NICHIHA

ARCHITECTURAL WALL PANELS | AWP1818, AWP3030 | SEPTEMBER 2025

HORIZONTAL INSTALLATION GUIDE

AWP1818, AWP3030 HORIZONTAL INSTALLATION GUIDE

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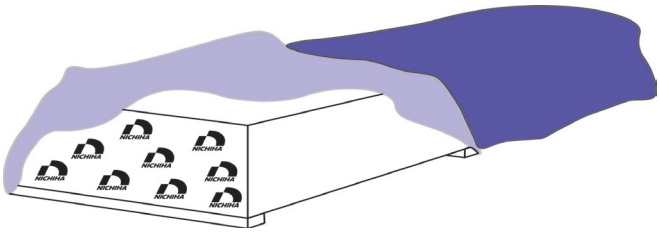
GENERAL

This guide is intended to enable successful installation of Nichiha's 1818 and 3030 Architectural Wall Panels in a horizontal orientation. Spanish and French versions are available. Further installation information and technical resources such as Instructional Videos, Technical Bulletins, Three-Part Specifications, product testing and Certifications, Architectural Details in AutoCAD, Revit, and PDF versions, and other technical documents are available on our website: nichiha.com/resource-center.

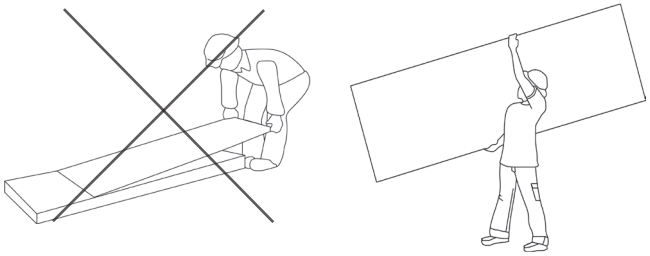
Install products in accordance with the latest installation guidelines and all applicable building codes and other laws, rules, regulations, and ordinances. Review all installation instructions and other applicable product documents before installation. Product building code evaluations for the U.S. and Canada contain critical engineering and installation requirements and must be reviewed. *This install guide's effective date is September 1, 2025.*

PRODUCT INSPECTION

Inspect all products thoroughly prior to installation. Do not install any product which may have been damaged in shipment or appears to have a damaged or irregular finish. Should you have a question or problem with your order, contact your local dealer.



Always cover pallets with a breathable tarp or store indoors!



Don't unpackage and re-stack panels!
Always carry panels on edge!

STORAGE AND HANDLING

AWP are a finished product and care must be taken to protect them against damage prior to and during installation. It is best to store the products indoors, otherwise keep them covered.

Panels must be stored flat and kept dry. Ensure panels are completely dry before installing them. Refer to the storage information included on product pallets. Do not stack pallets more than two high.

Panels MUST be carried on edge. Do not carry or lift panels flat. Improper handling may cause cracking or panel damage.

Direct contact between the panels and the ground must be avoided at all times. It is necessary to keep panels clean during installation process.

Cut the panels with the face down.

Always clean panels with a HEPA-Filtered vacuum, soft bristle brush or dry rag after cutting. Dust will bind to the finish.

When sidewalks are poured after AWP installation, take steps to cover/protect panels near grade. Cement dried on AWP cannot be removed.

BASICS OF THE AWP SYSTEM

There are two sizes of Nichiha panels: AWP 1818 and AWP 3030. There are unique aspects to both sizes. It is important to keep in mind the actual metric dimensions when considering panel layouts, joint alignments, placement of compression joints, and with respect to sizing window and door openings. When installing either size, be sure to follow the dedicated instructions specific to them in this guide, distinguished by a color code and page headers/footers. The bulk of this guide is non-color coded and applicable to all AWP.

Dimensions are measured from the edges of the panel face, which includes the left (AWP 1818 only) and bottom shiplaps (all panels).

AWP 1818

AWP 1818	INCHES	MM
LENGTH	71 9/16″	1818
HEIGHT	17 7/8″	455
THICKNESS	5/8″, 3/4″, 7/8″	16, 18, 21

AWP 1818 edges are shiplapped on all sides and a factory sealant gasket is included on the top and right edges. When the panels fit together, all factory joints are sealed. This enables stacked or staggered panel layouts for AWP 1818 only. **Joint Tab Clip Attachments** are required at vertical joints.

AWP 3030

AWP 3030	INCHES	MM
LENGTH	119 5/16″	3030
HEIGHT	17 7/8″	455
THICKNESS	5/8″	16

AWP 3030 edges are shiplapped only on the top and bottom, with the top edge including a factory sealant gasket. Vertical edges for AWP 3030 are flat, requiring sealant backers or metal trim and allowing only a stacked layout. *The flat, vertical edges are never butted directly together, nor staggered.*

Compatibility allowances between 1818 & 3030 on page 15-16.

