

INSTALLATION MANUAL

ALUMATE CLADDING SYSTEMS 2024

IMPORTANT: All ALUMATE products must be installed in strict compliance with ALUMATE's installation manuals, which can be downloaded from <https://alumate.com.au/>

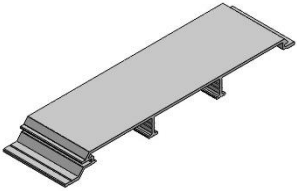
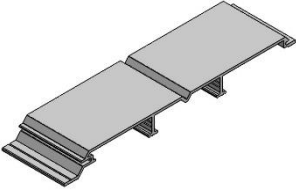
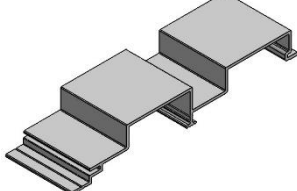



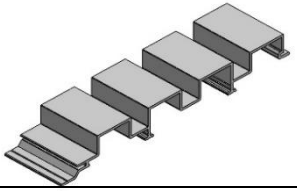
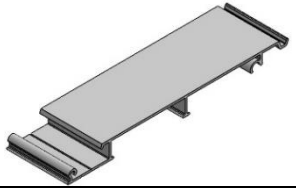
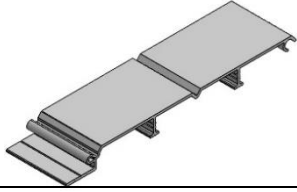



Failure to comply with these documents may void warranty and result in an unsatisfactory outcome.

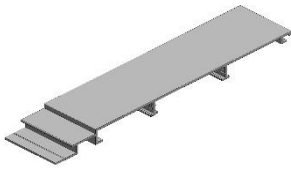

BEFORE THE INSTALLATION

Please note that:

It is the purchaser's responsibility to inspect the colour, finish, size and quality of the product prior to installation and to identify whether the product has any defects or manufacturing faults, and to ensure the product meets the surface appearance and product specification requirements. Subject to the ALUMATE warranty, claims must be made within 7 days of the claimant becoming aware of a suspected or likely defect in the product. ALUMATE is not liable for claims made after the installation of the product that relate to surface appearance.

ALUMATE Shiplap Profiles

PROFILE OPTIONS			
SECTION			
CODE	ALC16515	ALC16515V	ALC15025
COVERAGE (mm)	165	165	150
MAXI. SPAN CTRs	800mm	800mm	850mm
PROFILE OPTIONS			
SECTION			
CODE	ALC18025	ALC15015 GUTTER TYPE	ALC16515C CURVED TYPE
COVERAGE (mm)	180	150	165
MAXI. SPAN CTRs	950mm	700mm	800mm

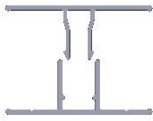
PROFILE OPTIONS			
SECTION			
CODE	ALC20715		
COVERAGE (mm)	207		
MAXI. SPAN CTRs	800mm		

***Note:**

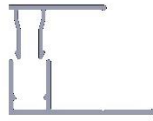
The Maximum Span provided in the tables above is recommended for ceiling & wall batten screening systems. The span may vary depending on the method of fixation and the structure of supporting members.

For exteriors applications, site specific engineering loads, such as wind load, have not been considered. Minimum imposed action for barriers has been considered as C3. We recommend consulting your structural engineer for confirmation. If you need any information regarding the properties of any ALUMATE profiles, please do not hesitate to contact us.

