All Weather Siding
Vertical Installation Guide

NewTechWood

CONTENTS

NOTE: Click on the heading to enter the section directly

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 deck 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.

Static

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

Ventilation

NewTechWood products CANNOT be directly installed onto a flat surface. It must be installed onto a substructure, so there is adequate and unobstructed air flow under the cladding to prevent excessive water absorption. A minimum of 1" (25mm) of continuous net free area under the siding surface is required for adequate ventilation on all siding, so air can circulate between adjacent members to promote drainage and drying.

Heat and Fire

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

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

Fasteners

When fastening NewTechWood's products all screws that are face fastened should always be driven in at a 90 degree angle to the siding surface. Toe nailing/screwing should never be done to the products. An extra furring strip should be added if a 90 degree angle cannot be driven into the board. All fasteners should be on their own independent furring strips, when two boards ends meet each other there must be a sister joist. 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 nails/screws that are face fixed should always be stainless steel. Depending on the screws that you use when face fixing, there could be potential bulging or mushrooming. It is recommended to take care of these mushrooms/bulges by taking a rubber mallet and patting them down to give your siding a better look.

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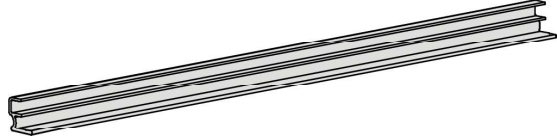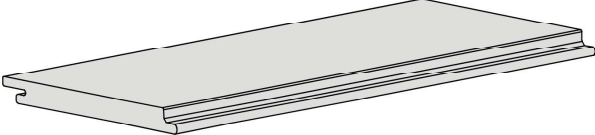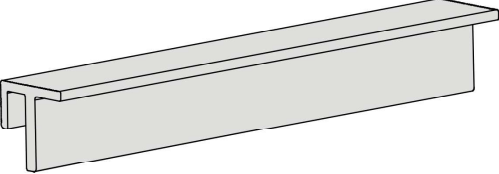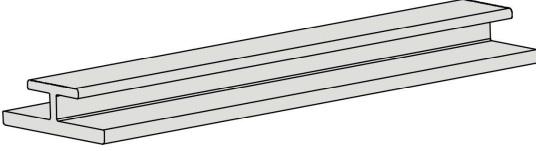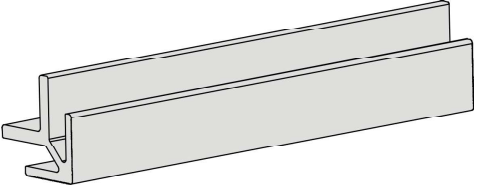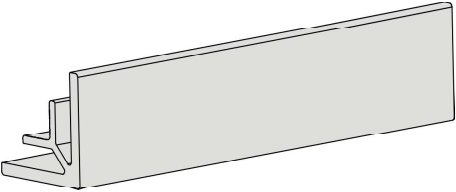
Predrill

It is recommended to use the #8 pan 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,
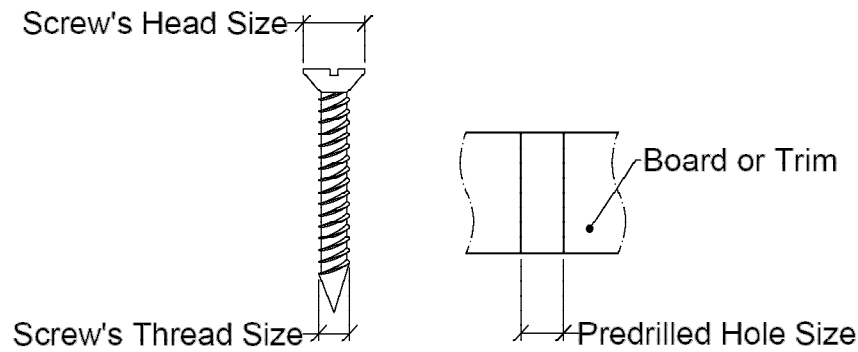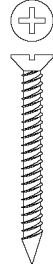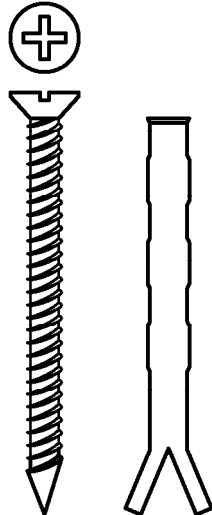

The predrilled hole size should be larger than the screw thread size, from 1/16" (1.5 mm) to 5 /64" (2 mm). Moreover, the predrilled hole size should also be smaller than the screw head size, at least 5/64" (2 mm). A washer can be applied if the predrilled hole size is smaller than the screw head size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

Siding 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 furring strip	
T-7	Used on the last Siding board	
US09	Siding Board (can be used in place of US30, US31)	
US44	F-Trim, used on the outermost edges	
US45	I-Trim, used if there is a break between two boards to cover up the gap	
US46	Outside Corner Trim, used on the outside corners	
US47	Inside Corner Trim, used on the inside corners	
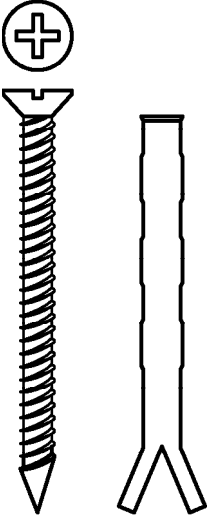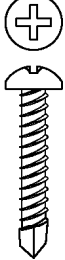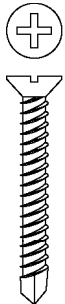
Siding Screws
(For Wood Furring Strip)

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

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

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

The following installation guide will use the above screw sizes.

Under Construction

We recommend for the under construction aluminum or pressure treated wood furring strips. Each siding board needs to be supported by a furring strip NO MORE than 16" (406mm) from center to center. Extra care is required in order to provide sufficient joisting in and around obstacles such as windows, fascia's, soffits, guttering, ventilation points etc. Below is an example of the layers that would occur in a typical installation, but a licensed professional should always be consulted prior to any installation.

Brick

Furring strip

Insulation

Breathable Membrane

NewTechWood UltraShield Siding
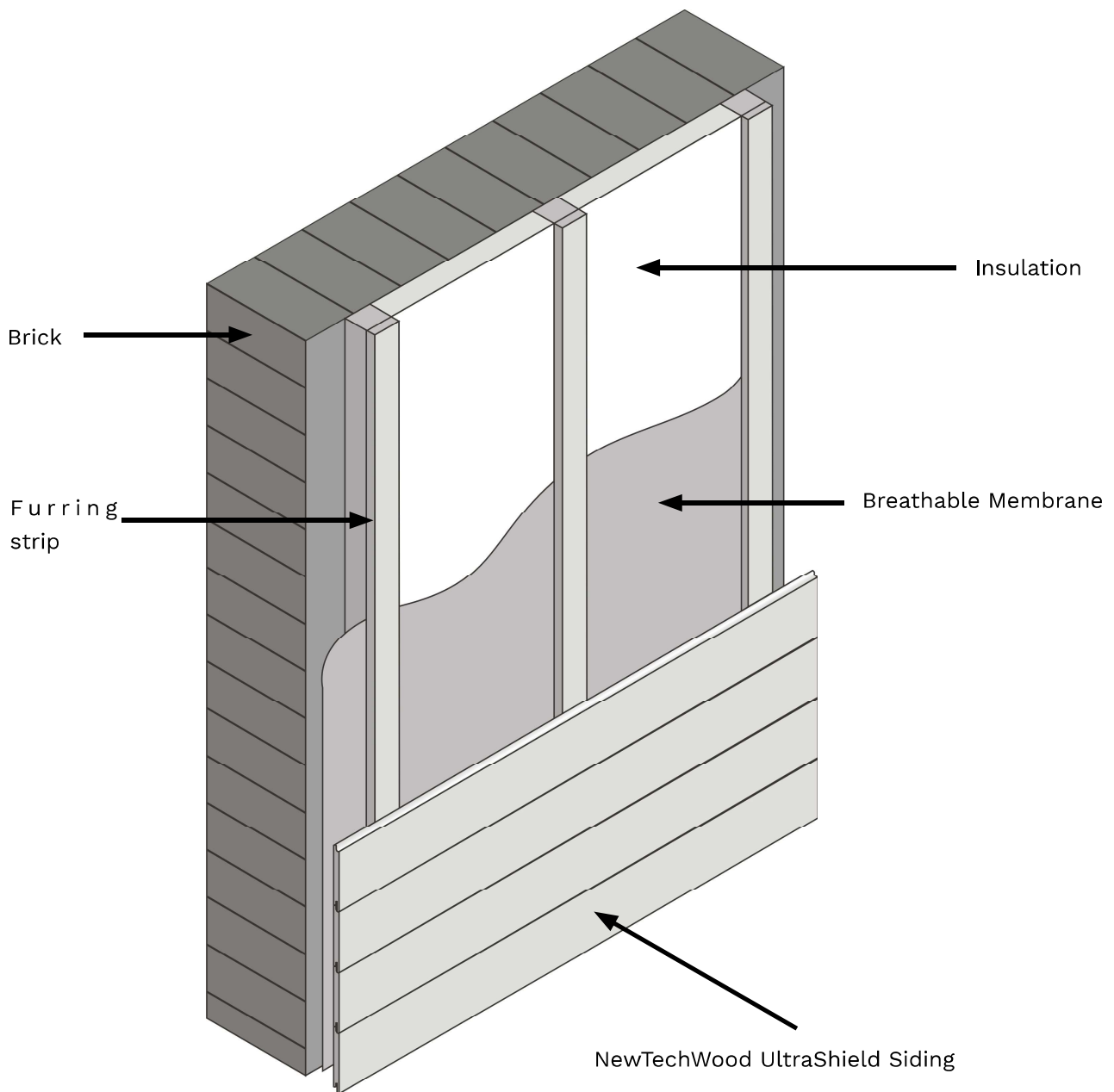
Furring Strips Installation

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 needs to have a minimum thickness of 1" (25mm).

Wood furring strips should be fixed into position at a maximum of 16" (406mm) centers using a suitable A4 Stainless Steel Countersunk Wood/Masonry screw. All furring strips needs to be flat and leveled against the wall surface use shims if necessary.
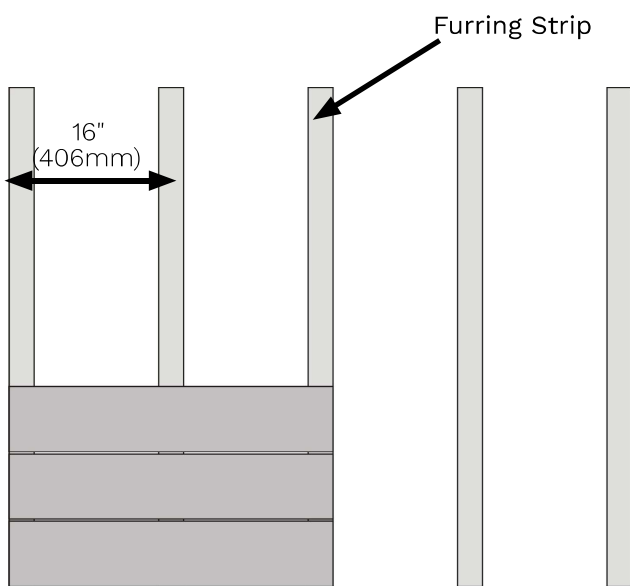
Horizontal Installation
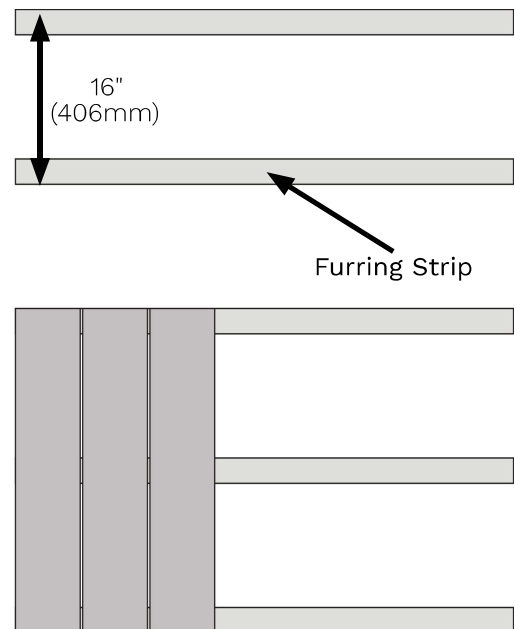
Vertical Installation

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	2/16	2/16	3/16	3/16	4/16	4/16	5/16	
	41	1/16	2/16	2/16	2/16	3/16	3/16	4/16	4/16	
	50	1/16	2/16	2/16	2/16	2/16	3/16	3/16	3/16	
	59	1/16	1/16	1/16	2/16	2/16	2/16	2/16	3/16	Gap (in)
	68	3/64	1/16	1/16	1/16	1/16	2/16	2/16	2/16	
	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	