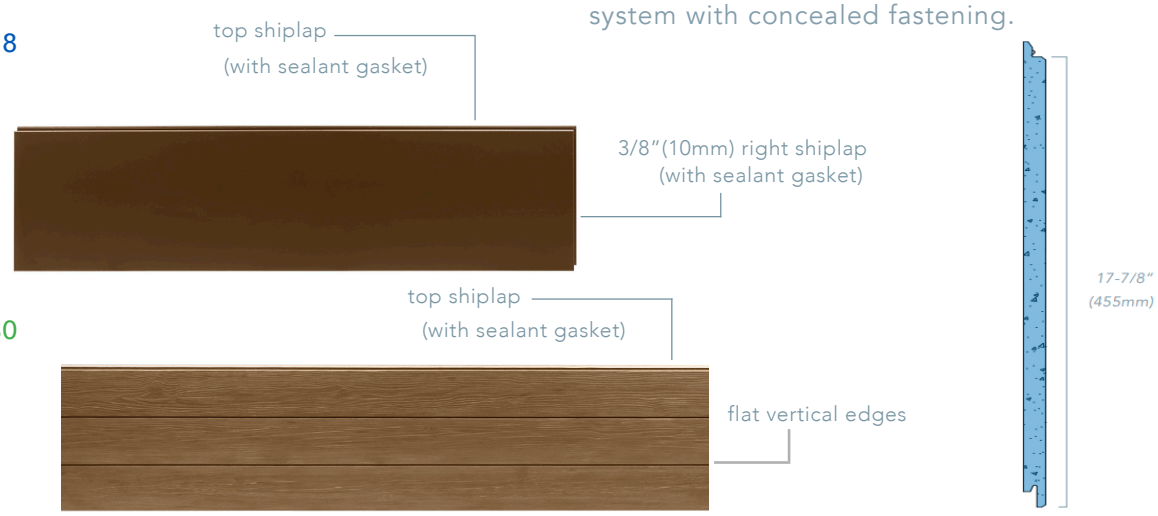
SYSTEM THICKNESS

PANEL THICKNESS	SYSTEM THICKNESS	
	INCHES	MM
5/8″ (16mm)	~1″	26
3/4″ (18mm)	~1 1/8″	28
7/8″(21mm)	~1 1/4″	31

AWP ATTACHMENT HARDWARE

Starter Track and Clips engage the top and/or bottom panel edges, holding the panels off the substrate surface by 10mm (~3/8″) and creating a closed-joint, drained/back-ventilated rainscreen system with concealed fastening.

AWP 1818



LIMITATIONS, TECHNICAL REVIEWS & SPECIAL APPLICATIONS

Natural limitations on product usage are inherent to any cladding product's design, physical characteristics, and attachment system. AWP are not to be used in any application/uses not specified or described in this installation guide or other Nichiha technical document. ANY SUCH USE SHALL NOT BE BACKED BY THE MANUFACTURER'S PRODUCT WARRANTY.

Any project of more than three stories or 45 feet, as well as those located in high wind coastal areas (Exposure Categories C and D with Basic Wind Speed in excess of 130 mph), or those with any wall assembly not described in *Framing & Sheathing Requirements*, require a technical review by Nichiha to evaluate feasibility via our Technical Design Review.

By evaluating a project's unique criteria and design, we can reference independently test-derived and calculated wind load performance data for our products to determine whether and how the panels can safely be installed on the project. Contact your local rep or Nichiha Technical Department for details or to initiate a Technical Design Review.

Direct contact between the panels and the ground must be avoided at all times.

Installation of AWP products on structures that are factory-constructed and then transported to a final site are not approved without full technical review.

Refer to our third party building code certifications and/or state and local approvals for allowable wind design pressures: nichiha.com/resource-center.

For all applications in this guide, AWP shall be installed horizontally - level and perpendicular to wall framing.

Please contact Nichiha Technical Services for assistance. Technicalservices@nichiha.com

SAFETY

As with any natural stone, masonry, or concrete based product, when cutting, drilling, sawing, sanding, or abrading fiber cement cladding, proper safety measures must be taken due to the potential for airborne silica dust, an OSHA-identified hazardous substance that can pose serious medical risks.

Nichiha recommends wearing safety glasses and a NIOSH/OSHA approved respirator with a rating of N, O, or P 100. Carefully follow the respirator manufacturer's instructions as well as applicable local governmental safety regulations concerning silica. Refer to Nichiha's SDS for more information.

Always cut fiber cement panels outside and with a dust-collecting HEPA vacuum system. Do not cut the products in an enclosed area.

Use a dust-reducing circular saw with diamond-tipped or carbide-tipped fiber cement saw blades.

INSTALLATION HARDWARE & ACCESSORIES

ULTIMATE HORIZONTAL STARTER TRACK

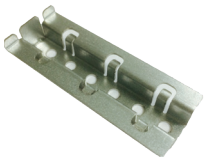
Horizontal Starter Track serves as the foundational support for the AWP system while also providing faster and greater ease of installation.

Horizontal Panels: Starter Track **FA 700**

ULTIMATE CLIP

Ultimate Clips sit on the panel shiplaps, securing AWP to the wall and distributing dead loads to the structure. Together, Ultimate Clips and Starter Track hold the back surface of the panels off the substrate to create a 10mm (3/8”) rainscreen space.

JEL 778 CLIP Compatible with most AWP
**For Import SandStone and VintageBrick Panels use JE788 Ultimate Clip.
For all other panels use JEL 778 Ultimate Clip.



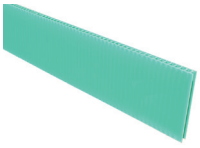
JOINT TAB ATTACHMENT

Joint Tab Attachments are only to be used with the Ultimate Clips and are included with Ultimate Clips. Joint Tab Attachments must be secured within a clip at the bottom of ***each AWP 1818 vertical joint*** to support panel lateral stability. Fasteners are included for use with the Joint Attachments only.

CORNER CLIP

Corner Clips sit on the shiplaps of Nichiha Corners, securing them to the wall and supporting their weight in cooperation with Starter Track.

JE 777C Compatible with most AWP Corners
**For Import SandStone and VintageBrick Panels use JE787C Corner Clip.
For all other panels use JE 777C Corner Clip.



