

INSTALLATION GUIDE

NOVANO U-BRACKET CLADDING SYSTEM

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I. INTRODUCTION

Engineered for architectural consistency and lifetime durability, the NOVANO U-Bracket Cladding System utilizes a high-performance board profile. Fastened with U-Brackets, it ensures a seamless finish across every application.

NOVANO composite cladding is a **fully integrated system** designed to deliver consistent performance, visual continuity, and reliable installation results across residential and commercial projects. Every component, from the Cladding Profile to the fastening elements, works together as one coordinated solution.

This approach simplifies specification, reduces installation complexity, and ensures a clean, cohesive finish from deck surface to perimeter details.

SECTION 1 - MATERIAL COMPONENTS

The traditional construction industry has long been limited by the biological vulnerabilities of timber. At NOVANO, we have moved beyond mere imitation to True Engineering. Our technology is centered on a proprietary synthesis of natural innovation and high-performance polymers, creating a wood-free composite that excels where organic fibers fail.

By manipulating the molecular structure of our raw materials, we ensure high-density fiber reinforcement that provides unrivaled dimensional stability and moisture resistance. This is Nature Reinvented, a next-generation material designed to meet the rigorous mechanical demands of global architectural standards while offering a superior total value through long-term structural integrity.

SECTION 2 - BASICS

*Metal Support

Concrete Wall

NV-SWWCL-3870-UBC

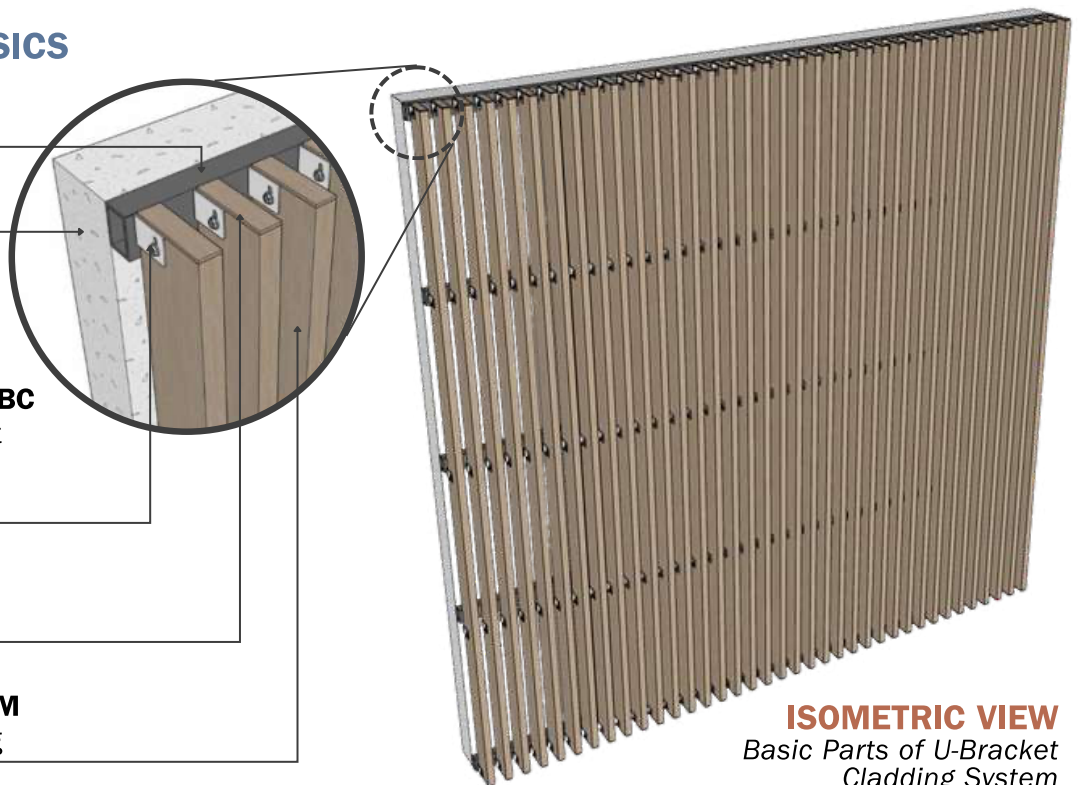
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-SWVEC-14038

4 CH Hollow Cap

NV-WCL-14038-3MM

4 CH Thick Cladding

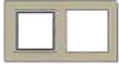


NOTE:

**Metal Structure supplied by 3rd party.*

Brackets can also be bolted directly into concrete walls or other structural panels but would need to be engineered by certified parties.

SECTION 3 - SCOPE OF DELIVERY

ITEM No.	PRODUCT NAME & SPECIFICATION	ISOMETRIC VIEW	SECTION VIEW
1	NV-WCL-3838-H 1 1/2" x 1 1/2" x 12' 1 CH Thick		
2	NV-SWW-3838-ALUIN 1 1/2" x 1 1/2" x 12' 1 CH Thick with Aluminum Insert		
3	NV-SWVEC-3838 1 1/2" x 1 1/2" 1 CH Hollow Cap		
4	NV-SWWCL-3838-UBC 1 1/2" x 1 1/2" Aluminum U-Bracket with screw & nut 5mm x 50mm long		
5	NV-WCL-7038-2H 2 3/4" x 1 1/2" x 12' 2 CH Thick		
6	NV-SWW-7038-ALUIN 2 3/4" x 1 1/2" x 12' 2 CH Thick with Aluminum Insert		
7	NV-SWVEC-7038 2 3/4" x 1 1/2" 2 CH Hollow Cap		
8	NV-SWWCL-3870-UBC 1 1/2" x 2 3/4" Aluminum U-Bracket with screw & nut 8mm x 50mm long		

SECTION 3 - SCOPE OF DELIVERY

ITEM No.	PRODUCT NAME & SPECIFICATION	ISOMETRIC VIEW	SECTION VIEW
9	NV-WCL-14038-3MM 5 ½" x 1 ½" x 12' 4 CH Thick		
10	NV-SWW-14038-ALUIN 5 ½" x 1 ½" x 12' 4 CH Thick with Aluminum Insert		
11	NV-SWVEC-14038 5 ½" x 1 ½" 4 CH Hollow Cap		

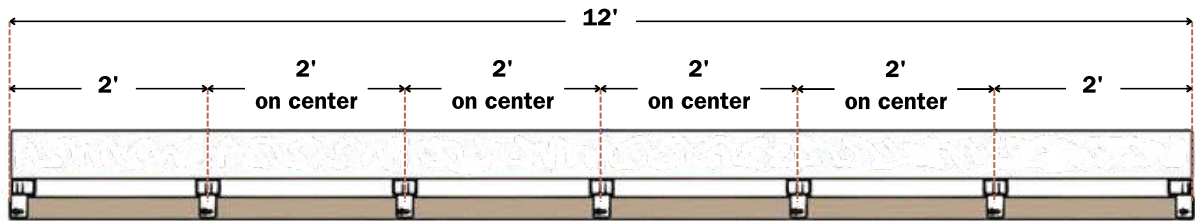
Table 1.1 - Scope of Delivery

NOTE:

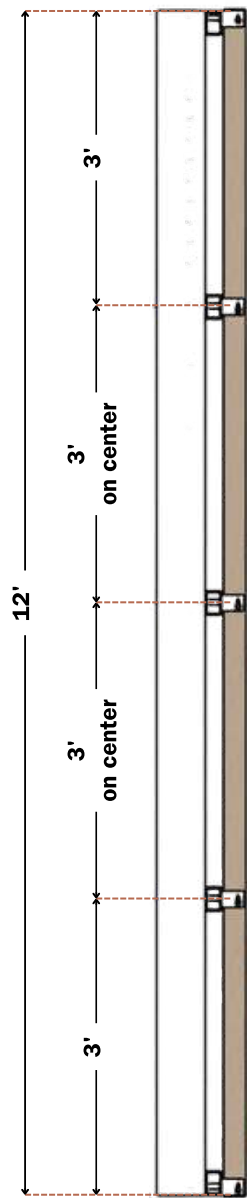
To view a complete list of products, please refer to our NOVANO brochure or visit our website www.novanobuildingproducts.com

SECTION 4 - U-BRACKET SPACING

1. NV-WCL-7038-2H
2 3/4" x 1 1/2" x 12'
2 CH Thick Cladding Profile



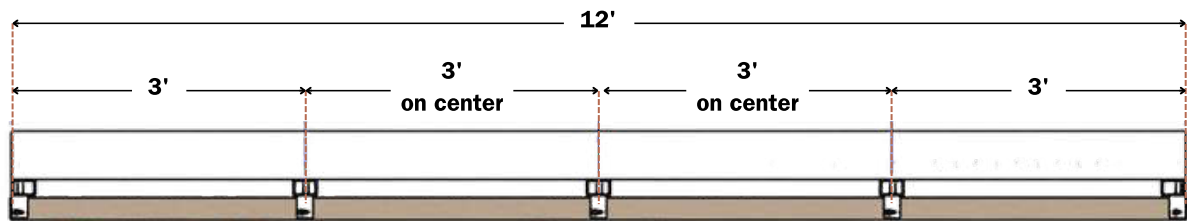
HORIZONTAL LAY-OUT
Top View
2' U-Bracket Spacing



VERTICAL LAY-OUT
Side View
3' U-Bracket Spacing

SECTION 4 - U-BRACKET SPACING

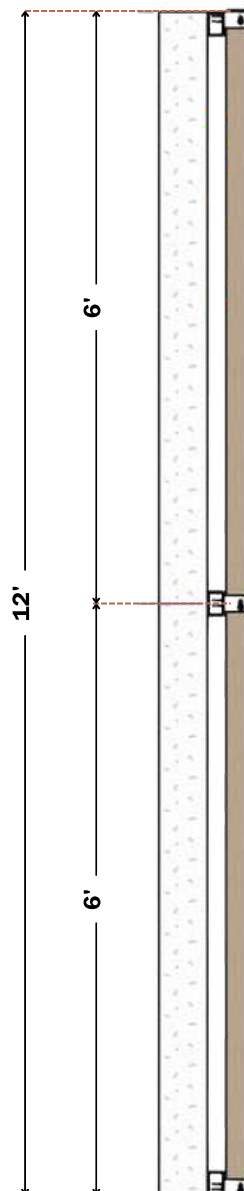
2. **NV-SWW-7038-ALUIN**
2 $2\frac{3}{4}" \times 1\frac{1}{2}" \times 12'$
2 CH Thick with Aluminum Insert
Cladding Profile