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.
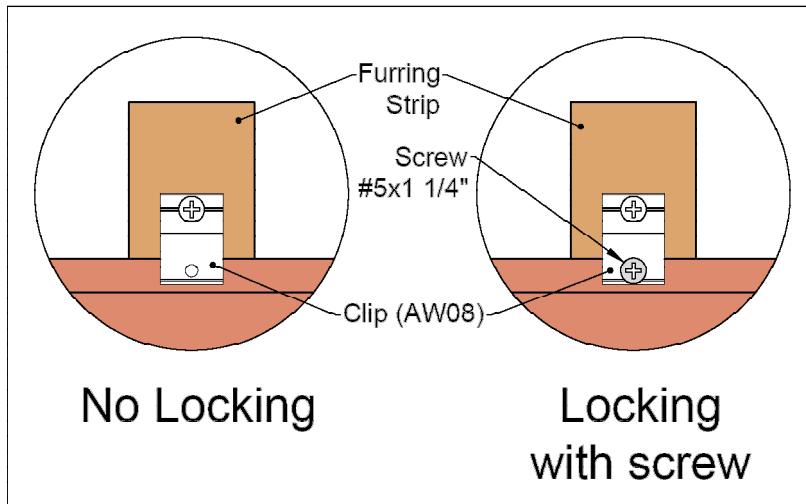
- Horizontal Installation -
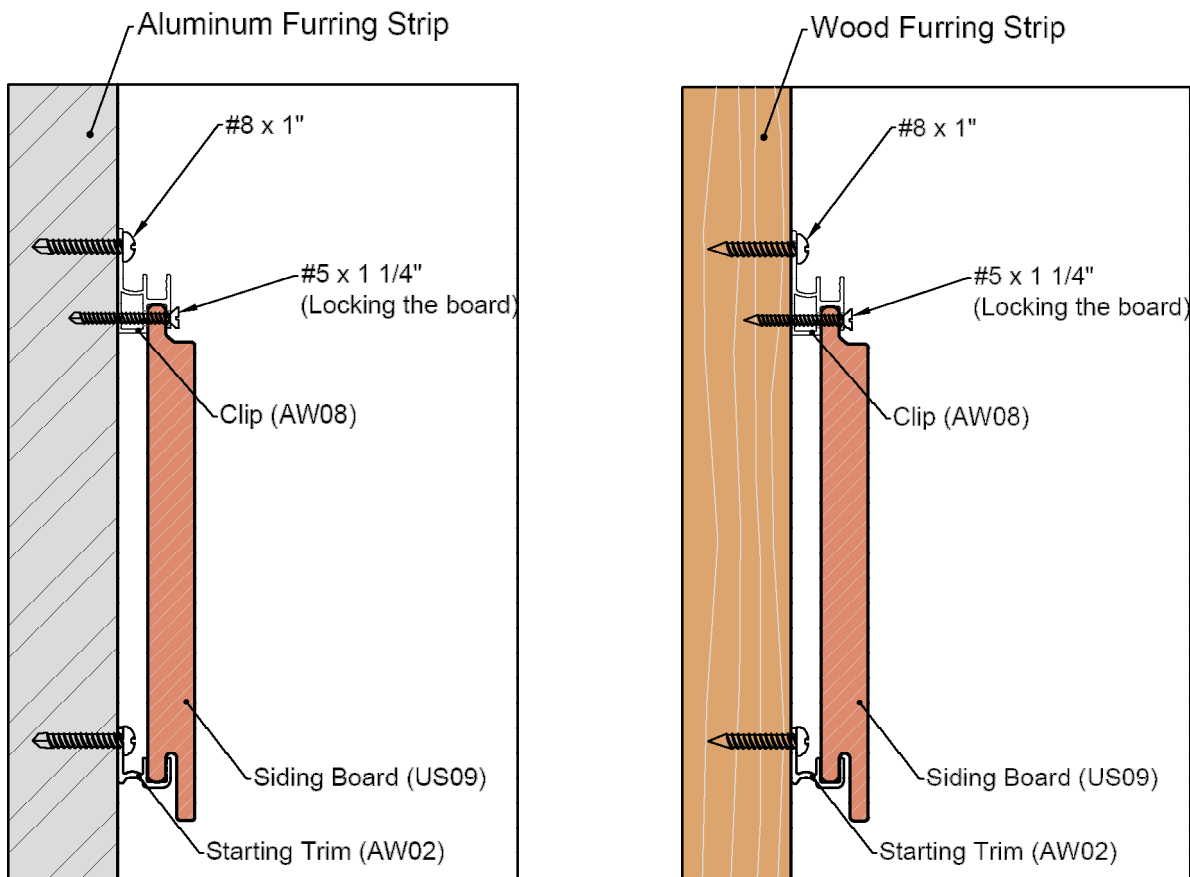
When installing horizontally, it is required to lock the Clip (AW08) at the middle of the board, as shown in **_Diagram 1_**.
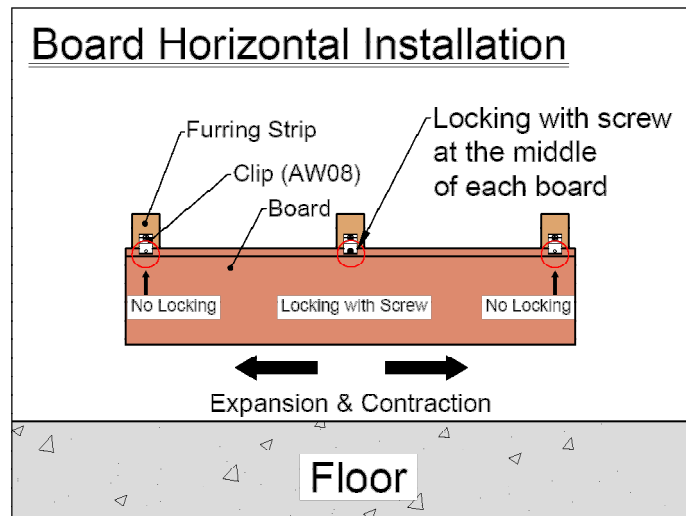
Diagram 1

When installing more than one board horizontally, it is recommended to utilize the I-Trim (US45) at each butt joint. It is also required to lock the Clip (AW08) at the middle of each board, as shown in **_Diagram 2_**.
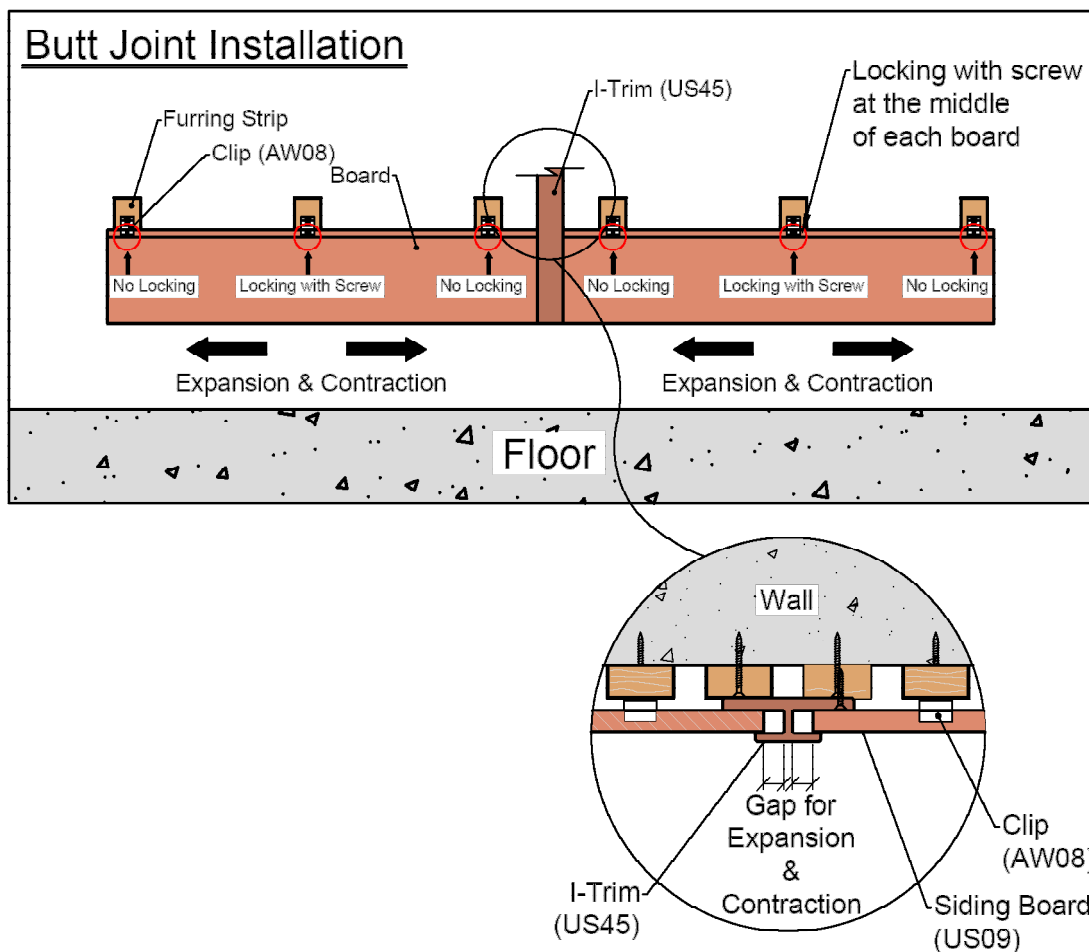
Diagram 2

- Vertical Installation -

Aluminum Furring Strip

Siding Board (US09)

Clip (AW08)

#5 x 1 1/4"
(Locking the board)

#8 x 1"

Wood Furring Strip

Siding Board (US09)

Clip (AW08)

#5 x 1 1/4"
(Locking the board)

#8 x 1"
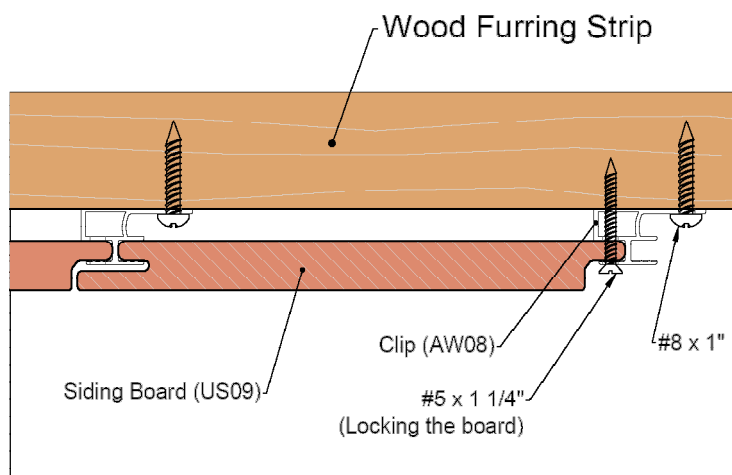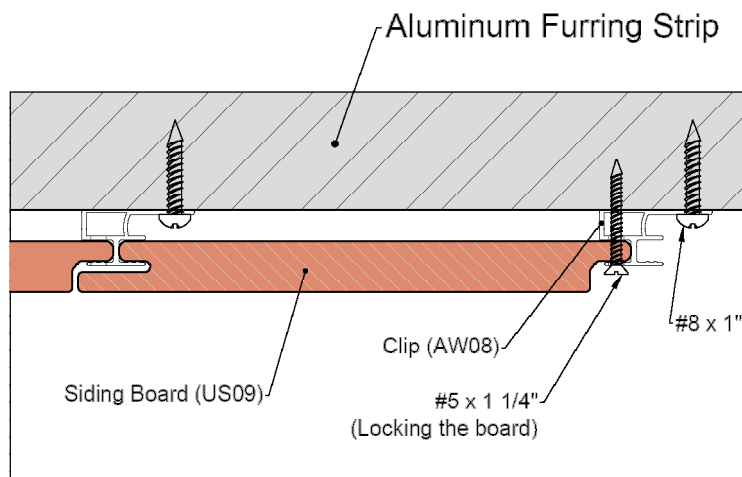
When installing vertically, it is required to lock the Clip (AW08) at the top of the board, as shown in **_Diagram 3_**.

Board
Vertical Installation

Expansion & Contraction

Locking with Screw

No Locking

No Locking

Locking with screw at the top of each board

Board

Clip (AW08)

Furring Strip

Floor

Diagram 3

NewTechWood®
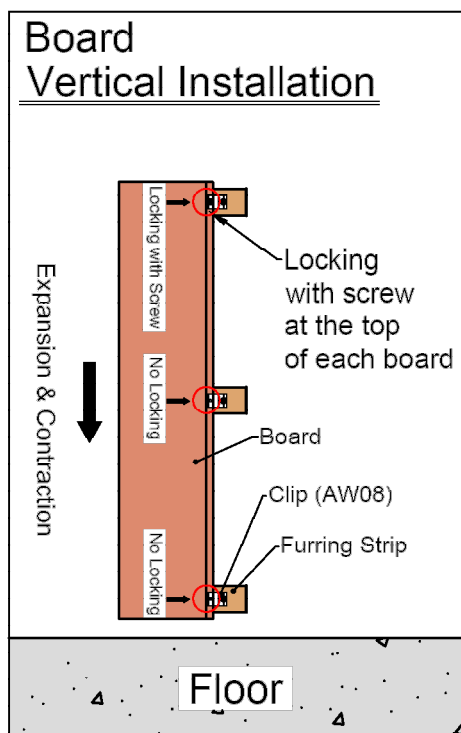
When installing more than one board vertically, it is recommended to utilize the I-Trim (US45) at each butt joint. It is also required to lock the Clip (AW08) at the top of each board, as shown in **_Diagram 4_**.
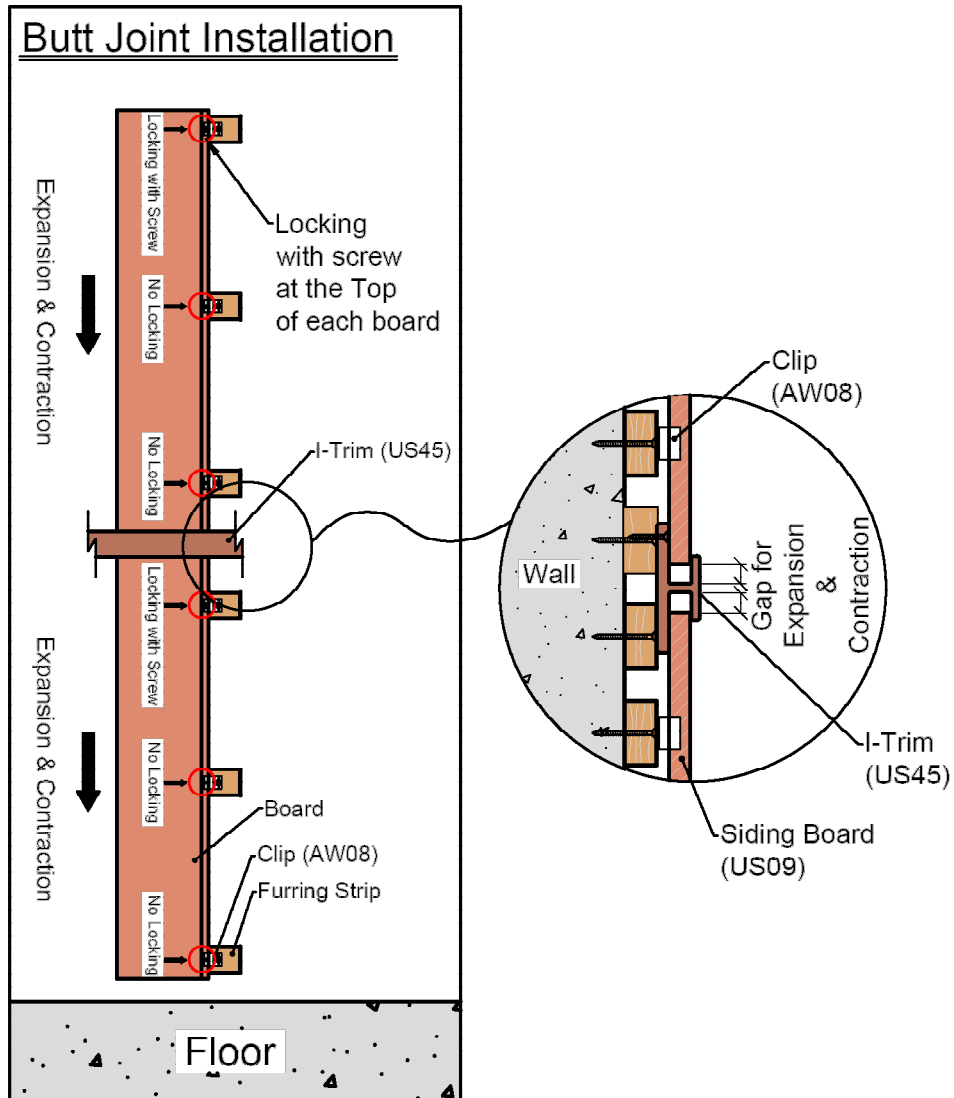
Diagram 4