CORRUGATED SHIM

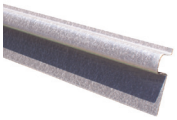
At termination points where Panel Clips cannot be used, Nichiha Corrugated Shim is required to maintain the rainscreen space and prevent panel deflection at face fastening locations such as window sills and headers.

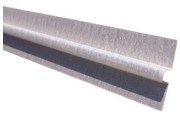
FS 1010 SHIM – 10mm

FS 1005 SHIM - 5mm

NICHIHA CORNERS

Nichiha Corners are manufactured mitered panel corners available in the same finishes as horizontally oriented AWP. Corners have 3-1/2" (89mm) returns (face dimension). Corners are not available for Miraia panels.



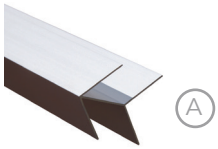


SEALANT BACKERS

Single Flange Sealant Backer: FHK 1015 – 10 mm

Double Flange Sealant Backer: FH 1015 – 10 mm

Nichiha Sealant Backers provide exact spacing for expansion and termination joints
They provide faster installation than a foam backer rod and require less sealant.
At sealant joints, use a sealant that complies with ASTM C920, Class 35 (min.).
Refer to the *Sealant* section on page 31 for more information.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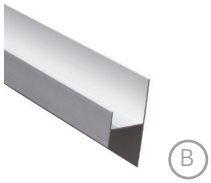
METAL TRIM OPTIONS

Nichiha metal trim provides aesthetically pleasing design options for corners, openings, and transitions, as well as vertical joints.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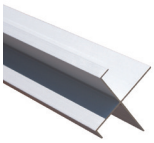
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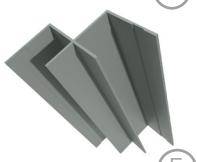
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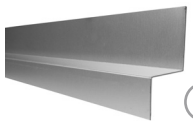
TRIM**	APPLICATIONS
A Corner Key	Outside Corners
B H-Mold	Vertical Joints - AWP 3030
C Open Outside Corner	Outside Corners
D J-Mold	Terminations
E Inside Corner	Inside Corners
F Compression Joint	Horizontal/Compression Joints

** Be sure to order and use trim channels sized to the appropriate AWP thickness.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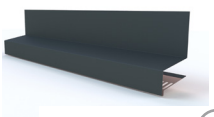
ESSENTIAL FLASHING SYSTEM	APPLICATIONS
G Starter*	Base/Clearance Concealment
H Overhang*	Fascia-to-Soffit Transitions

* Inside and outside corner segments are available.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FRAMING & SHEATHING REQUIREMENTS

Prior to Nichiha installation, closely inspect the exterior wall substrate and correct any problems. Walls that are out of plumb, for example, can negatively impact the installation quality of AWP. Nichiha Shim may be used in conjunction with panel attachment hardware if necessary to ensure an even substrate up to maximum of 10mm.

Our AWP system may be directly attached to:

- Steel Framing (min 18 ga)
- Wood Framing (min 2x4)
- Furring (min 2x wood or 18 ga steel); hat channel or z-furring
- Wood Structural Sheathing (US DOC PS2 or PS1 Rated OSB/Plywood) -min 7/16"

WOOD FRAMING

Size: minimum 2x4 studs
Spacing: 16" o.c. max
Sheathing: minimum 7/16" US DOC PS2 or PS1 Rated OSB/Plywood, or 5/8" gypsum

STEEL FRAMING

Gauge: minimum 18
Spacing: 16" o.c max
Sheathing: minimum 7/16" OSB/Plywood (US DOC PS2 or PS1 rated), or 5/8" gypsum

CONCRETE/CMU WALLS/ICF

Furring is required for installation of AWP over concrete/CMU/ICF walls.

Wood Furring: pressure treated lumber 2x4, oriented vertically, spaced 16" o.c. max.

Steel Furring: minimum 18 gauge, oriented vertically, spaced 16" o.c. max.

ADDITIONAL OPTIONS FOR ICF:

FERO Cladding Support:
FERO ICF-Masonry Veneer Ties are an excellent option. The ties must be embedded into the ICF prior to the concrete being poured. Therefore, this limits AWP applications to new construction in progress as the approach cannot apply to already-completed ICFs.

The FERO ICF-Masonry Veneer Ties must be arranged to support the vertical 16 gauge metal angles offered by FERO. The vertical spacing of the ties is determined by FERO in consideration of engineering requirements (cladding dead loads and project/site specific wind loads). The horizontal spacing of the ties and vertically-aligned 16 ga. angles must be at 16" o.c. to support horizontal installation of Nichiha AWP. For AWP-3030 in a vertical orientation, please contact the Nichiha Technical Department. Please review the following document and contact FERO for questions about their product(s).

For installs over existing masonry please refer to our Retrofit Bulletin.

STRUCTURAL INSULATED PANELS (SIP) AND STRUCTURAL INSULATED SHEATHING (NAILBASE):

SIPS and nailbase sheathing must have a min 7/16" wood sheathing and installed in accordance with the manufacturer instructions.

PRE-ENGINEERED METAL BUILDINGS (PEMB):

If the following requirements are not met, an alternate attachment method must be established. Consult a structural engineer to design the furring system to manage the AWP system dead load of minimum 5 psf and also meet the project wind load design criteria. Furring must account for expected building compression. Nichiha does not provide fastener designs for anchoring the furring to the structure.

Limit the metal siding/skin deflection to L/120.

