



INSTALLATION GUIDE

NOVANO SIDING 6" FLAT



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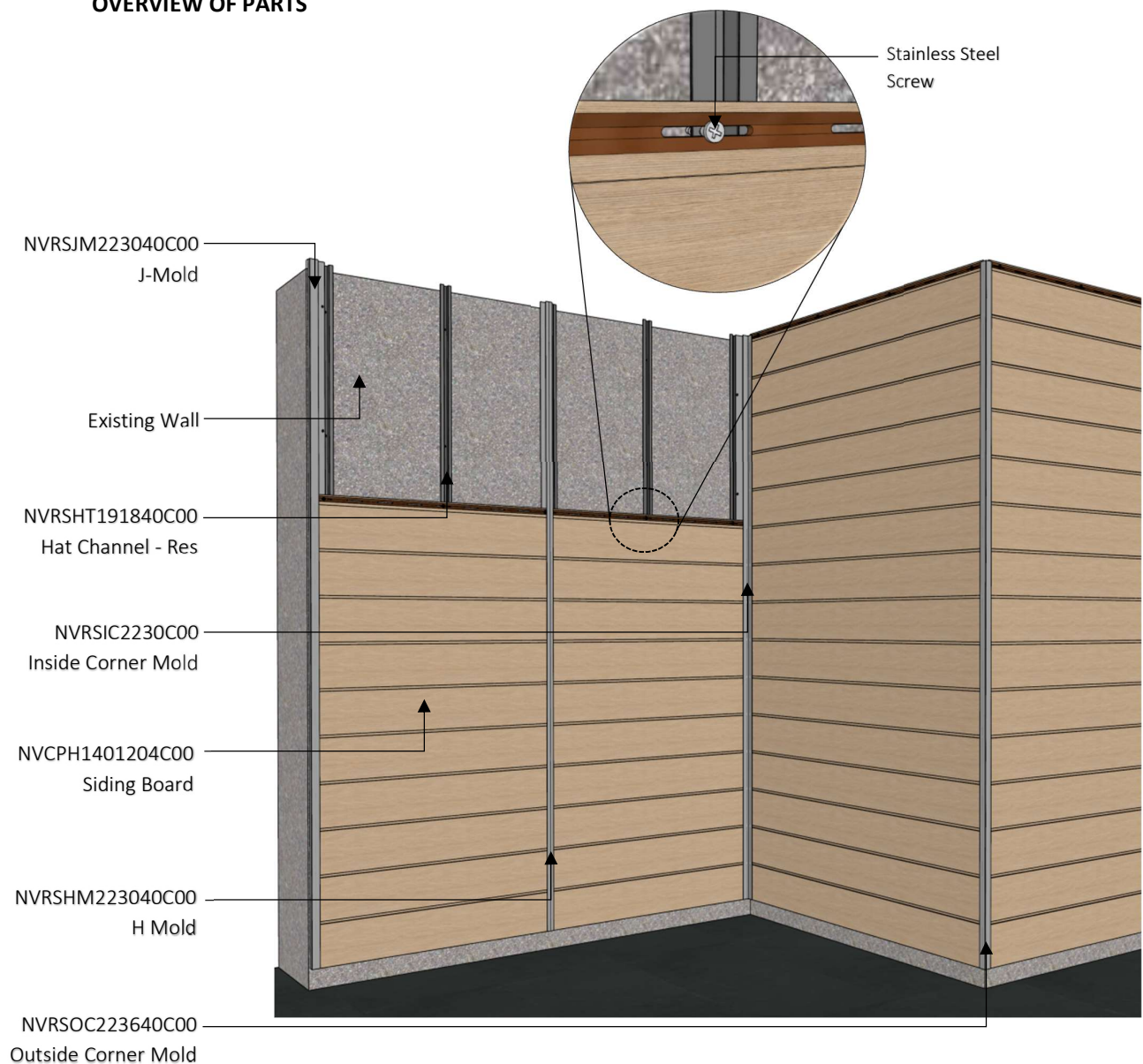
- a. Material Components
- b. Basics
- c. Scope of Profiles

1. INTRODUCTION

NOVANO is an innovative replacement that represents a real game changer in sustainable house construction. The name NOVANO is made up of the words "Nova Ligno", which means something like "New Wood". It is a natural fiber that can also be recycled as a material. It is astonishingly similar to its original, but thankfully does not turn gray over time. Thanks to this new type of product, it is now possible to feel the warmth, homeliness and security that wood conveys without needing it in its natural form. This was and is the quintessential production of Novano.

SECTION 1 Basics

OVERVIEW OF PARTS



ISOMETRIC VIEW
BASIC PARTS OF SIDING BOARD

SECTION 2 Scope of Delivery


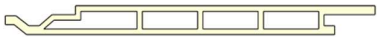


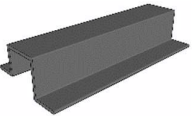

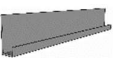

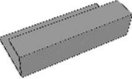

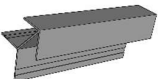

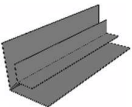

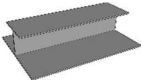
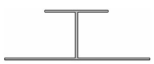
NO.	PRODUCT NAME AND SPECIFICATION	ISOMETRIC VIEW	FRONT VIEW
1	NVCPH1401204C00 140mm x 12mm Hollow Siding Profile Uncoated		
2	NVCPH1401204Cxx 140mm x 12mm Hollow Siding Profile Coated		
3	NVRSHT191840C00 19mm x 18,8mm Hat Channel-Res		
4	NVJS04 A=22mm B=30mm L=4m Starter J-Strip		
5	NVRSJM40C00 A=19mm B=25mm L=4m J Mold		
6	NVRSOC40C00 A=22mm B=36mm L=4m Outside Corner Mold		
7	NVRSIC40C00 A=19mm B=63mm L=4m Inside Corner Mold		
8	NVRSHM40C00 A=19mm B=25mm L=4m H Mold		

Table 1.1 "Scope of Delivery"

NOTE: Table above shows products commonly used for wall siding. To view a complete list of products, please refer to our Novano brochure or visit our web site www.novano.info



IMPORTANT: Four Major Bullet Points You Must Follow for a Successful Novano Siding Installation

- **Screw Placement**
- **Room for Expansion and Contraction**
- **Hard Fastening of each Plank**
- **Top to Bottom Ventilation**

NOTE:

Proper planning of the siding layout is essential for ease of installation of siding boards and siding components. Thoroughly read the following siding assembly instructions and obtain all necessary building permits prior to starting your installation. Decide finishing and trimming options prior to starting the project to ensure siding finishing detail is uniform for all sides of the building. Installation is the sole responsibility of the installer. Novano Company assumes no responsibility whatsoever with respect to the installation. The information contained herein is provided for guidance purposes only and should not be relied upon as any absolute representation by Novano.

Safety Tips:

1. Always check for power, gas, and water lines before installing.
2. Always wear safety glasses when operating power equipment.

Assembly Tips:

1. Battens should be flat and level to each other. Siding will follow the contour of the wall.
2. Novano siding system is not a rain screen or water proof system. Novano siding is a water shed system.
3. Proper wall preparation according to local building codes and wall covering manufacture's recommendations should be adhered to. This includes but is not limited to flashing all openings.
4. All holes should be predrilled and installation holes should be slotted.
5. Only use construction fastening material and hardware suitable for outdoor use (e.g. stainless steel screws). Recommended is the use of shoulder screw.
6. Always consider the linear expansion of Novano, which is dependent on the temperature but not the air humidity. See Table 1.2 "Novano Expansion" for more information.
7. Cut-off pieces and/or abrasive dust must be disposed of separately. Please comply with regulations of your competent waste management. You may under no circumstances burn Novano material.
8. Cutting to length should be carried out at consistent material temperature. Therefore, the material should be stored in the shade or in areas where it is not exposed to direct sunlight. The material can warm up considerably in the sun, leading to an increased change in length. In the case of more distinct fluctuations in material temperature, cutting to length may have to be adapted accordingly.
9. Please store Novano products flat on level surface.

Code Compliant Batten Spacing

Part Number	Part Description	Batten Span (mm)
NVCPH1401204C00	Siding Board Flat 140mm x 12mm	400
NVCPH1401204Cxx	Siding Board Flat 140mm x 12mm	400

Table 1.2 "Batten Spacing Requirements"

Expansion / Contraction of Siding

Novano Expansion – Contraction Guide	
Profile Length	4000 mm
Expansion / Contraction amount (approx.. 0.3% over 50°C variation in temperature)	10.97mm

Table 1.3 Expansion – Contraction: Average expected expansion – contraction (this can vary based on geographical region).

Novano Siding Board Gap Guide					
Temperature at Installation	Trim Gap of Siding Boards				H-Channel Gap
	Below 0°C	15°C	20°C	30°C	
Amount for Siding Profile Length of 4000mm	10mm	7mm	3mm	0mm	6mm

Table 1.4 "Novano Expansion" – Ensure a steady material temperature when cutting the boards to size, i.e. the cutting has to be done under constant conditions, e.g. inside or in shade.

Always consider linear expansion of Novano profiles during the installation of siding products. If temperatures fluctuate during the installation, the gaps placed between the ends of the boards and a corner, window, or door must change with the temperature. Use the guide above to gap boards during installation.

Expansion – Contraction Tips:

1) Control Piece

at the start of the day cut a length of board that is desired to be installed and keep this board in the same area as the cutting and storage of the remaining boards. This board will be a “Control Piece” to reference when cutting other boards to be installed. Throughout the day the “Control Piece” can be referenced and the saw cuts adjusted accordingly as the boards expand and/or contract. Heat from the sun will cause Novano boards to expand so if the material is stored in the shade keep the “Control Piece” in the shade as well.

Example:

If 4000mm boards are being installed put aside one 4000mm board at the start of the day. Reference these boards throughout the day and adjust the cutting of the other boards to match.

2) Control Gap

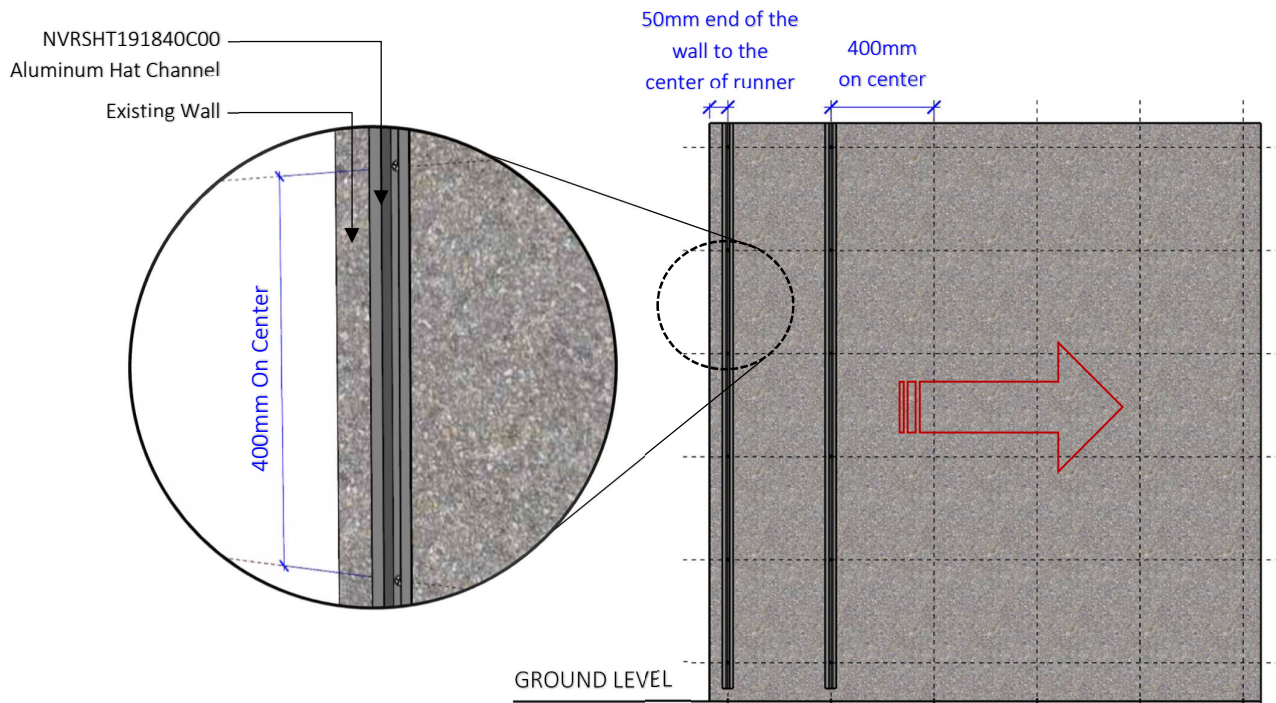
at the start of the installation place the siding gap according to Table 1.4 and mark the first gap made. This gap will be a “Control Gap” to reference when gapping the remaining boards to be installed. Throughout the installation reference back to this “Control Gap” to match the other gaps being installed. This will ensure that all the gaps installed are the same.

