

Wall Cladding Installation Guide

IMPORTANT: Read all sections before you start

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

Prior to installing any composite cladding 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 cladding. If installation does not occur immediately NewTechWood's products need to be put on a flat surface at all times. Never ever should it be put on a surface that isn't flat.

Planning

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

Construction

NewTechWood UltraShield is NOT intended for use as columns, support posts, beams, joist stringers 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 build-up is a natural occurring phenomenon that can occur with many plastic products. Dry and windy environments may make this even more apparent, this all varies depending on the climate and age of the cladding.

Wall Cladding Installation Guide

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 (1 inch) 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, 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 cladding surface. Toe nailing/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, when two boards ends meet each other there must be a sister joist. The end of each board must sit on its own joist.

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




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

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

Wall Cladding Installation Guide

Wall Cladding Parts		
Product	Purpose:	Part
AW-02	Used for the installation of the first board	
AW-08	Used at every joist to fix each board to the joist	
T-7	Used on the last wall cladding board	
US17	Used for the inner and outer corners as well as window finishings (can be used in place of US20)	
US09	Wall Cladding Board	
US20	Used for the inner and outer corners as well as window finishings (can be used in place of US17)	

Wall Cladding Installation Guide

Wall Cladding Screws		
Product	Purpose:	Part
*M3 x 12 SS304	Used when locking the board and installing into wood joists	
*M4 x 13 SS410	Used when locking the board, installing into metal joists, and installing AW-08	
M4 x 80 SS304 *X dependent on the thickness of your joists	Used to install the joist to the wall	

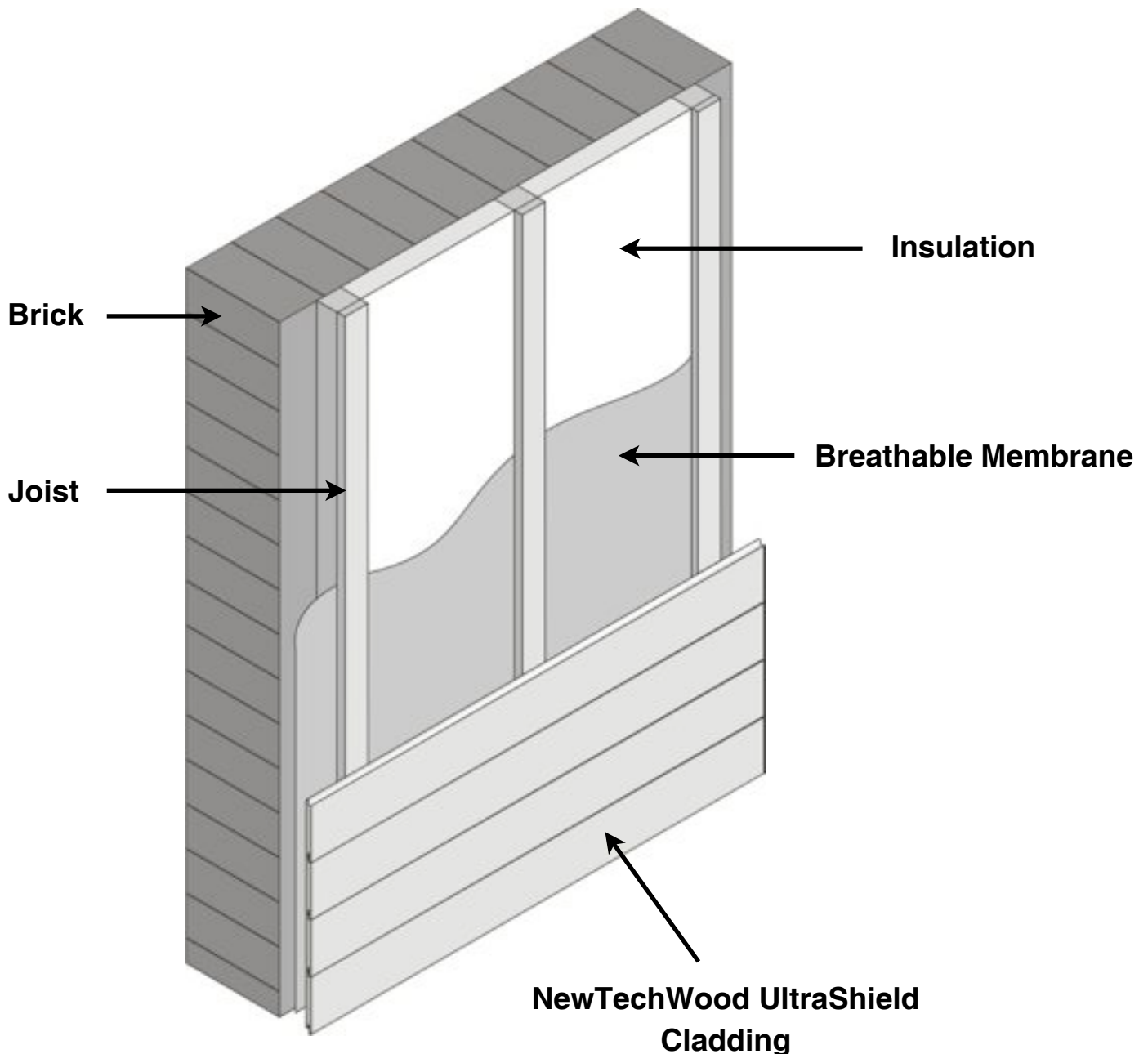
*Note: All screws are based on our recommendation and if the installation requires something different than what is shown a professional should be consulted before installing

The following installation guide will use the above screw sizes.

Wall Cladding Installation Guide

Under Construction

We recommend for the under construction aluminum or pressure treated wood joists. **Each cladding board needs to be supported by a joist NO MORE than 500 mm (1.64 feet) 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.