50 ksi metal panels must have ribs spaced no more than 12" o.c. and with a min 24 ga thickness.

Projects with allowable design pressures in excess of the table values may not utilize AWP direct attachment.

Additional special installation requirements for PEMBs are discussed in the *Fasteners*, *Installing the Starter Track*, and *Panel Installation* sections to follow.

METAL PANEL	ALLOWABLE PRESSURE
24 gauge	-31.41 psf
22 gauge	-39.29 psf

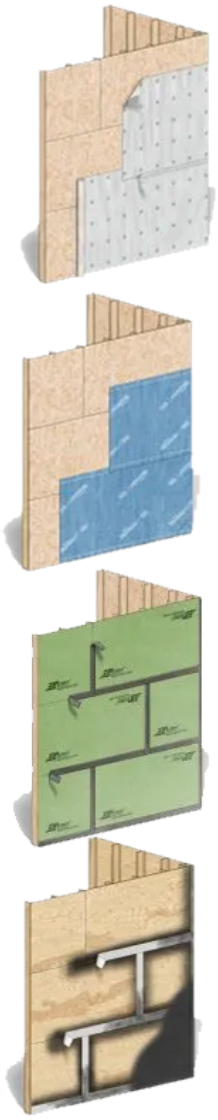
WATER RESISTIVE BARRIERS

A code compliant water resistive barrier (WRB) is required when installing Nichiha panels as per section 1402 of the IBC. For Concrete/CMU/ICF and PEMB assemblies, Nichiha defers to local code requirements.

Sheathings and insulations with an integrated code-compliant WRB such as ZIP System® and DensElement™ are acceptable.

All openings, corners, and transitions must have appropriate flashing to prevent moisture penetration.

Follow moisture management best practices, WRB manufacturer's guidelines, window manufacturer instructions, and all local building codes. **Nichiha assumes no responsibility for moisture infiltration.**



EXTERIOR CONTINUOUS INSULATION AND FURRING REQUIREMENTS

Where exterior continuous insulation is used, horizontal AWP may be installed directly over up to 1" of foam plastic insulation with a minimum compressive strength of 15 psi. If gypsum sheathing is used, it may be installed to a maximum thickness of 5/8". Insulations beyond 1" of thickness require a structural solution to provide attachment points for AWP such as a furring grid or third-party specialized system. Mineral wool C.I. of any thickness requires a furring that is attached directly to the substrate.

Consult a structural engineer to design the furring system to manage the AWP system dead load of minimum 5 psf and also meet the project wind load design criteria. Furring must account for expected building compression. Nichiha does not provide fastener design for anchoring the furring to structure. Refer to International Building Code for more info.

Also refer to the Technical Bulletin: *Continuous Insulation and AWP* as well as the architectural details available at nichiha.com/resource-center. Please contact Nichiha Technical Services if further assistance is needed.

AWP WITH C.I. ATTACHMENT AND FURRING REQUIREMENTS

When adding furring to enable AWP installation the following general criteria are applicable:

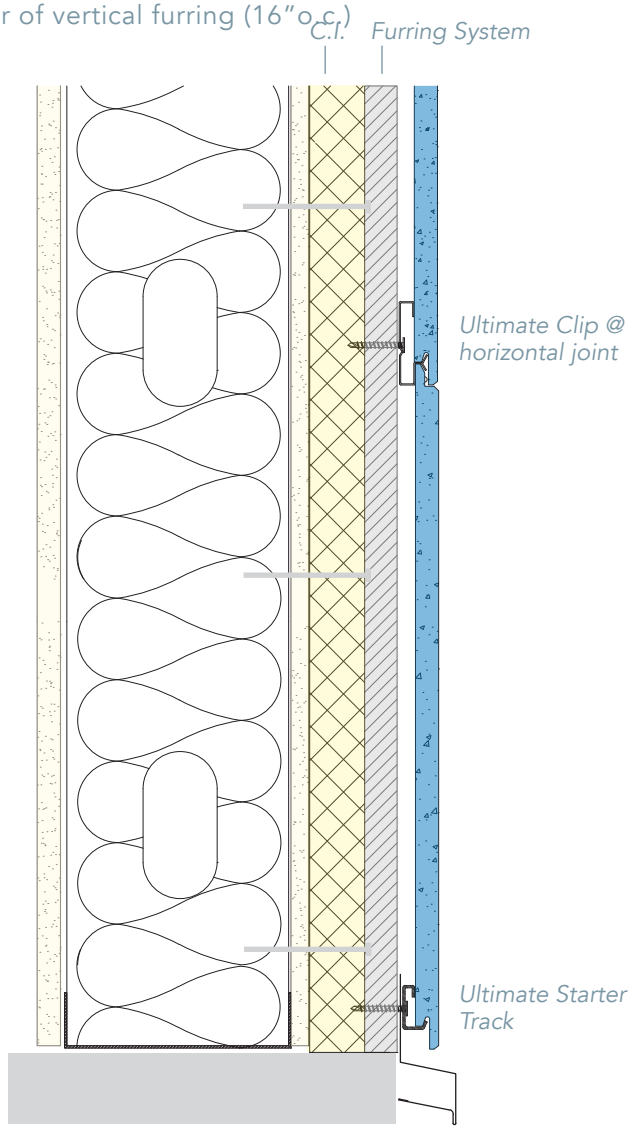
1. Shaped Steel furrings (Z, hat channel, C, etc.)
    - Minimum 18 gauge
    - Aligned vertically
    - Spaced 16" o.c. (max)