2. INSTALLATION - PROCEDURE

SECTION 1 – Batten Substructure

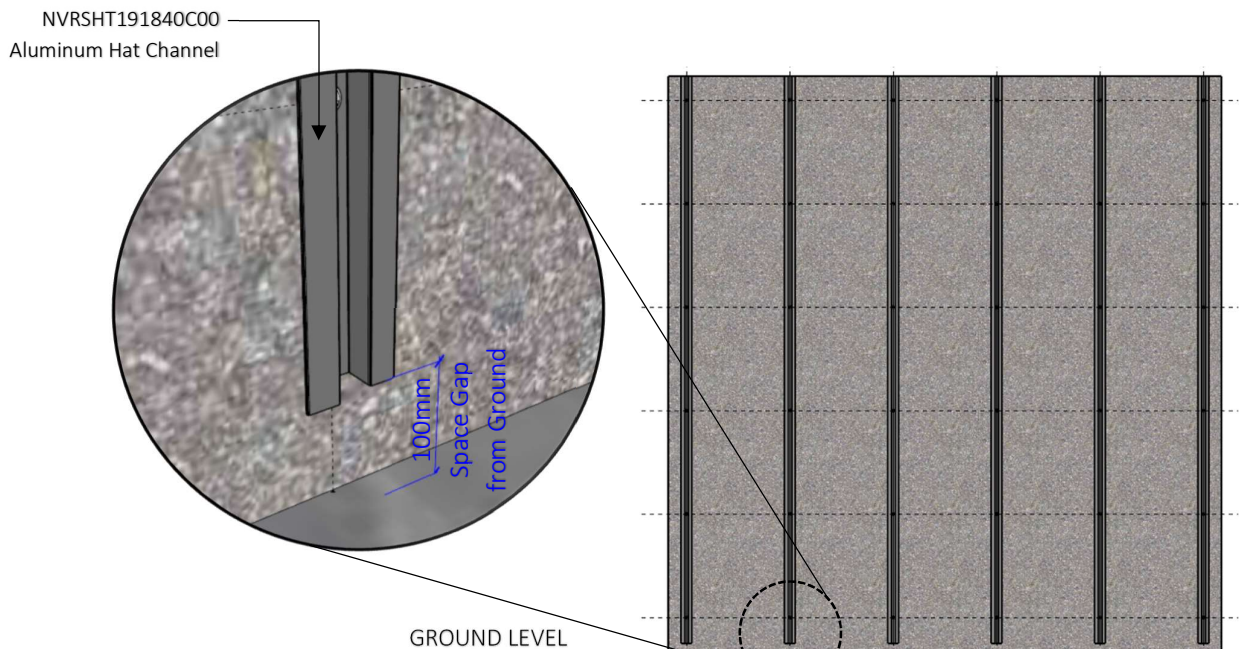
General Notes on Batten Substructure

Novano siding boards can be installed in horizontal or vertical applications and the batten substructure should be planned to accommodate how the siding boards will be installed.



FRONT ELEVATION

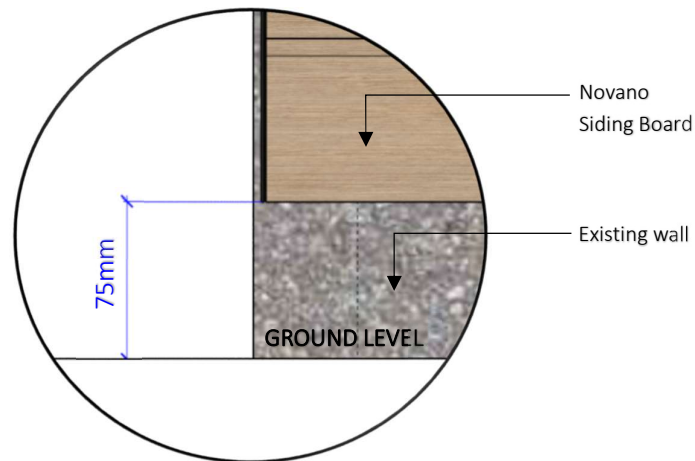
HORIZONTAL SIDING / VERTICAL BATTENS



FRONT ELEVATION

HORIZONTAL SIDING / VERTICAL BATTENS

Novano siding boards require a minimum of 75mm from the ground to the start of the siding board in both horizontal and vertical installations. Plan the batten substructure and wall assembly accordingly to accommodate siding installation while adhering with local building code requirements.



DETAIL
BATTENS DETAIL

Novano Aluminum Batten Substructure

Install the battens and secure to the frame substructure in compliance with local building codes. Ensure that the installed battens do not exceed the “Batten Spacing Requirements” of Table 1.2. On walls where two siding boards will be used end-to-end, a minimum of two battens must be used to accommodate the fastening of the siding boards and any trim pieces desired to the batten substructure where the boards meet. Prior to installing the Novano siding boards, ensure that the batten installation provides a minimum 20mm air gap behind the siding boards and there is sufficient support for all siding boards and trim accessories. This is often achieved through the installation of battens with a minimum thickness of 20mm.

Battens should be installed on top of a code compliant sheathing with fasteners and fastener spacing sufficient to accommodate all loads imposed upon it by the Novano siding board, trim components, and any other accessories attached to the battens. Novano siding boards must be attached to aluminum battens with Novano Shoulder stainless steel screws taking care to not penetrate the weather barrier. If the weather barrier is going to be penetrated reference the weather barrier manufacturer’s recommendations.

Notes on Novano Shoulder Screw

SECTION 2 – Trim and Accessory Options

Aluminum Siding Trim systems made for Novano siding boards are recommended for covering the ends and gaps of siding boards. Suggested supply includes, but is not limited to: Outside Corner Trim, Inside Corner Trim, Starter Strip (to start siding boards), H-Channel Trim (to cover wall gaps), J-Channel Trim (used for siding board termination). Aluminum Siding Trims are standard aluminum alloy 6063 T5 and have a .050” nominal wall thickness. Aluminum Siding Trims come in 3000mm lengths and shall have a standard Mill Finish for field priming and painting unless otherwise specified.

Aluminum Siding Trim – General Installation Guidelines

Aluminum Siding Trim must be cut with a 150 tooth carbide-tip blade for nonferrous metal. Blade Lubricant must be applied to the blade before each cut and the lubricant should be cleaned from the trim prior to installation. None of Siding Trim should be installed horizontally unless weep holes are drilled at 200mm intervals to allow for moisture to escape from behind the face flange. Exceptions to this are 1) Siding Starter Strip installed in any direction and 2) Siding J-Channel Trim when it is installed horizontally with its face flange pointing down.

Novano Aluminum Siding Trim – Aluminum Batten Installation Guidelines

When using metal battens, either steel or aluminum, it is recommended to use the Screw which can be driven through the aluminum siding trim and into the metal batten. Trim should be fastened 400mm on center for either horizontal or vertical installations. If the batten substructure spacing is reduced for the siding boards the trim should be fastened at the same interval as the siding. Be aware of fastener placement for the siding trim so as to not hinder the installation of the Novano siding boards.

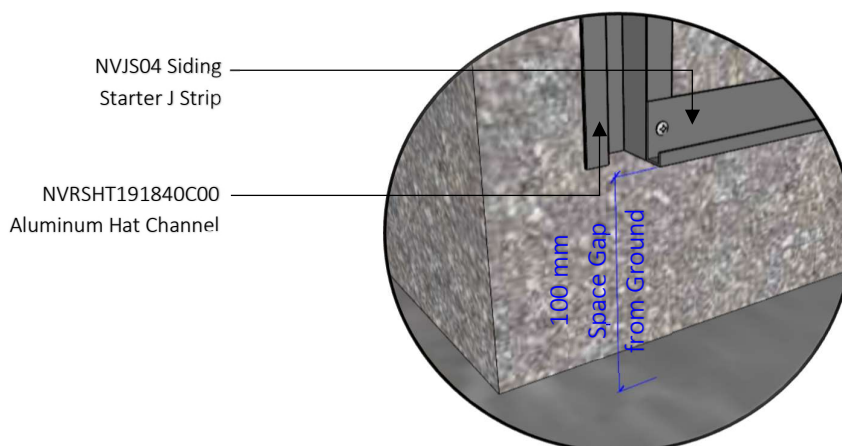
SECTION 3 – Horizontal Siding Applications

STEP 3.1

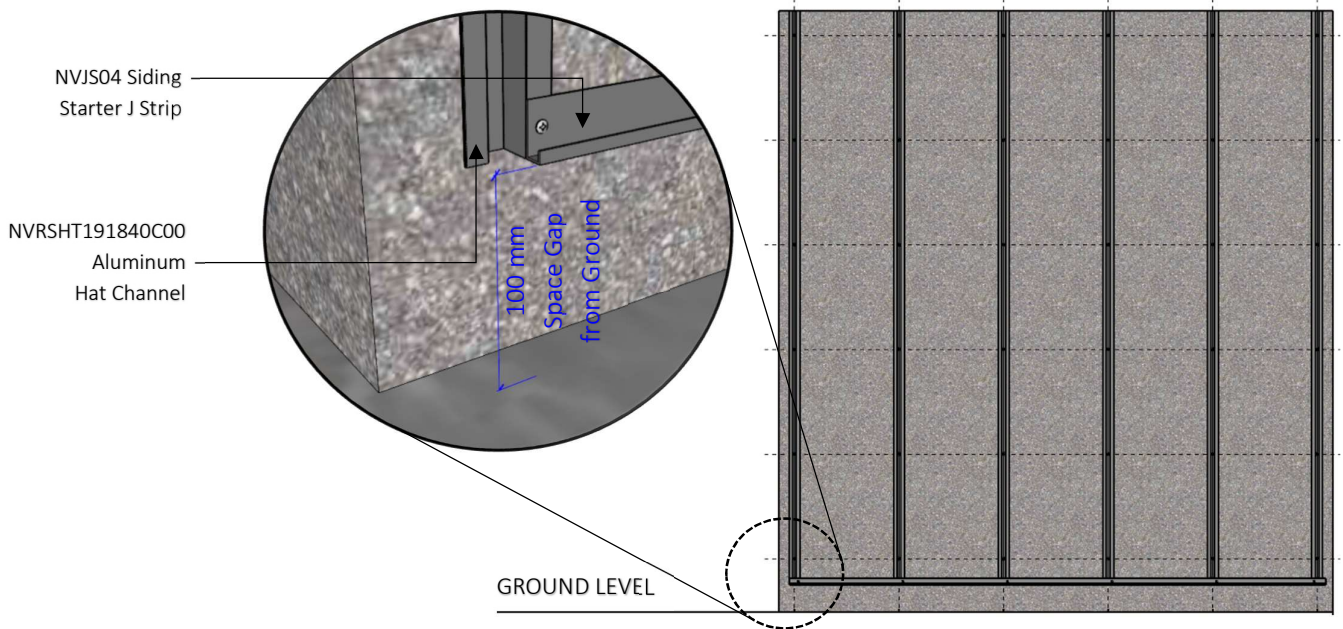
Pre apply all finishing trim accessories such as trim around corners, windows, and doors according to the pre plan layout and following the manufacture’s recommendations. Ensure that all trim is level and square. Battens should be installed vertically.