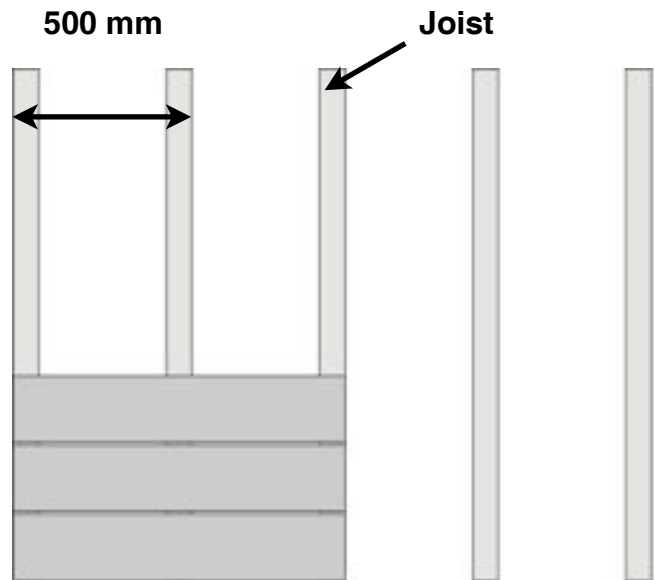
Wall Cladding Installation Guide

Joist Installation

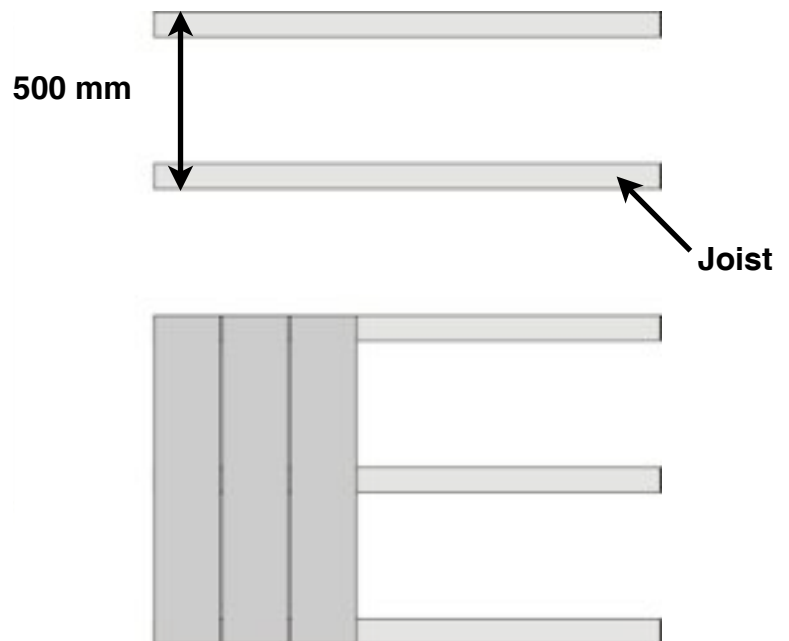
A building professional should be consulted regarding vapor barriers and insulation for your project. Where a vapor barrier is to be used, it should be a breathable type and must be positioned behind the joists to allow the cladding a **minimum 25 mm airflow**.

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

Horizontal Installation



Vertical Installation



Wall Cladding Installation Guide

Framing

The frame needs to be completely level before installing any wall cladding boards.

Note: Adequate spacing in the joists is required to keep the cladding boards from bending. Please review the chart on page 6 of this installation guide to see what spacing is required.

Framing

1. First start by fixing the joist onto the wall you plan to install on.



Diagram 1

Note: We have left a gap from the edge of the top, bottom, and sides of the wall in order to add another joist later to cover up our wall cladding.

2. Next, the span needs to be measured for the next joist. Please see diagram page 6 to see the maximum span allowed from the center of center of each joist.

Looking at Diagram 3 you can see the final installation of the first joist.



Diagram 2



Diagram 3

Wall Cladding Installation Guide

Framing

3. Repeat steps 1 and 2 to finish the rest of the joists for the wall you are installing. Please look at Diagram 4 to see the rest of the installed joists.



Diagram 4

Starting Strip

1. The starting strip will now be installed on top of the bottom of the joists as shown in Diagram 6 by first pre drilling into the aluminum starting strip and then fixing with screws.



Diagram 6

2. Repeat step 1 and install the rest of the starting strip onto the rest of the joists. The finished starting strip across the joists can be seen in Diagram 6.



Diagram 5

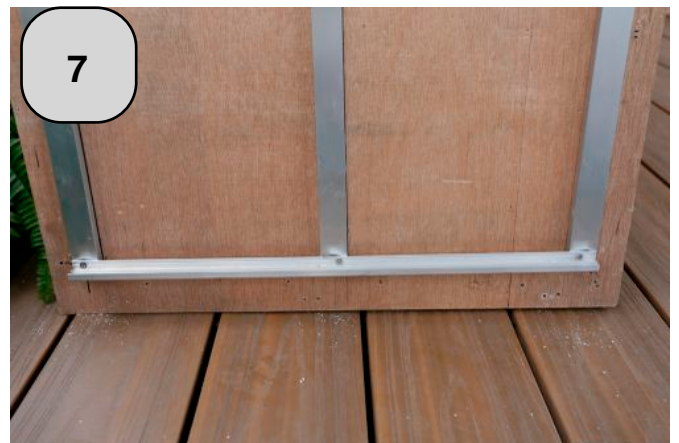


Diagram 7

Wall Cladding Installation Guide

Wall Cladding Board

1. Take a wall cladding board and place the side with the lip down as shown in Diagram 8. The side view of the board installed on the starting strip is shown on Diagram 9.



Diagram 8

2. Next, take the aluminum clip (AW-08) and put it on top of the board and fix it directly to the joist. This can be seen on Diagram 10.



Diagram 10



Diagram 9

3. Repeat step 2 and fix an aluminum clip (AW-08) on each joist and ensure that each clip is holding down the top part of the wall cladding board. When it is finished it should look like Diagram 11.

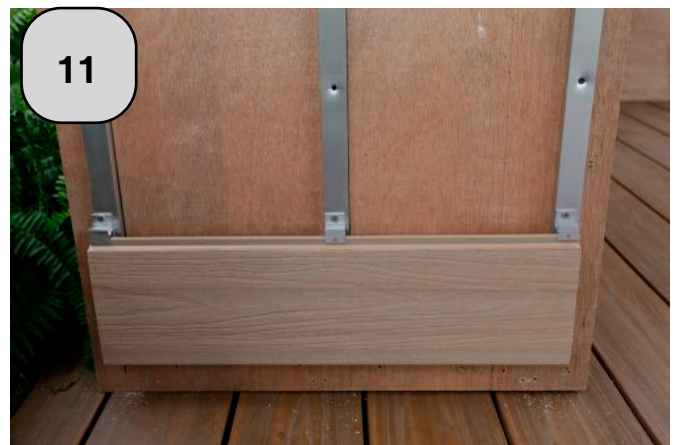
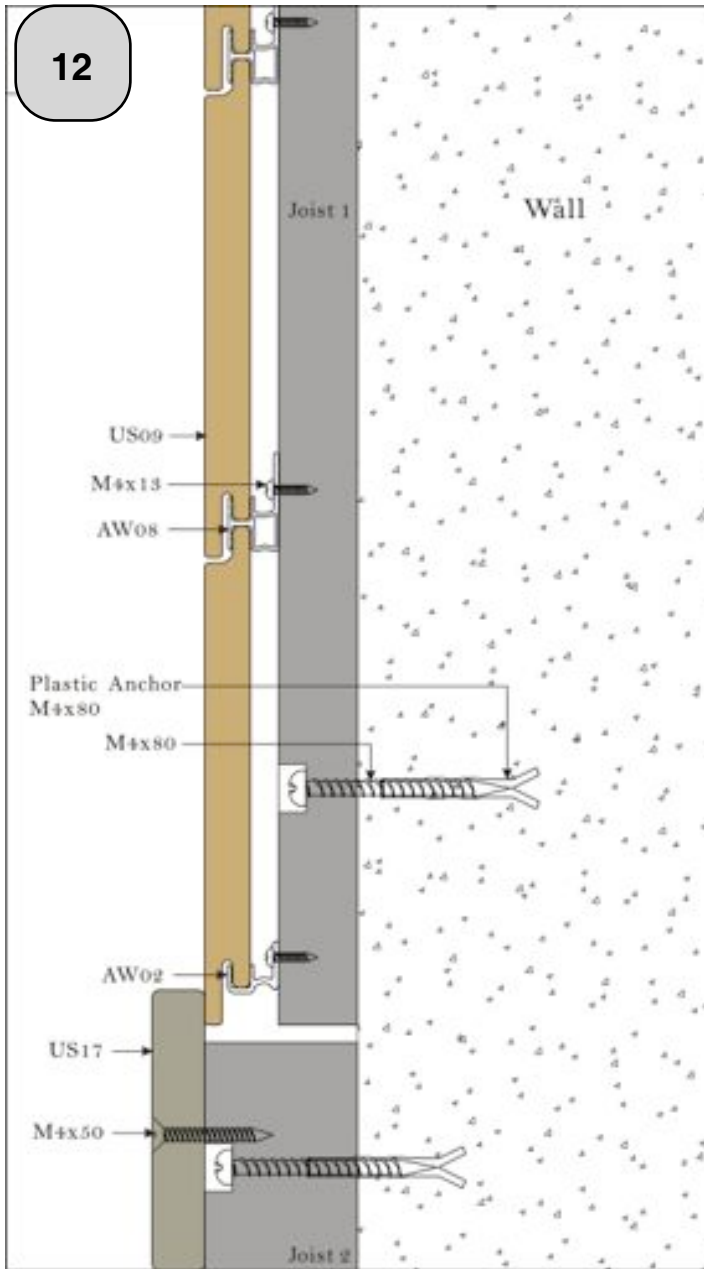