- or -

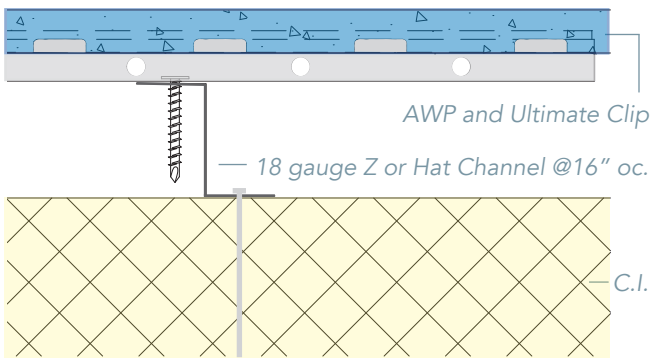
2. Pressure treated lumber (Do not use strips of wood sheathing as furring.)
    - Minimum 2x (1.5") thickness
    - Aligned vertically
    - Spaced 16" o.c. (max)

- or -

3. A grid style furring system consisting of a combination of horizontal (spaced per engineer's design) with a second, outermost layer of vertical furring (16"o.c.)



Section view: AWP System on vertical furring

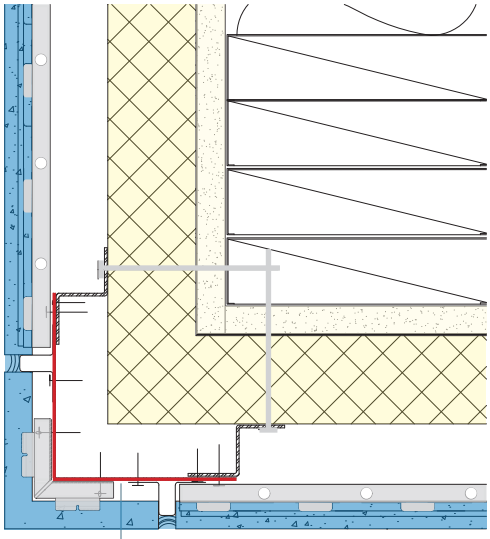


Plan view: AWP System on vertical furring

ACCESSORY ATTACHMENTS

Nichiha Double and Single Flange Sealant Backers and metal trims, such as H-Mold and Corner Key, must be fastened to furring, blocking, or 18 gauge flat stock/brake metal. Sealant backers must be fastened every 16" vertically, so any use of flat stock must accommodate this fastening schedule.

Outside corners may be wrapped with 18 gauge flat stock fabricated to fit and plumb the corner. Attach the stock to furring on both sides of the corner. Corner Clips are used to secure Nichiha factory panel corners and may be fastened to the flat stock wrapping, as can metal trim corners.



18 gauge brake metal wrapping corner

FASTENERS

Fasteners must be exterior grade corrosion resistant. Screws such as hot-dipped zinc or ceramic coated are recommended. Comply with all local building codes for fastener requirements.

The minimum size for Ultimate Clip, Starter Track fasteners is #10. Clip and track screws must have a pan, wafer, or hex type full head. Bugle head screws are not approved for component fastening.

Min. #8 or larger screws with a bugle head are appropriate for face fastening locations. Refer to the *Face Fastening Best Practices* section on page 29 for face fastening procedure.

Fasteners must penetrate framing or furring per the minimum requirements below.

WOOD STUDS

Fasteners must penetrate framing member by a minimum of 1".

METAL STUDS

Screws must penetrate framing member by a minimum of 1/2". A minimum of three threads are needed for effective grab.

FURRING

Furring to Concrete/CMU: Fastener type, size, and spacing to be determined under direction of an engineer and in accordance with local building codes.

AWP to Furring: Screws must penetrate wood furring a minimum of 1" or steel by 1/2" three threads are needed for an effective grab.

STRUCTURAL INSULATING PANELS (SIP) STRUCTURAL INSULATED SHEATHING (NAILBASE)

Min. one inch, full-thread, corrosion resistant wood screws must be used for system components. Longer screws accomodating mininum stud penetrations may be needed for Starter Track and face fastening.

Fasten Starter Track every 16" into framing with longer screws or every 8" max to the wood sheathing alone.

Double fastening per each Ultimate Clip (minimum of 4 screws per clip) is required as there are fewer or no studs to secure the system.

Face fasteners below windows and at the top of the wall are secured at 16" o.c. max.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

Minimum #10- x 1" pan head, S/D screws.

Screws must penetrate 12" oc metal ribs by a minimum of 1"

Fasteners must be spaced at no more than 12" o.c. into metal panel ribs.

CLIPS/PANEL	
PANEL	ULTIMATE CLIP
1818	2.5
3030	4

FASTENERS/CLIP		
	WOOD/STEEL FRAMING	OSB & PLYWOOD
ULTIMATE CLIP	2	4

MINIMUM SIZE FASTENERS	
ULTIMATE CLIP	#10 SCREW
STARTER TRACK	#10 SCREW
FACE FASTENING	#8 SCREW
METAL TRIMS AND SEALANT BACKERS	#10 SCREW

MINIMUM O.C. SPACING OF FASTENERS		
COMPONENT	WOOD/STEEL FRAMING	OSB & PLYWOOD
STARTER TRACK (HORIZONTAL AWP)	16″	8″
FACE FASTENING	16″	16″
METAL TRIMS AND SEALANT BACKERS	16″	16″

MINIMUM CLEARANCES TO PANEL	
FLASHING	1/4″
COMPRESSION JOINT FLASHING	1/2″
HARDSCAPE	2″
FINISHED SOIL GRADE/ SOFT SCAPE	6″ (200MM CANADA)
LOW SLOPED ROOF	REFER TO ROOFING MANUFACTURER
DECKING/BALCONY	2″
PITCHED ROOF	1″

PLANNING & PANEL LAYOUT

To ensure a successful installation, it is important to first plan how the panels will be laid out, where compression and control joints will be located, and line of sight regarding inside corners decided.