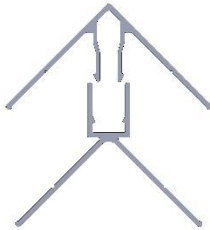
ACCESSORIES



AAC-T BAR - 1 & 2



AAC-J TRIM - 1 & 2



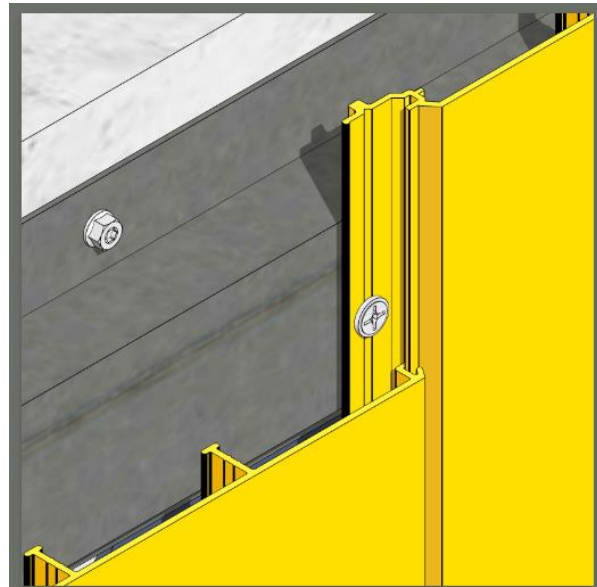
AAC - CORNER - 1 & 2



AAC - VERTICAL STARTER



AAC - HORIZONTAL STARTER



SHIPLAP CLADDING SYSTEM

ALUMATE has designed a wide range of functional aluminium profiles including an interlocking tongue and groove shiplap cladding system that enhances the thermal performance and appearance of a building and can be installed vertically or horizontally to suit the design.

INSTALLATION TIPS AND REQUIREMENTS

ALUMATE cladding boards can be worked with ordinary metal working tools as:

- Crosscut Mitre Saw
- Carpenters Square
- Level
- Cordless Drill
- Tape Measure

Site Storage & Product handling

ALUMATE cladding boards should not be stored in an open area, it is a finished product, Additional pressure should be avoided when storing ALUMATE cladding boards on site. Do not dump or drop when loading or unloading. Always handle with care.

ALUMATE cladding boards will be well packed when delivered to customers, and protective covers should not be removed until installation. Please refer to the above ALUMATE Shiplap Profiles table for the maximum fixing and supporting framework span.

When removing ALUMATE cladding boards from the pack, do not slide the boards against each other, lift the boards and set them down carefully.

When handling ALUMATE cladding boards take care to avoid scratches, nicks and other damage to the boards.

NOTE:

To ensure long-term performance, we recommend that a professional trade person carry out the installation. The Installation MUST be carried out in accordance with the ALUMATE Installation Manual, including the use of all trims and accessories.

Thermal Expansion of Aluminium Alloy

Thermal expansion of aluminium extrusions refers to the increase in their dimensions as the temperature rises. Aluminium like all materials, expands when heated and contracts when cooled. Movements due to temperature changes may vary by up to 1mm per meter.

However, the expansion of aluminium alloy is dependent on the material length and change in temperature. In other words, the thermal expansion increases with both the length of the material and the temperature change.

PLEASE BEAR IN MIND THAT

Installation of ALUMATE products must comply with the following Australian Standards:

- AS/NZS 1170.1:2002 – Structural Design Actions, Part 1: Permanent, Imposed and other Actions
- AS/NZS 1170.2:2002 – Structural Design Actions, Part 2: Wind Actions
- AS 1562.1:2018 Design and Installation of Sheet Roof and Wall Cladding – Metal
- AS 1720.1:2010 – Timber Structures – Design Methods (if used in conjunction with timber)
- AS/NZS 1684.2:2010 – Residential Timber-framed Construction
- AS/NZS 4600:2005 Cold-formed Steel Structures
- National Construction Code (NCC)

Framing Requirements

ALUMATE Cladding can be fixed to either timber framing, or steel framing. Please refer to the corresponding Australian Standard mentioned above for each type of framing work.

Timber Framing

ALUMATE cladding can be installed on timber framing with compliance of the following specifications:

- Timber must be minimum 35mm thick with a face width of no less than 70mm
- Timber types must be suitable for construction and structural uses.
- Span of the framing work is specified in the ALUMATE shiplap profile table.
- Framing must be located expressly at the start and finish of each cladding run to enable the first and last screws in each board to be located at a minimum of 25mm from the end of cladding.

Steel Top Hat Framing

Top hats must have a face width of no less than 50mm and a wall thickness of no less than 1.15mm.

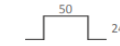
Total depth of top hat plus packing and any non-compressible thermal break tape must be minimum 35mm for walls and 15mm for soffits.

Span of the framing work is specified in the ALUMATE shiplap profile table.

Top hats must be located expressly at the start and finish of each board run to enable the first and last screws in each board to be located at minimum of 25mm in from end of cladding.

Top hats must be fixed to structure at the required centres as per the table below and must always be fixed through both legs at all fixing points.