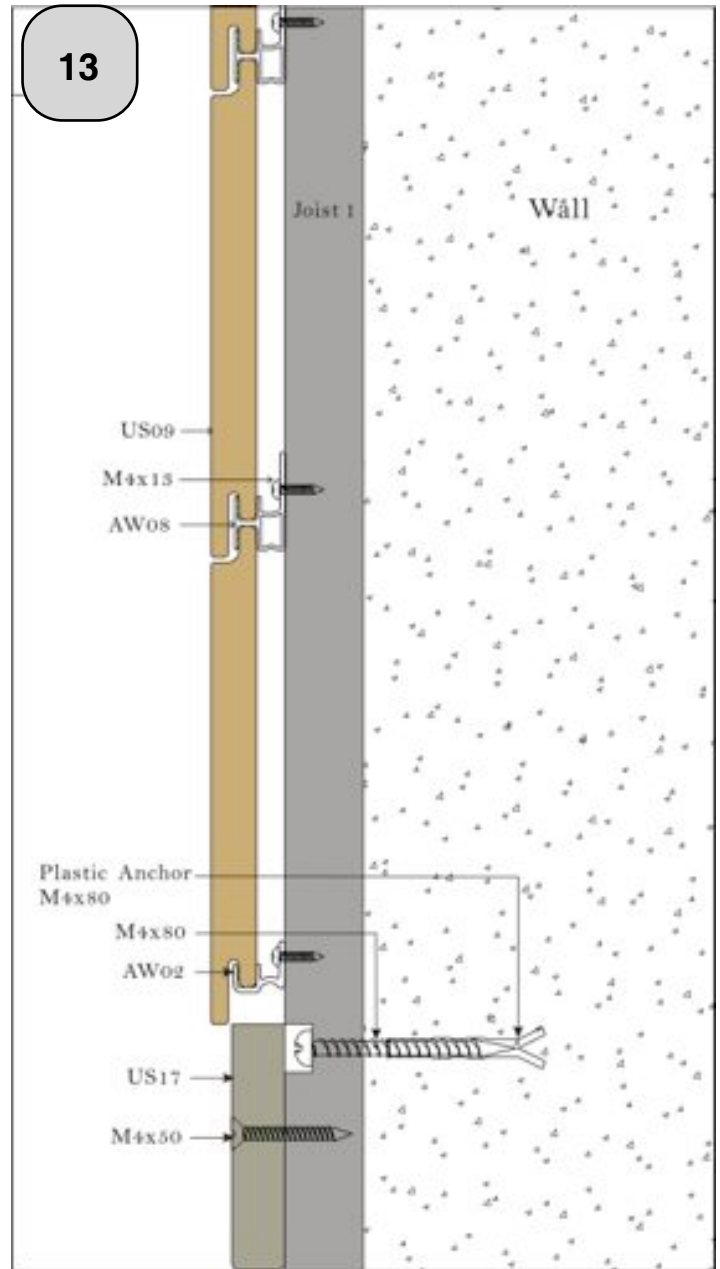
Diagram 11

Note: A side view drawing can be seen on the next page in Diagram 12 and 13 showing different installations for the starting piece.

Wall Cladding Installation Guide



Note: In Diagram 12 we have left room at the bottom so that we have a nice picture frame border using a US17 board to cover up the bottom of the cladding board



Note: In Diagram 13 we have made it so that there is no boarder over the cladding board so there is a clean flush finish from top to bottom

Wall Cladding Installation Guide

Wall Cladding Board Continued

4. Now we need to lock the board and control the expansion and contraction rate. We will do this by using the extra hole provided on each AW-08 clip. We will be locking the board down in the middle to allow for even expansion and contraction to take place on each side of the board. See Diagram 14 and 15 to see how to lock the AW-08.



Diagram 14

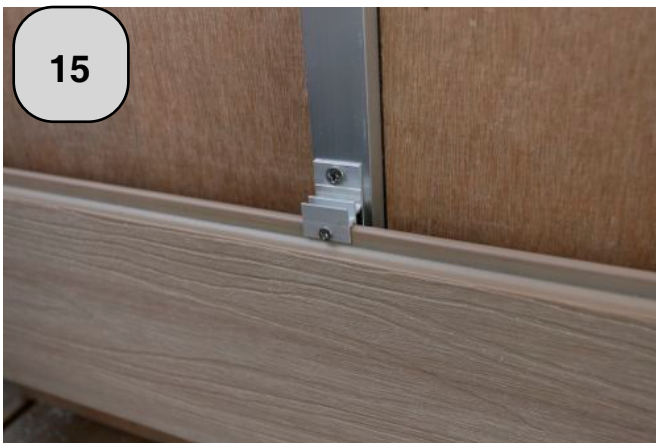


Diagram 15

Note: Please refer to page 12 and 13 to get a more detailed understanding of the locking concept on the AW-08.

5. Next, repeat steps 1-4 and install all the wall cladding boards until you have reached the top of your wall as shown in Diagram 16.



Diagram 16

6. As shown in Diagram 17 the wall cladding board will be higher than the joist so the board needs to be trimmed to it sits flush with the joist.



Diagram 17

Wall Cladding Installation Guide

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 and then allow the board to expand and contract readily in the other direction.

You can see how we lock the board in Diagram 18, 19, and 20.