HORIZONTAL LAY-OUT

Top View

3' U-Bracket Spacing



VERTICAL LAY-OUT

Side View

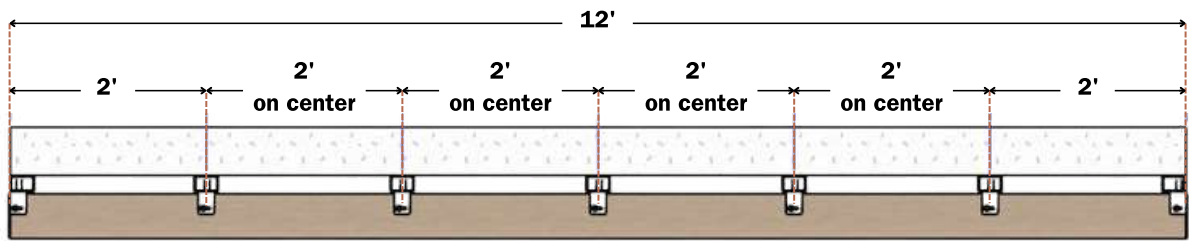
6' U-Bracket Spacing

SECTION 4 - U-BRACKET SPACING

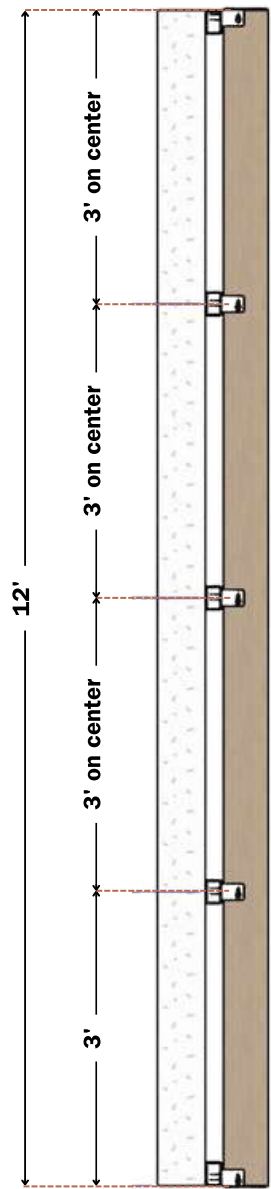
3.
- NV-WCL-14038-3MM

5 1/2" x 1 1/2" x 12'

4 CH Thick Cladding Profile



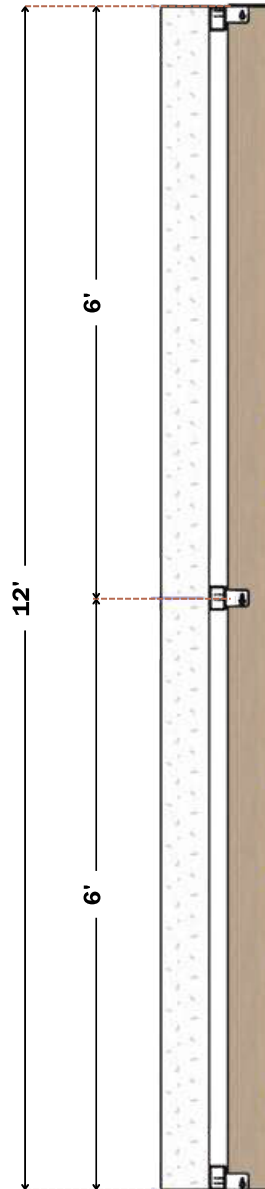
HORIZONTAL LAY-OUT
Top View
2' U-Bracket Spacing



VERTICAL LAY-OUT
Side View
3' U-Bracket Spacing

SECTION 4 - U-BRACKET SPACING

4. **NV-SWW-14038-ALUIN**
5 ½" x 1 ½" x 12'
4 CH Thick with Aluminum Insert
Cladding Profile



VERTICAL LAY-OUT

Side View

6' U-Bracket Spacing

NOTE:

NV-SWW-14038-ALUIN Cladding Profile **CAN NOT** be installed on a **Horizontal Lay-out**.

II. INSTALLATION PROCEDURE

SECTION 1 - VERTICAL LAY-OUT

STEP 1

Check the layout and designed direction of the cladding to be installed; whether it is horizontal, vertical or depends on the design requirements.

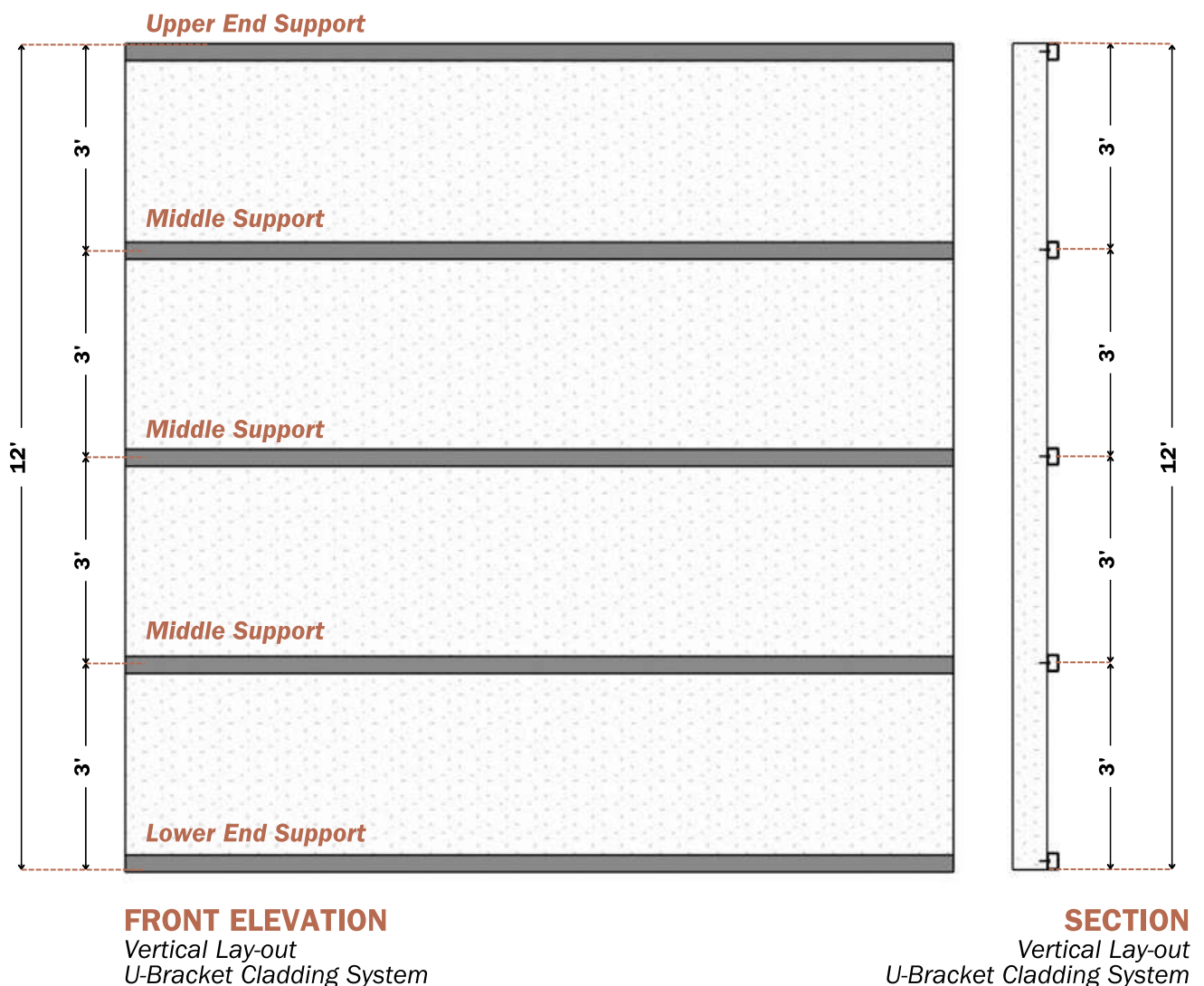
STEP 2

Ensure that the metal support is 100% levelled and plumbed before installing the aluminium U-bracket on the metal support.

STEP 3

The location of the metal support will vary depending on what type of Novano Cladding is being used. Please refer the spacing of the metal support and U-Bracket on Section 4 U-Bracket Spacing.

PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

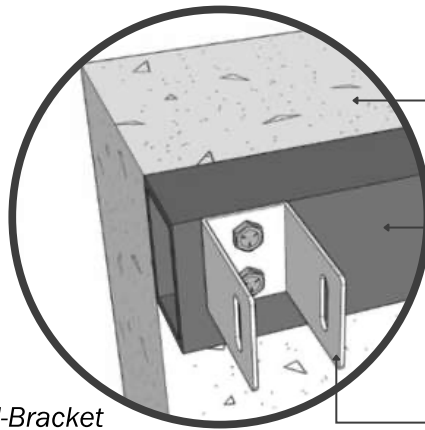


PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

STEP 4

Install the first U-bracket vertically at the corner end of the metal support flashed and levelled, followed by a U-bracket in every 3' center of horizontal metal support.