MAXIMUM STEEL TOP HAT FIXING SPAN

STEEL TOP HAT	MAXIMUM FIXING SPAN
 15 X 50mm	500mm
 24 X 50mm	700mm
 35 X 50mm	800mm
 50 X 50mm	950mm

* Above fixing spans are to be used as a guide

Thermal Break

When fixing metal top hat to metal stud framing, hard plastic packers with a minimum thickness of 10mm must be used between stud frame and top hat to provide a thermal break for heat transfer.

General Framing Notes

Framing must be true plumb and level to ensure a professional outcome. Packing cannot be used between framing work and cladding boards.

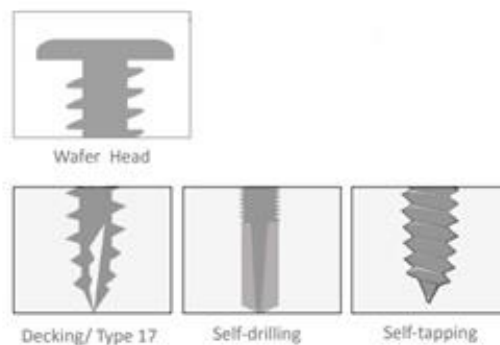
Framing that does not meet all the criteria in this section will be inadequate and may result in the finished cladding system being defective and affecting the lifespan of the material itself and the coated films.

Expansion Joints

Never span cladding across expansion joints in structure. If necessary, terminate the cladding on either side of any expansion joint to prevent damage to the cladding system.

Screws

ALUMATE recommends that for any screws in direct contact with ALUMATE Cladding boards to be STAINLESS STEEL. The wafer head screw is the only type we recommended, as a countersunk head requires a pre-countersunk hole which on thin aluminium cladding board may weaken the board's structure. Please see the figure below for different screw types:



- Decking/ Type 17 is to be used with timber framing.
- Self-drilling and self-tapping are to be used with steel framing.

DESIGN CONSIDERATION

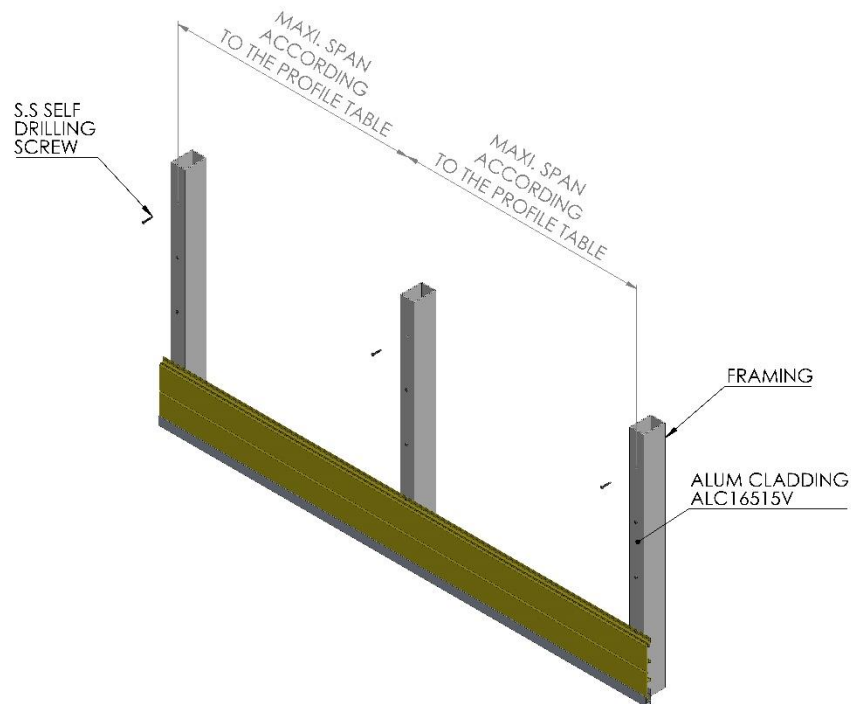
ALUMATE Cladding system must be installed after framing work is properly installed. Framing is essential for any cladding system; the reasons are as follows:

- **Structural Support:** Framing provides the necessary structural support for the cladding panels. Aluminium panels, while lightweight, need a sturdy framework to attach to and to ensure that they stay securely in place, especially in adverse weather conditions like high winds or heavy rain.
- **Alignment and Flatness:** A properly constructed frame ensures that the panels are aligned correctly, and that the façade is flat and even. This is crucial for both the aesthetic appearance and the functional performance of the cladding system.
- **Thermal Expansion and Contraction:** Aluminium, like many metals, expands and contracts with temperature changes. A well-designed system accommodates these movements, preventing buckling, warping, or detachment of the panels.
- **Load Distribution:** The frame helps distribute the weight and any external loads (such as wind or impact forces) across the structure evenly. This prevents localized stress points that could damage the panels or the building structure.
- **Insulation and Ventilation:** the framing system can incorporate layers of insulation and provide space for ventilation behind the cladding. This improves the building's thermal performance and helps prevent moisture buildup.
- **Ease of Installation and Maintenance:** A proper frame makes it easier to install the cladding panels precisely and efficiently. It also allows for easier removal and replacement of cladding panels for maintenance or repair purposes.

INSTALLATION PROCEDURES

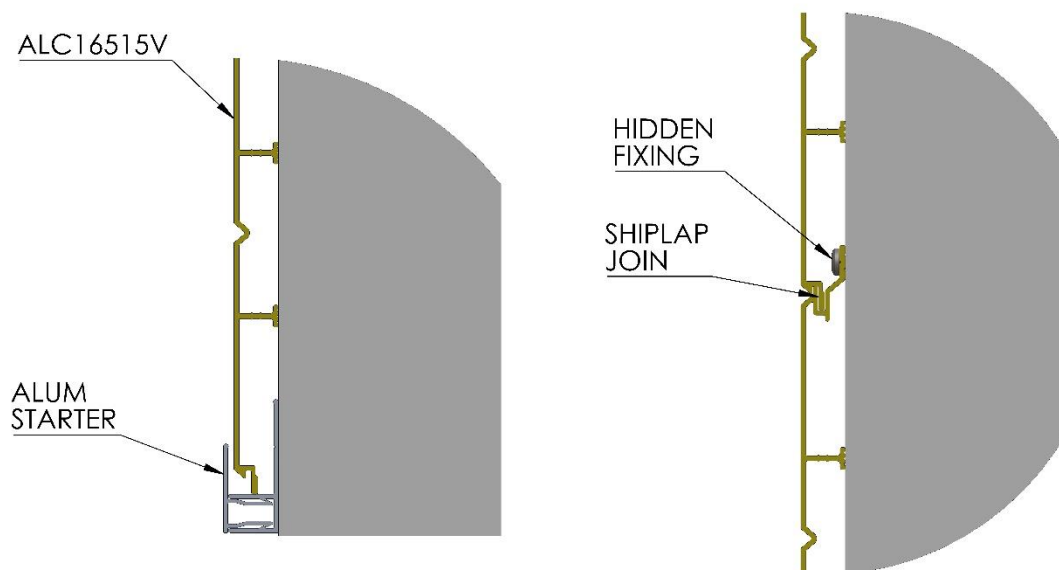
HORIZONTAL ORIENTATION (ALC16515V)

1. Set-out framing work and prepare for aluminium starter J-trim installation.

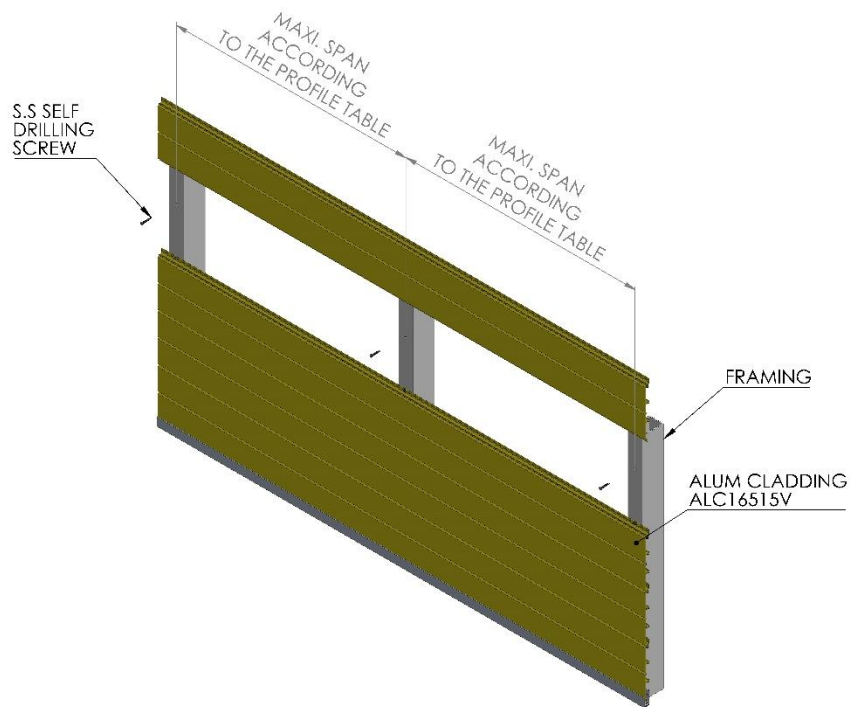


Note: If sarking is required, it must be breathable and must be installed behind the framing work.