STEP 3.2

Aluminum starter strip is required to install the Novano siding board. Attach the starter strip at the bottom of the battens following the fastener and spacing recommendations in Section 2. The Novano siding boards will hang 12mm below the bottom of the starter strip therefore the starter strip should be attached accordingly per the pre plan layout.



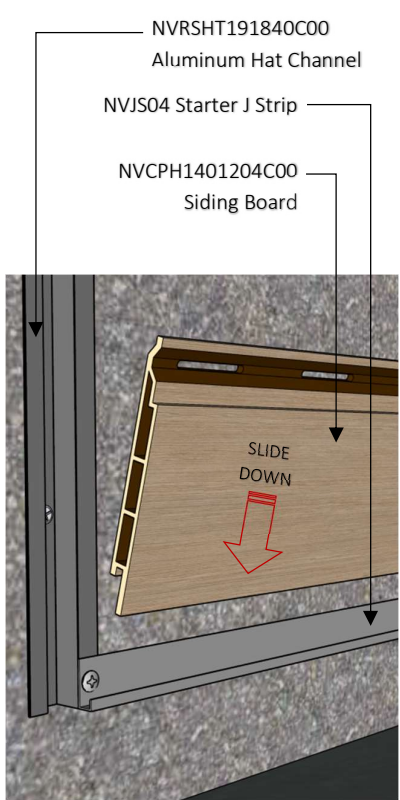
ISOMETRIC DETAIL
NOVANO HORIZONTAL



FRONT ELEVATION
NOVANO HORIZONTAL SIDING BOARD

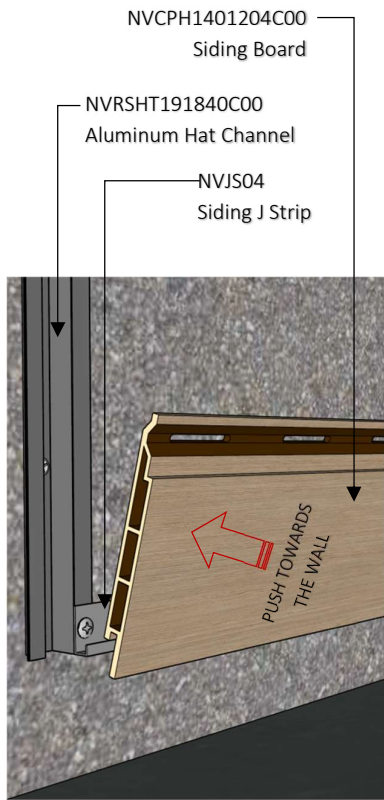
STEP 3.3

Hook the groove end of the first siding board into the Starter J Strip.



DETAIL
NOVANO HORIZONTAL SIDING

Step 1
Slide down the first Novano Siding board into Starter J Strip.



DETAIL
NOVANO HORIZONTAL SIDING

Step 2
Hook the groove end of the first Novano Siding board into the Starter J Strip with SS screw.

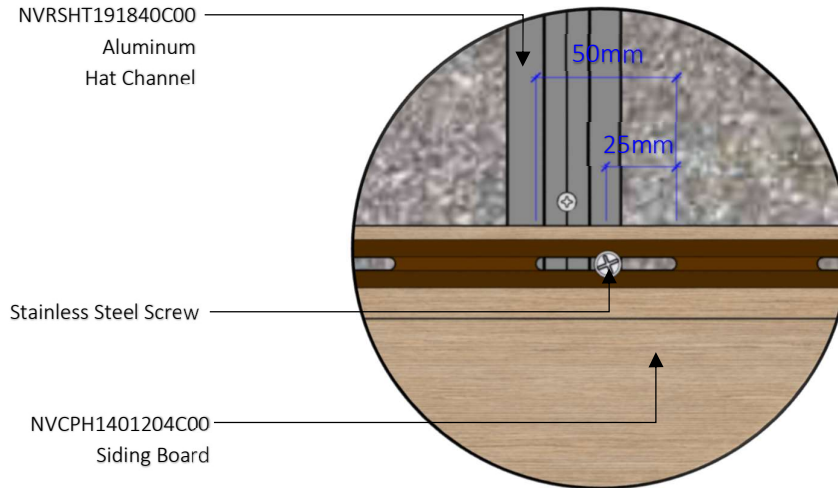


DETAIL
NOVANO HORIZONTAL SIDING

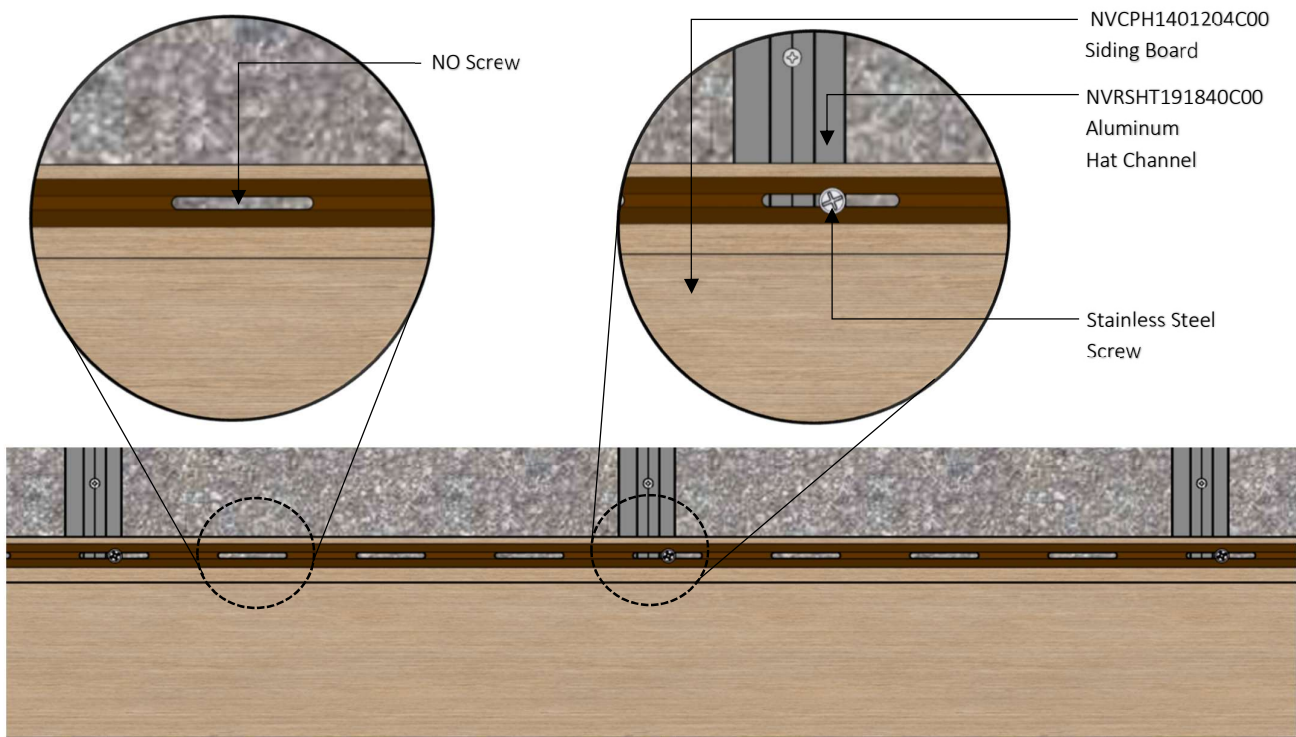
Step 3
Push the Novano Siding board perpendicular into the runner and screw direct to the groove.

STEP 3.4

Install screws into all slotted holes except the center hole. DO NOT over tighten the screws. The screws should be placed in the center of the slotted hole and loose enough to allow the board to move freely from side to side to allow for expansion and contraction.



ISOMETRIC DETAIL
NOVANO HORIZONTAL SIDING BOARD



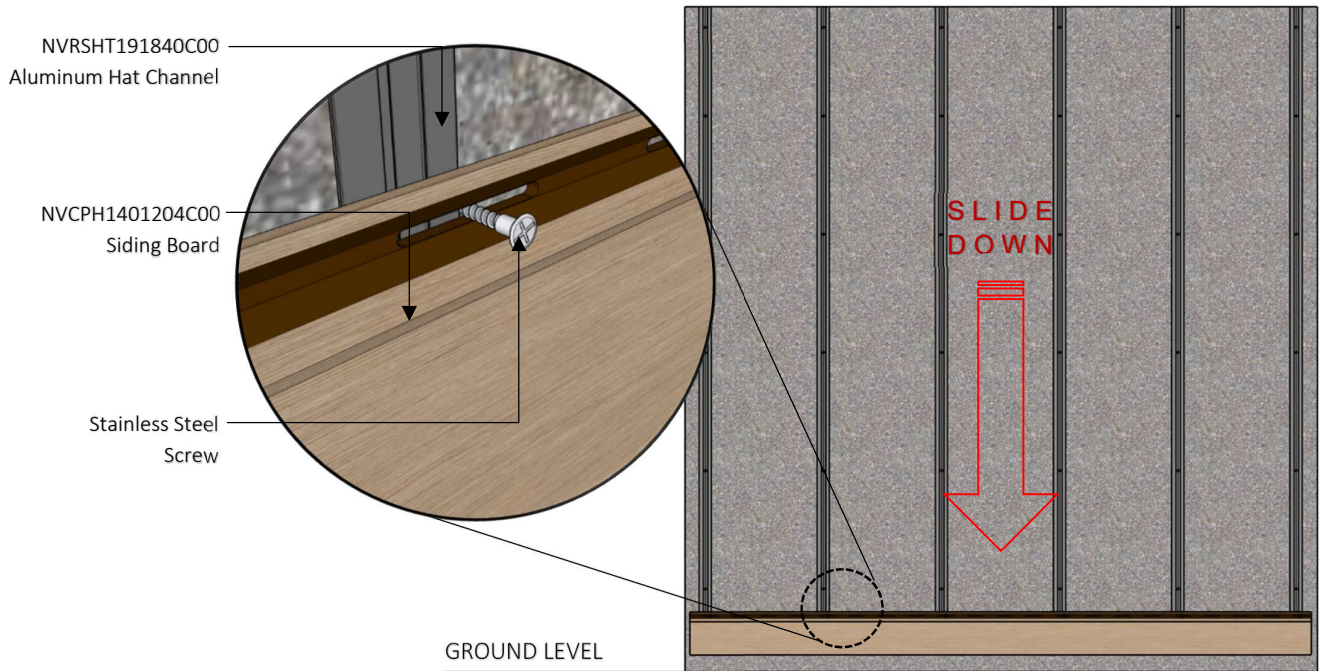
FRONT ELEVATION
NOVANO HORIZONTAL SIDING