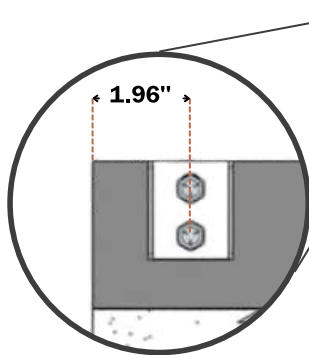
Concrete Wall

*Metal Support
by Others

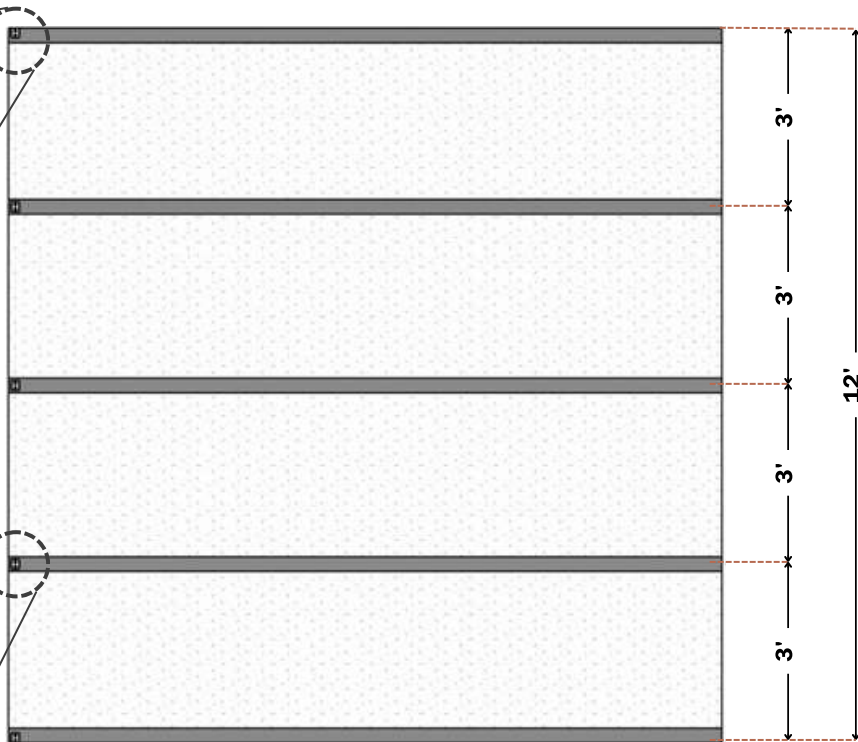
NV-SWWCL-3870-UBC

Aluminum U-Bracket
with screw & nut
8mm x 50mm long

DETAIL 1
Upper End U-Bracket

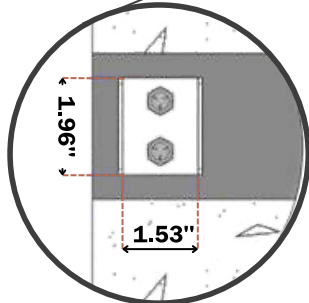


ELEVATION
Upper End U-Bracket

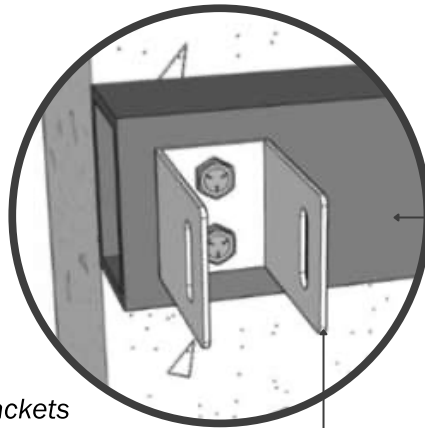


FRONT ELEVATION

Vertical Lay-out
U-Bracket Cladding System



ELEVATION
Middle U-Brackets



*Metal Support
by Others

NV-SWWCL-3870-UBC

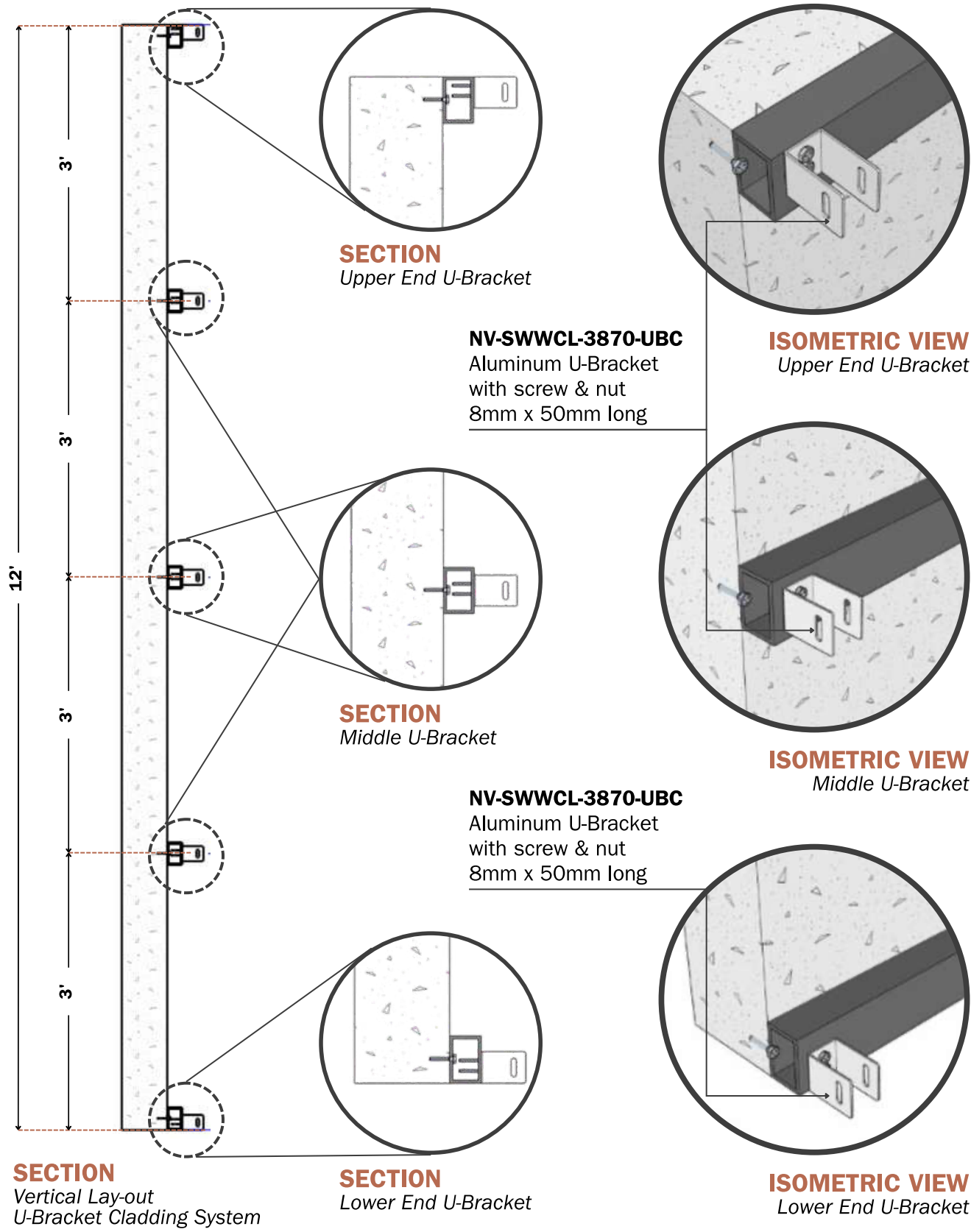
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

DETAIL 2
Middle U-Brackets

PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

STEP 4



PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

STEP 5

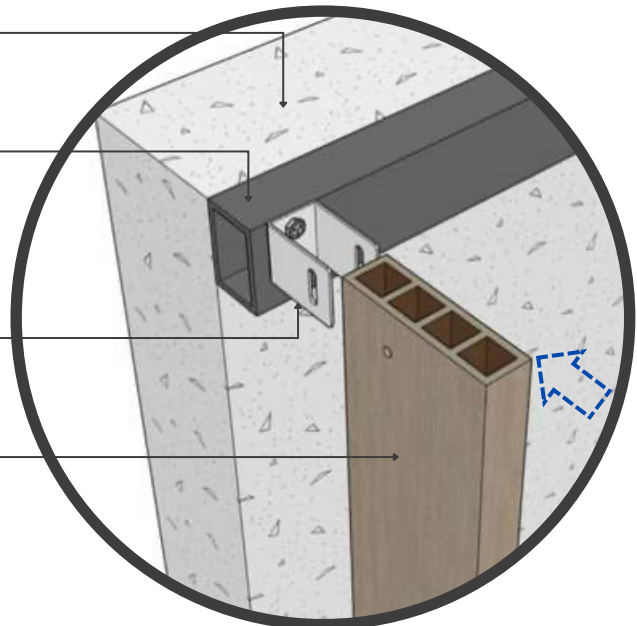
Slide the NV-WCL-14038-3MM vertically into the U-bracket and install the bolt with washer and nut to secure the Novano Cladding profile.

Concrete Wall

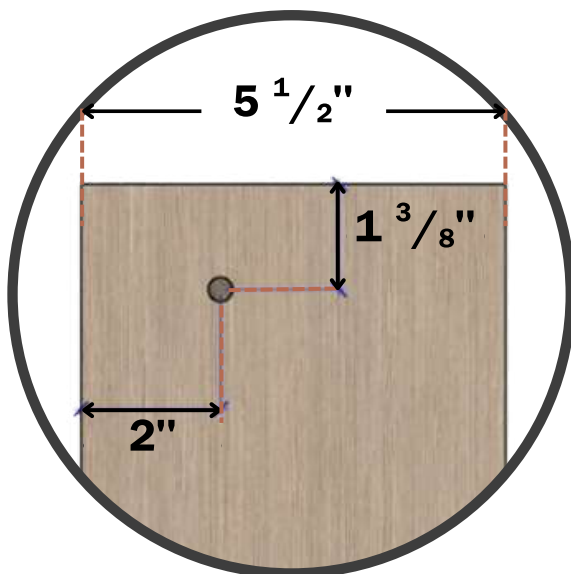
*Metal Support
by Others

NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-WCL-14038-3MM
4 CH Thick Cladding

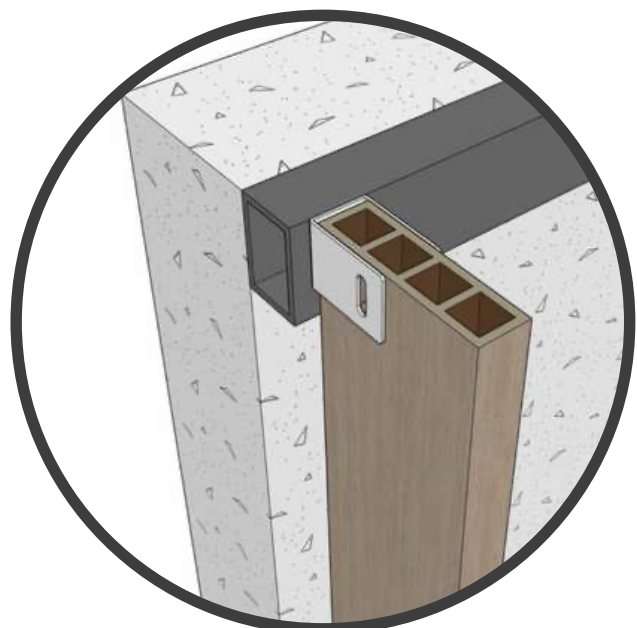


1 - Drill and provide a $\frac{1}{2}$ " diameter hole for the first location of bolt with washer and nut.



HOLE LOCATION

U-Bracket Cladding System



2 - Slide the NV-WCL-14038-3MM Novano Cladding profile vertically into the U-bracket flashed and leveled on the metal support.

PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

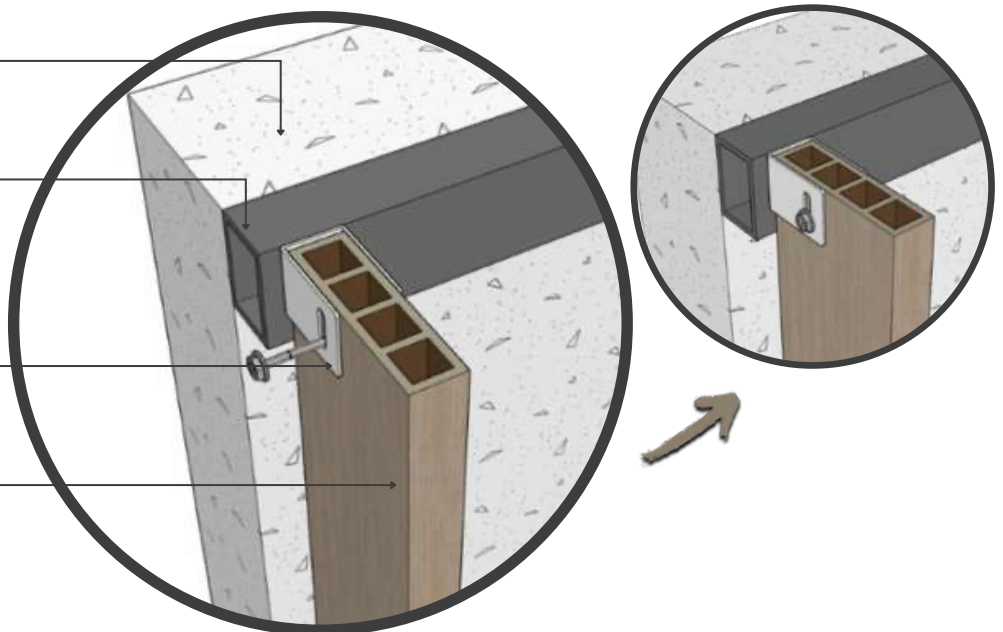
STEP 5

Concrete Wall

*Metal Support
by Others

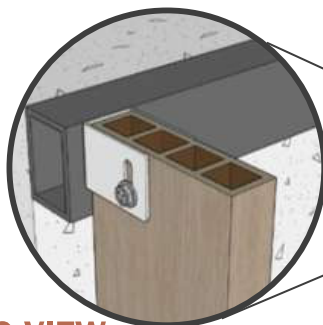
NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-WCL-14038-3MM
4 CH Thick Cladding

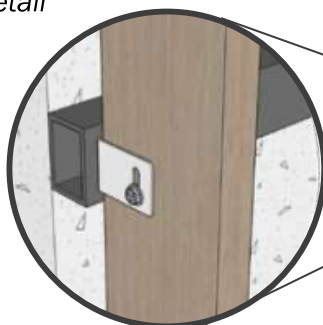


3 - Install the bolt with washer and nut on the lower most part of the U-bracket hole.