2. Use professional tools to establish the lowest point of the cladding around the perimeter of the building. Fix the starter to framework and check the level plane.

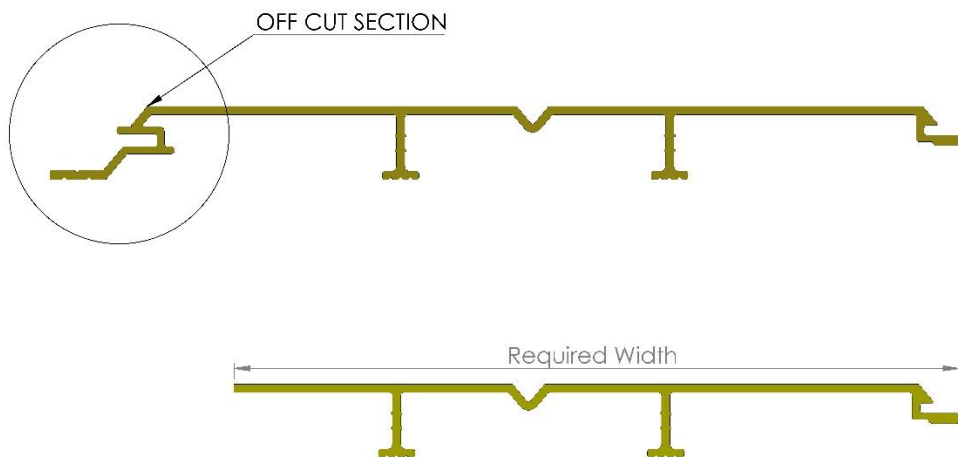


3. Cut the first cladding board to required length and position it carefully into the aluminium starter and make sure it is firmly seated. Allow a minimum 1mm clearance at each end of board.
4. Screw fix the cladding panel onto the framework using wafer head screws. Note: Stainless steel screws are recommended for installing ALUMATE Cladding Panels.
5. Repeat steps 3 & 4 to install the next cladding panel.



Note: Fixings from the end of panel should leave a minimum 25mm

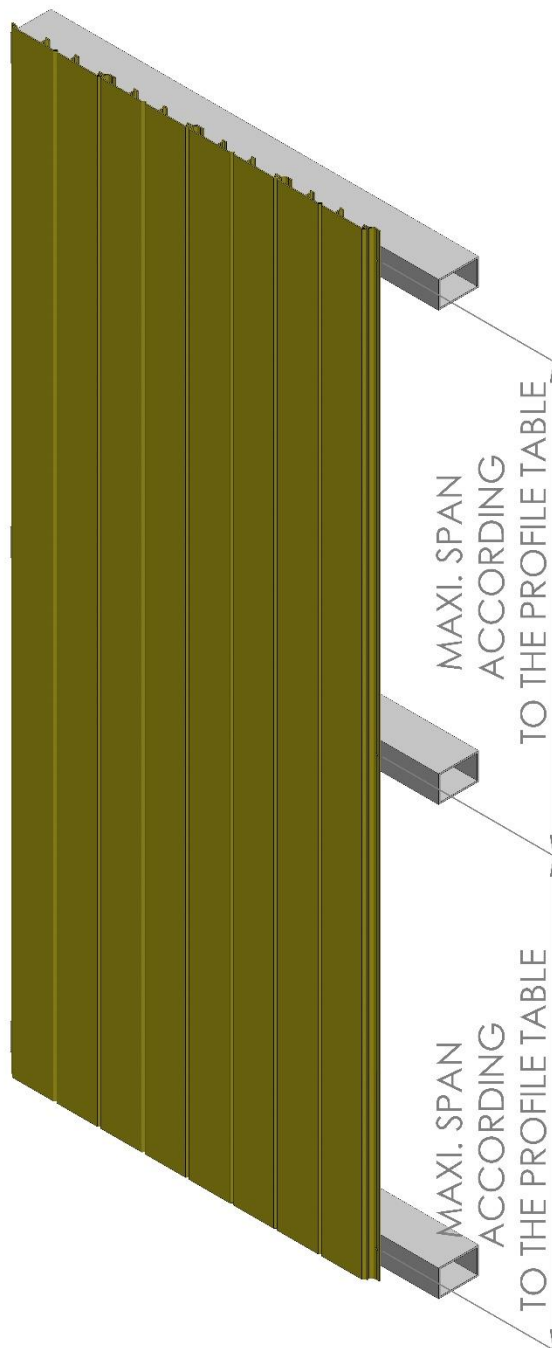
6. Measure the width required to install the final cladding panel and using a power saw or track saw cut the cladding panel as required to instal the final cladding panel.



