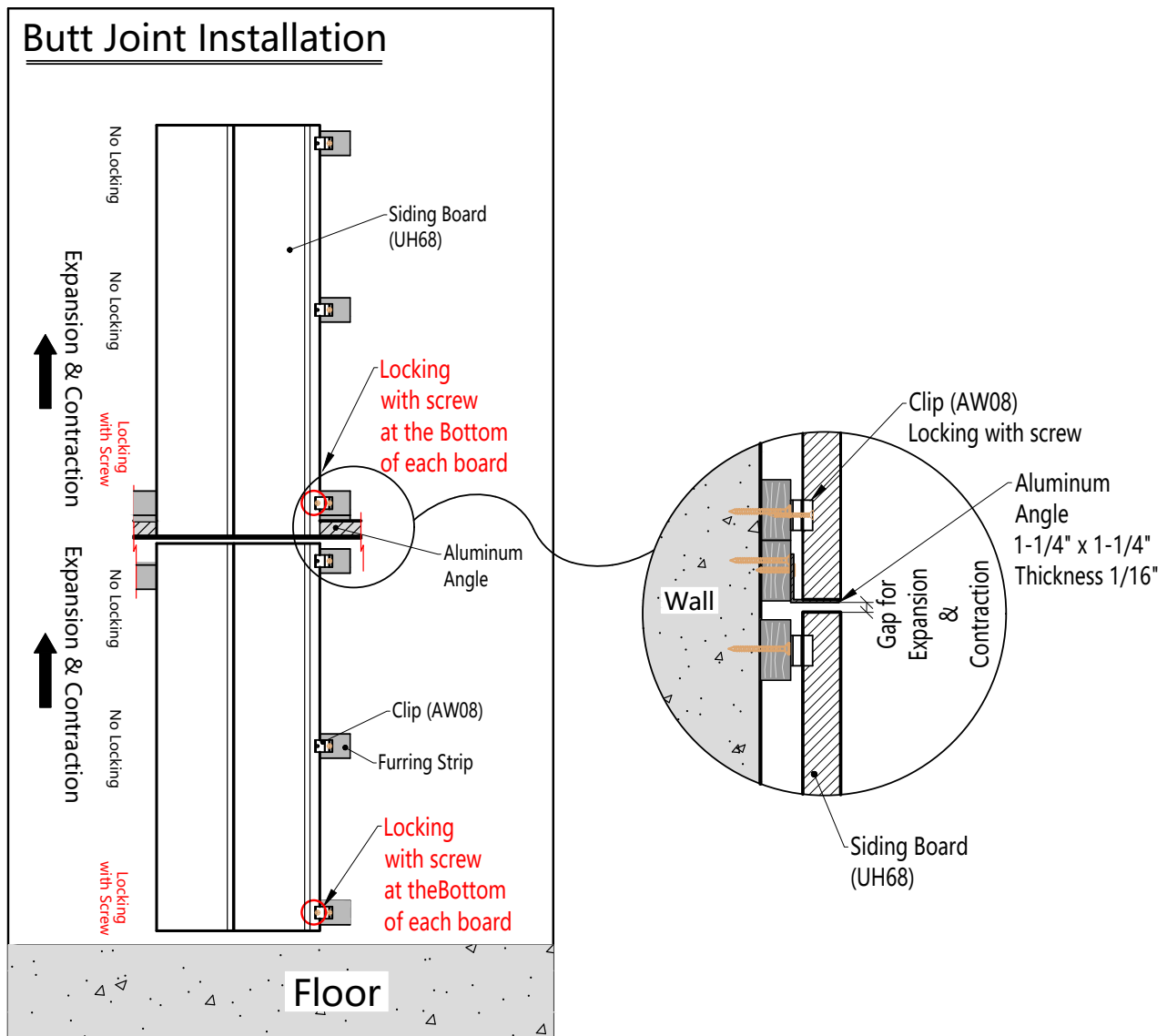


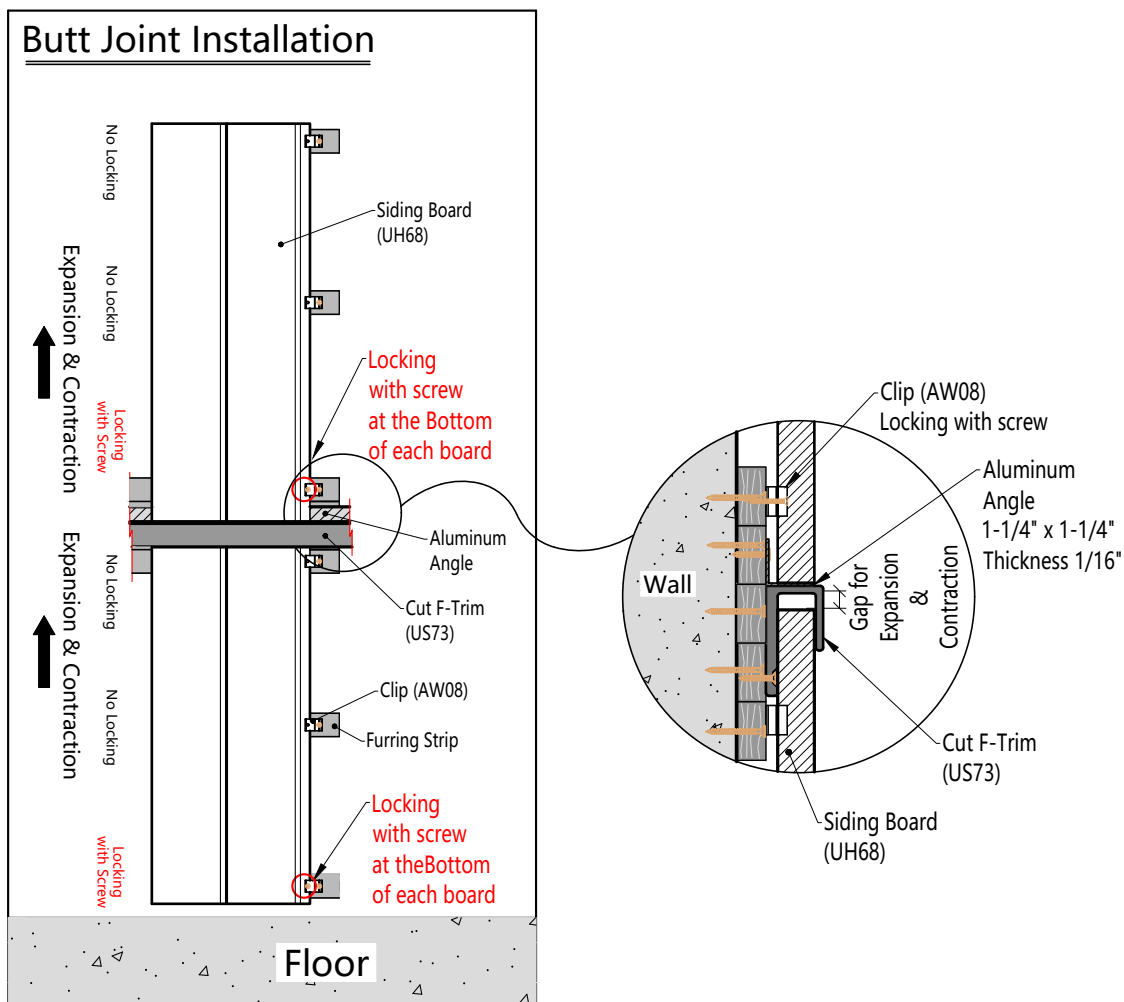
Diagram 14-1

## Option 2: Butt Joint trimming with aluminum angle and F-Trim capping

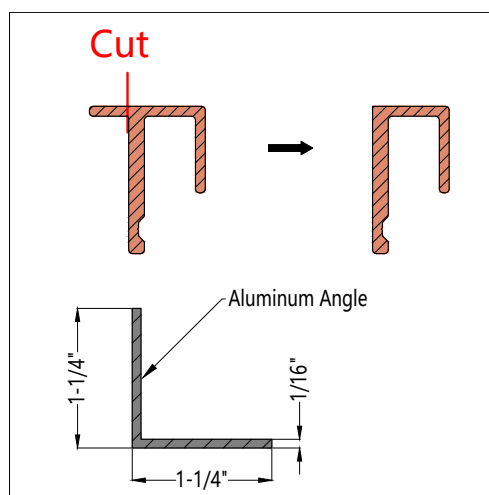
It is recommended to utilize the cut F-Trim (US73) and aluminum angle for the butt joint installation. It is also required to lock the Clip (AW08) at the bottom of each board, as shown in [Diagram 14-2](#) and [Detail 14-2-1](#).

### Please Note:

Refer to [page 13](#) to determine the number of locking clips required.