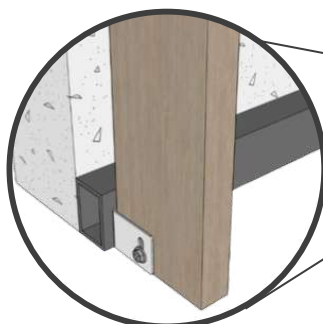
ISOMETRIC VIEW
Upper End Detail



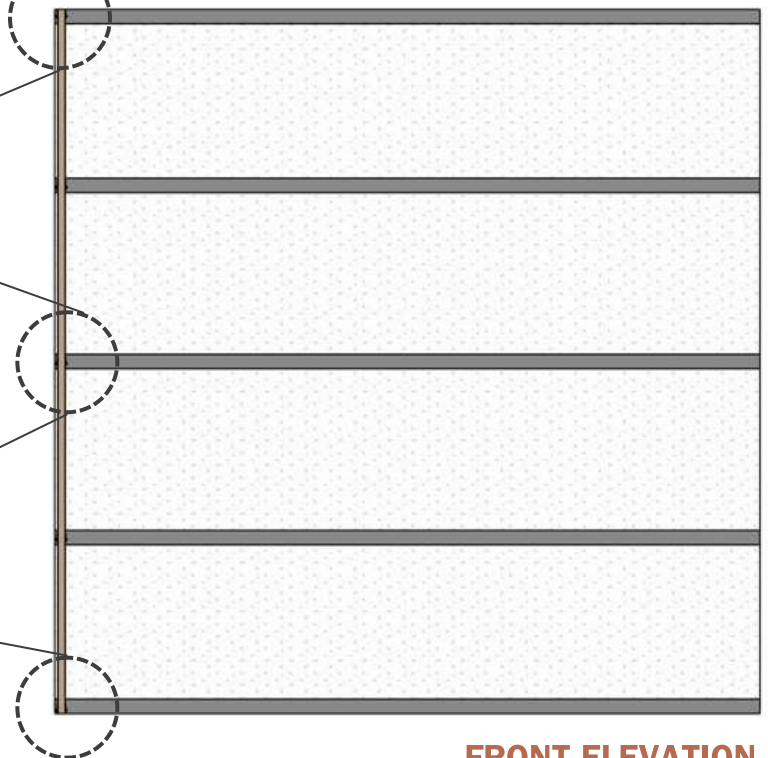
ISOMETRIC VIEW
Middle Detail



ISOMETRIC VIEW
Lower End Detail



FRONT ELEVATION
Vertical Lay-out
U-Bracket Cladding System



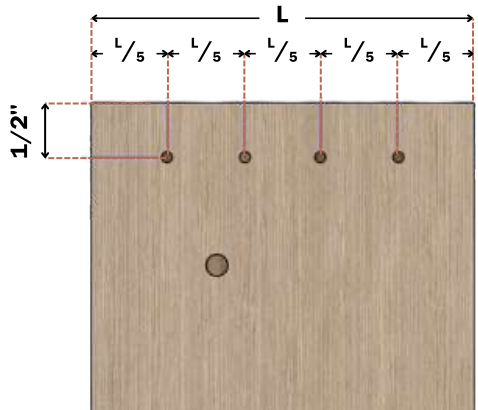
PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

HOLLOW CAP DETAILS

If the profile is to be closed on **BOTH ENDS**,

1 - On one side of the profile need to drill and provide 1/8" diameter hole for every chamber for ventilation.



FRONT ELEVATION
Vertical Lay-out
U-Bracket Cladding System

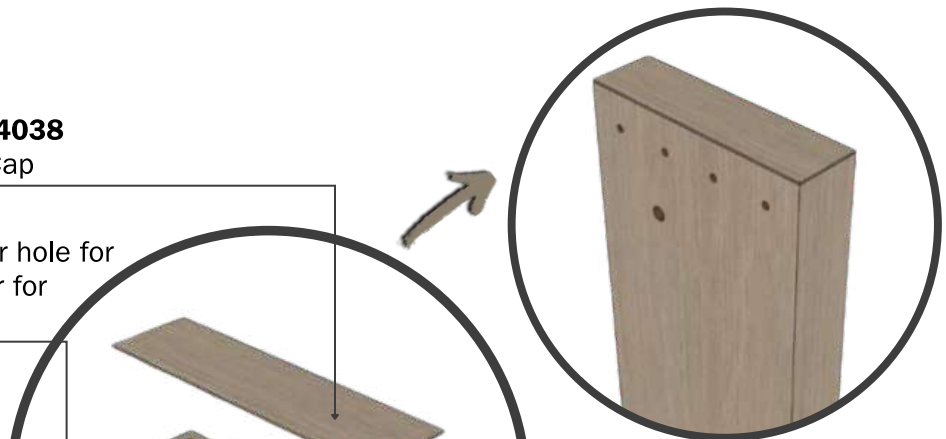
2 - The End cap has a double-sided tape to stick on the profile.

NV-SWWEC-14038
4 CH Hollow Cap

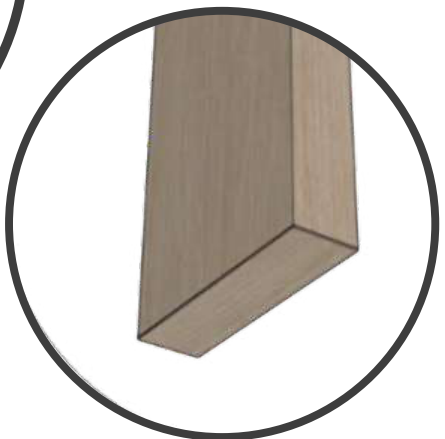
1/8" Diameter hole for every chamber for ventilation

Hole for Bolt

NV-WCL-14038-3MM
4 CH Thick Cladding



ISOMETRIC VIEW
Upper Hollow Cap



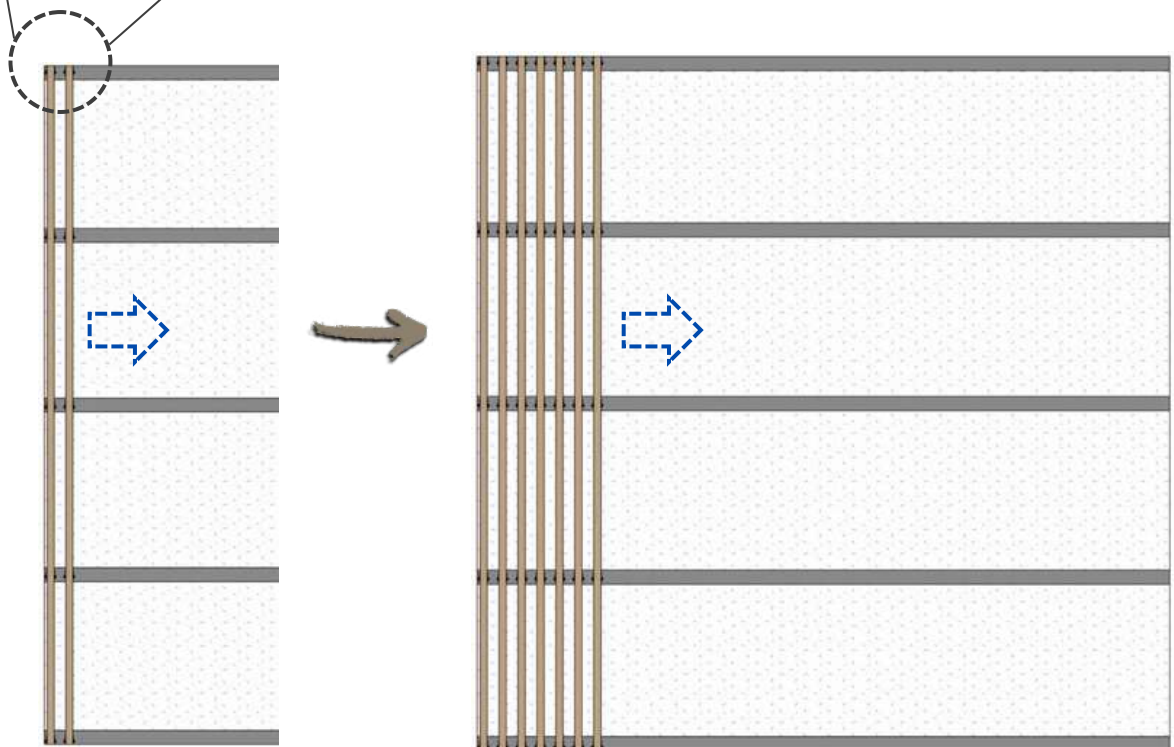
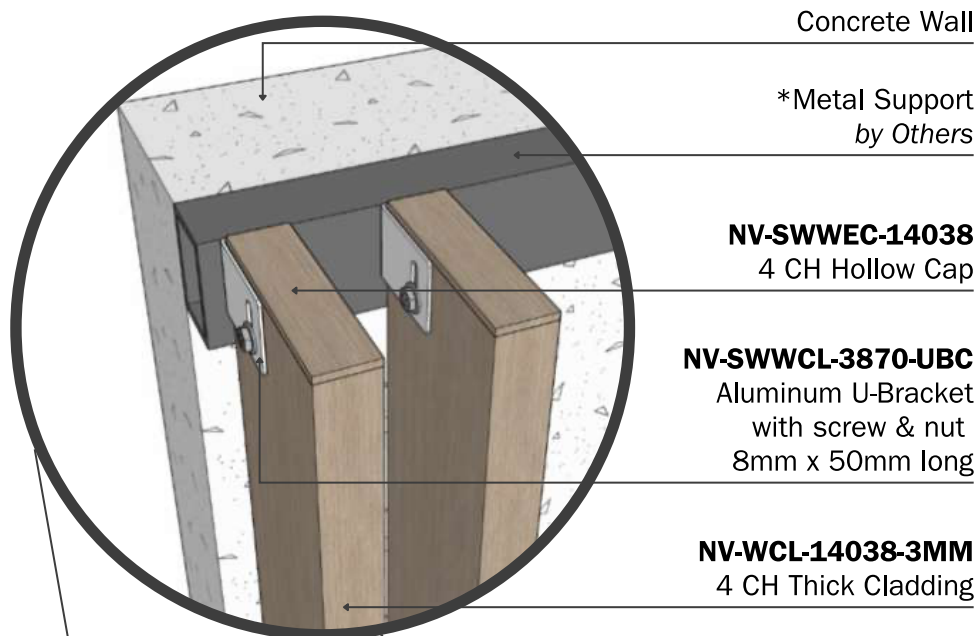
ISOMETRIC VIEW
Lower Hollow Cap

PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

STEP 6

Repeat **Steps 4 & 5** of Section 1, providing 3.93" center to center space to each and every U-Bracket and NV-WCL-14038-3MM until reaching the end of the metal support.