LAYOUTS

AWP 1818 can be installed in a stacked bond or a staggered bond application. AWP 3030 must only be installed with a stacked bond layout. *AWP 3030 may not be staggered.*

VERTICAL CONTROL/EXPANSION JOINTS

When installing 1818 panels on walls longer than 30 feet a vertical expansion joint is required, using a double flange sealant backer.

When using metal trim outside corners on walls longer than 30 feet, Vertical Control/Expansion Joints are required within 2'-12' feet of both sides of outside corners and then approximately every 30 feet thereafter.

Projects using Nichiha Fiber Cement Corners satisfy the 2'-12' rule with the use of the Double Flange Sealant Backer but still require expansion joints roughly every 30 feet beyond the corner joints.

Since AWP 3030 do not have shiplaps on their short edges, a double flange sealant backer detail is needed at each vertical joint. Do not butt vertical edges directly. The vertical joint is continuous and not split up or staggered.

HORIZONTAL/COMPRESSION JOINTS

Project designers must account for building compression when planning the cladding layout and incorporate horizontal/compression joints as appropriate. Nichiha is not liable for panel damage due to building compression.

With metal framing projects of three stories or more, add a compression joint every other floor.

For wood framing projects of three stories or more, a compression joint is required at each floor.

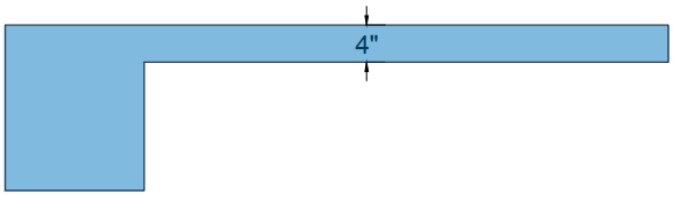
Locate compression joints within the floor lines.

INSIDE CORNER LINE OF SIGHT

Sealant joints at inside corners can be placed out of view from the primary line of sight of a wall. Place the sealant joint on the less-viewed corner wall. Alternatively, Inside Corner metal trim may be used.

CUT PANELS

In general, it is best to avoid cutting AWP to short or narrow strips and segments of less than 4". Adjust the layout or use alternate materials when needed to avoid cutting AWP smaller than 4".



COMPATIBILITY BETWEEN PANEL TYPES

NICHIHA AWP 1818 VERSUS AWP 3030

AWP 1818 have shiplap edges on all four sides and the panels joint directly with each other. The vertical joints may be aligned or staggered with each course. Because of their shape, AWP 1818 can only be installed horizontally.

AWP 3030 have shiplap edges only on the long dimension. The short edges are square cut. This enables a vertical installation option for AWP 3030 with a different Starter Track (FA710T). However, it also requires all vertical joints to align when the panels are installed horizontally. This means an AWP 3030 layout can *only* be stacked. The vertical joints must use the Double Flange Sealant Backer with sealant or H-Mold Trim.

GROUPING 1818 & 3030 PANELS:

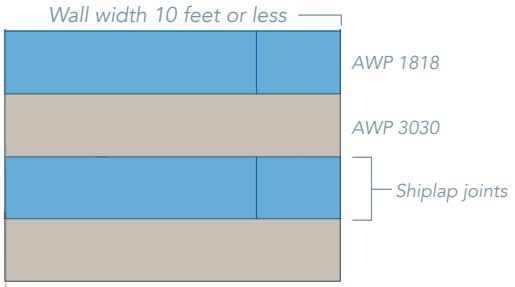
The difference of the vertical edge jointing means AWP 1818 and AWP 3030 can only be matched directly together in a mixed arrangement on walls 10 feet or less in width so that AWP3030 will not require any vertical joints. (Elevation A)

On walls sections wider than 10 feet, the two sizes can be used together only if the AWP 3030 is grouped ***below*** the AWP 1818. (Elevation B)

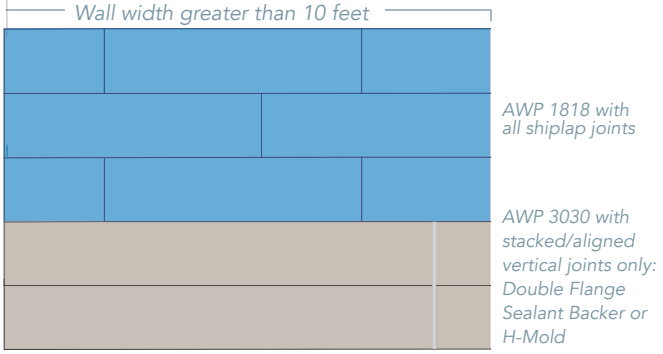
AWP 1818 THICKNESSES

Imported SandStone and VintageBrick (3/4") require use of the JEL788 Ultimate Clip, which accounts for a thicker panel edge. All other panels, including Novenary Tile (7/8") and RiftSawn (3/4") are designed with edges compatible with the JEL778 Ultimate Clip. Because of the difference in edge thicknesses and required clips, imported SandStone and VintageBrick cannot be jointed directly with any other AWP profiles. These two panels must be separated from all other panel types by Horizontal/Compression Joints and Vertical Control/Expansion Joints.