Note

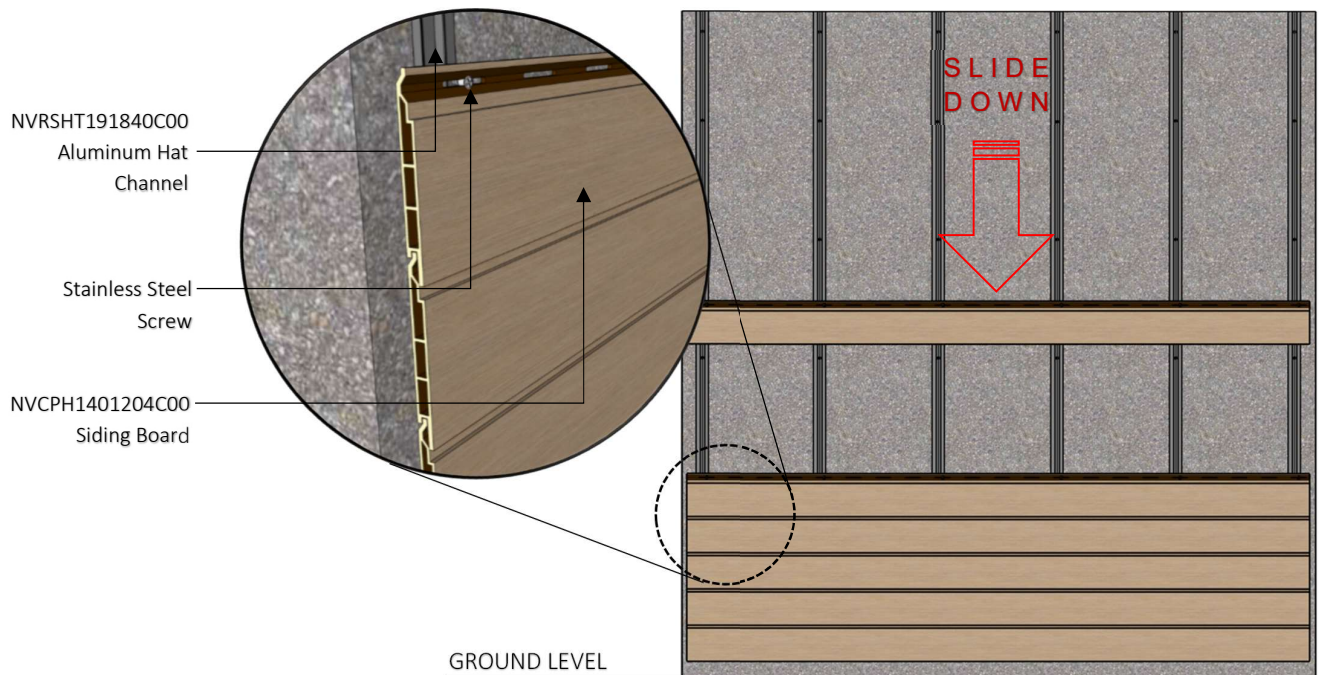
If installing more than one board in width, please refer to Section 4 – Horizontal Multi Board Siding Applications

STEP 3.5

Install the final two screw in the slotted hole in the center of the board. This will allow for expansion and contraction evenly to each side of the assembly.



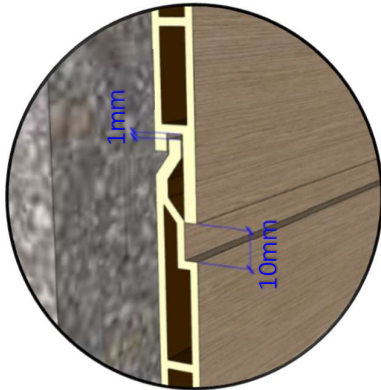
FRONT ELEVATION
NOVANO HORIZONTAL SIDING



FRONT ELEVATION
NOVANO HORIZONTAL SIDING

STEP 3.6

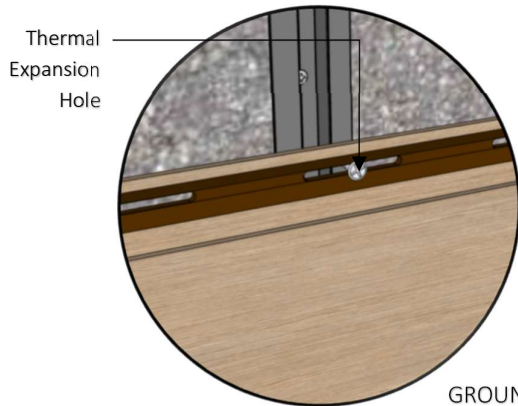
Hook the groove end of the next board onto the tongue of the installed siding board.



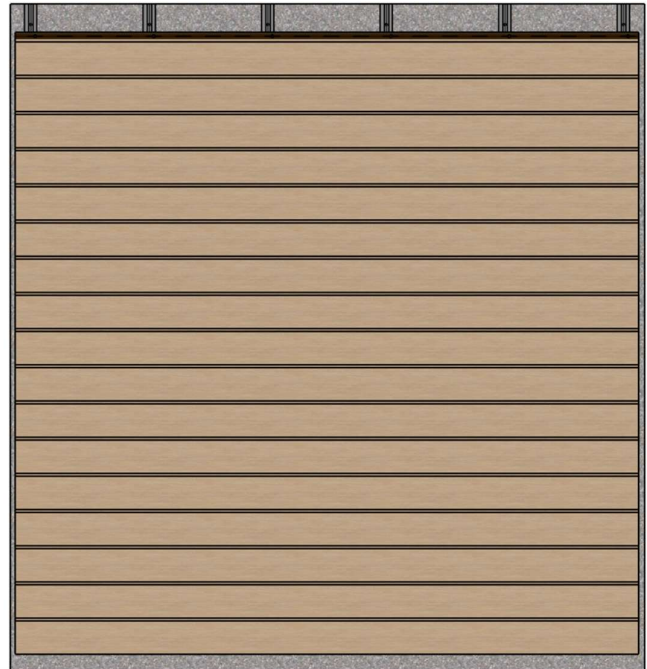
ISOMETRIC DETAIL
RESYSTA HORIZONTAL SIDING

Note:

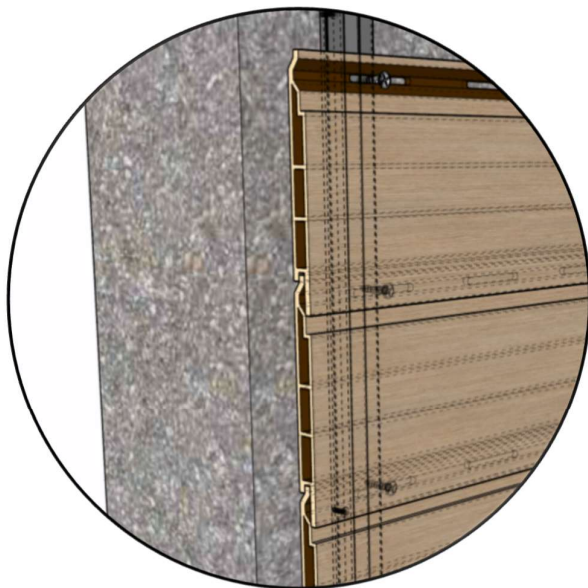
Ensure a 1mm gap expansion using shim with a space gap of 10mm from one board to another board.



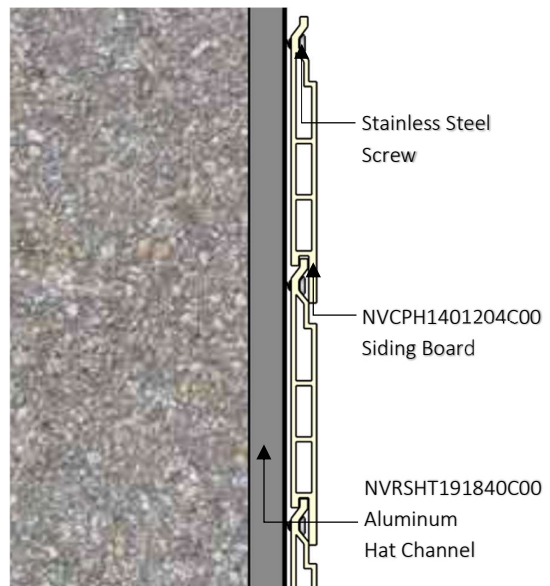
GROUND LEVEL



FRONT ELEVATION
NOVANO HORIZONTAL SIDING



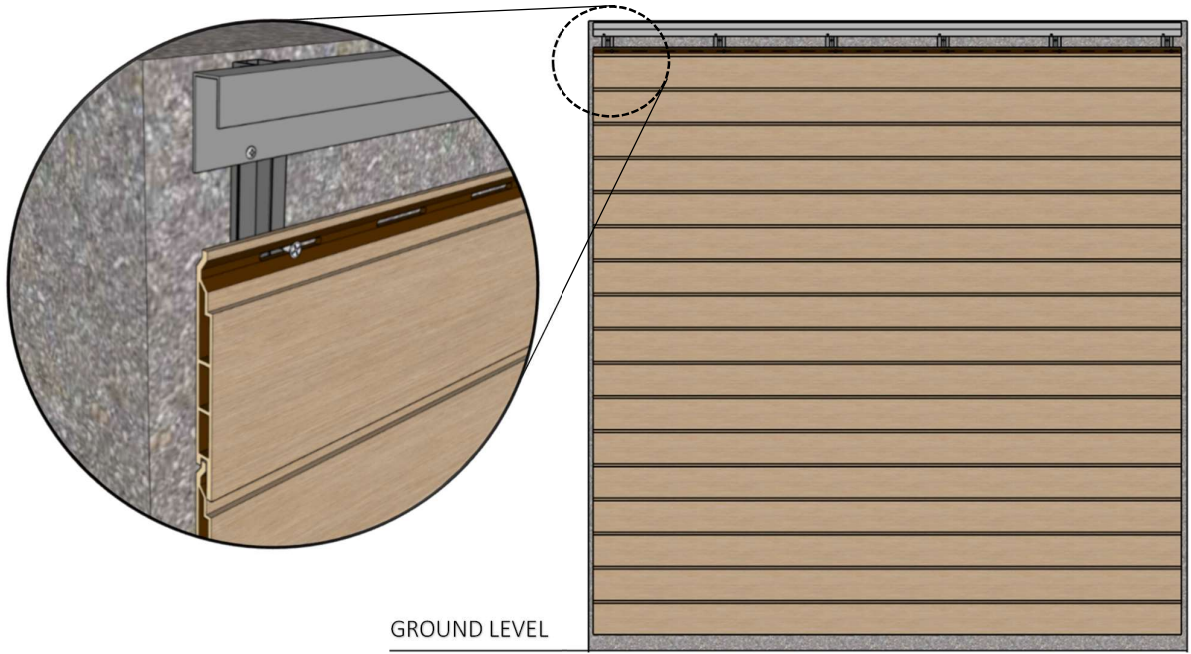
ISOMETRIC DETAIL
NOVANO HORIZONTAL



SECTION
NOVANO HORIZONTAL SIDING

STEP 3.7

Install the J Mold at the end of the Hat Channel to finish the siding.