FRONT ELEVATION
Vertical Lay-out
U-Bracket Cladding System

PROCEDURES FOR NV-WCL-14038-3MM (VERTICAL LAY-OUT)

SECTION 1 - VERTICAL LAY-OUT

STEP 6

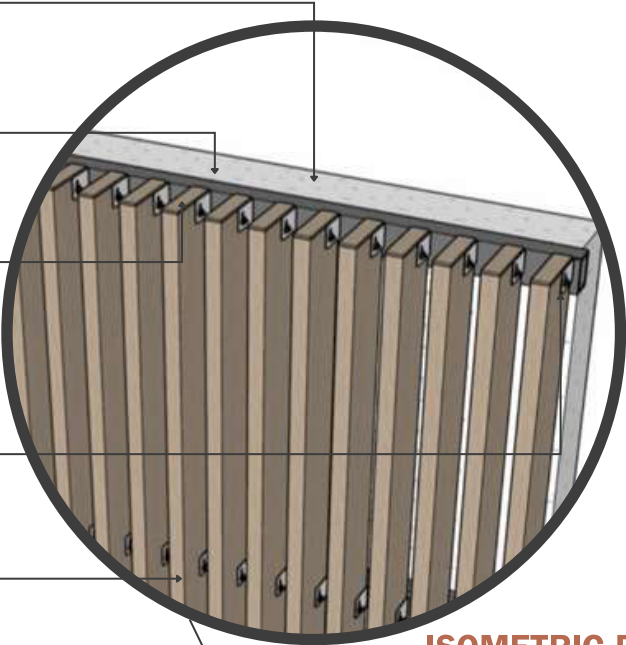
Concrete Wall

*Metal Support
by Others

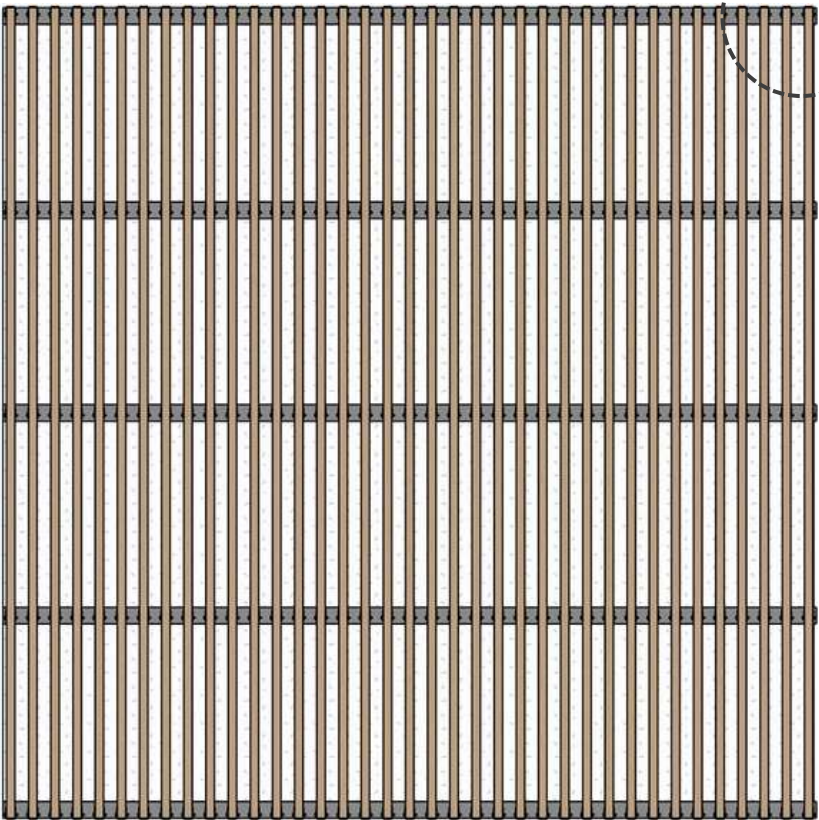
NV-SWWEC-14038
4 CH Hollow Cap

NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-WCL-14038-3MM
4 CH Thick Cladding



ISOMETRIC DETAIL
*Vertical Lay-out
U-Bracket Cladding System*



FRONT ELEVATION
*Vertical Lay-out
U-Bracket Cladding System*

II. INSTALLATION PROCEDURE

SECTION 2 - HORIZONTAL LAY-OUT

STEP 1

Check the layout and designed direction of the cladding to be installed; whether it is horizontal, vertical or depends on the design requirements.

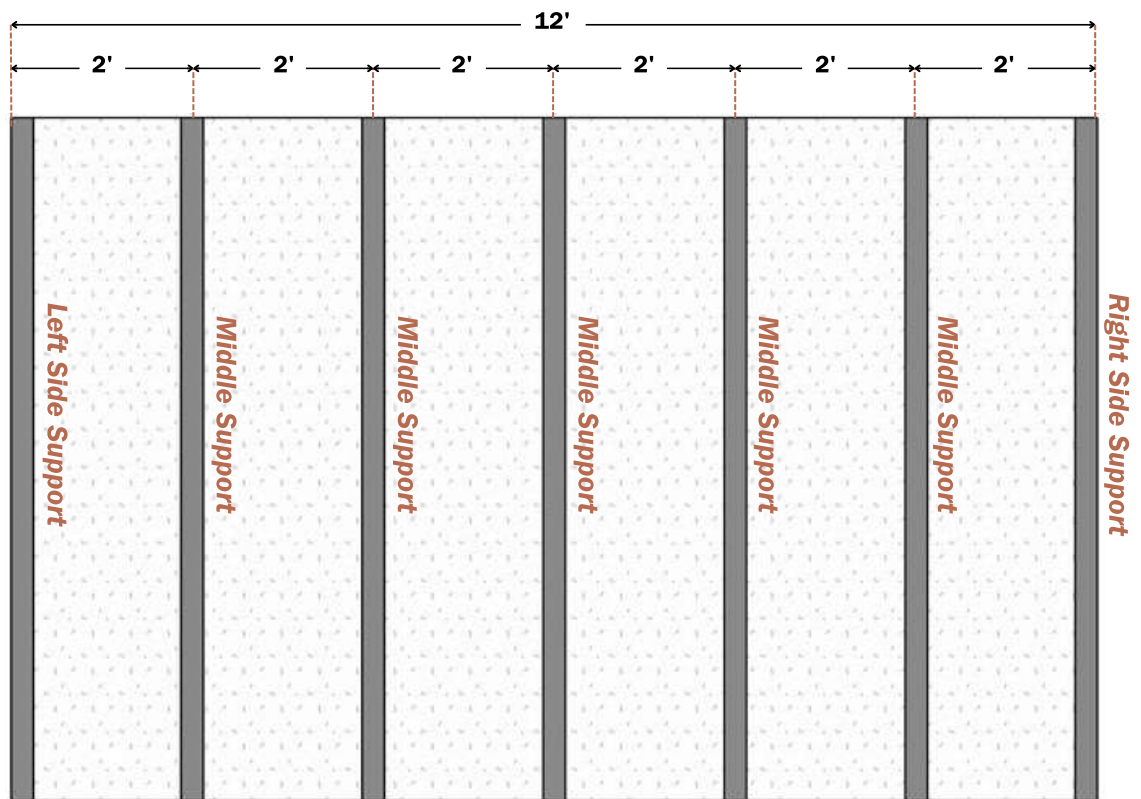
STEP 2

Ensure that the metal support is 100% levelled and plumbed before installing the aluminium U-bracket on the metal support.

STEP 3

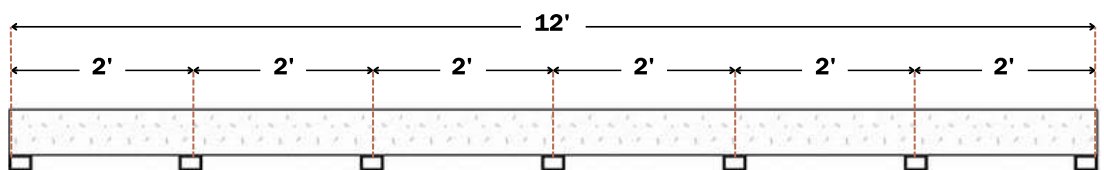
The location of the metal support will vary depending on what type of Novano Cladding is being used. Please refer the spacing of the metal support and U-Bracket on Section 4 U-Bracket Spacing.

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)