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

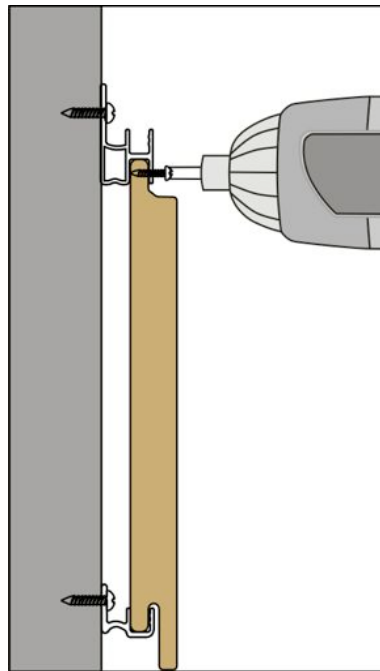


Diagram 18

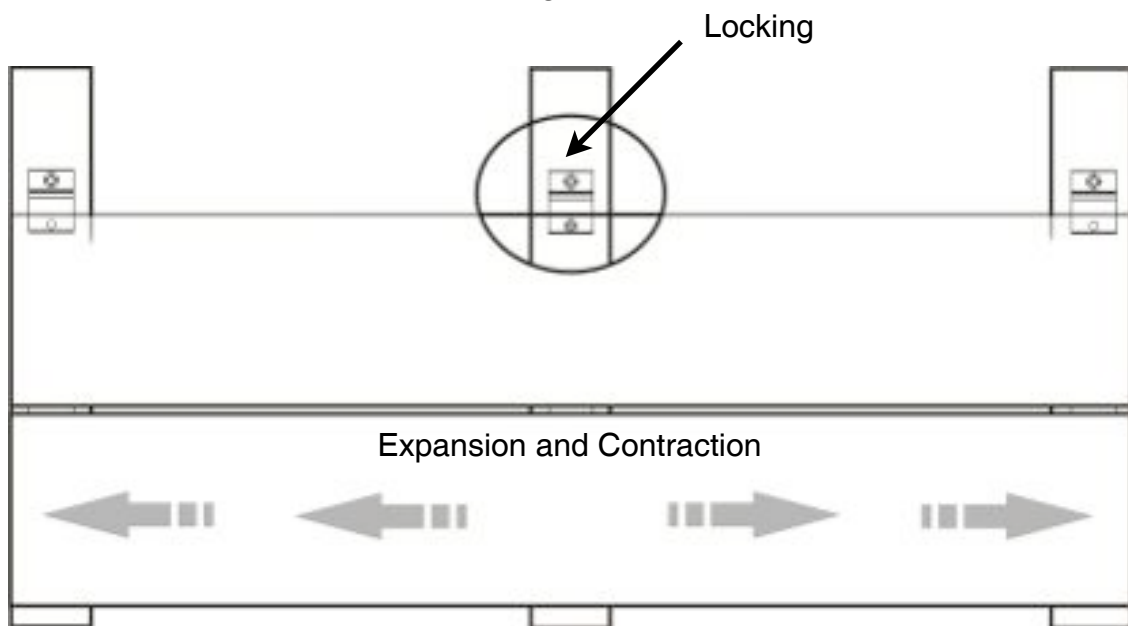


Diagram 19

Wall Cladding Installation Guide

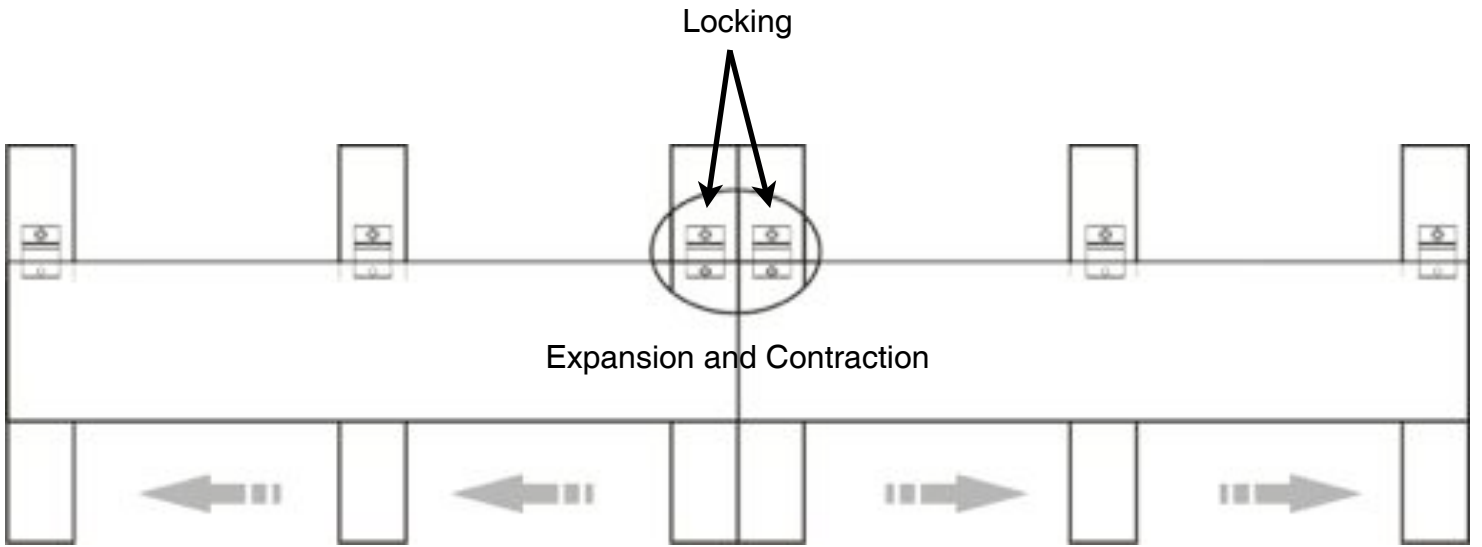


Diagram 20

Wall Cladding Installation Guide

Wall Cladding Board Continued

7. Diagram 21 shows the trimmed board to match the height of the joist.



Diagram 21

8. Next, we will be adding some extra joists to the side of the wall cladding to finish the edging and cover up the ends and then on top we will be adding a fascia to give it a picture frame look. Looking at Diagram 22 you can see both sides of the wall cladding now have joists added up to the same height and thickness as the wall cladding.



Diagram 22

Note: A minimum distance of 5 mm must be left from the end of the board to the extra joist being added on each end. This is to allow for expansion and contraction to take place behind the fascia that we will be installing over the wall cladding.



Diagram 23

9. Now the installation of the joists and wall cladding boards are complete. Please go to the next section to see how to finish off inside corners, outside corners, and connection points.