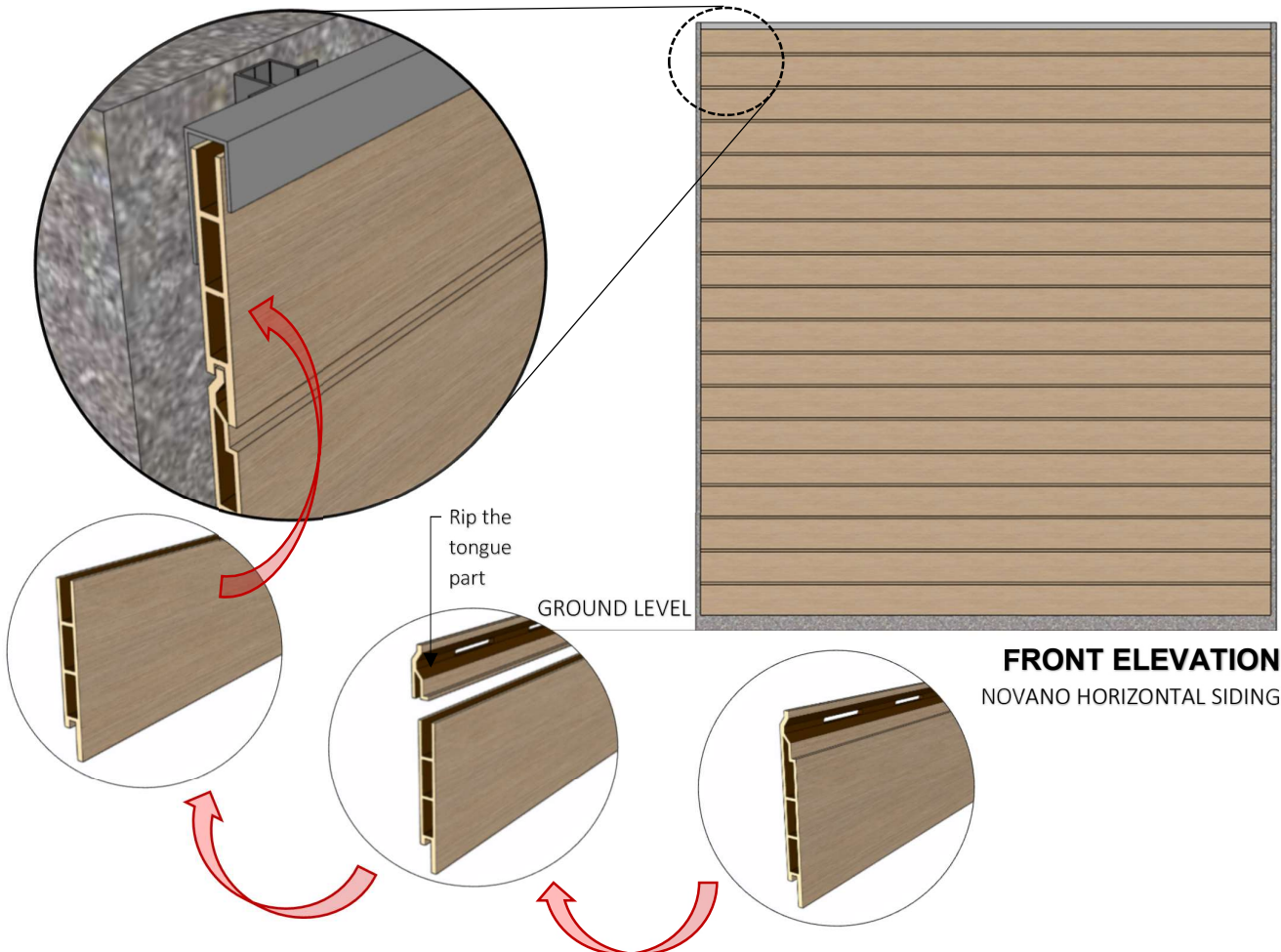


FRONT ELEVATION

NOVANO HORIZONTAL SIDING

STEP 3.8

Continue installing siding boards as outlined in Section 3. Rip last siding board into size to finished.



FRONT ELEVATION

NOVANO HORIZONTAL SIDING

SECTION 4 – Multi-Board Horizontal Siding Applications

2 Board Wide Installation without the H-Channel Trim (24ft max width)

STEP 4.1.1

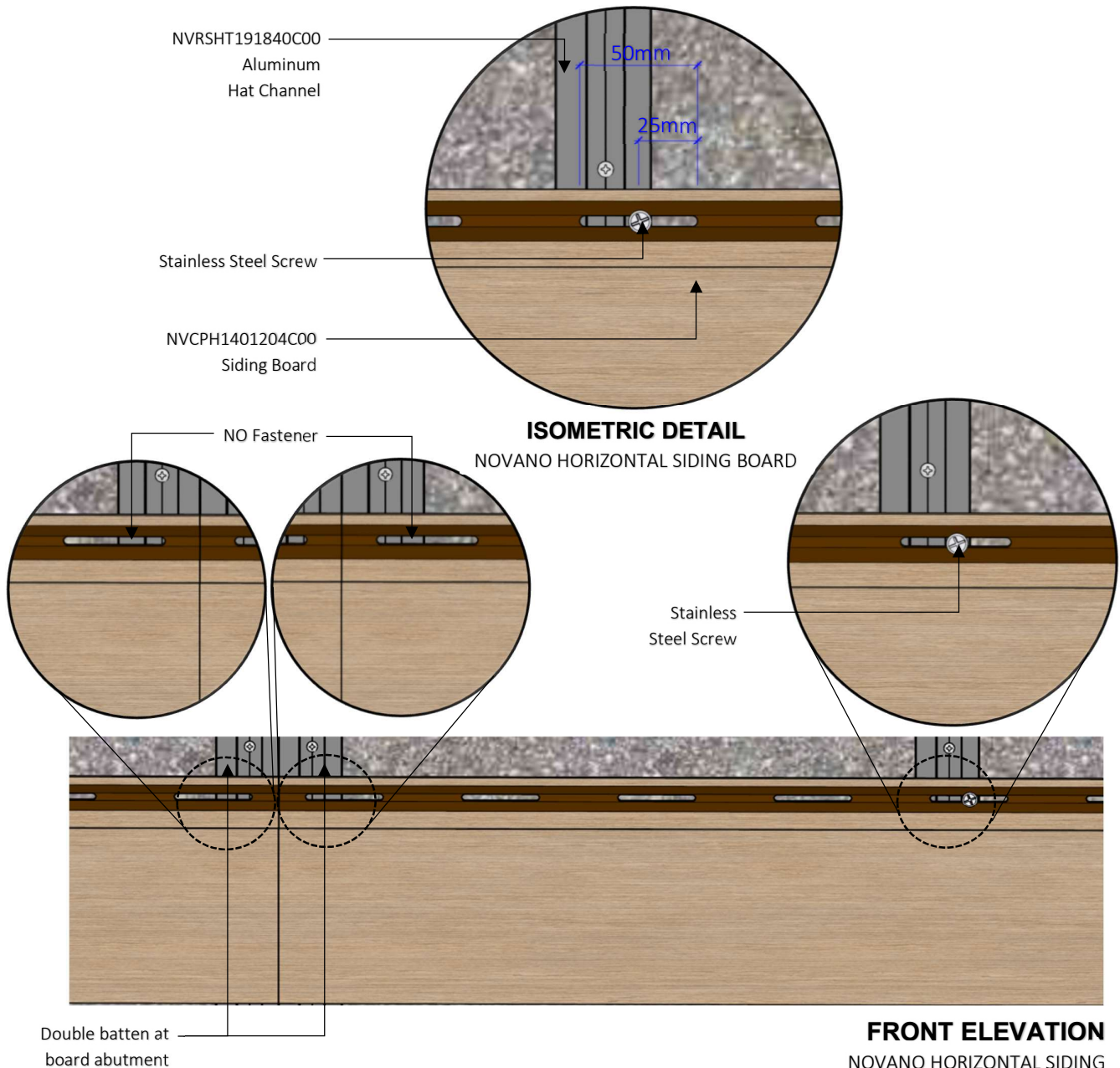
Ensure that two battens have been installed where boards are to be installed end to end.

STEP 4.1.2

Follow Steps 3.1, 3.2, and 3.3 from Section 3 to install finishing trim, starter strip, and hook in the 1st siding board.

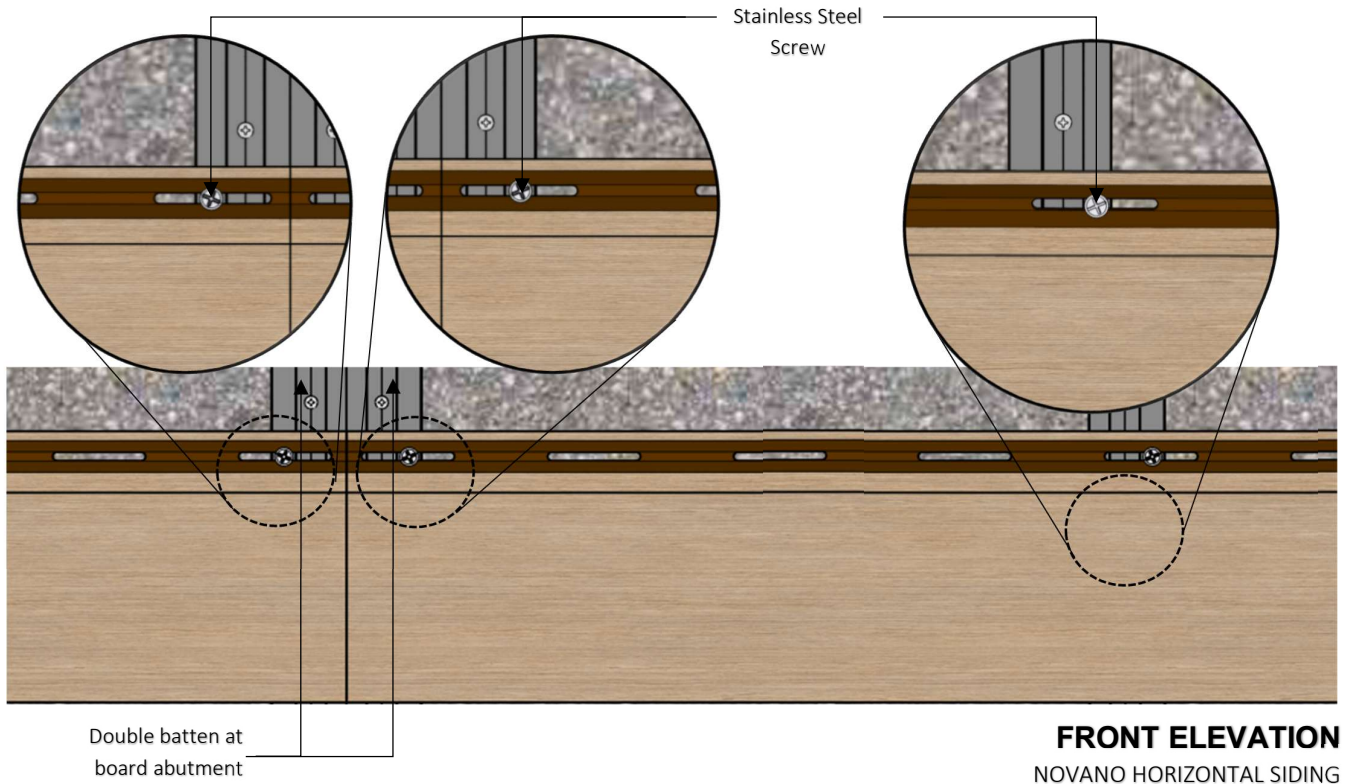
STEP 4.1.3

Install screws into all slotted holes except the hole closest to the abutted joint on both siding boards. DO NOT over tighten the screws. The screws should be placed in the center of the slotted hole and loose enough to allow the board to move freely from side to side to allow for expansion and contraction.



STEP 4.1.4

Install one screw in the slotted hole closest to the abutted joint on both siding boards. The siding board should be secured down at the double batten location with the fastener a maximum of 50mm away from the edge. This will control expansion and contraction evenly to the outside of the siding boards while keeping the abutting joint snug.

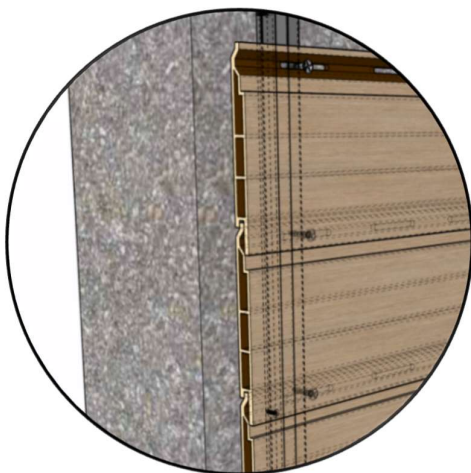


STEP 4.1.5

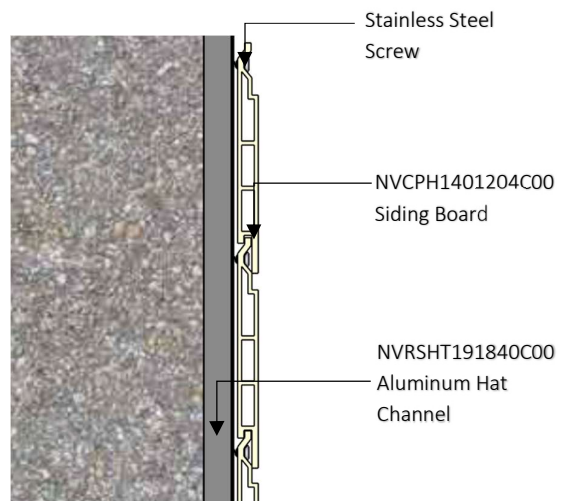
Hook the groove end of the next board onto the tongue of the installed siding board.

STEP 4.1.6

Continue installing siding boards as outlined in Section 4: “2 Board Wide Installation without the H-Channel Trim” until siding is finished.