FRONT ELEVATION

Horizontal Lay-out
U-Bracket Cladding System



TOP VIEW

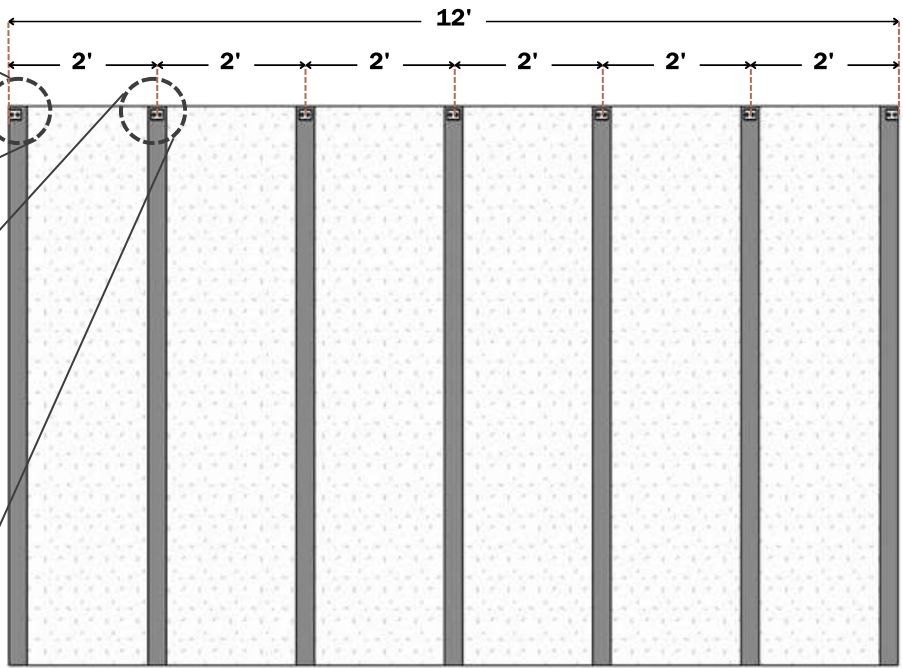
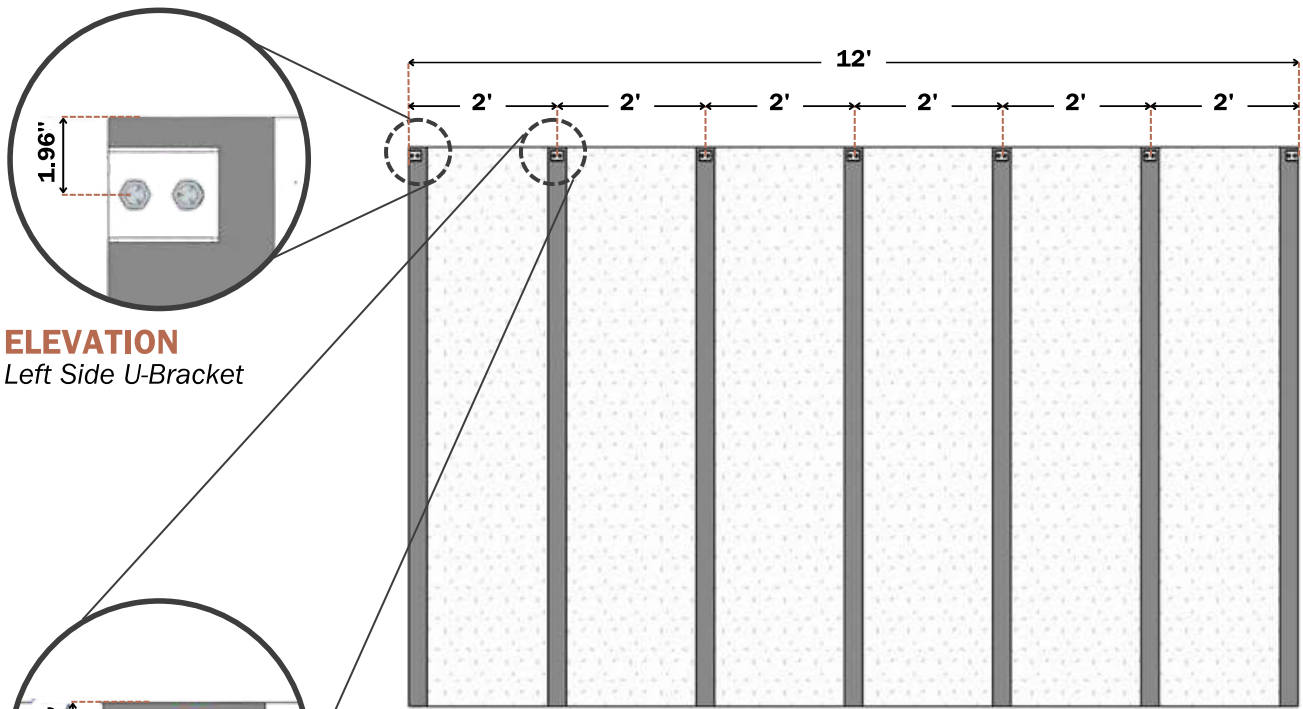
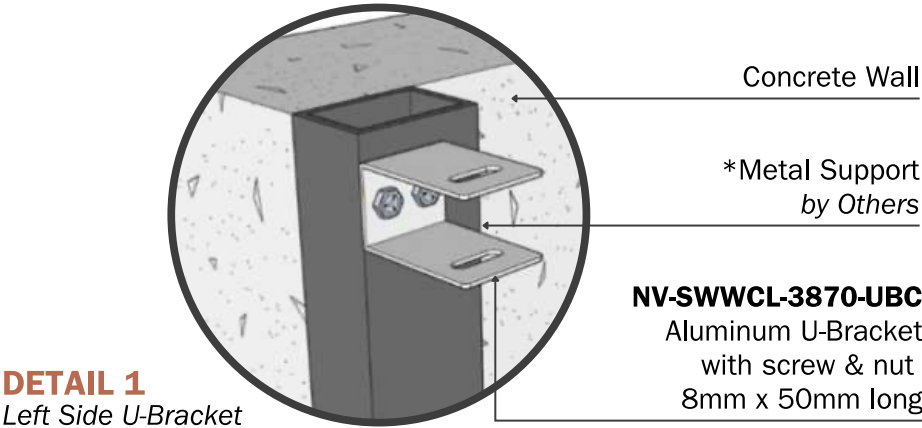
Horizontal Lay-out
U-Bracket Cladding System

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)

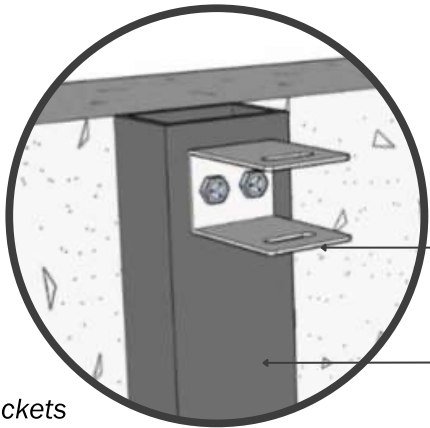
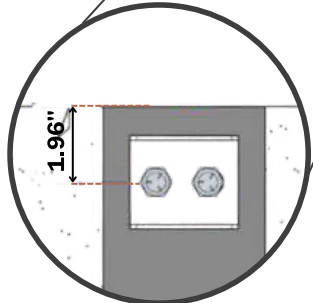
SECTION 2 - HORIZONTAL LAY-OUT

STEP 4

Install the first U-bracket horizontally at the upper left side of the metal support flashed and plumbed, followed by a U-bracket in every 2' center of vertical metal support.



FRONT ELEVATION
Horizontal Lay-out
U-Bracket Cladding System



DETAIL 2
Middle U-Brackets

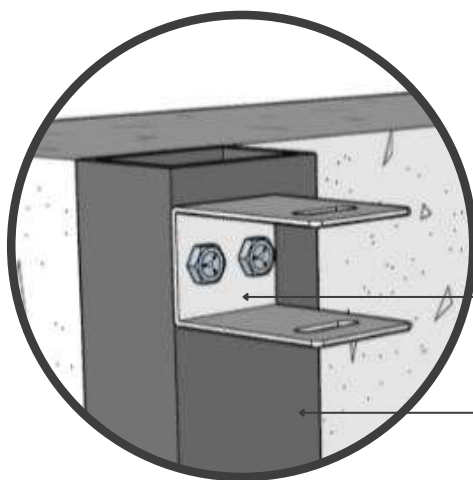
NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

*Metal Support
by Others

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)

SECTION 2 - HORIZONTAL LAY-OUT

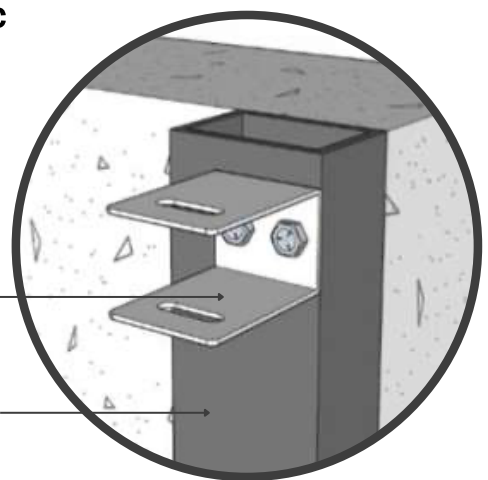
STEP 4



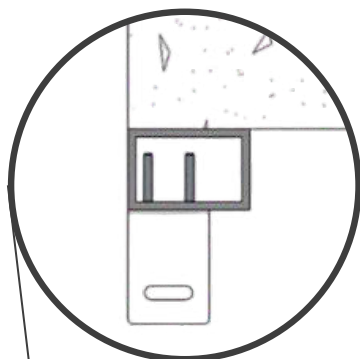
ISOMETRIC VIEW
Left Side U-Bracket

NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

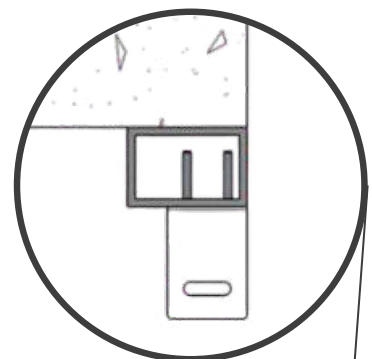
*Metal Support
by Others



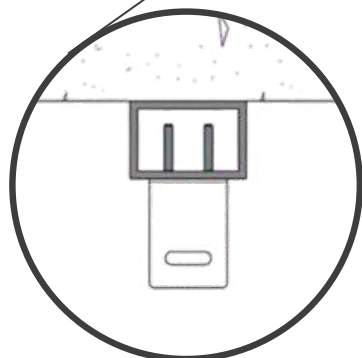
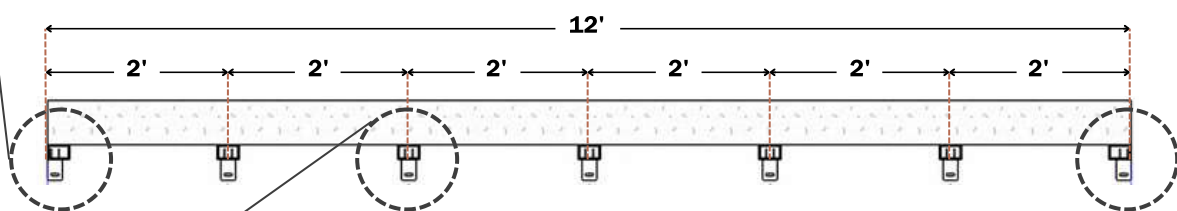
ISOMETRIC VIEW
Right Side U-Bracket



TOP VIEW
Left Side U-Bracket



TOP VIEW
Right Side U-Bracket



TOP VIEW
Middle U-Bracket



ISOMETRIC VIEW
Middle U-Bracket

TOP VIEW
Horizontal Lay-out
U-Bracket Cladding System

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)

SECTION 2 - HORIZONTAL LAY-OUT

STEP 5

Slide the NV-WCL-14038-3MM horizontally into the U-bracket and install the bolt with washer and nut to secure the Novano Cladding profile.

Concrete Wall

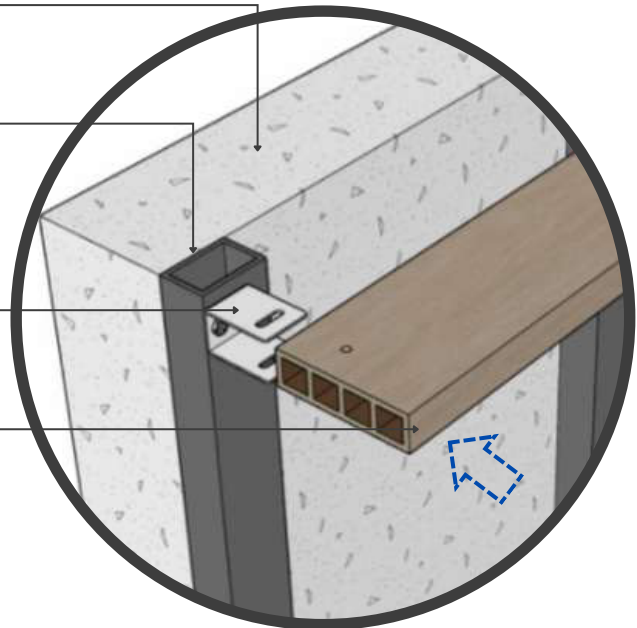
*Metal Support
by Others

NV-SWWCL-3870-UBC

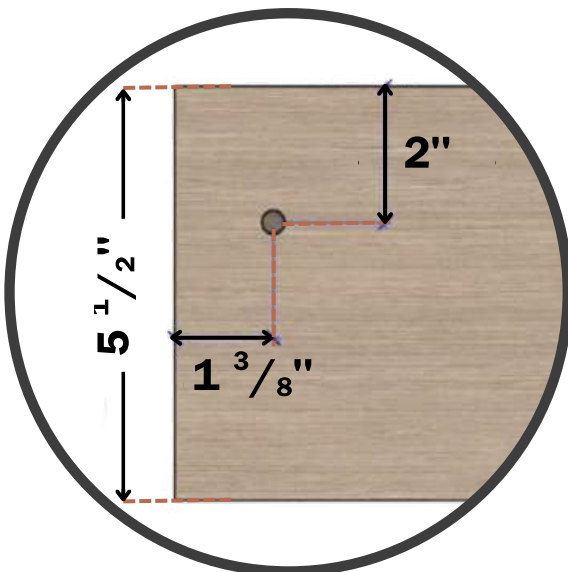
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-WCL-14038-3MM