Wall Cladding Installation Guide

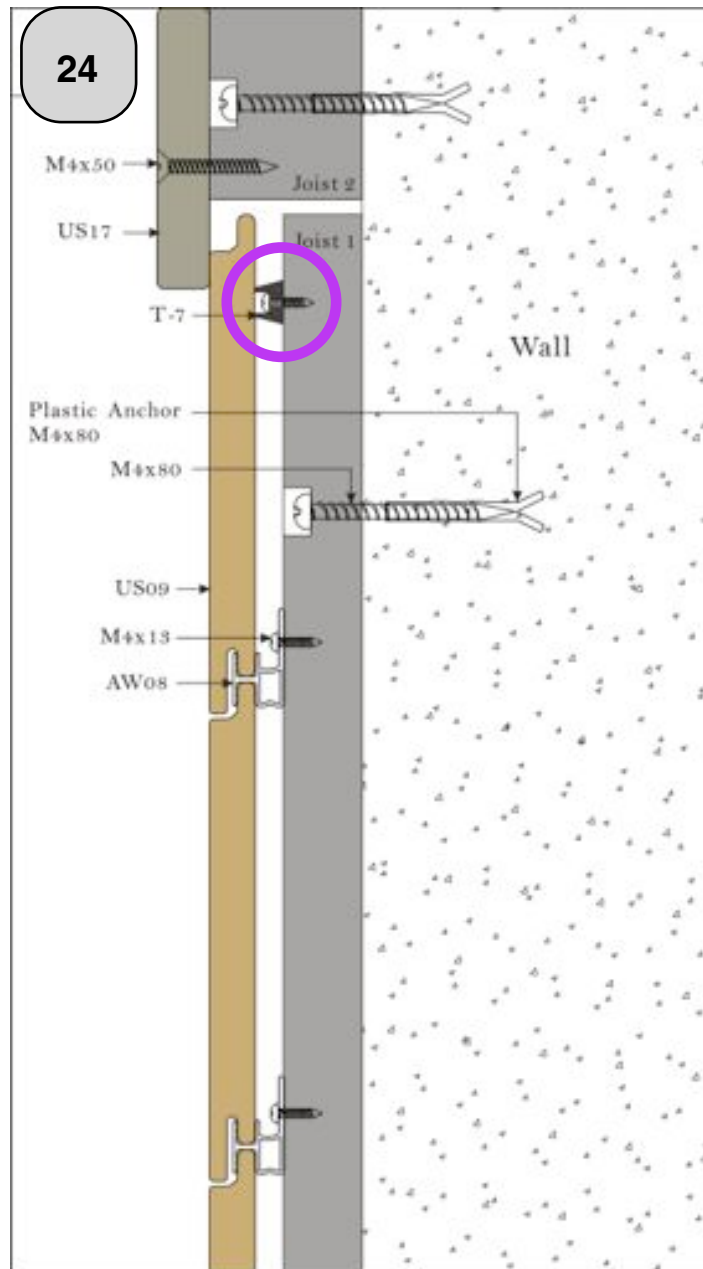


Diagram 24

This is a cross section view of what the finished installation should look like at the top. You can see we used the T-7 (rubber gasket, circled in purple) to ensure that there is a place holder for the top of the last board.

Wall Cladding Installation Guide

Inside Corner, Outside Corner, and Connection Point

1. Diagram 28 shows how we added the joists to the sides of the wall cladding board. This will be where we will be mounting the fascia onto the joists to cover the wall cladding board at an outside corner.



Diagram 25

2. Diagram 28 on the next page shows an above view of the outside corner so it can be seen easier.

Note: The fascia is installed onto the joist and is NOT installed onto the wall cladding board itself. The reason for this is then the wall cladding board can expand and contract. Ensure also while installing the fascia that you are pre-drilling each and every hole.

Protip: A miter joint could have also been cut with the two fascias and installed at the corner.

Also, color head matching screws can be used when screwing the fascia down to get a clean finish.

3. Diagram 26 shows the inside corner installation. Joists again will need to be added as show in the diagram which will allow for the fascia to be installed on.



Diagram 26

4. Diagram 27 shows the completed installation of the inside corner again it is important to note we left at least a minimum of 5 mm gapping between the wall cladding board and the joist on which the fascia is installed for expansion and contraction.