Siding Vertical Installation

Framing

The frame needs to be level before installing the Siding boards.

Note:
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.**

The below diagram shows the wall replicating different scenarios potentially occuring when installing the Siding boards.
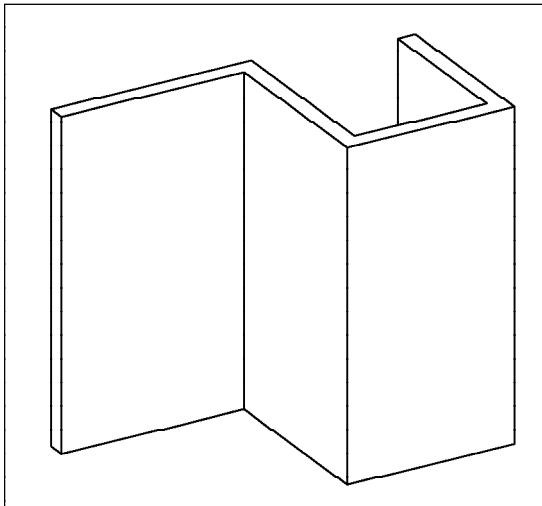
Note:
We are using wood furring strips for this installation. If you are using aluminum furring strips, please refer to *page 8* **of this installation guide for the correct recommended screws.**

1 Measure and chalk the furring strips according to the span data specified on *page 8* of this installation guide, as shown in *Diagram 64*.
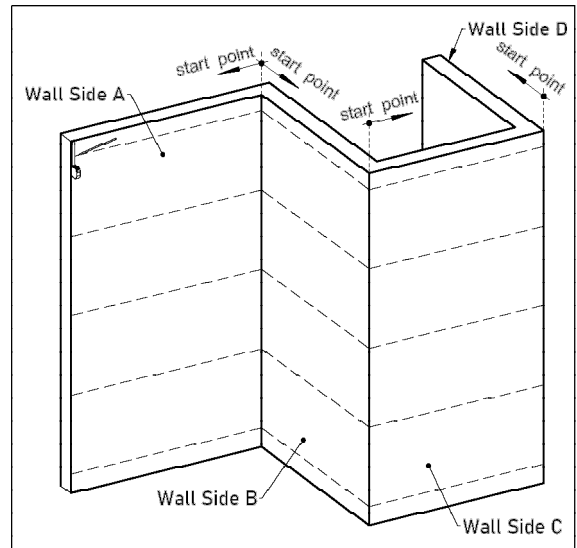
Diagram 64

2 Fix the furring strips onto the wall that you intend to install with screws. The distance between the screws should be in distance at least 19 5/8" (500mm) and max to 39 3/8" (1000mm) on center, as shown in *Diagram 65*.
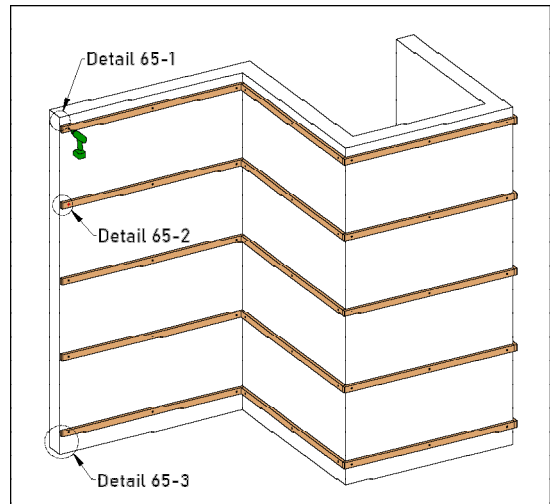
Diagram 65

Note:

1. A minimum gap of 3/8" (10mm) needs to be left between the upper first furring strip and ceiling, as shown in _Detail 65-1_.

2. It is recommended to leave a gap from min 3/16" (5mm) and max to 1/4" (7mm) between the wall's outermost edge and the furring strips, as shown in _Detail 65-2_.

3. A minimum gap of 1 1/2" (40mm) needs to be left between the lowest furring strip and the floor, as shown in _Detail 65-3_.
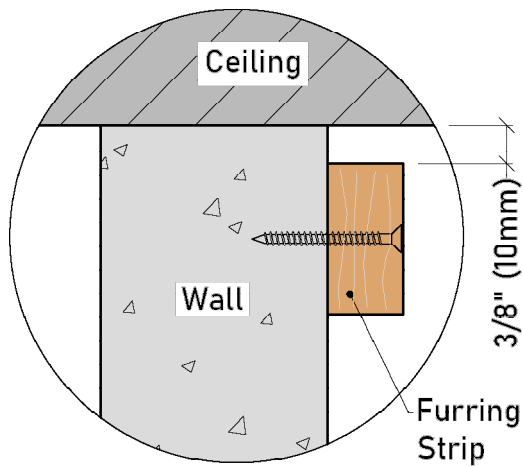
Detail 65-3

Detail 65-1
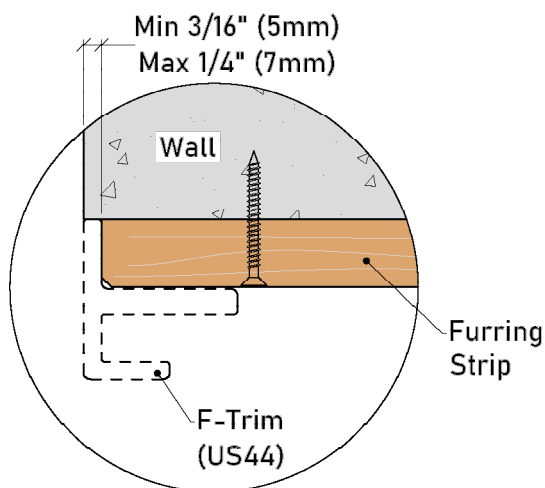
Detail 65-2
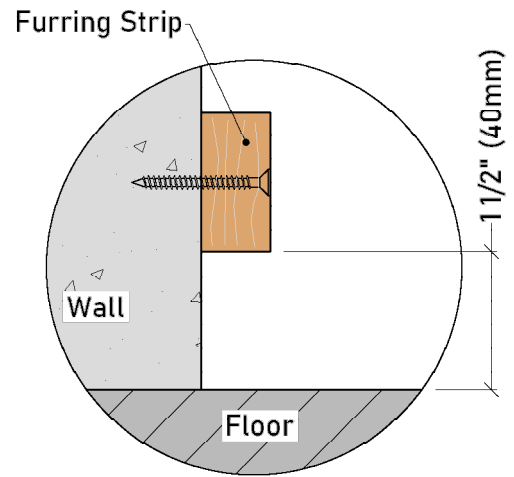
3 Wall Side A (Between the Outermost Edge and the Inside Corner)

Fasten the Inside Corner Trim (US47) with screws onto the furring strips. It is recommended to begin the installation from the inside corner, as shown in *Diagram 66* and *Detail 66-1*.
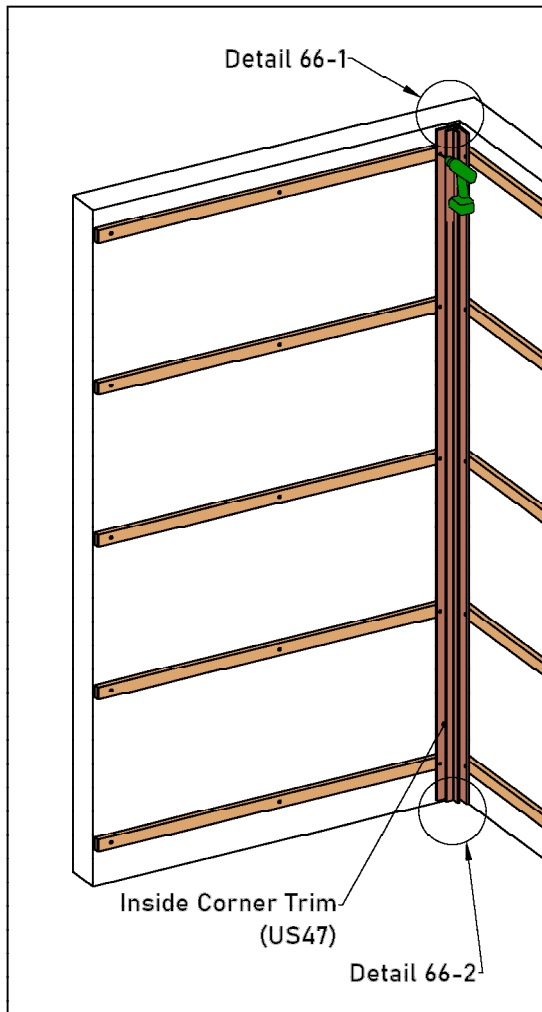
Detail 66-1

Diagram 66
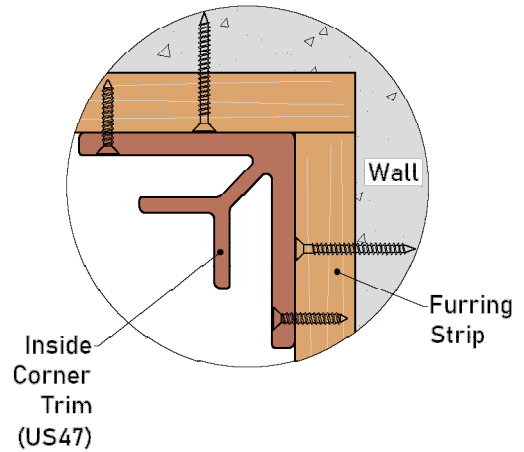
Note:
1. Pre-drill the screw holes for the Inside Corner Trim (US47) before installation.

2. A minimum gap of 3/4" (20mm) needs to be left between the Inside Corner Trim (US47) and the floor, as shown in *Detail 66-2*.
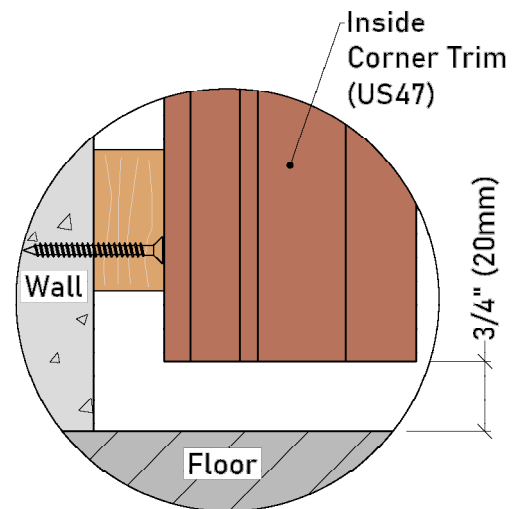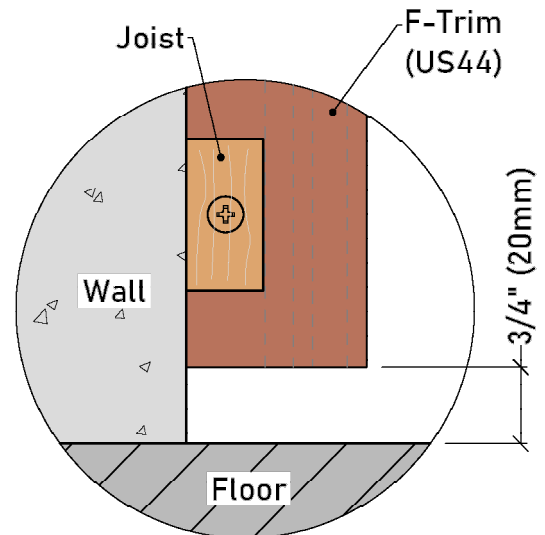

Detail 66-2

4 Insert the first Siding Board (US09) into the Inside Corner Trim (US47) and fasten it to the furring strips using Clip (AW08), as shown in **_Diagram 67_**.