4 CH Thick Cladding

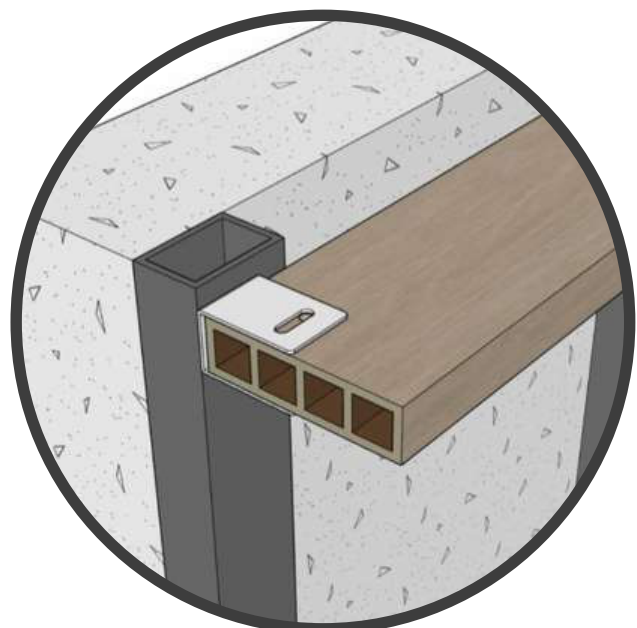


1 - Drill and provide a $\frac{1}{2}$ " diameter hole for the first location of bolt with washer and nut.



HOLE LOCATION

U-Bracket Cladding System



2 - Slide the NV-WCL-14038-3MM Novano Cladding profile horizontally into the U-bracket flashed and plumbed on the metal support.

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)

SECTION 2 - HORIZONTAL LAY-OUT

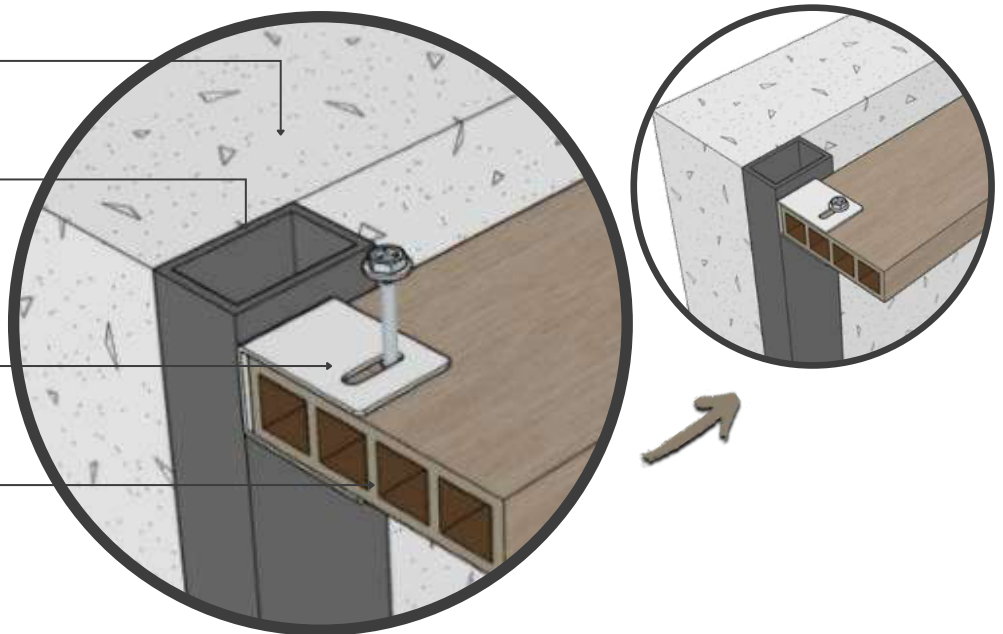
STEP 5

Concrete Wall

*Metal Support
by Others

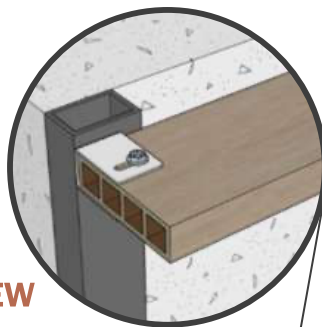
NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-WCL-14038-3MM
4 CH Thick Cladding

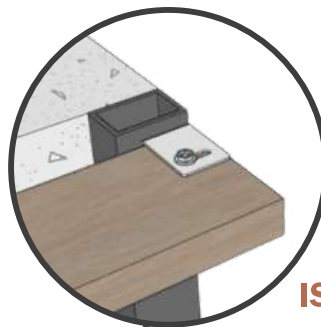


3 - Install the bolt with washer and nut on the right most part of the U-bracket hole.

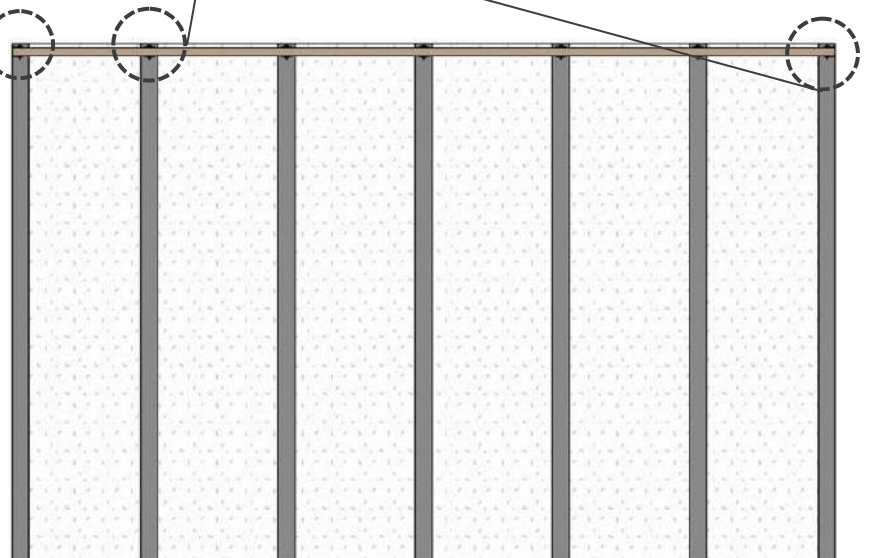
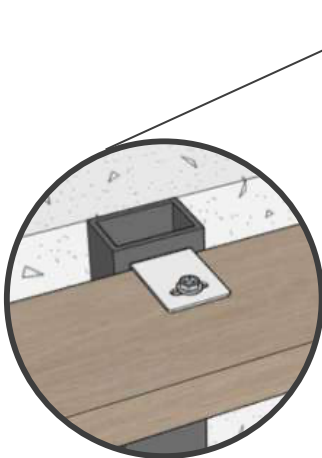
ISOMETRIC VIEW
Left Side Detail



ISOMETRIC VIEW
Right Side Detail



ISOMETRIC VIEW
Middle Detail



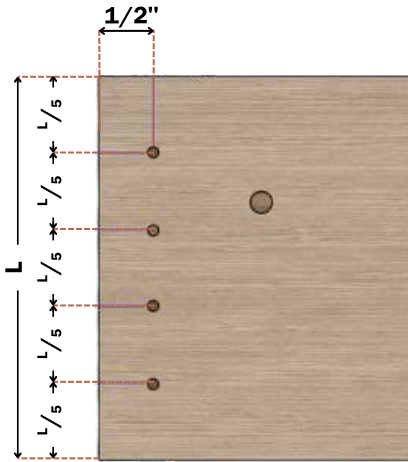
FRONT ELEVATION
Horizontal Lay-out
U-Bracket Cladding System

SECTION 2 - HORIZONTAL LAY-OUT

HOLLOW CAP DETAILS

If the profile is to be closed on **BOTH ENDS**,

1 - On one side of the profile need to drill and provide $\frac{1}{8}$ " diameter hole for every chamber for ventilation. The location of the holes will depend on the Clients discretion based on the actual project conditions.



FRONT ELEVATION
Horizontal Lay-out
U-Bracket Cladding System

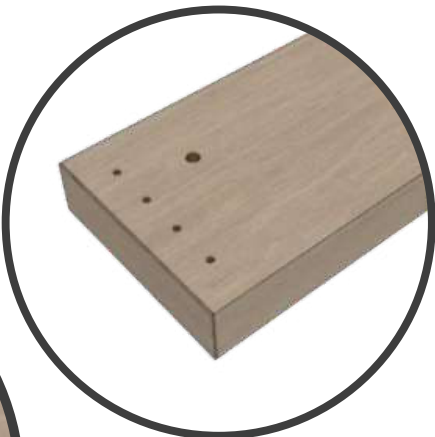
2 - The End cap has a double-sided tape to stick on the profile.