Novenary Tile (7/8") panels joint normally with any 5/8"thick AWP 1818 on all four sides.



A) 16mm & 21mm AWP 1818 and AWP 3030 mixed on walls ten feet or less in width.



B) 16mm & 21mm AWP 1818 and AWP 3030 together on walls wider than ten feet. 1818's grouped on top with 3030's below only.

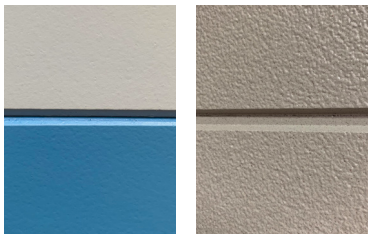
AWP 1818 JOINT PROFILES

V-Groove: Architectural Block, Illumination 1818

Split V-Groove: TuffBlock, EmpireBlock, IndustrialBlock

Soft U: Illumination 3030

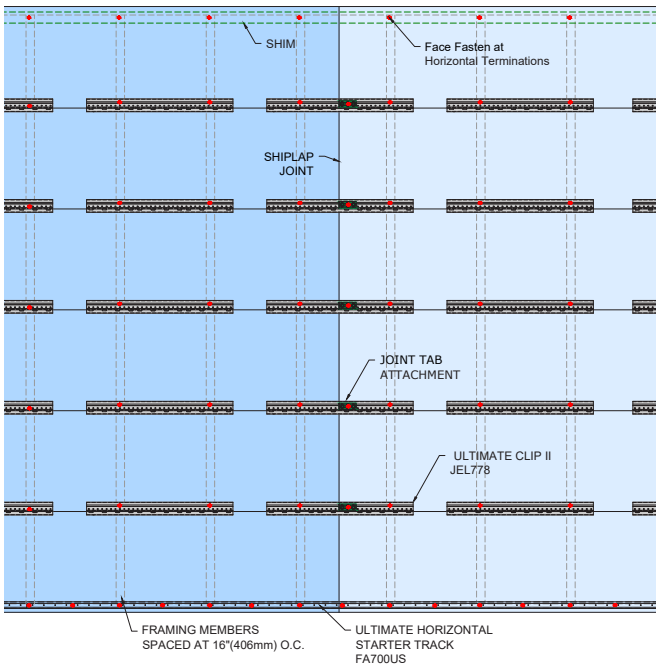
Implications: Illumination 3030 meeting Illumination 1818 or ArchitecturalBlock at a corner will result in different neighboring joint aesthetics. The same is true where TuffBlock may neighbor Illumination 1818 or ArchitecturalBlock.



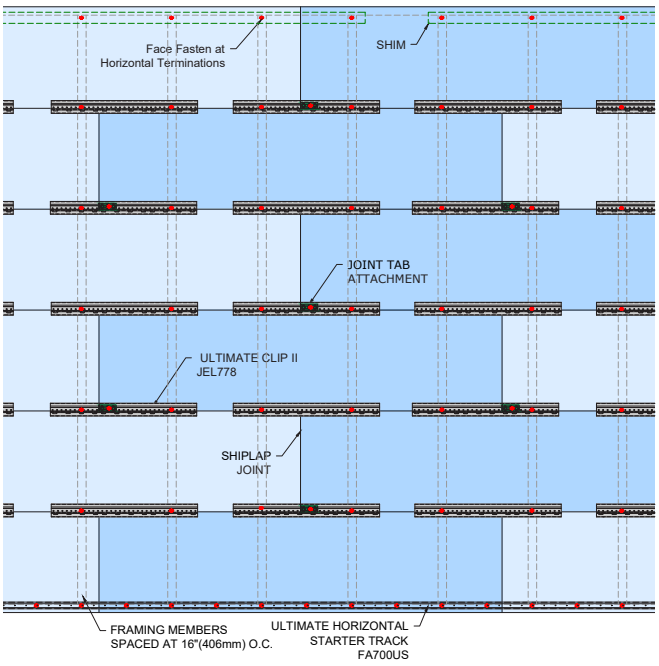
These are joint profiles for Illumination 1818 or Architectual Block (left) with a V-Groove joint versus TuffBlock (right) with a Split V-Groove.

For certain architectural products, minor visual variation at the joint may occur due to design tolerances. Installers should check alignment early in the installation and make small adjustment, if needed.