ISOMETRIC DETAIL
NOVANO HORIZONTAL SIDING



SECTION
NOVANO HORIZONTAL SIDING

Multi-Board Wide Installation using Continuous H-Channel Trim

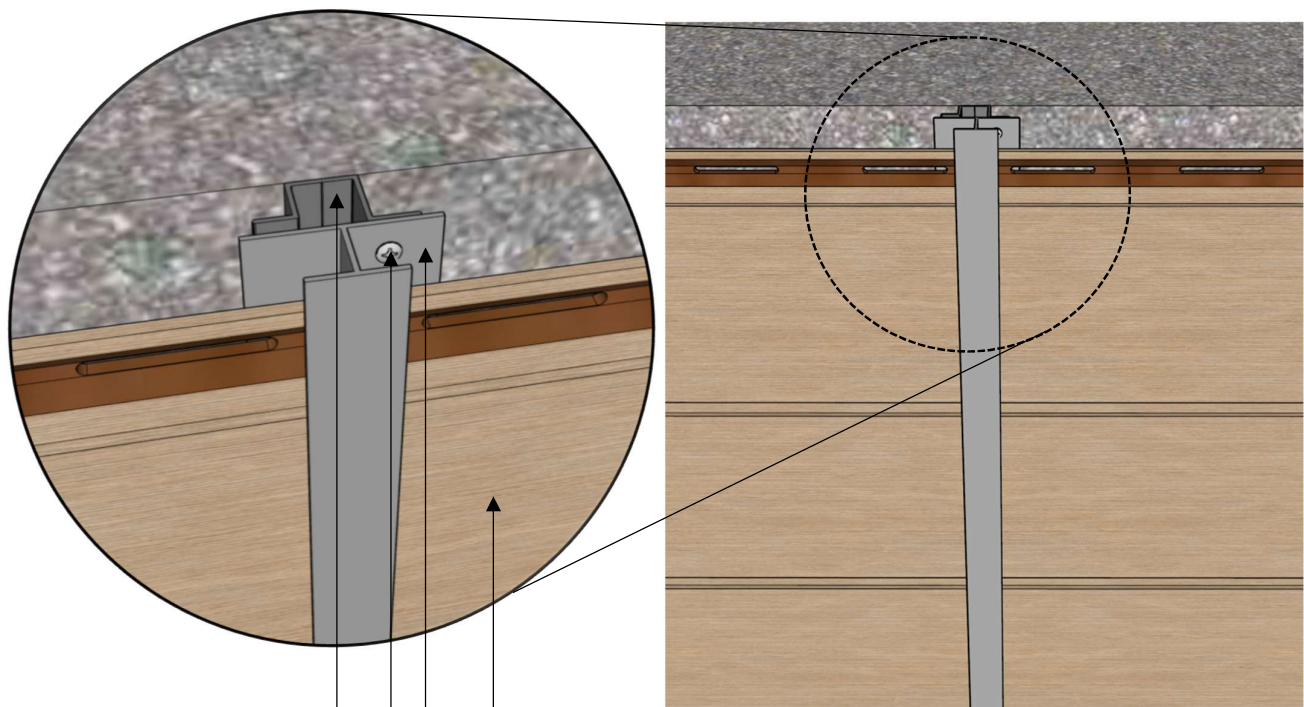
STEP 4.2.1

Ensure that two battens have been installed where boards are to be installed end to end.

STEP 4.2.2

Follow Steps 3.1, 3.2, and 3.3 from Section 3 to install finishing trim, starter strip, and hook in the 1st siding board. An H-Channel should be installed at each board abutment joint to cover the ends of the Novano siding board. This is a option for installations using 3 or more boards abutted end-to-end.

H Mold Profile NVRSHM223040C00 Aluminum Trim



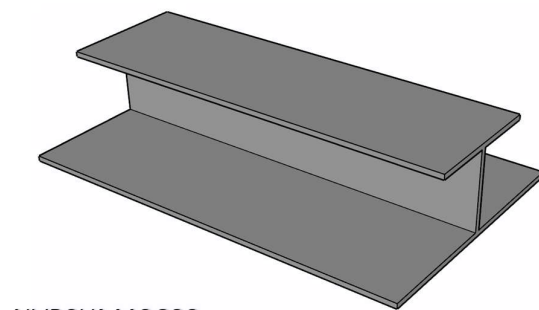
ISOMETRIC VIEW DETAIL
NOVANO HORIZONTAL SIDING

NVRSHT191840C00
Aluminum Hat Channel

Metal Sheet Screw

NVRSHM40C00
Siding H Mold

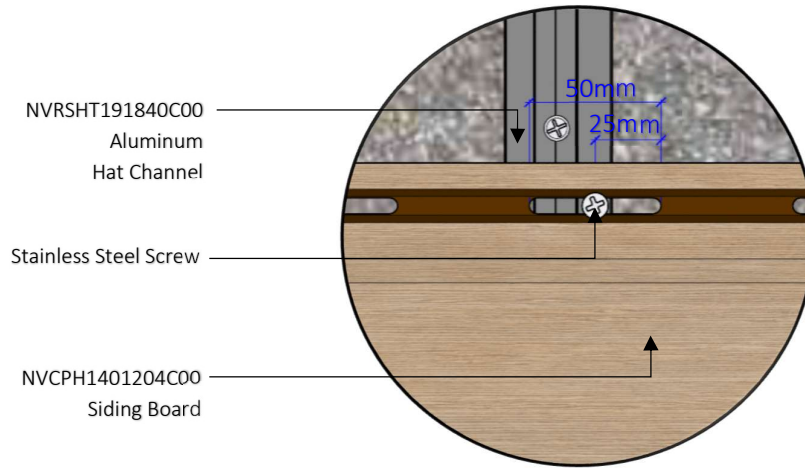
NVCPH1401204C00
Siding Board



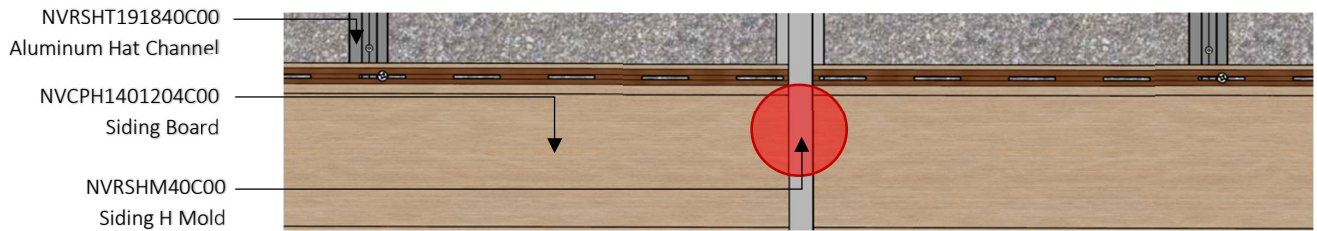
NVRSHM40C00
Siding H Mold

STEP 4.2.3

Install RESCPSS25 screws or #8 screws into all slotted holes except the center hole. DO NOT over tighten the screws. The screws should be placed in the center of the slotted hole and loose enough to allow the board to move freely from side to side to allow for expansion and contraction.



ISOMETRIC DETAIL
NOVANO HORIZONTAL SIDING BOARD

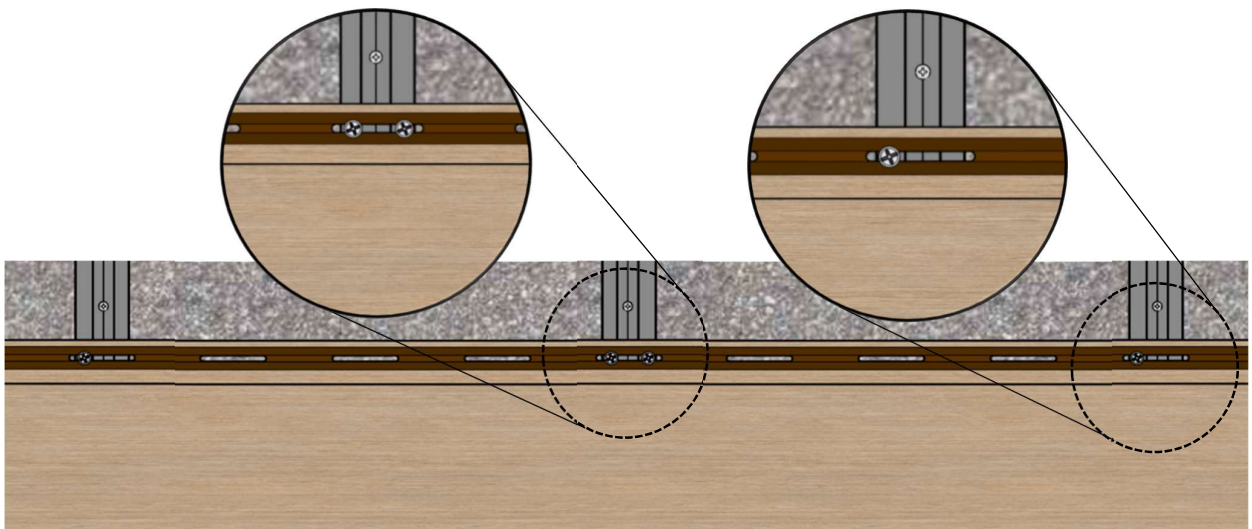


Gap Siding Spacing
Ref. Table 1.2

FRONT ELEVATION
NOVANO HORIZONTAL SIDING

STEP 4.2.4

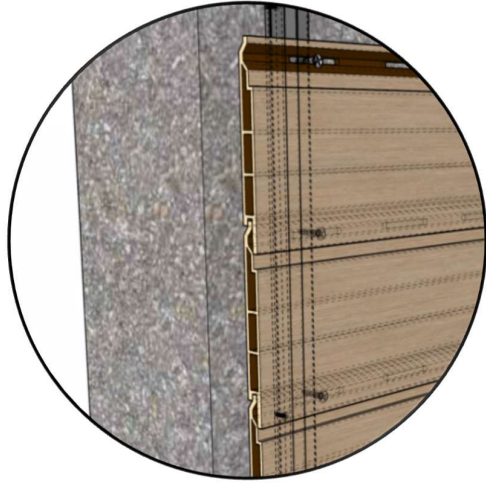
Install the final two screws closest to the ends in the slotted hole in the center of the board. This will allow for expansion and contraction evenly to each side of the assembly.



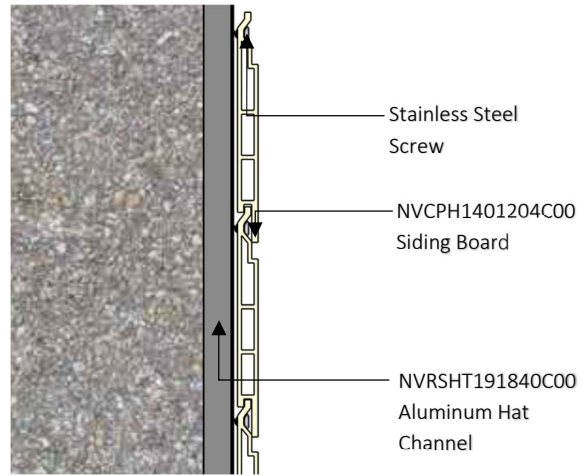
FRONT ELEVATION
NOVANO HORIZONTAL SIDING

STEP 4.2.5

Hook the groove end of the next board onto the tongue of the installed siding board.