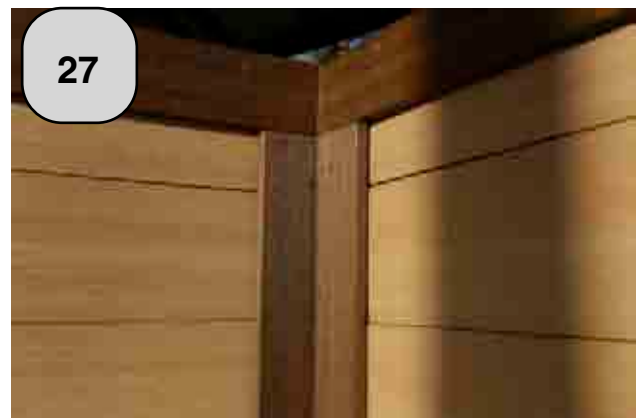


Diagram 27

Wall Cladding Installation Guide

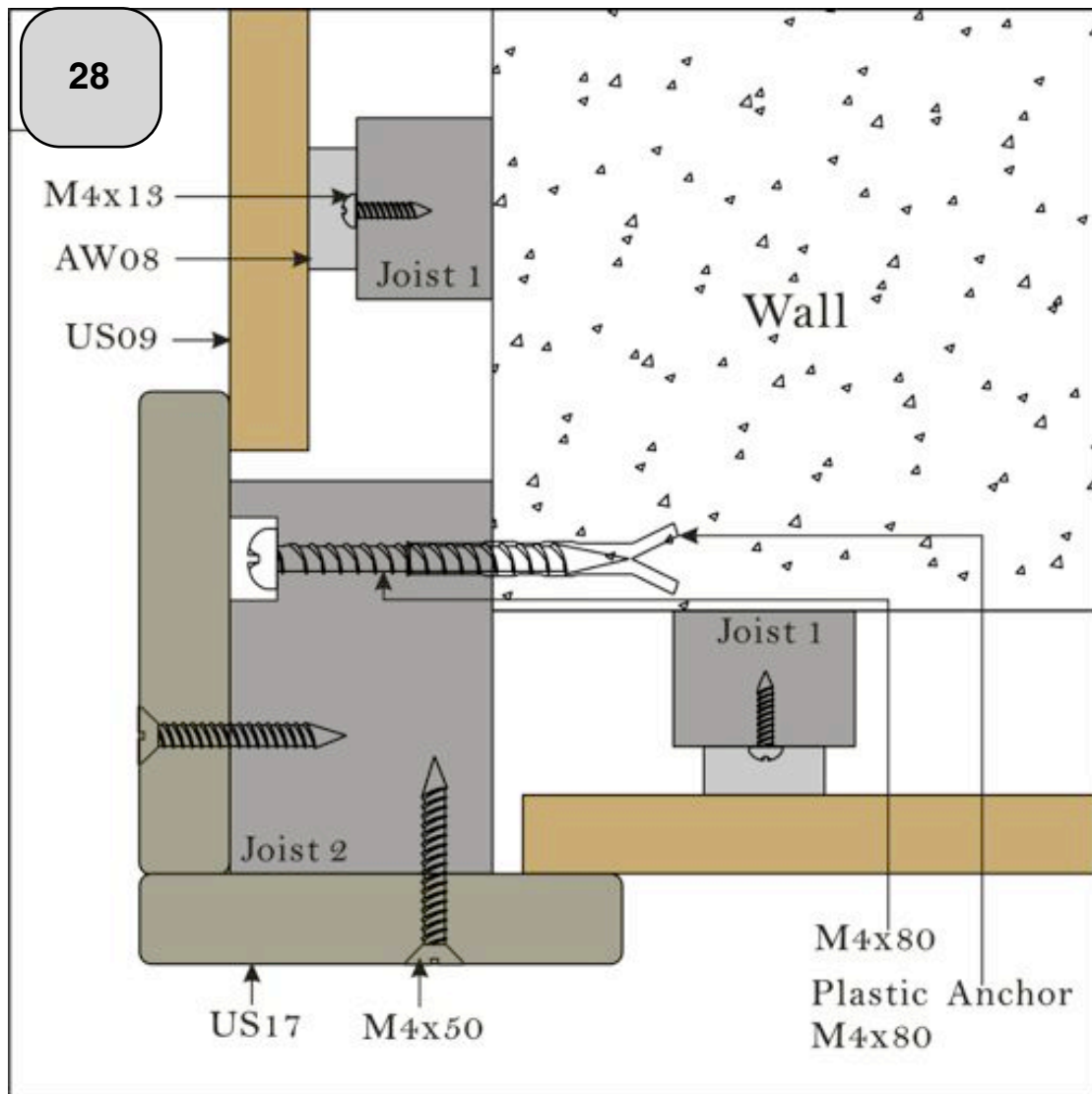


Diagram 28

Diagram 28 shows an above view of a completed **outside corner** using US17.

Wall Cladding Installation Guide

Inside Corner, Outside Corner, and Connection Point Continued

5. Diagram 31 shows an above view of the outside corner installed, so it can be seen easier.

6. A connection point might occur when the wall you are installing on is longer than the board. In this case we will install a fascia vertically to cover the connecting point of two cladding boards. Diagram 29 below shows a situation where this could occur. Therefore, an extra joist is put into the middle so that the fascia can be installed onto it later.



Diagram 29

7. The final installation can be shown below in Diagram 30 where the fascia is installed on top of the fascia right in the middle.



Diagram 30

8. Diagram 32 below shows the above view of the connection point so it can be seen easier.

Wall Cladding Installation Guide

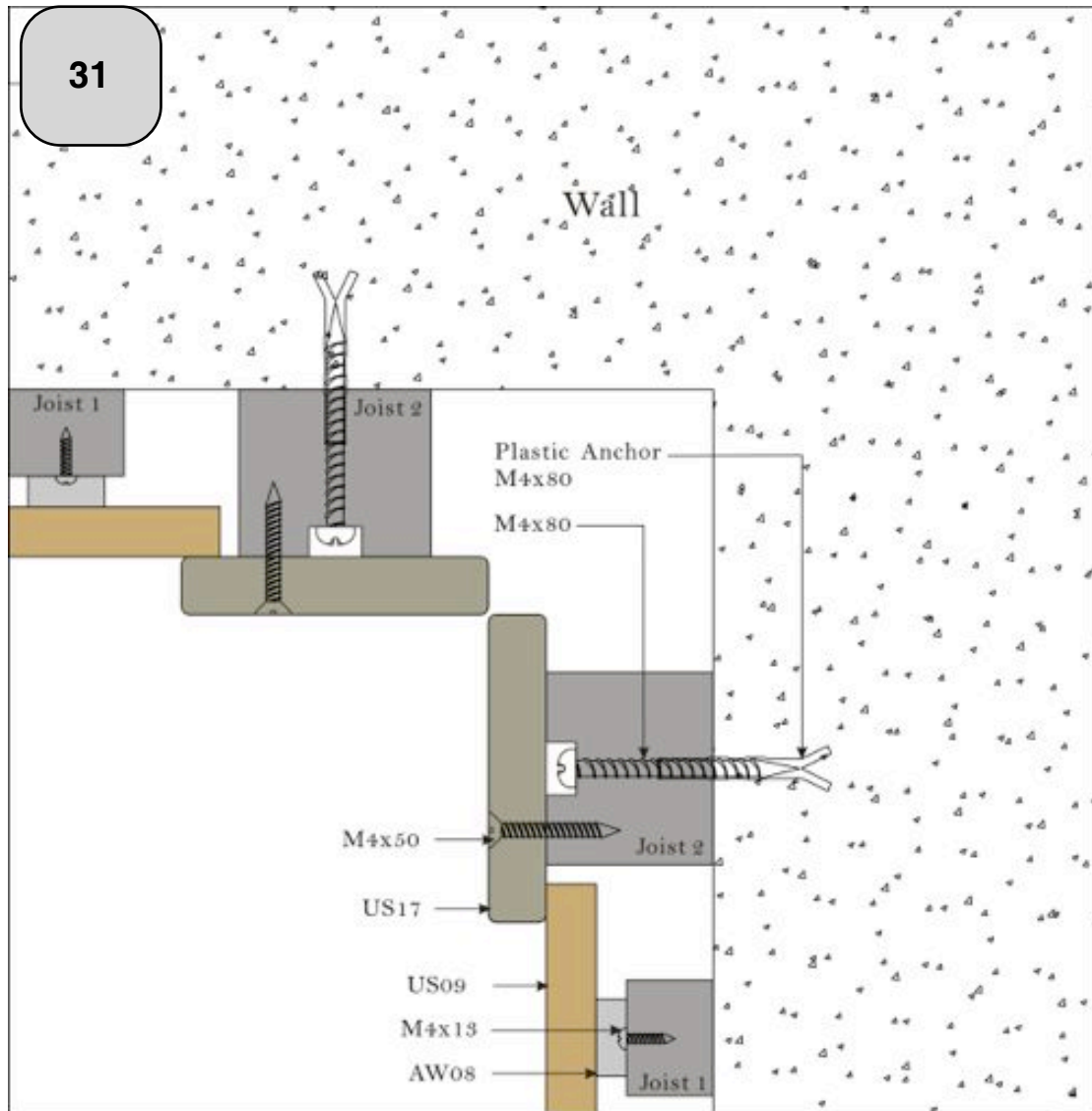


Diagram 29

Diagram 31 shows an above view of a completed **inside corner** using US17.