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 _Diagram 67_**.**
**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.**

2. The distance between the Siding Board (US09) and the floor should be at least 3/4" (20mm), as shown in _Detail 67-1_**.**
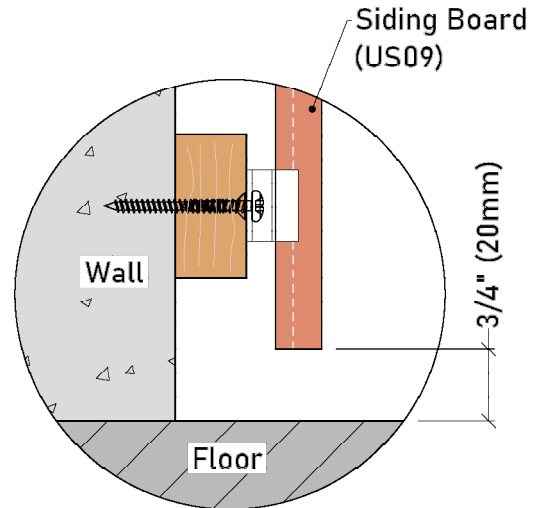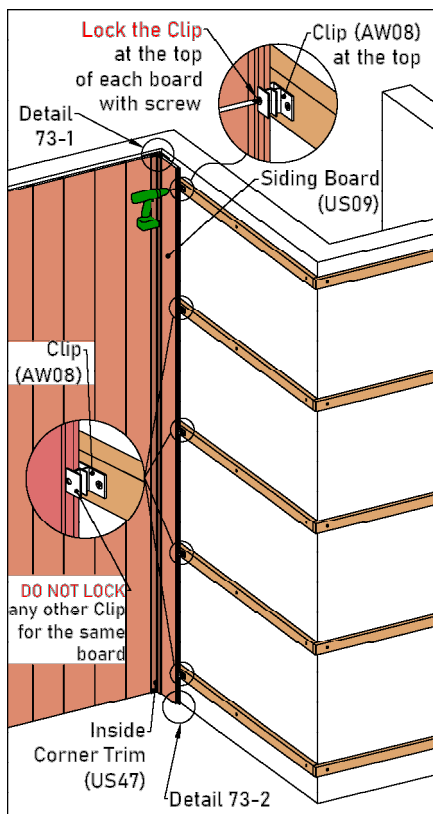

Detail 67-1
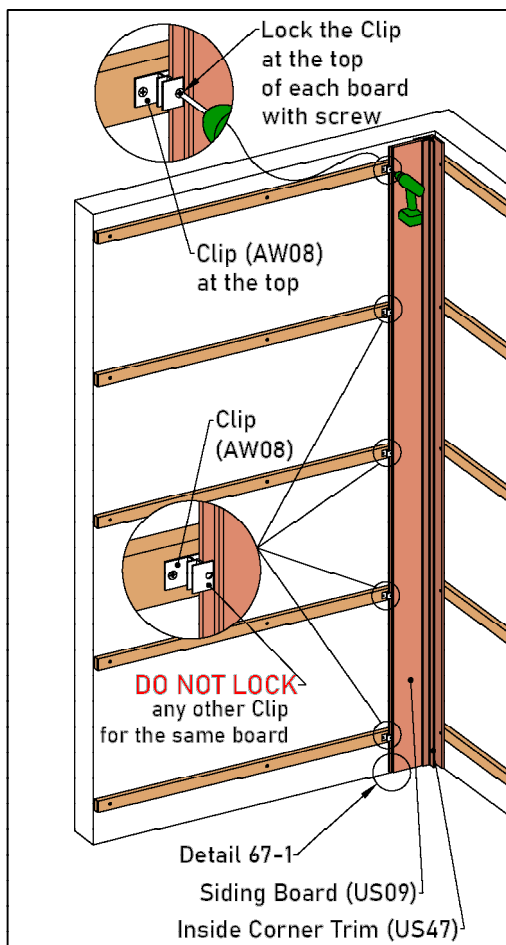
Diagram 67

5 When you are at the Siding's last board, measure the distance between the furring strip's end and the Clip (AW08), as shown in *Diagram 68* and *Detail 68-1*.
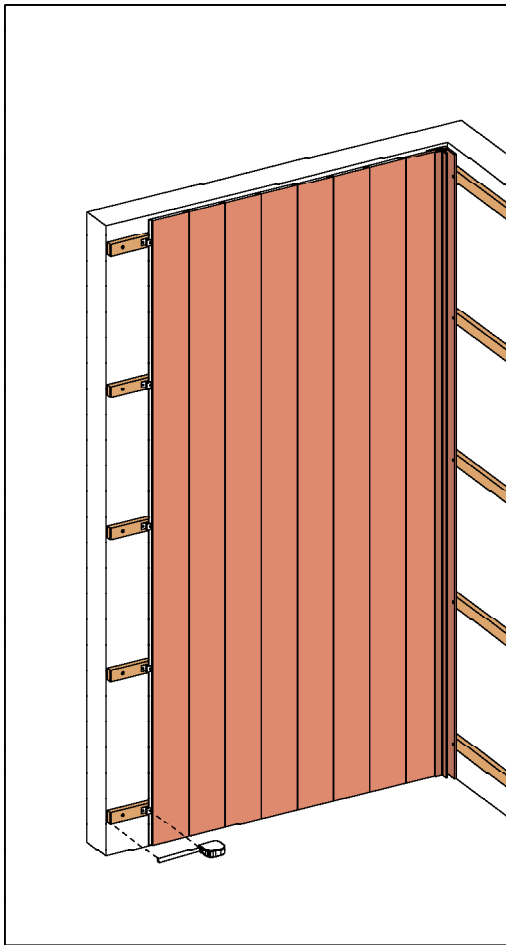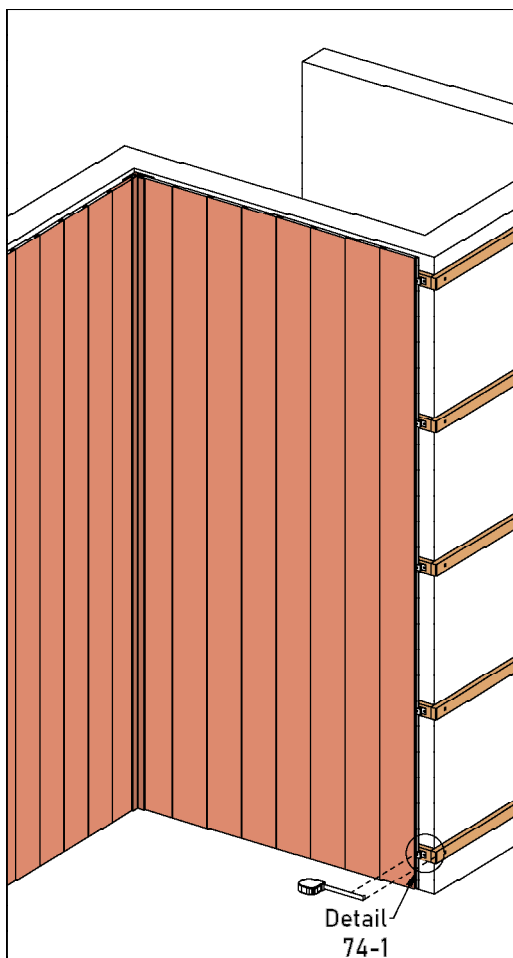

Diagram 68
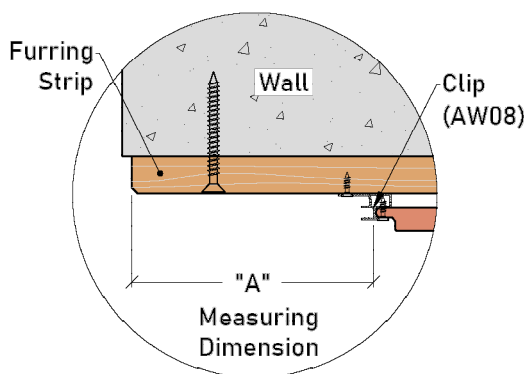
Detail 68-1

6 Cut the Siding Board (US09) according to the measured length, as shown in *Diagram 69* and *Detail 69-1*.
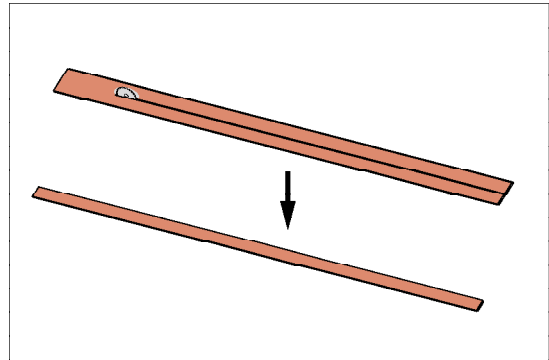
Diagram 69
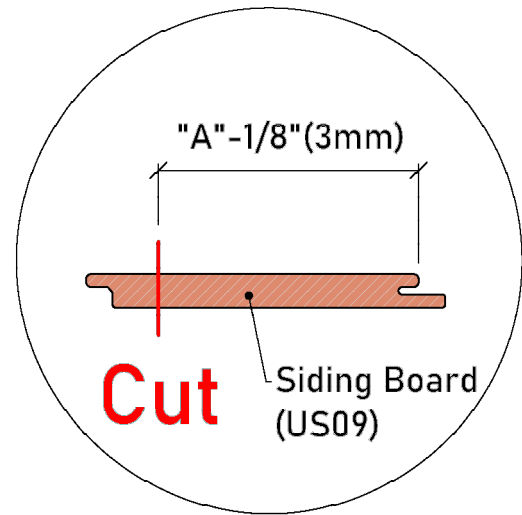
Detail 69-1

7 Put the cut Siding Board (US09) in place and put a block under it to guarantee the board is at the same level as the other boards, as shown in ***Diagram 70*** and ***Detail 70-1***.
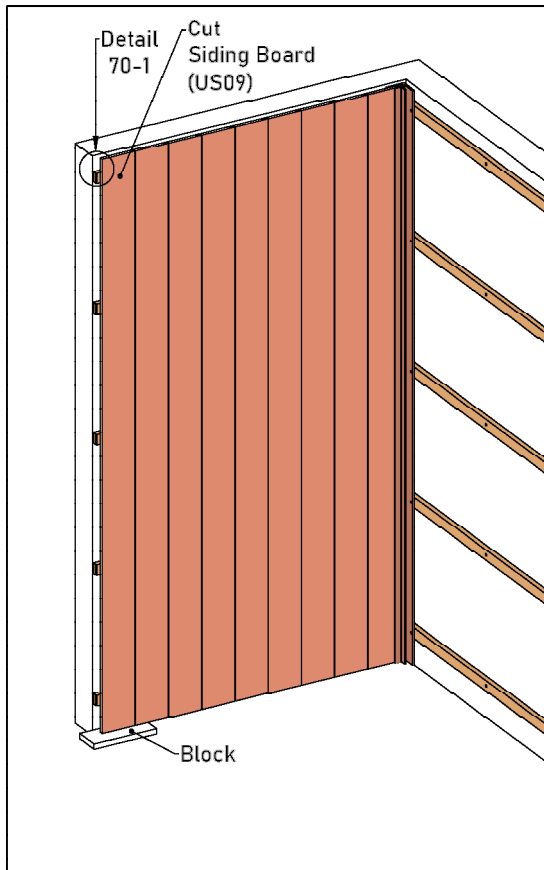
Diagram 70
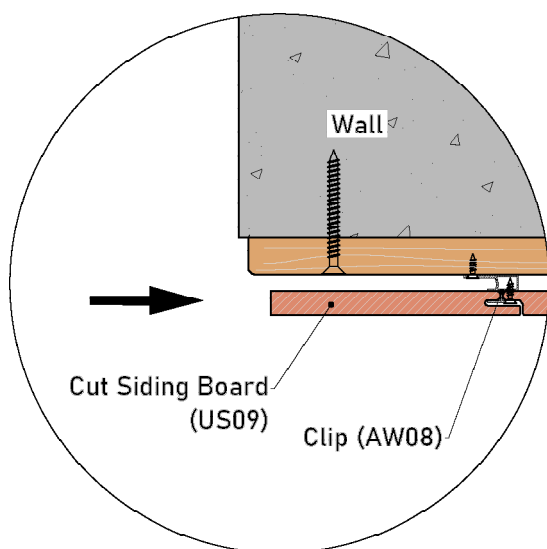
Detail 70-1

8 Insert the F-Trim (US44) in place. On the top of the cut Siding Board (US09), face fix it together with the F-Trim (US44) onto the furring strip, as shown in ***Diagram 71*** and ***Detail 71-1***.
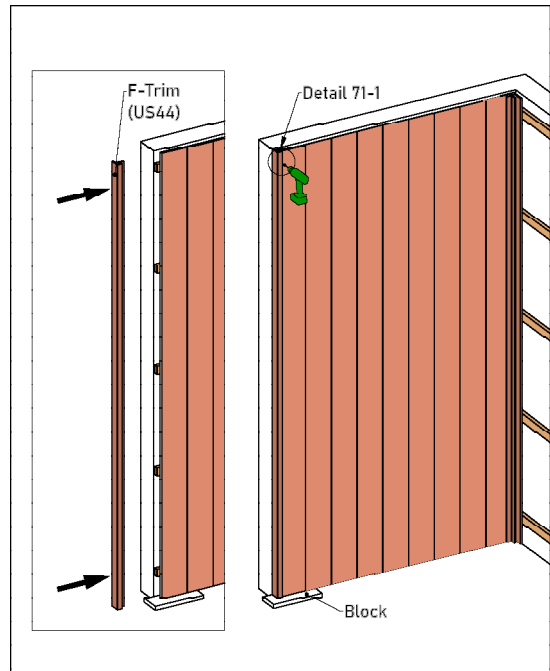
Diagram 71
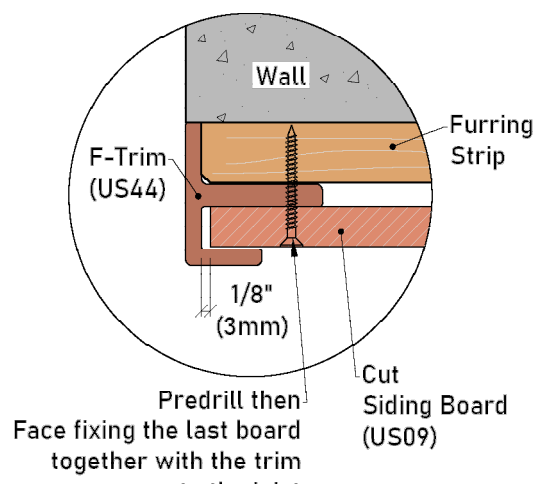
Detail 71-1