7. J-Trim can also be used as an end for the cladding system. Make sure it is well-seated on top of the modified final cladding panel when installing the J-Trim at the end. (J-Trim is an option for the end of cladding system, any other types of extrusion, such as angles, could also be used to cover the end)

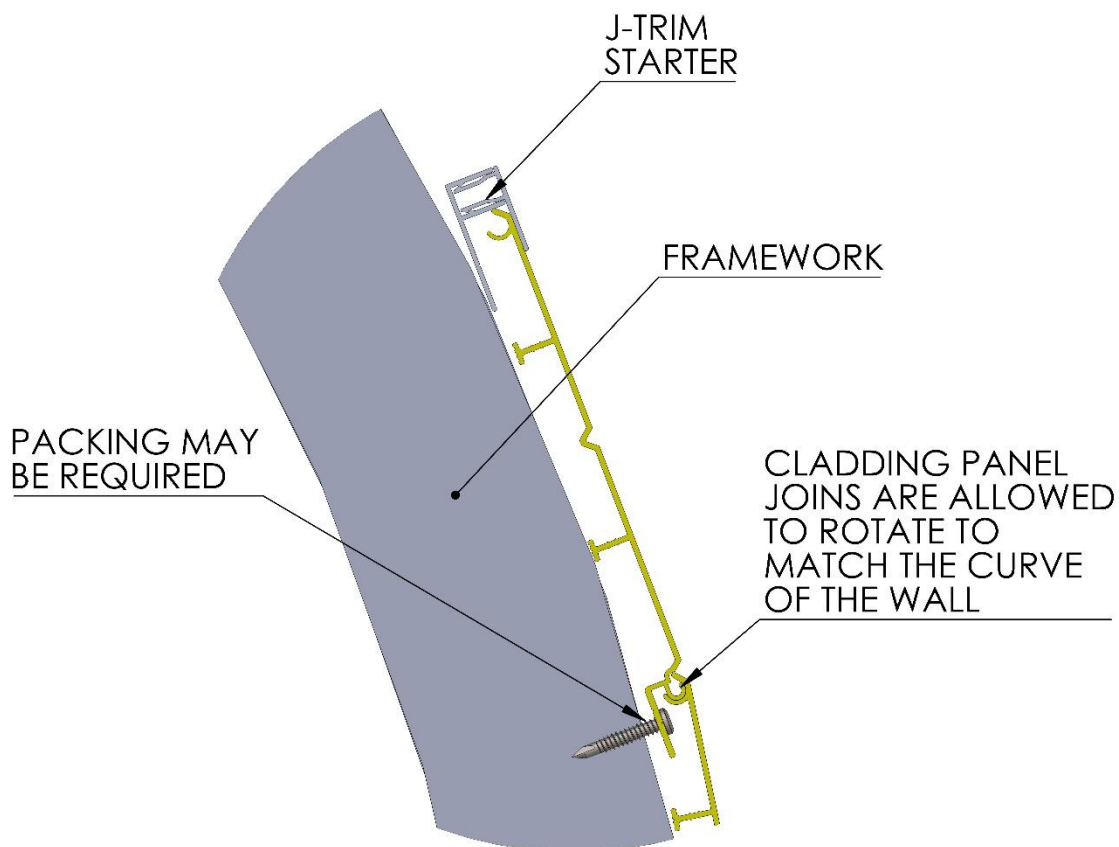
VERTICAL ORIENTATION (ALC16515V)

Vertical orientation is installed in the same way as horizontal orientation, please refer to the horizontal installation procedures for the vertical orientation. Installation of ALUMATE Cladding vertically should also comply with the ALUMATE PROFILE TABLE for maximum span of framing work.