NV-WCL-14038-3MM
4 CH Thick Cladding

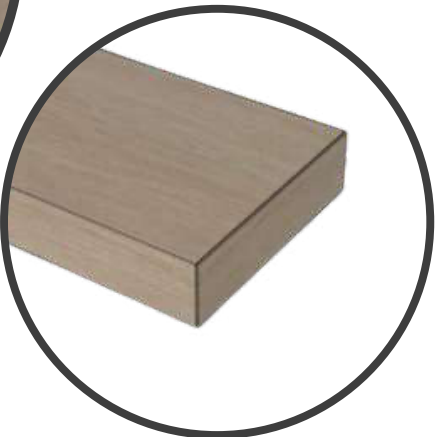
Hole for Bolt

$\frac{1}{8}$ " Diameter hole for every chamber for ventilation

NV-SWWEC-14038
4 CH Hollow Cap



ISOMETRIC VIEW
Left Side Hollow Cap



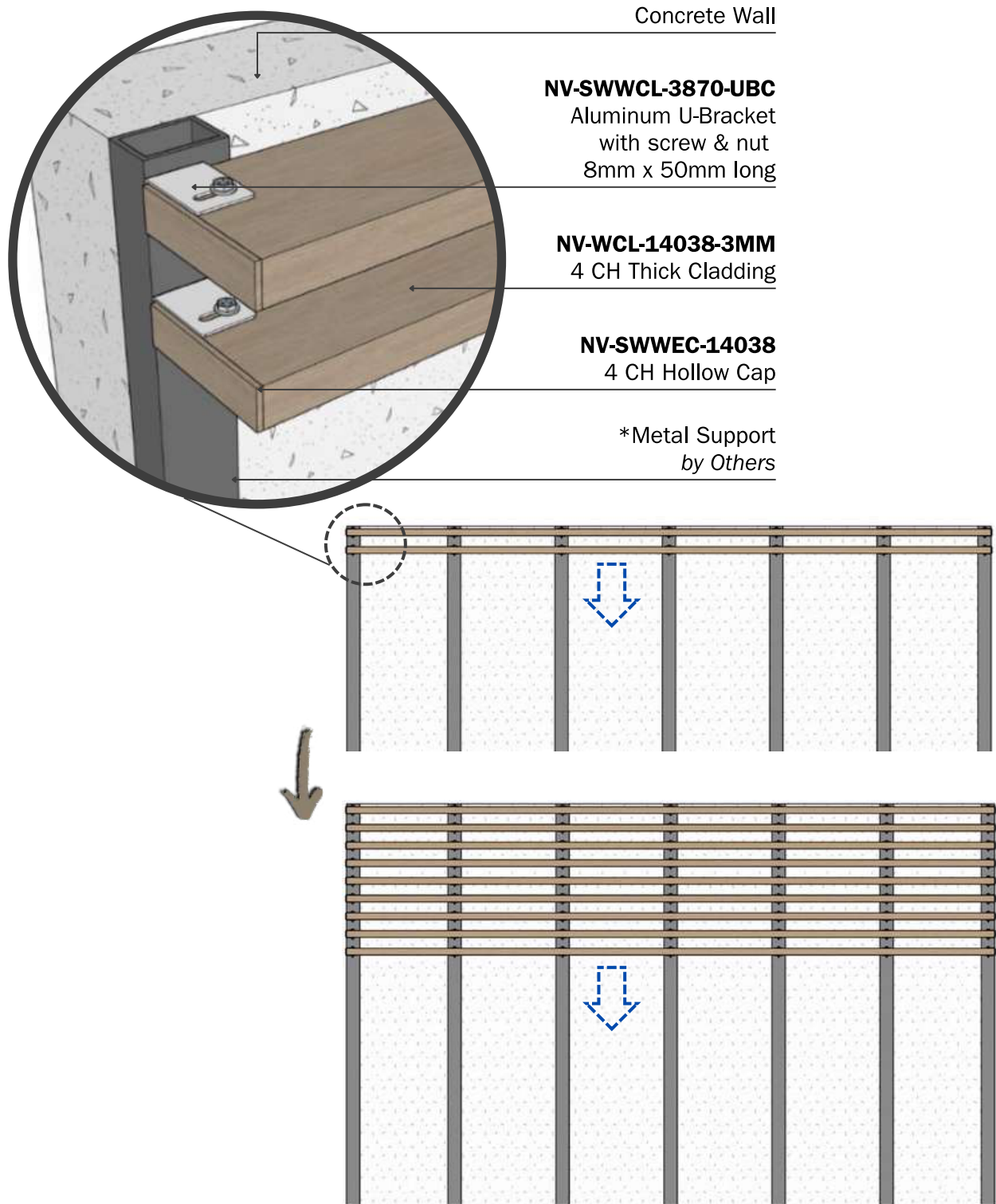
ISOMETRIC VIEW
Right Side Hollow Cap

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)

SECTION 2 - HORIZONTAL LAY-OUT

STEP 6

Repeat **Steps 4 & 5** of Section 2, providing 3.93" center to center space to each and every U-Bracket and NV-WCL-14038-3MM until reaching the end of the metal support.



FRONT ELEVATION
Horizontal Lay-out
U-Bracket Cladding System

PROCEDURES FOR NV-WCL-14038-3MM (HORIZONTAL LAY-OUT)

SECTION 2 - HORIZONTAL LAY-OUT

STEP 6

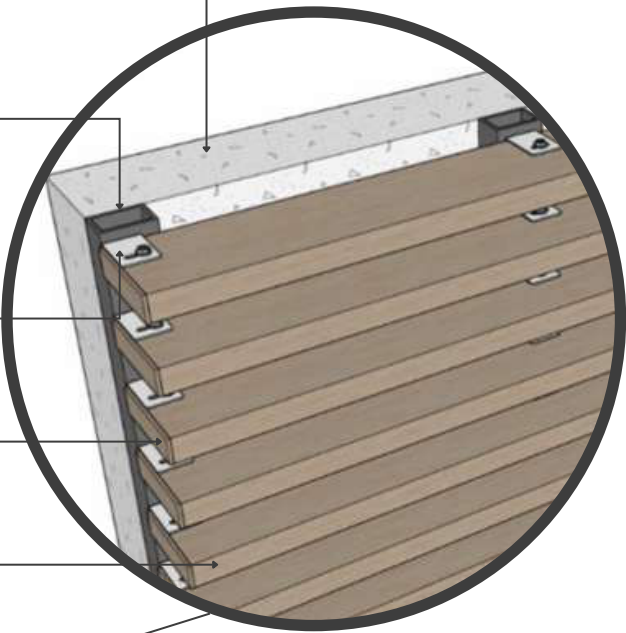
Concrete Wall

*Metal Support
by Others

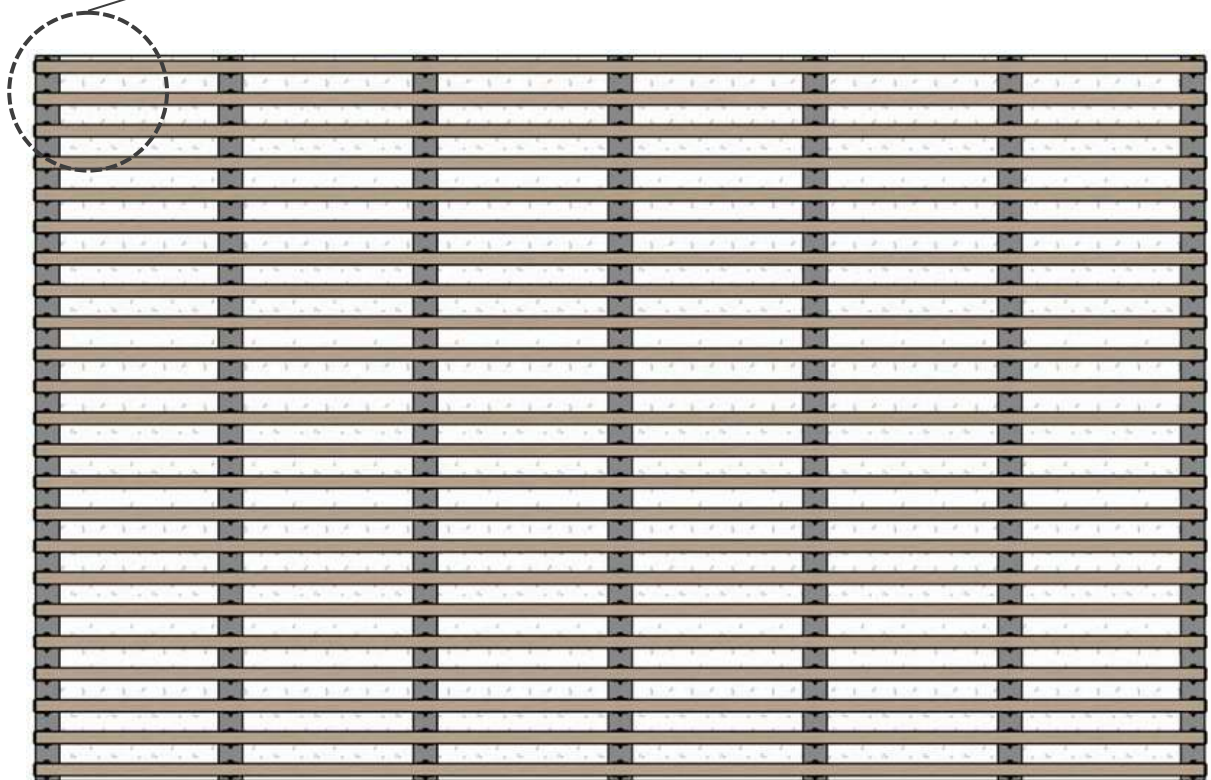
NV-SWWCL-3870-UBC
Aluminum U-Bracket
with screw & nut
8mm x 50mm long

NV-SWVEC-14038
4 CH Hollow Cap

NV-WCL-14038-3MM
4 CH Thick Cladding



ISOMETRIC DETAIL
*Horizontal Lay-out
U-Bracket Cladding System*



FRONT ELEVATION
*Horizontal Lay-out
U-Bracket Cladding System*

III. GENERAL GUIDELINES

SECTION 1 - EXPANSION JOINT

Expansion joint caters for temperature- dependent linear expansion of 1mm gap per board every 10 degrees in temperature change between the ends of the planks. e.g. 2.90m plank= approx. 3mm distance. If the planks are installed closed to a wall the distance here should be 10mm. (Refer to expansion chart)

NOVANO Wall Cladding Board Gap Guide

Temperature at Installation	Trim Gap of Wall Cladding Boards			
	Below 30°F	60°F	90°F	120°F
Amount for Wall Cladding Profile Length of 12 ft	$\frac{7}{16}$ "	$\frac{5}{16}$ "	$\frac{3}{16}$ "	0"

Table 1.1 - NOVANO Gap Guide

III. GENERAL GUIDELINES

SECTION 2 - GENERAL NOTES

- 2.1** The Dimensional change of Novano is solely dependent on the thermal expansion. Air, humidity and water have no influence on dimensional change. Thermal expansion must be considered at installation.
- 2.2** Cutting to length should be carried out at consistent material temperature. Therefore, the materials 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.
- 2.3** Novano has a high vapor diffusion resistance. Please consider at installation.
- 2.4** Novano has a class A fire rating (ASTM-E84).
- 2.5** Cut-off pieces and/or abrasive dust have to be disposed separately. Please comply with regulations of your competent waste management. You may under no circumstances burn Novano Products yourself.
- 2.6** Novano Building Products is not responsible for information shown on all details beyond specification scope of work BID/quoted and as indicated contract documents.
- 2.7** Details of adjustment work are shown for completeness only. The project Architect / Project Engineer / Erecting Contractor supplying and/or installing the structural support is responsible for its design/installation to accommodate all loads impose upon the products.
- 2.8** Our Engineer is limited to the load carrying components of the Cladding System and its fasteners shown on the subsequent drawings. The components are supplied by other parties.
- 2.9** These drawings are the copyright property of Novano Building Products.
- 2.10** Please read our installation and design recommendation documents for further information that may be important for your specific project or installation.
- 2.11** Ensure a steady material temperature when cutting the boards to size. The cutting has to be done under constant conditions. e.g., inside or in shade.
- 2.12** Always consider the linear expansion of Novano, which is dependent on the temperature but not air humidity. See *Table 1.1* for more information.
- 2.13** Only use construction fastening material and hardware suitable for outdoor use (e.g., Stainless Steel Screws).

III. GENERAL GUIDELINES

SECTION 3 - DISCLAIMER

Novano Cladding has been specially developed for their named application and are not a structural material. The items have no general technical approval and are therefore not suitable for supportive construction purposes. Local building codes as well as installations and technical information should be considered. Novano Products should be stored on a flat and level surface. If planks are stored on stickers/slats ensure that there is a distance of no more 12" between them. The Novano Cladding must be installed by an authorized professional installer.

IV. 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 amorphous silica. Respirable amorphous 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 amorphous silica above limits established by OSHA are not expected during the normal use of this product.

Amorphous 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.



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4508 SE Ascension Drive
Camas, WA 98607

503.360.9551

sales@hdgbuildingmaterials.com