Wall Cladding Installation Guide

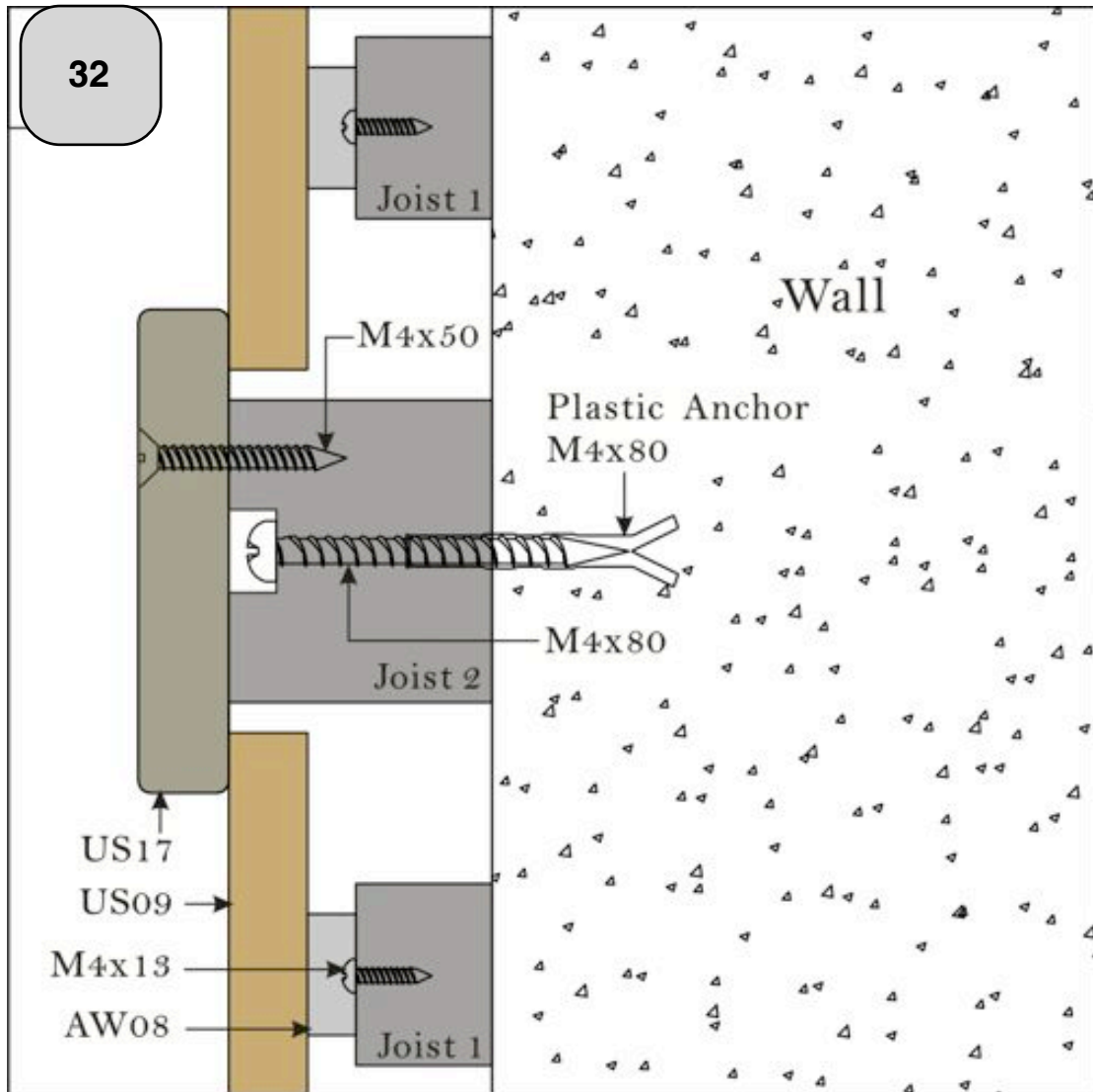


Diagram 32

4. Diagram 32 shows an above view of a two US09 wall cladding boards coming together that can be split using a US17 board.

Note: This type of installation does not have to be done, you can butt two wall cladding boards up against each other but the locking/fixation points must follow page 12 and 13.

Wall Cladding Installation Guide

Windows

1. In Diagram 33 below, we have formed the under construction of the joists leaving the recommend amount of gapping for the bottom and also when the joists are around the window for the extra joists that will be installed for the fascia.



Diagram 33

2. In Diagram 34 the wall cladding has been installed to the top of the window and the joists have been added to the extra gapping we left in Diagram 33.



Diagram 34

3. Now we will continue to install above the window and come back and install the fascia on top of the joists later. Looking at Diagram 35 you can see that one of the boards needs to be cut in the middle to fit directly around the window. The top wall cladding board will need to be trimmed to match the joists height.



Diagram 35

Wall Cladding Installation Guide

Windows Continued

4. The Diagram 36 below shows the top wall cladding board trimmed and the joist installed above it ready for the fascia to cover it as well as the window.



Diagram 36

5. Diagram 37 below shows the completed window and top of the wall covered by the fascia



Diagram 37

6. Diagrams 38 and 39 on the next page will show detailed views of the top and bottom of the window.
7. Diagram 40 and 41 on page 24 will show and overhead view of the left and right side of the window.