9 Secure the F-Trim (US44) onto the furring strip with screws, as shown in **_Diagram 72_** and **_Detail 72-1_**.
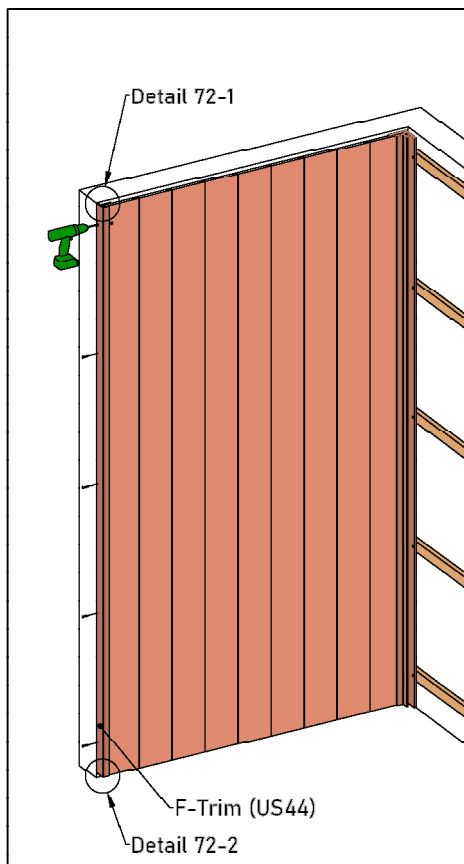
Diagram 72
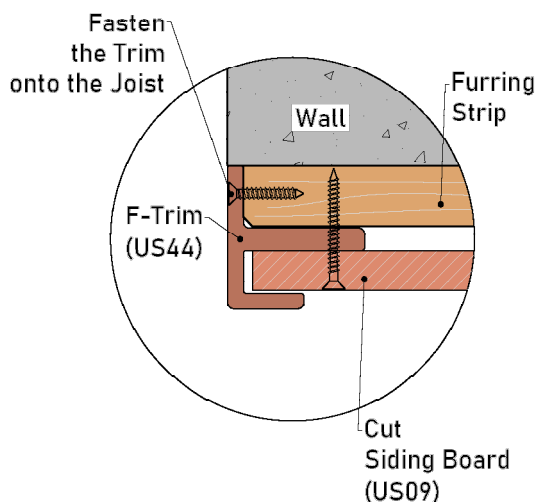
Detail 72-1

Note:
1. Pre-drill the screw holes for the F-Trim (US44) before installation.

2. A minimum gap of 3/4" (20mm) needs to be left between the F-Trim (US44) and the floor, as shown in _Detail 72-2_.

Detail 72-2

10 **Wall Side B**
(Between the Inside Corner and the Outside Corner)

It is recommended to begin the siding board installation from the inside corner. Insert the first Siding Board (US09) into the Inside Corner Trim (US47) and fasten it to the furring strip with Clip (AW08), as shown in **_Diagram 73_** and **_Detail 73-1_**.

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 _Diagram 73_.
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.

2. The distance between the Siding Board (US09) and the floor should be at least 3/4" (20mm), as shown in _Detail 73-2_.
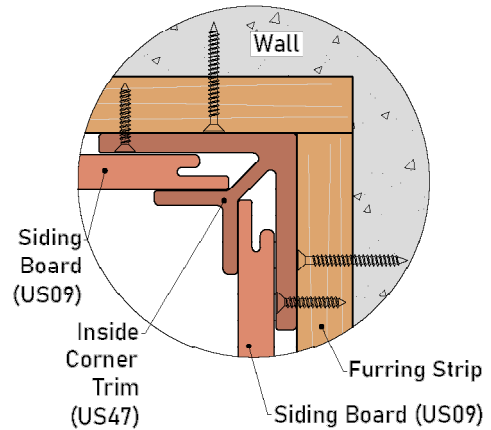
Detail 73-1
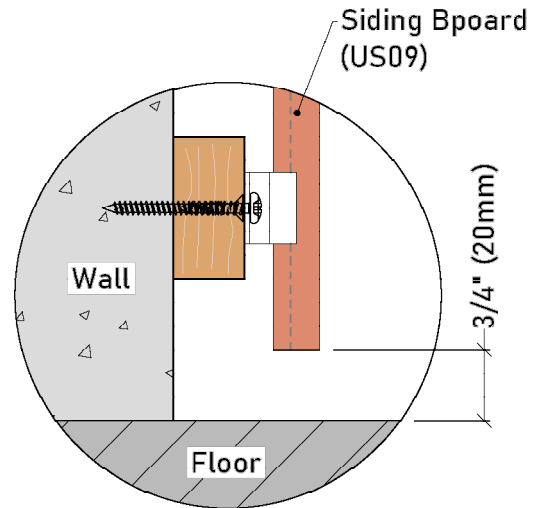
Detail 73-2

Diagram 73

11 When you are at the Siding's last board, measure the distance between the furring strip and the Clip (AW08), as shown in *Diagram 74* and *Detail 74-1*.

Diagram 74
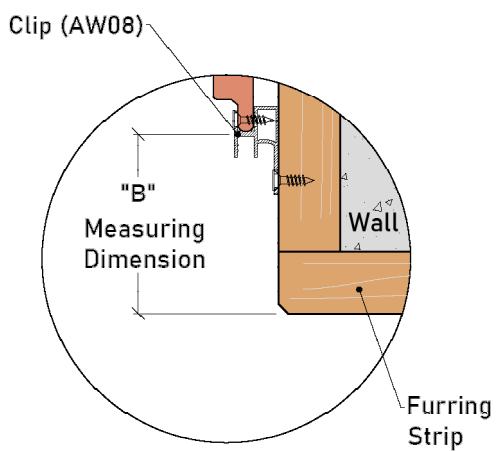
Detail 74-1

12 Cut the Siding Board (US09) according to the measured length, as shown in *Diagram 75* and *Detail 75-1*.
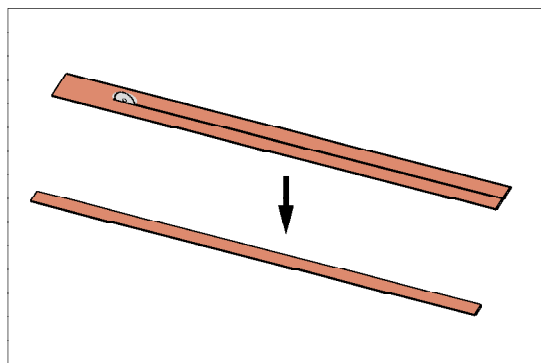
Diagram 75
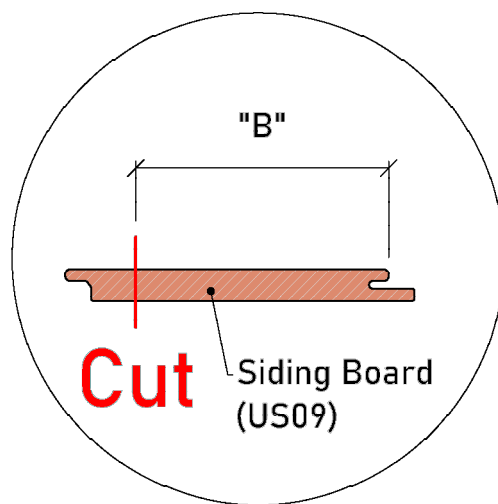
Detail 75-1

13 Put the cut Siding Board (US09) in place and put a block under it to guarantee the board is at the same level as the other boards, as shown in **_Diagram 76_** and **_Detail 76-1_**.

cut Siding Board (US09)

Detail 76-1

Block

Diagram 76

Cut Siding Board (US09)

Furring Strip

Wall
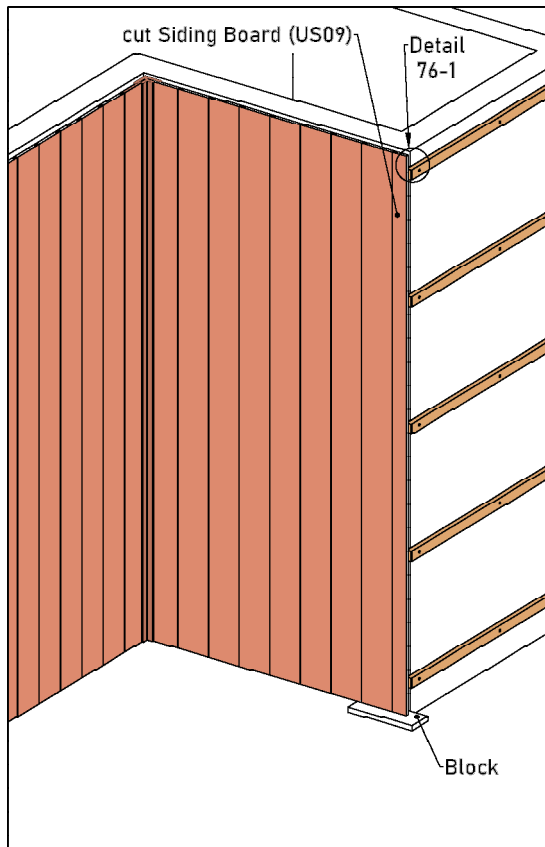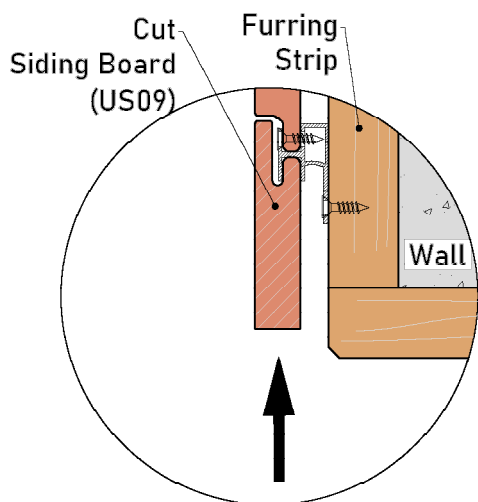
Detail 76-1

14 Insert the Outside Corner Trim (US46) in place. On the top of the cut Siding Board (US09), face fix it together with the Outside Corner Trim (US46) onto the furring strip, as shown in **_Diagram 77_** and **_Detail 77-1_**
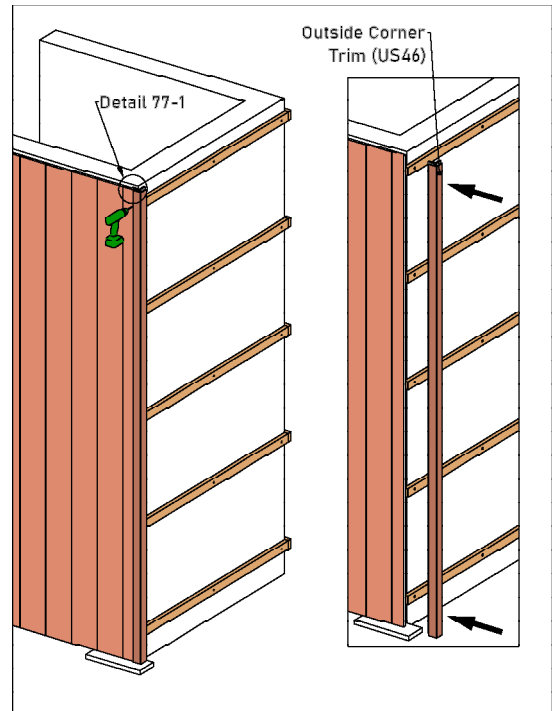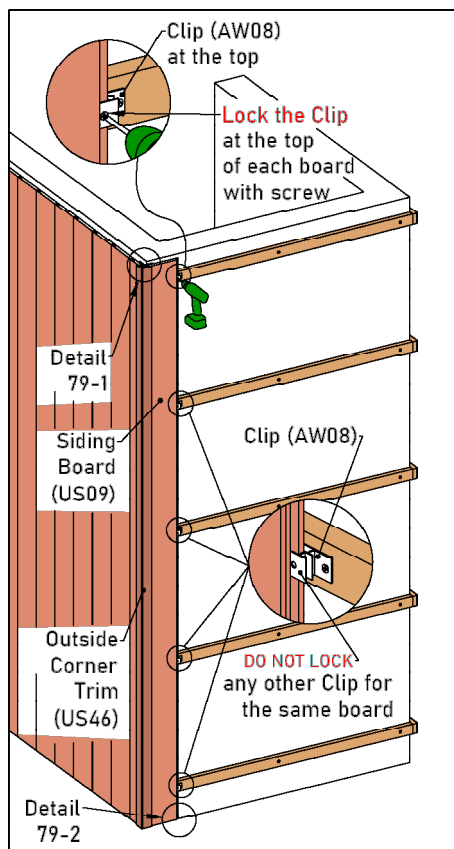
Outside Corner Trim (US46)

Detail 77-1

Diagram 77

Cut Siding Board (US09)

Furring Strip

Outside Corner Trim (US46)