ISOMETRIC DETAIL
NOVANO HORIZONTAL SIDING



SECTION
NOVANO HORIZONTAL SIDING

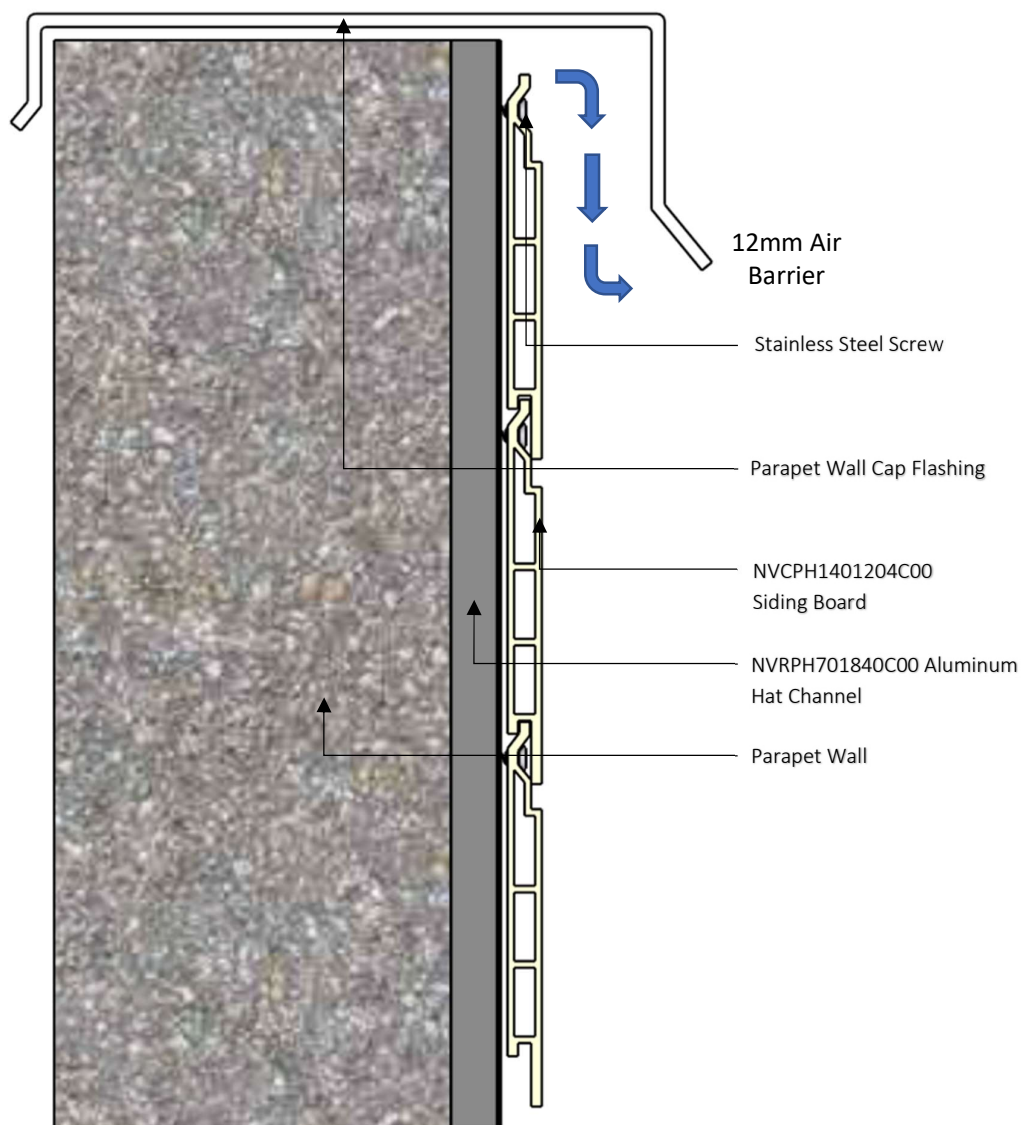
STEP 4.2.6

Continue installing siding boards as outlined in Section 4: “Multi-Board Wide Installation using the H-Channel Trim” until siding is finished.

SECTION 5 – Air Barrier – Requirements

For all of the installation options it is crucial to allow the uninterrupted flow of air from the bottom to the top of the wall system. This creates a chimney effect which provides not only moisture wicking but also cooling behind the Novano siding.

Air flow must be able to release at the top of the construction. For that reason a 12mm gap between the top of the Novano siding board and the Parapet Wall Cap Flashing is necessary. The same size gap is needed between the face of the Novano siding board and the Parapet Wall Cap Flashing. This should also be followed when using the J channel at the top of the wall.

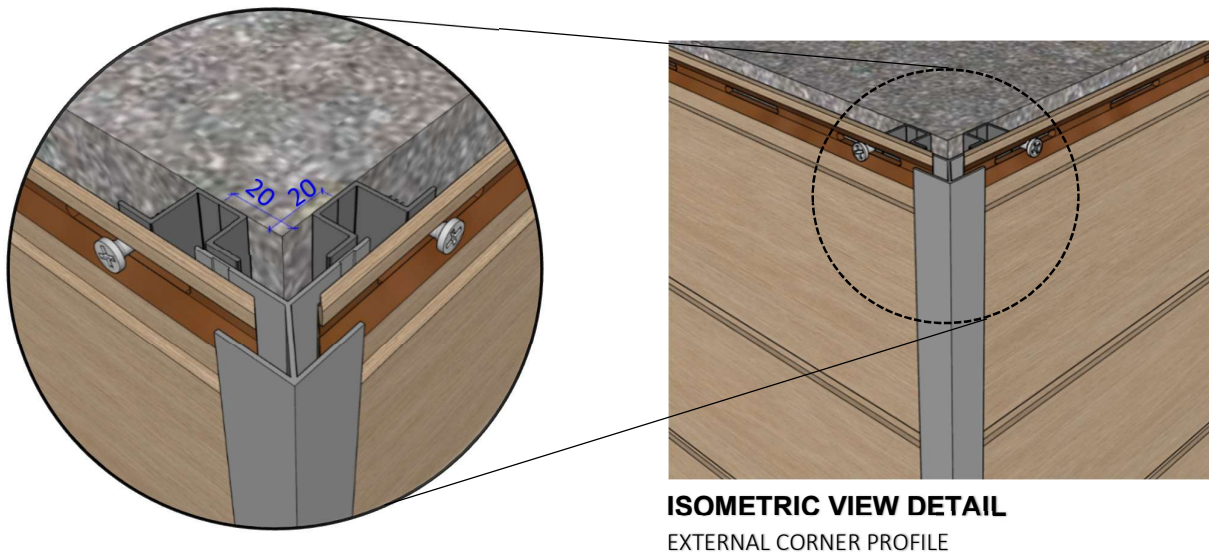
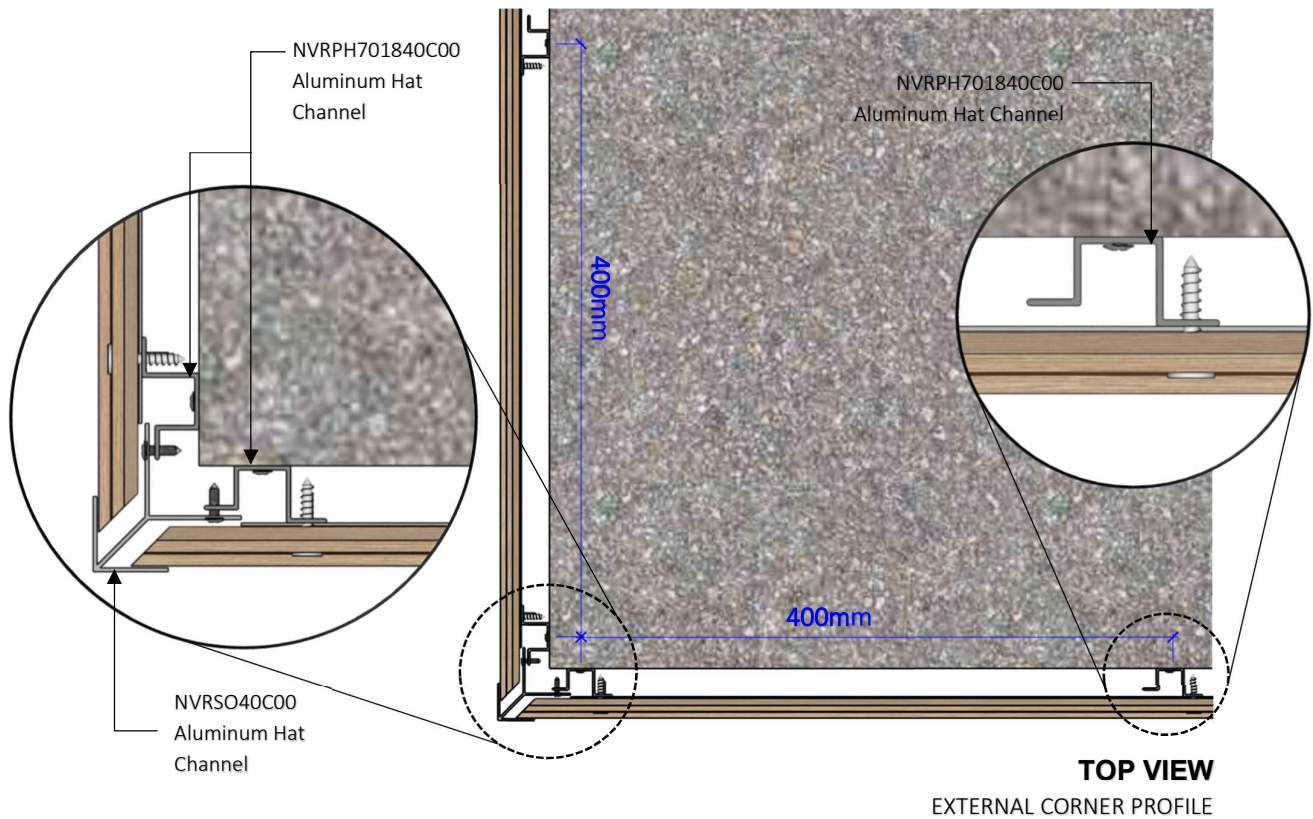


SECTION DETAIL

SECTION 6 – Finishing Trim

HORIZONTAL OUTSIDE CORNERS

Outside corner trim should be pre applied prior to installing siding boards. The starter strip for the first board should be installed butted against the corner trim, not overlapping the corner trim attachment flange. The siding board end that is inserted into the outside corner should be miter cut at a 45 degree angle to match up with the outside corner internal web. Follow the gap guide when installing the siding board to allow for expansion and contraction within the outside corner trim. Install horizontal siding per previous sections. When using aluminum hat channel for outside corner application, installer may reverse and attaché hat channel so that the flanges meet.