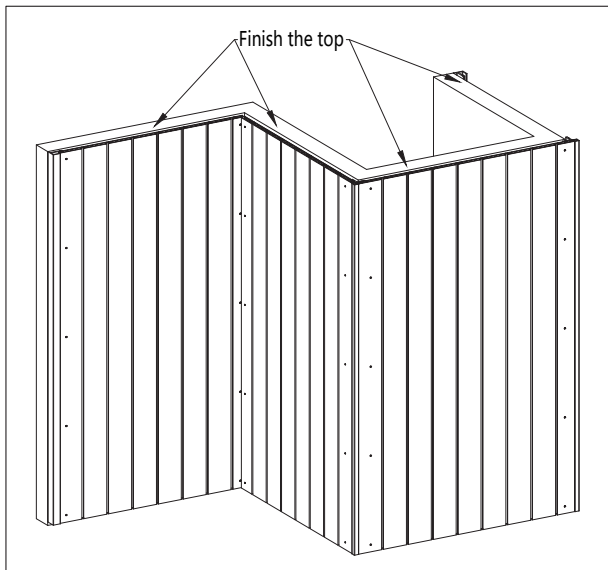


**Diagram 14-2**



**Detail 14-2-1**

## 15 Finish the Top

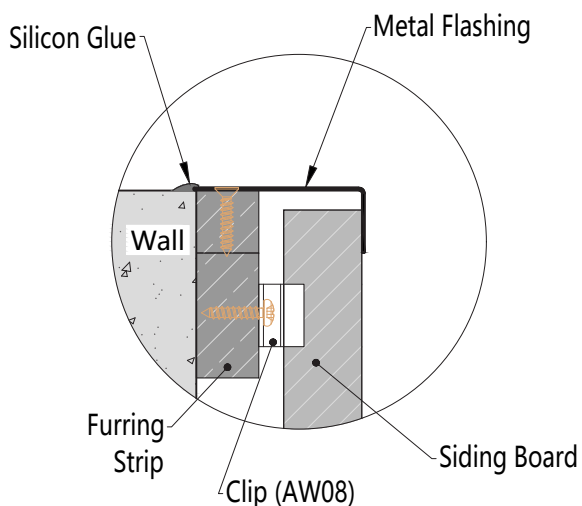


**Diagram 15**

Two options are recommended to finish the top of the siding.

### Option 1

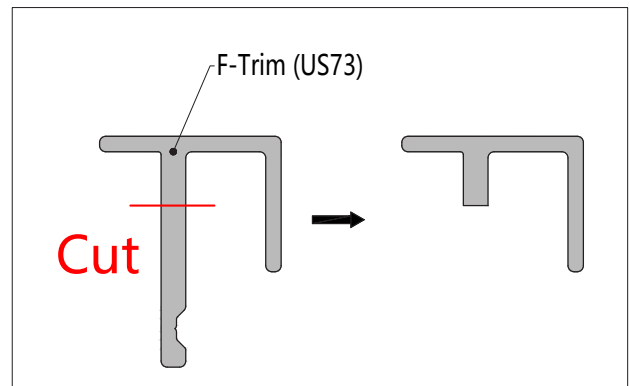
Put a metal flashing over the siding top and fix it onto the furring strip with screws, as shown in **Detail 15-1**.



**Detail 15-1**

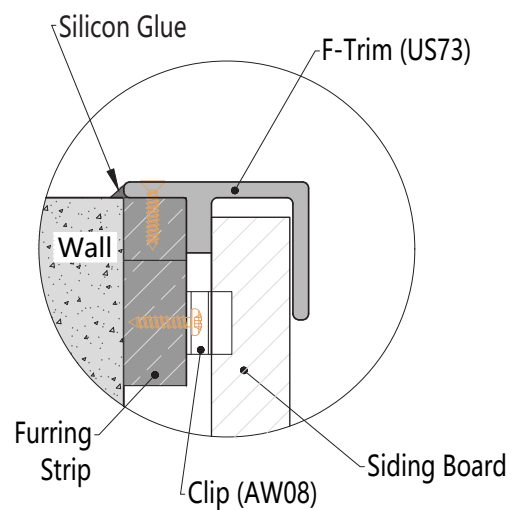
### Option 2

Cut the F-Trim (US73) to make the centerpiece shorter without interfering with the Clip (AW08), as shown in **Detail 15-2**.



**Detail 15-2**

Put the cut F-Trim (US73) in place and secure it onto the furring strip with screws, as shown in **Detail 15-3**.



**Detail 15-3**



# Shadowline Siding Vertical Installation Guide

v06 US

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