Wall

1/8" (3mm)
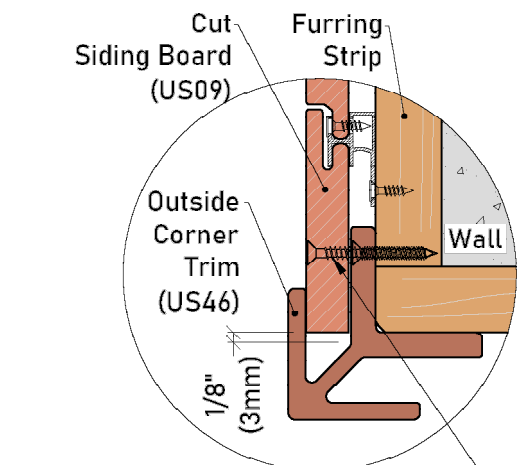
Predrill then Face fixing the last board together with the trim onto the joist

Detail 77-1

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15 Secure the Outside Corner Trim (US46) onto the furring strips with screws, as shown in *__Diagram 78__* and *__Detail 78-1__*.
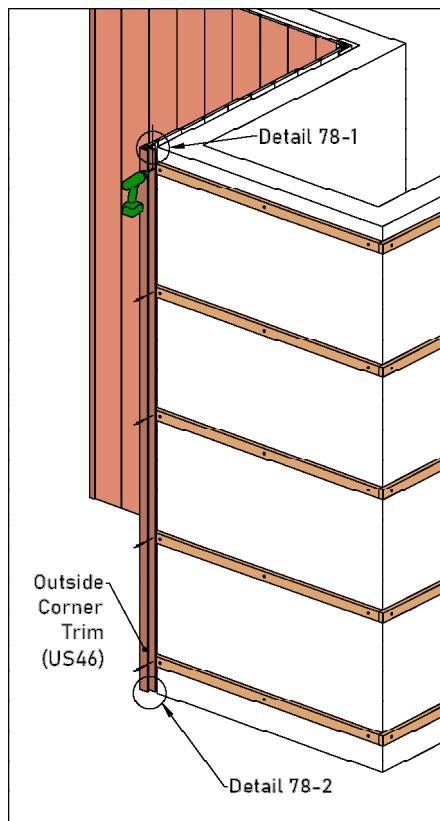
Diagram 78
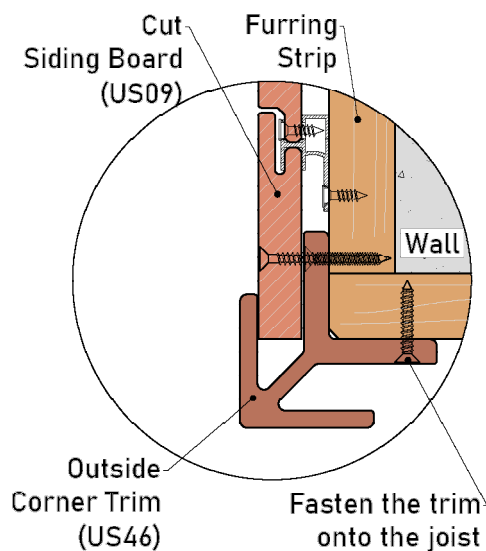
Detail 78-1

Note:
1. Pre-drill the holes on the Outside Corner Trim (US46) before installation.

2. A minimum gap of 3/4" (20mm) needs to be left between the Outside Corner Trim (US46) and the floor, as shown in *Detail 78-2*.
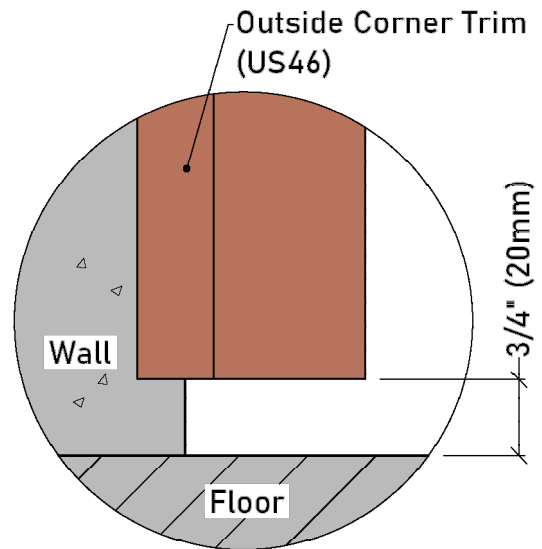
Detail 78-2

16 **Wall Side C**
(Between the Outside Corners)

Insert the first Siding Board (US09) into the Outside Corner Trim (US46) and fasten it to the furring strip with Clip (AW08), as shown in *Diagram 79* and *Detail 79-1*.

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 *Diagram 79*.
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.**

2. The distance between the Siding Board (US09) and the floor should be at least 3/4" (20mm), as shown in *Detail 79-2*.
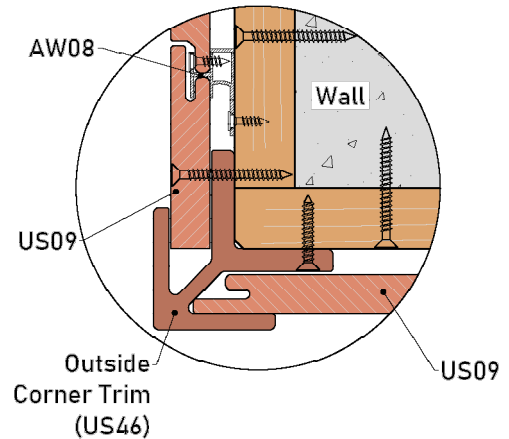
Detail 79-1
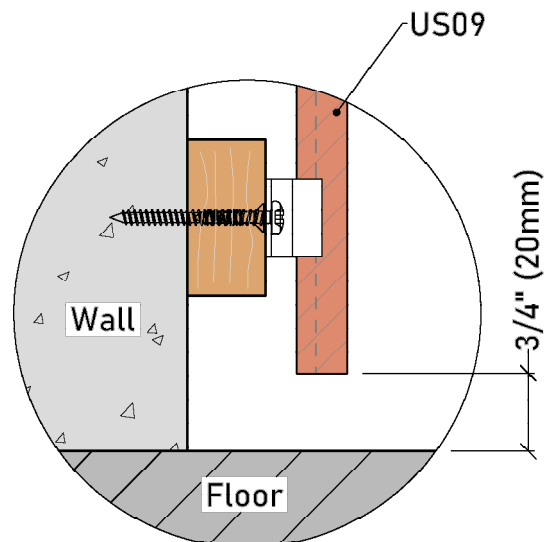
Detail 79-2

Diagram 79

17 When you are on the Siding's last board, measure the distance between the Outside Corner Trim (US46) and the Clip (AW08), as shown in *Diagram 80* and *Detail 80-1*.

Diagram 80

Furring Strip

Clip (AW08)

Wall

"C"

Measuring Dimension
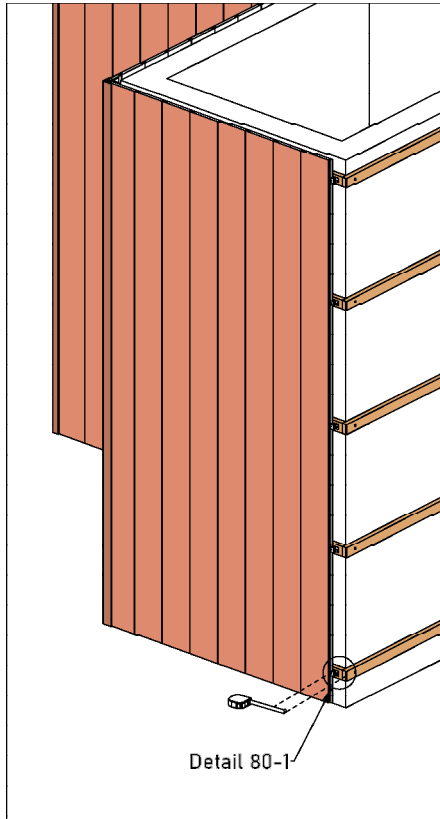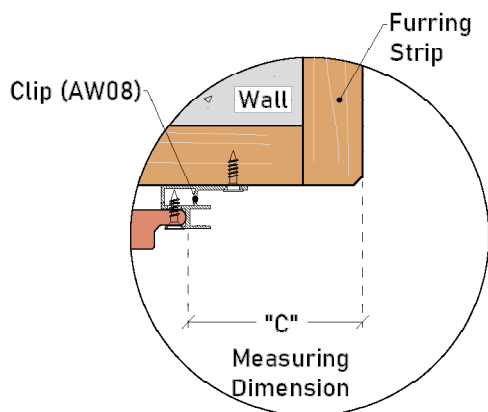
Detail 80-1

18 Cut the Siding Board (US09) according to the measured length, as shown in *Diagram 81* and *Detail 81-1*.

Diagram 81
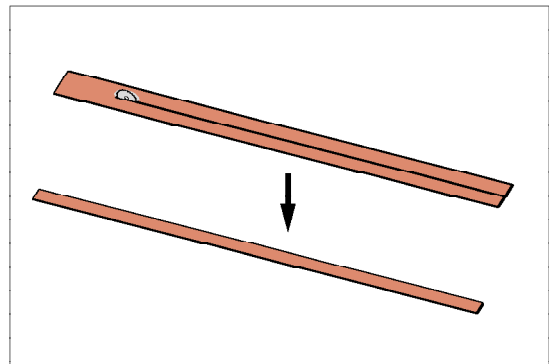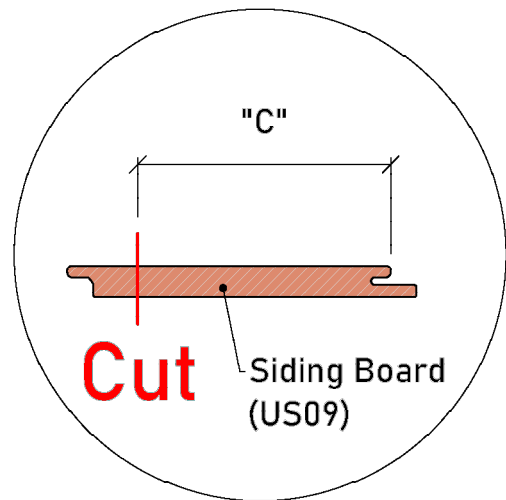
"C"

Cut

Siding Board (US09)

Detail 81-1

19 Put the cut Siding Board (US09) in place and put a block under it to guarantee the board is at the same level as the other boards, as shown in **_Diagram 82_** and **_Detail 82-1_**.

Detail 82-1

cut
Siding Board
(US09)

Block

Diagram 82

cut
Siding Board
(US09)

Furring
Strip

Wall
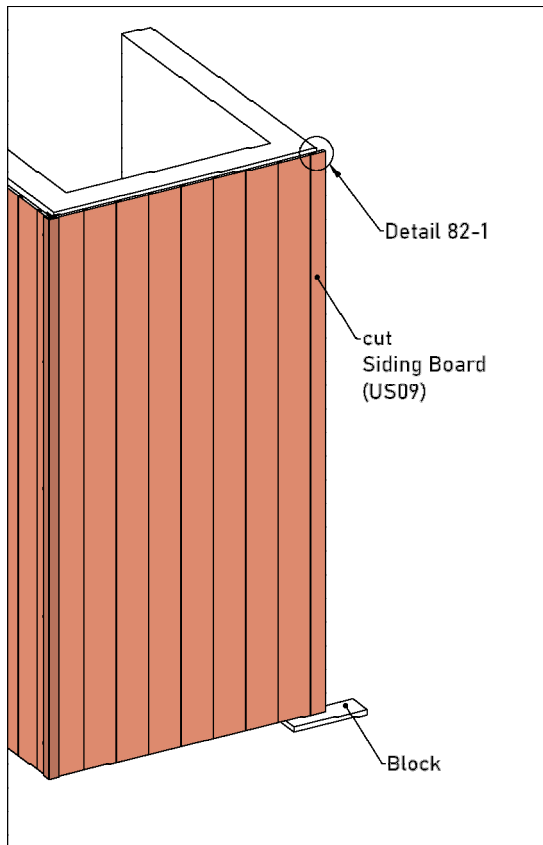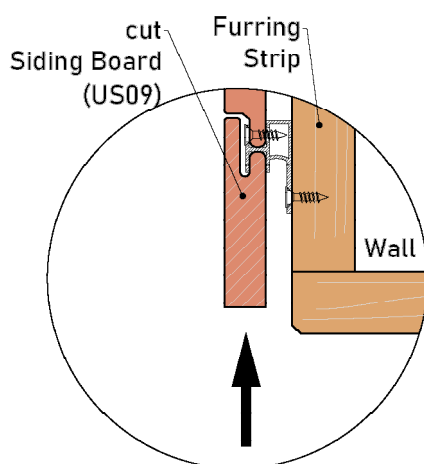
Detail 82-1

20 Insert the Outside Corner Trim (US46) in place. On the top of the cut Siding Board (US09), face fix it together with the Outside Corner Trim (US46) onto the furring strip, as shown in **_Diagram 83_** and **_Detail 83-1_**.
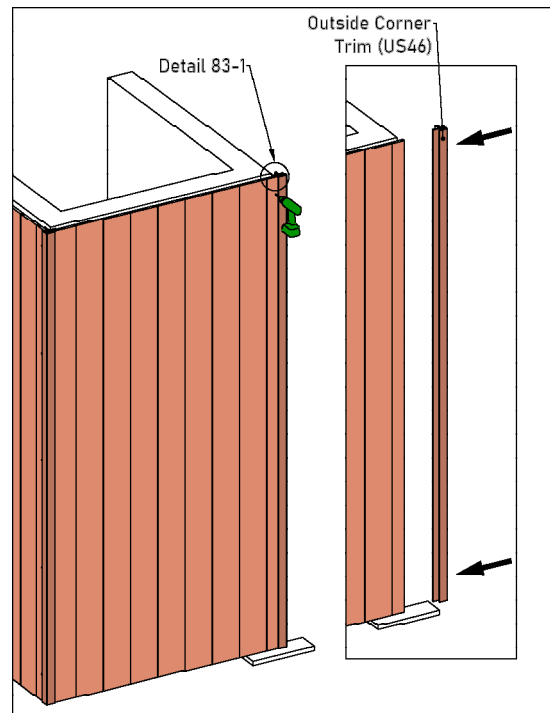
Outside Corner
Trim (US46)