Wall Cladding Installation Guide

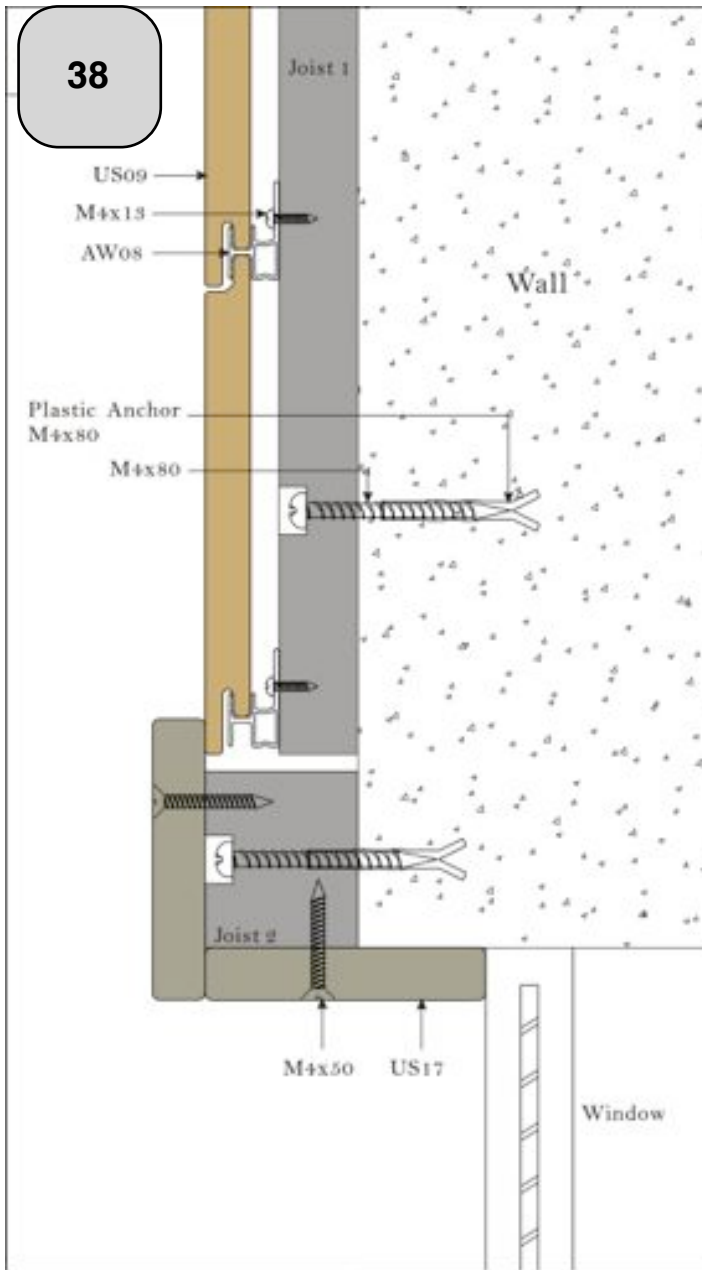


Diagram 38

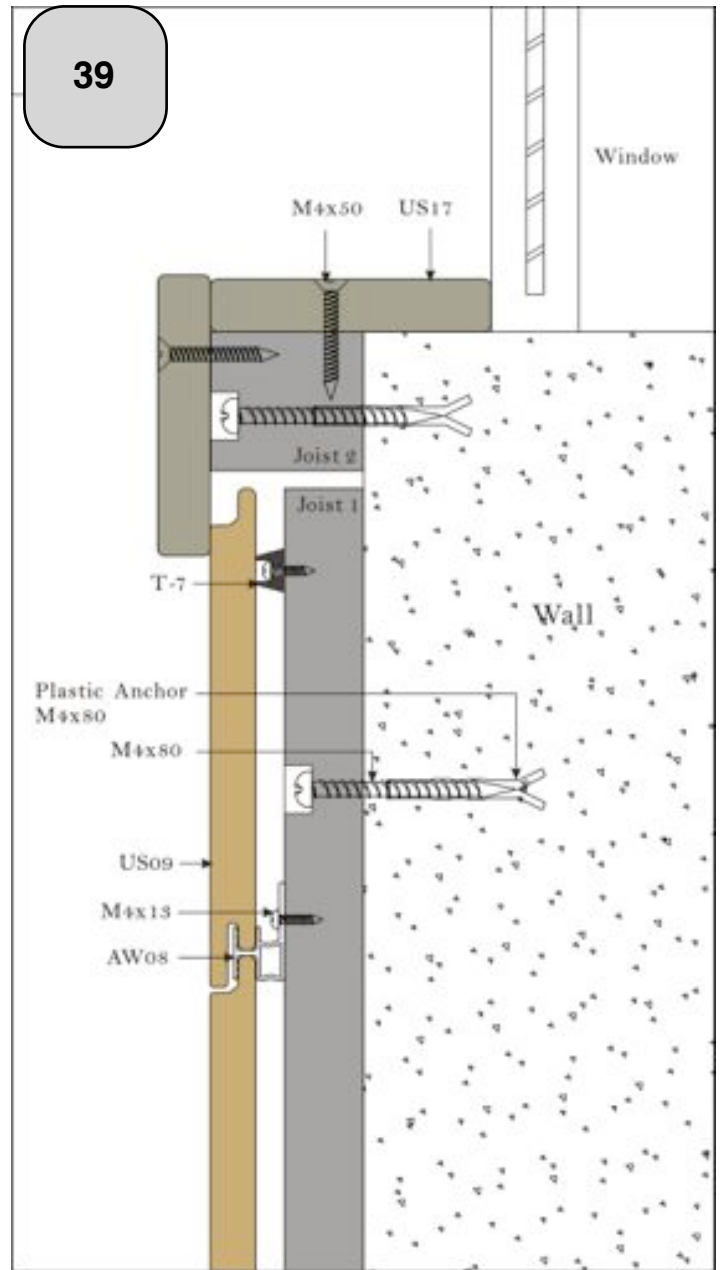


Diagram 39

Diagram 38 and 39 shows cross sectional views of the installation part of the top and bottom of a window.

Wall Cladding Installation Guide

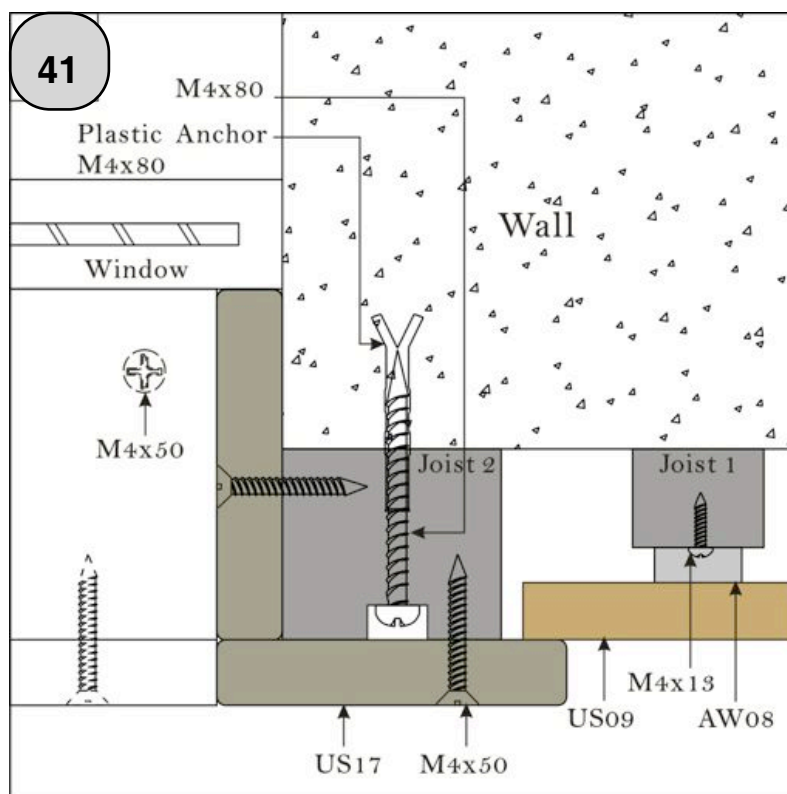
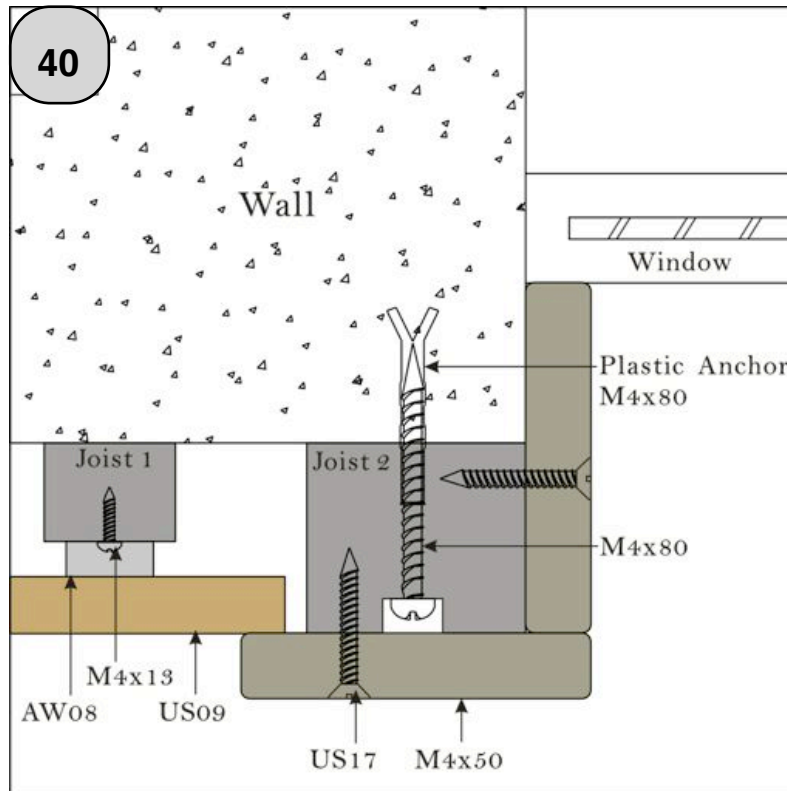


Diagram 40 and 41 shows an overhead view from the left and right side of a window installation.