ALUMATE CLADDING SYSTEM FOR CURVED WALLS (ALC16515C CURVED TYPE)

1. Set out framework and prepare for the installation. The framing work should be set out carefully and consistent along the curved wall.
2. Use professional tools to establish the lowest point of the cladding around the perimeter of the building. Fix the starter to framework and check the level plane.
3. Cut the first cladding board to required length and position it carefully into the aluminium starter and make sure it is firmly seated. Allow a minimum 1mm clearance at each end of board.



4. Screw fixes the cladding panel onto the framework using wafer head screws. Note: Stainless steel screws are recommended for installing ALUMATE Cladding Panels.

5. Repeat steps 3 & 4 to install the next cladding panel.



ALC16515C CURVED TYPE
PANEL COULD BE APPLIED TO
A WALL WITH MINIMUM RADIUS
OF 900mm

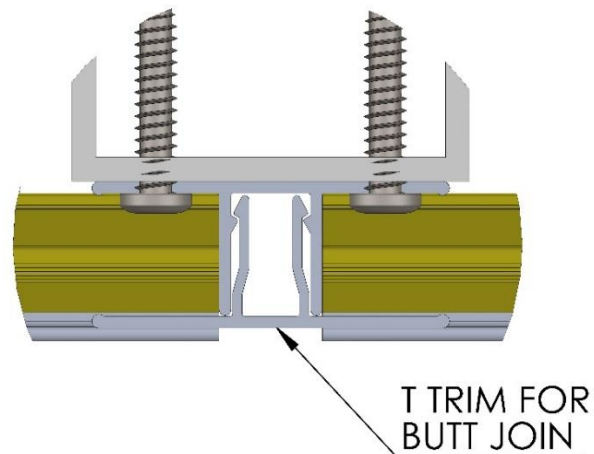
NOTE:
ANY RADIUS THAT IS LESS THAN
900mm WILL AFFECT THE
CONSISTENCY OF FINISHED LOOK.

Note:

Please refer to Horizontal Orientation installation procedure steps 6 & 7 for the final panel of curved walls. (If modification required)

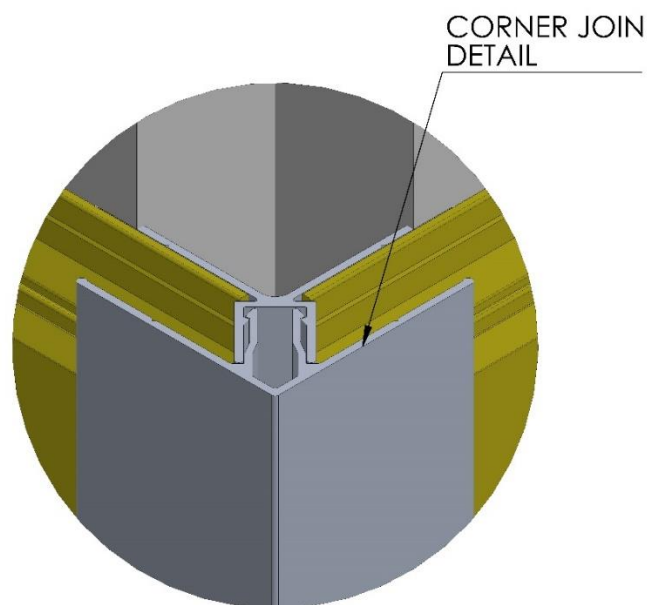
OTHER OPTION & ACCESSORIES

T-Trim for Butt Join:

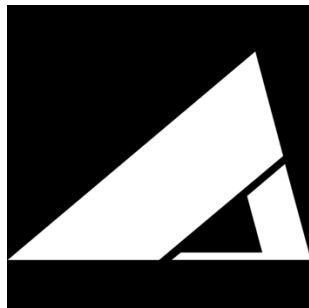


T-Trim for Butt Join is an option to make joining more consistent. If a T-Trim is not used here, make sure the joining position is supported by framework and that the cladding panel is properly fixed to the framework.

Corner Join:



When Corner Join Trim is applied, the Corner Join Trim must be supported by the framework.



FOR MORE INFORMATION, PLEASE VISIT ALUMATE AT
<https://alumate.com.au>
OR CALL 1300 787 717