Detail 83-1

Diagram 83

Cut
Siding Board
(US09)

Furring
Strip

Outside
Corner
Trim
(US46)

Wall

1/8"
(3mm)
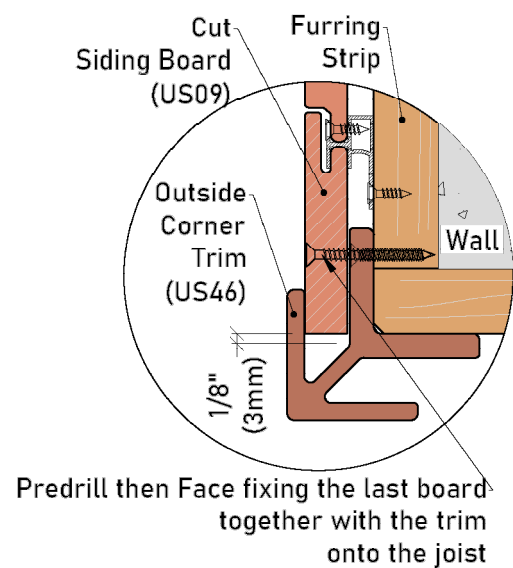
Predrill then Face fixing the last board together with the trim onto the joist

Detail 83-1

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21 Secure the Outside Corner Trim (US46) onto the furring strips with screws, as shown in ***Diagram 84*** and ***Detail 84-1***.
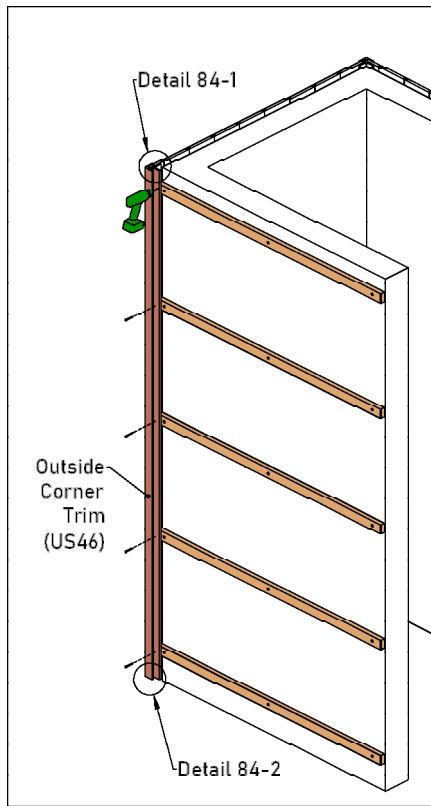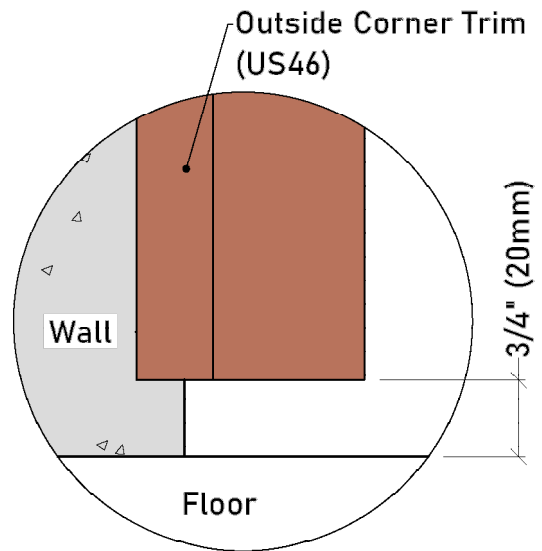

Diagram 84
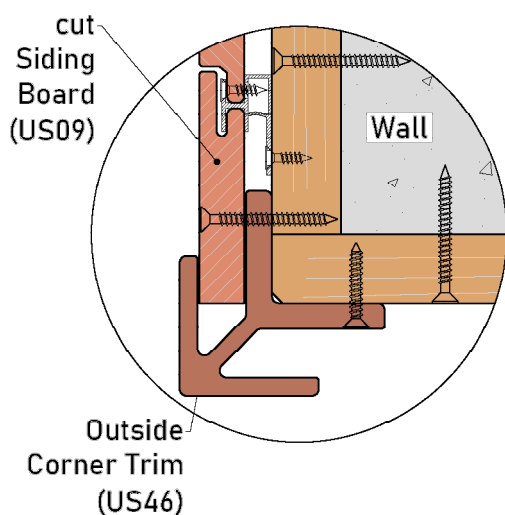
Detail 84-1

Note:
1. Pre-drill the holes on the Outside Corner Trim (US46) before installation.

2. A minimum gap of 3/4" (20mm) needs to be left between the Outside Corner Trim (US46) and the floor, as shown in *Detail 84-2*.

Detail 84-2

22 **Wall Side D**
(Between the Outside Corner and the Outermost Edge)

Insert the first Siding Board (US09) into the Outside Corner Trim (US46) and fasten it to the furring strip with Clip (AW08), as shown in ***Diagram 85*** and ***Detail 85-1***.

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 *Diagram 85*.
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.**

2. The distance between the Siding Board (US09) and the floor should be at least 3/4" (20mm), as shown in *Detail 85-2*.
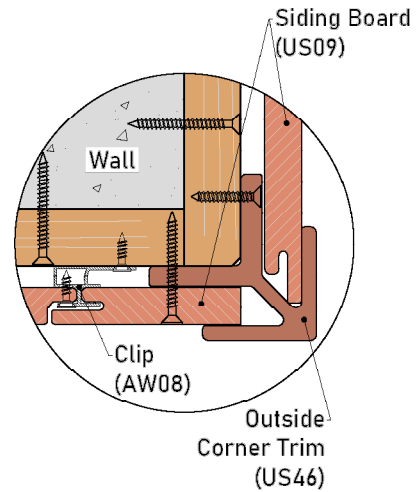
Detail 85-1
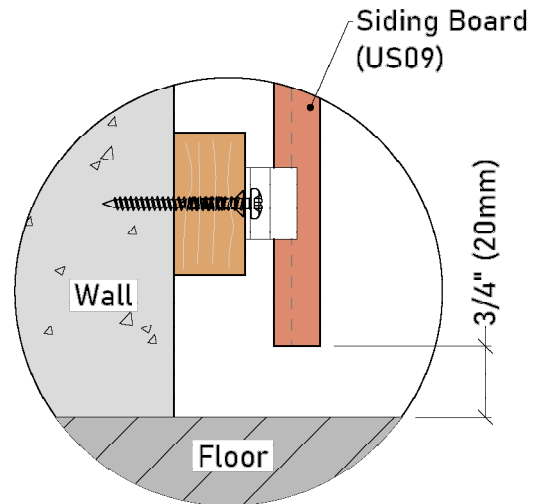
Detail 85-2
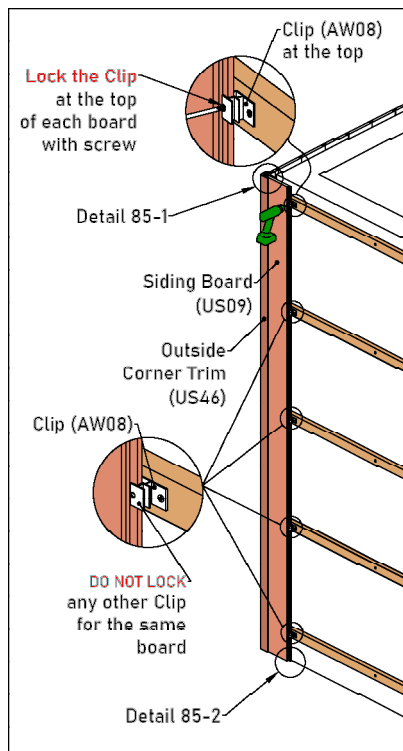
Diagram 85

23 When you are at the Siding's last board, measure the distance between the furring strip and the Clip (AW08), as shown in *Diagram 86* and *Detail 86-1*.
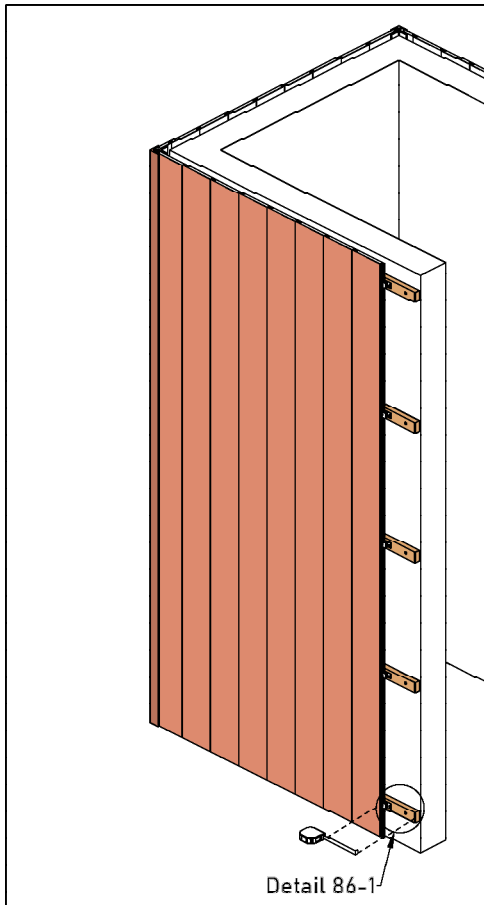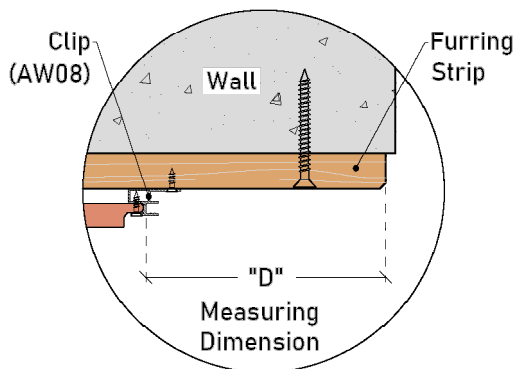

Diagram 86

Detail 86-1

24 Cut the Siding Board (US09) according to the measured length, as shown in *Diagram 87* and *Detail 87-1*.
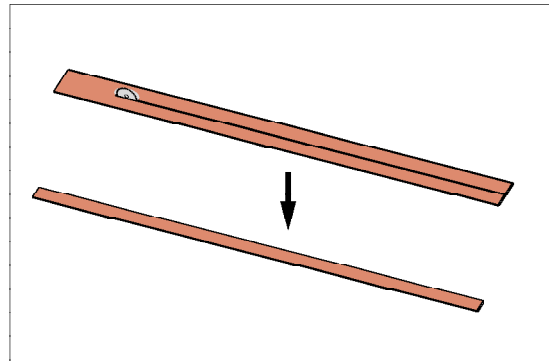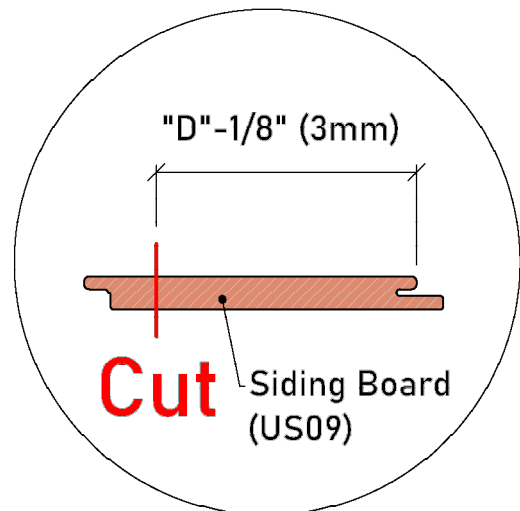

Diagram 87

"D"-1/8" (3mm)

Cut Siding Board (US09)

Detail 87-1

25 Put the cut Siding Board (US09) in place and put a block under it to guarantee the board is at the same level as the other boards, as shown in *Diagram 88* and *Detail 88-1*.
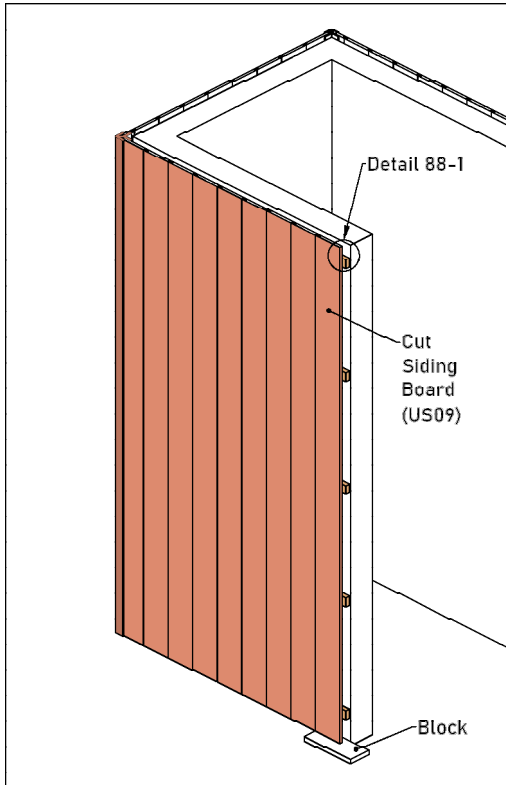
Diagram 88
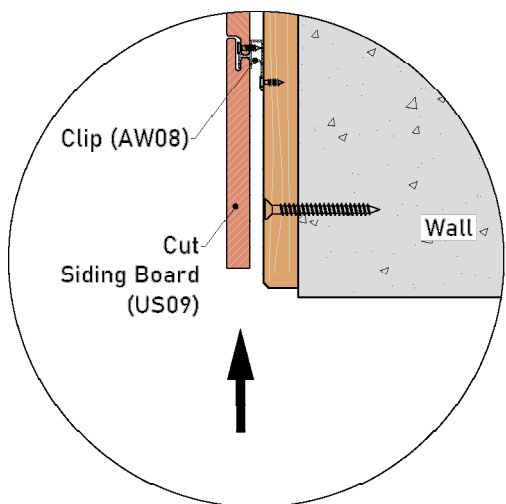
Detail 88-1