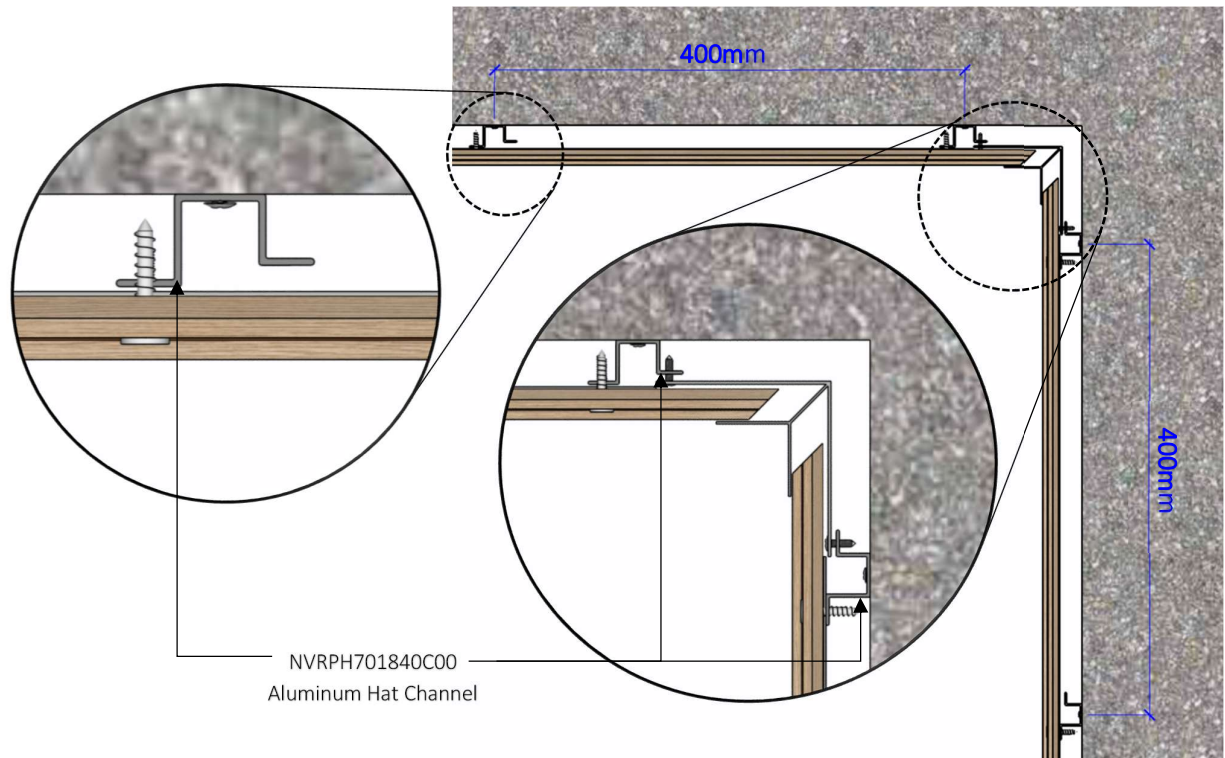


HORIZONTAL INSIDE CORNERS

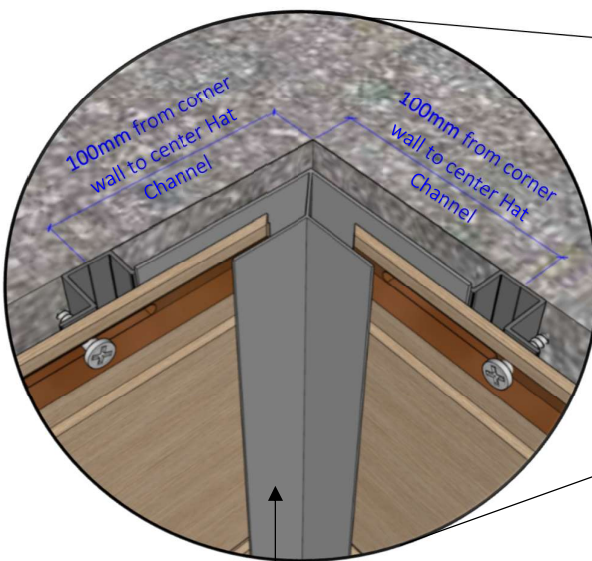
Inside corner trim should be pre-applied prior to installing siding boards. The starter strip for the first board should be installed butted against the corner trim, not overlapping the corner trim attachment flange. Follow the gap guide when installing the siding board to allow for expansion and contraction within the inside corner trim. Install horizontal siding per previous sections.

Note

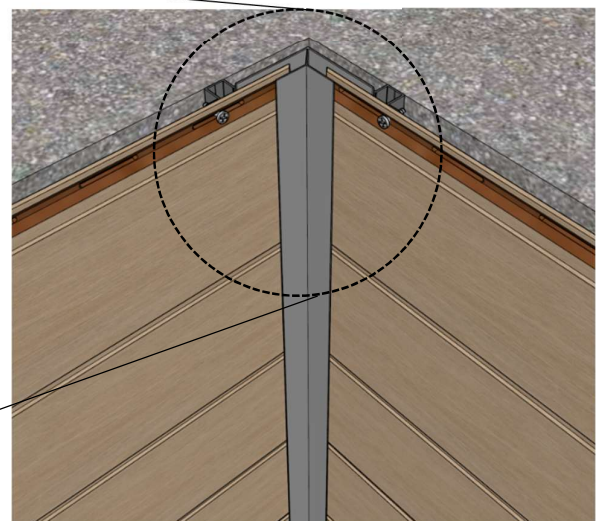
The corners of the Novano siding inside of the trim need to be mitered. This gives more room for expansion inside of the trim and leaves more of the face of the siding when it contracts.



TOP VIEW
INTERNAL CORNER PROFILE



NVRSIC40C00
Aluminum Hat Channel

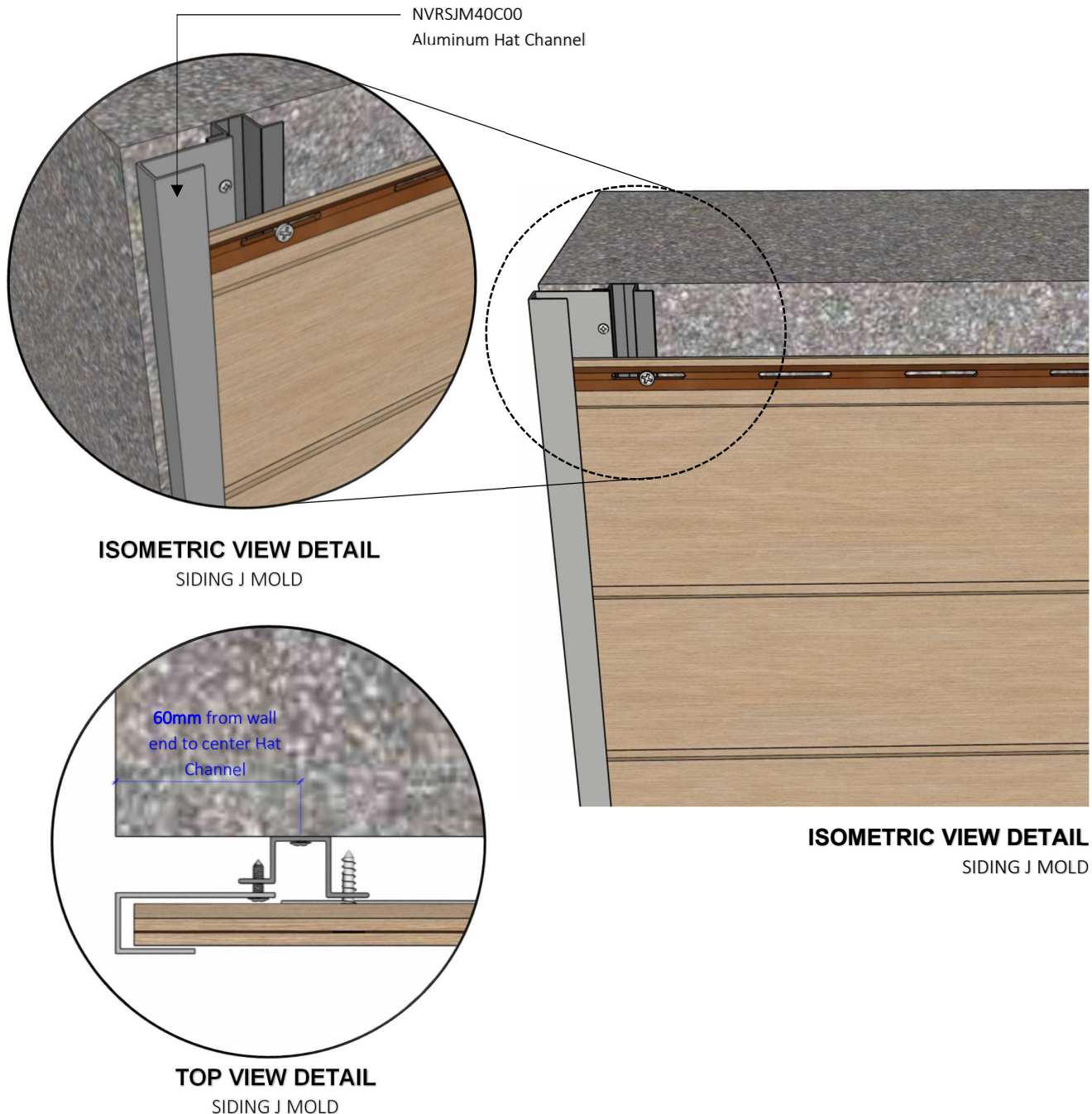


ISOMETRIC VIEW DETAIL
INTERNAL CORNER PROFILE

BOARD TERMINATION TRIM

When a siding board in either a horizontal or vertical application terminates into a wall, eave, window, door etc. a J-channel should be used to cover the exposed end of the siding board. The J-channel should also be used along the bottom of a vertical installation. J-channel trim should be pre-applied prior to installing siding boards. In the case of an intersecting joint the starter strip should be installed butted against the J-channel trim, not overlapping the J-channel trim attachment flange. Follow the gap guide when installing the siding board to allow for expansion and contraction within the J-channel trim.

HORIZONTAL APPLICATION

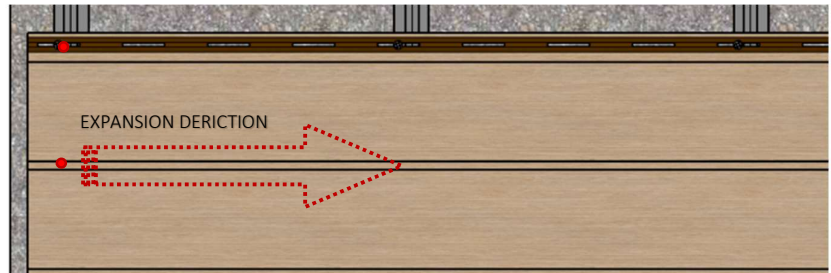
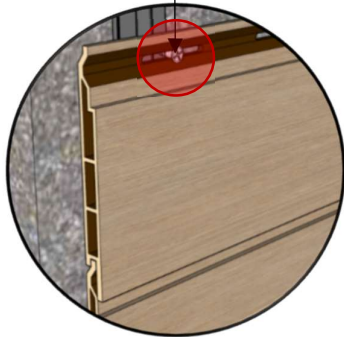




Pinning is a way to control the direction of expansion of the Novano Siding board, each board needs to be fixed in one location depending on how you want to control the expansion.

Option 01 *Every board should hard pinned on one end to allow expansion in one direction.*

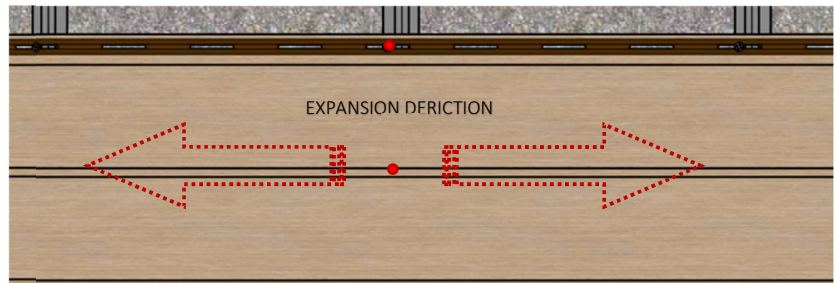
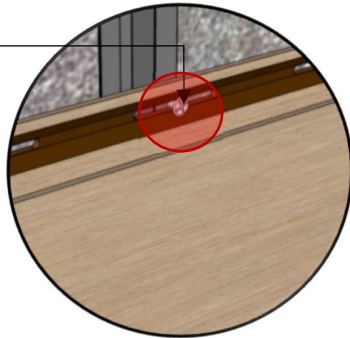
Pinning the Stainless-Steel Screw at the first hole of the Novano Siding board.



PINNING LOCATION
OPTION 01 AT ONE END

Option 02 *Every board should hard pinned in the middle to allow for equal expansion left and right.*

Pinning the Stainless-Steel Screw at the middle hole of Novano Siding board.



PINNING LOCATION
OPTION 02 AT THE MIDDLE

SECTION 7 – Primer and Stain System

Novano recommends using approved water based stain and sealant system.

3. Safety Warning

Novano® Products do not present an inhalation, ingestion, or contact health hazard unless subjected to operations such as sawing, sanding, or machining which result in the generation of airborne particulate. This product contains crystalline silica. Respirable crystalline silica limits are specified by OSHA. Exposure to respirable (fine) silica dust depends on a variety of factors, including activity rate (e.g. cutting rate), method of handling, ventilation, environmental conditions (e.g. weather conditions, workstation orientation), and engineering control measures used. Exposures to respirable crystalline silica above limits established by OSHA are not expected during the normal use of this product. Crystalline silica, has been shown to cause silicosis, and has been identified by the State of California, IARC and NTP as a known human carcinogen. The risk of developing silicosis is dependent upon the exposure intensity and duration. It is recommended that a NIOSH approved particulate respirator be worn whenever working with this product results in airborne dust exposure.