26 Insert the F-Trim (US44) in place. On the top of the cut Siding Board (US09), face fix it together with the F-Trim (US44) onto the furring strip, as shown in *Diagram 89* and *Detail 89-1*.
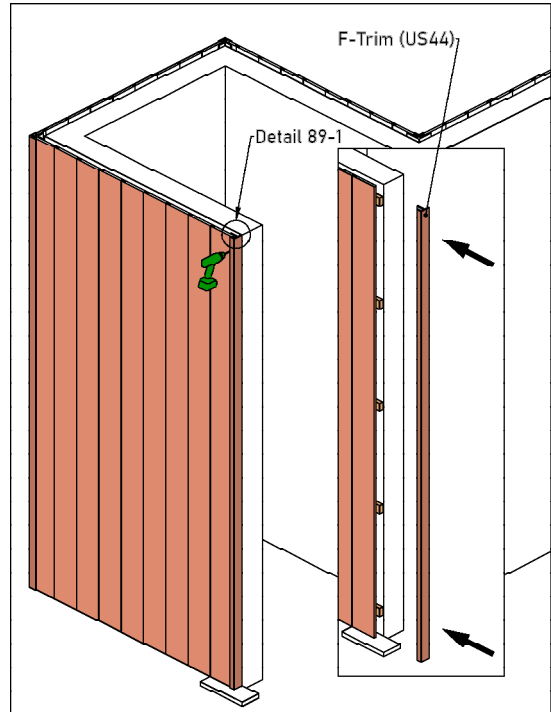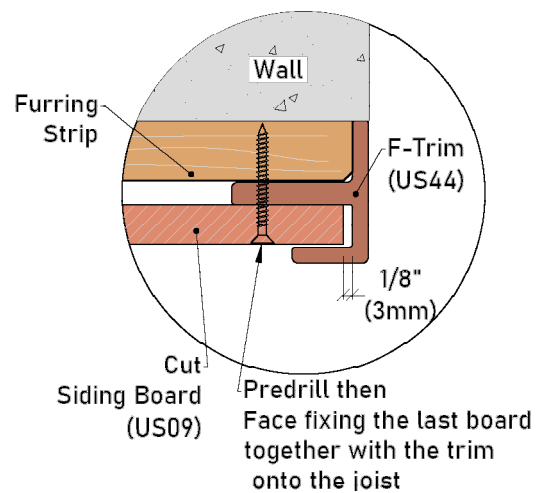

Diagram 89

Detail 89-1

27 Secure the F-Trim (US44) onto the furring strips with screws, as shown in *__Diagram 90__* and *__Detail 90-1__*.
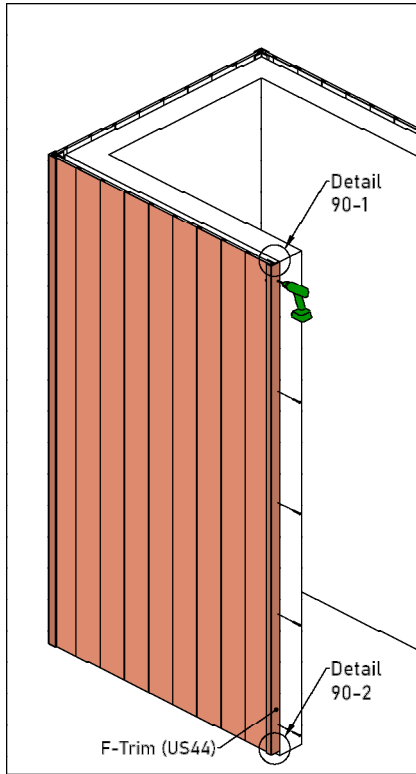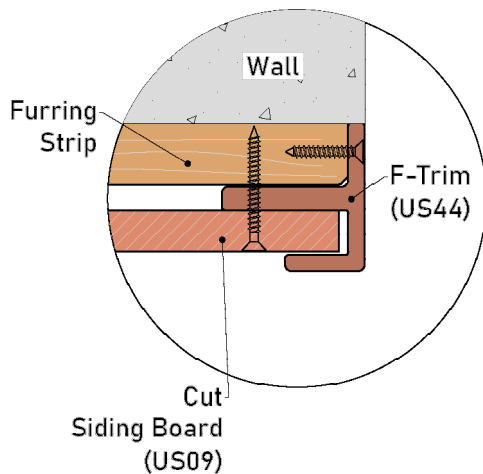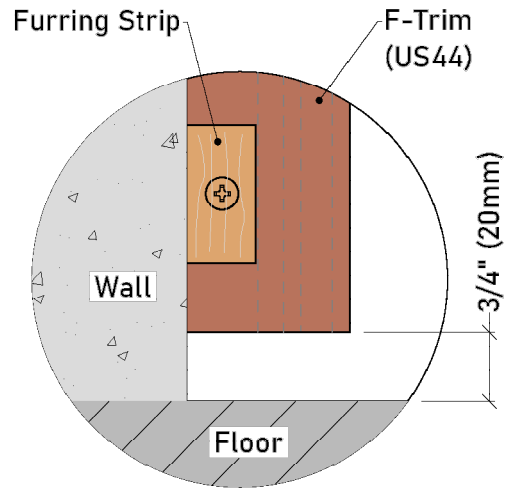

Diagram 90

Detail 90-1

Note:
1. Pre-drill the holes on the F-Trim (US44) before installation.

2. A minimum gap of 3/4" (20mm) needs to be left between the F-Trim (US44) and the floor, as shown in *Detail 90-2*.

Detail 90-2

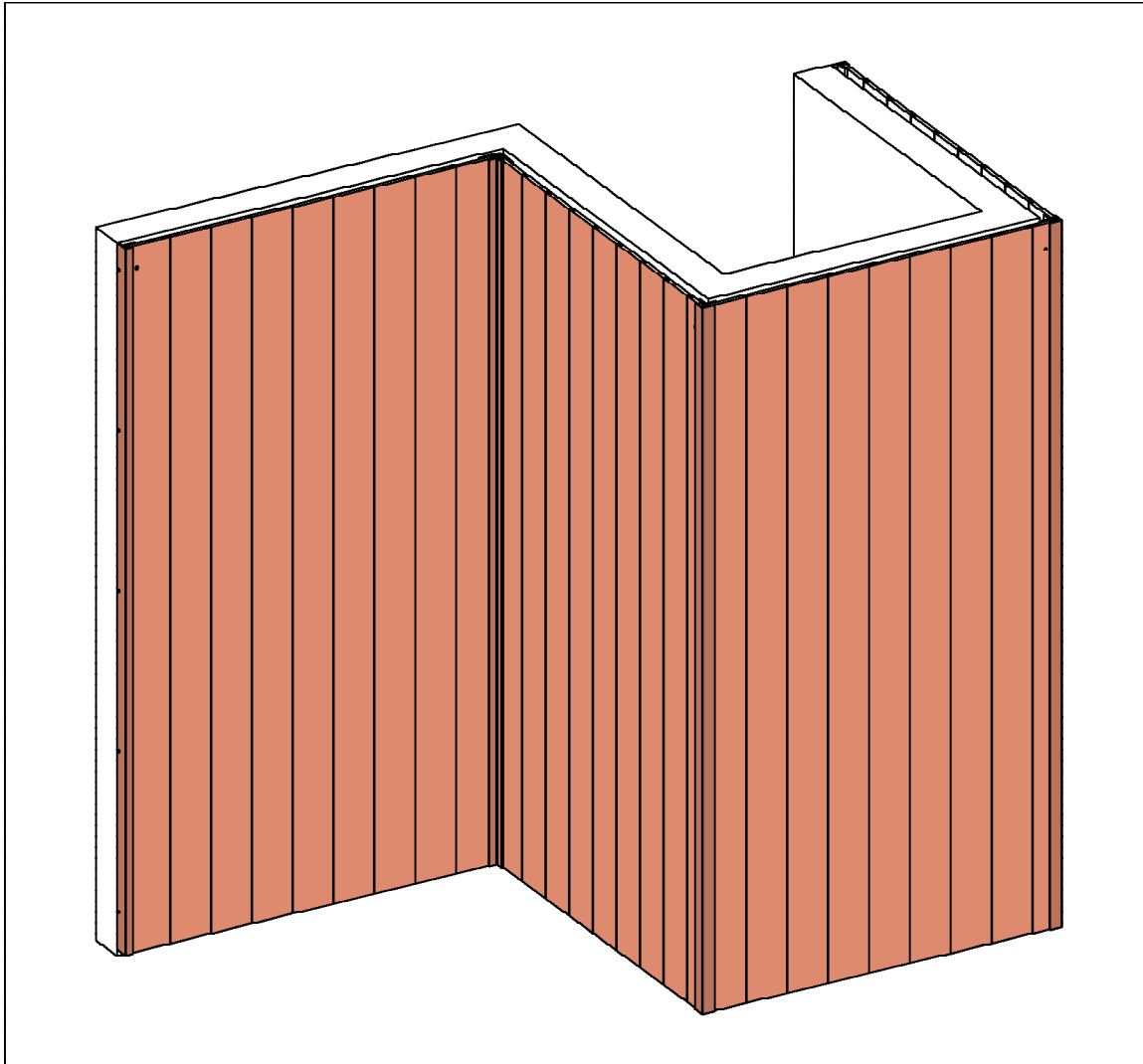**28** **_Diagram 91_** presents the final appearance after completing the installation.

Diagram 91

29 **Finish the Top**

Diagram 92
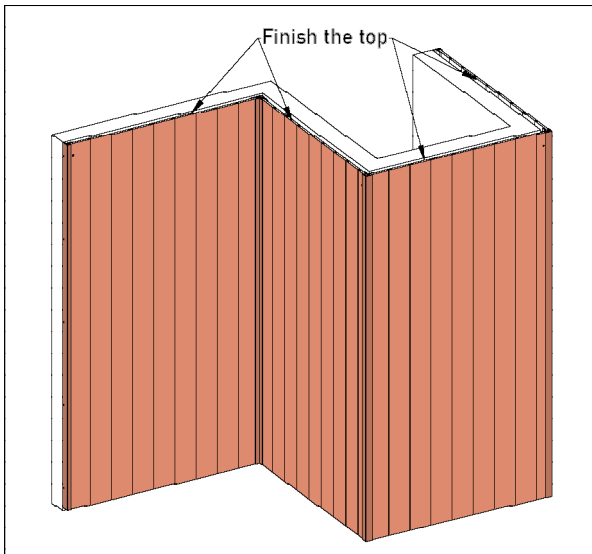
There are two options recommended to finish the top of the siding.

30 **Option 1**
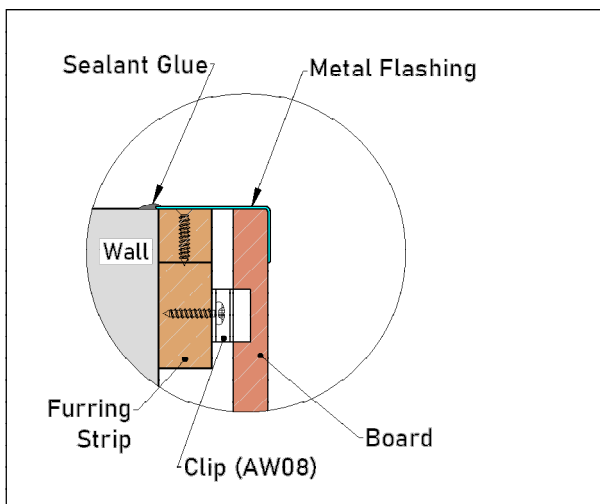Put a metal flashing over the siding top and fix it onto the furring strip with screws, as shown in **_Diagram 93_**.

Diagram 93

31 **Option 2**
Cut the F-trim (US44) to make the centerpiece shorter without interfering with the Clip (AW08), as shown in **_Diagram 94_**.
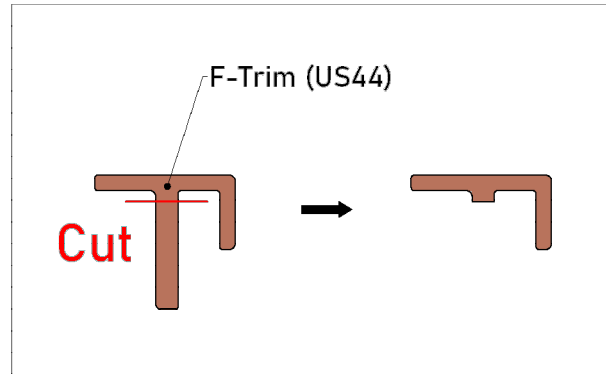

Diagram 94

32 Put the cut F-Trim (US44) in place and secure it onto the furring strip with screws, as shown in **_Diagram 95_**.
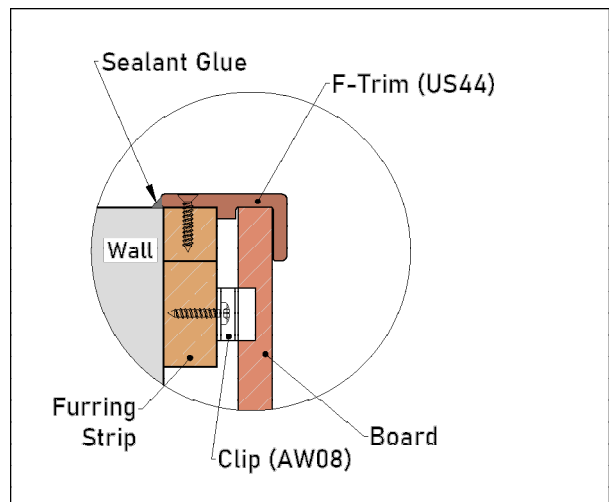

Diagram 95

All Weather Siding
Vertical Installation Guide

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