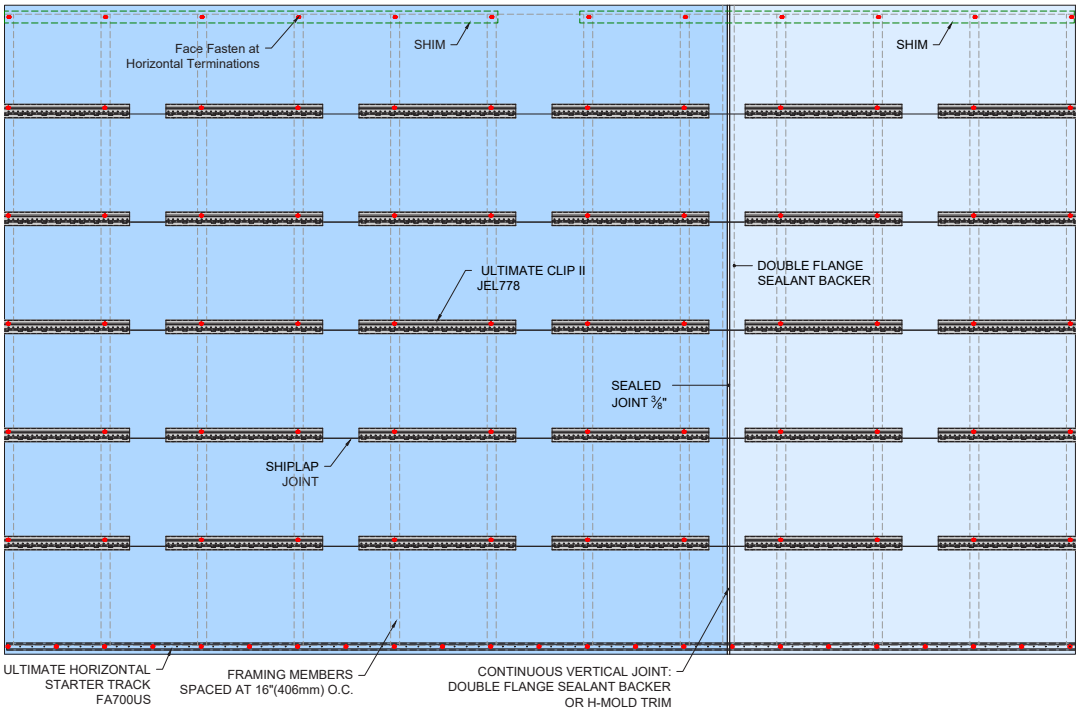
STACKED AND STAGGERED PANEL LAYOUTS
AWP 1818 & 3030



1818 Stacked Panel Layout



1818 Staggered Panel Layout



3030 Stacked Panel Layout

AWP 3030 must be installed with continuous vertical joints. No panel staggering is permitted.

STARTER TRACK:

INSTALLING THE HORIZONTAL ULTIMATE STARTER TRACK - ALL APPLICATIONS

MINIMUM CLEARANCES

The Horizontal Ultimate Starter Track must be level and positioned to enable a minimum panel clearance of 6" above finished soil grade or per local building codes (*the National Building Code of Canada requires minimum 200mm clearance*). When installing over a hard surface such as driveways or sidewalks the starter track must be positioned to enable the minimum panel clearance of 2". It is recommended to use a laser level to verify.

Keep AWP at least 1" above steep slope roofs. Otherwise, follow roofing manufacturer instructions and water management best practices.

The AWP bottom face edge will extend 3/4" below the Starter Track.

Essential Starter Flashing may be installed prior to the Starter Track to conceal the clearance gap above hard surface. *Follow the WRB manufacturer instructions or local code with respect to flashing details for waterproofing*. Beginning with outside and inside corner segments, "tack" the flashing to the substrate using a roofing nail or similar exterior flat head fastener. Fasten flashing inside and outside corner segments to substrate on both sides, keeping at least 1" from vertical edges. Main flashing segments will slide into the corner segments.

Position flashing and/or Starter Track to leave 1/4" minimum clearance between the panel edge and flashing.

STARTER TRACK INSTALLATION

The Starter Track must be leveled and installed using corrosion resistant screws. Refer to page 13-14 for fastener specifications.

Locate and mark the studs. Terminate Starter Track 1/2" short of inside and outside corners unless metal trim is used. If metal trims are used terminate the Starter Track within 1/2" of the trim's fastening flanges.

WOOD & STEEL STUDS OR FURRING

Starter Track must be secured at every stud line. Max. 16" o.c.

CONCRETE/CMU/ ICF

When installing over concrete construction, the Starter Track must be secured at each furring location. Max. 16" o.c.

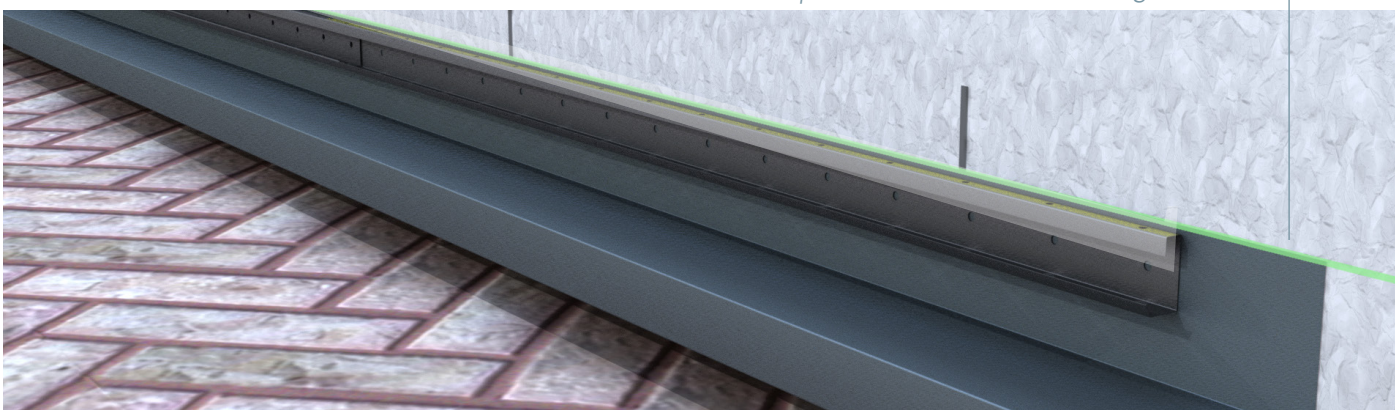
STRUCTURAL INSULATING PANELS (SIP) STRUCTURAL INSULATED SHEATHING (NAILBASE)

Secure Starter Track every 16" o.c. max. to the sill plate or every 8" if attaching to sheathing only.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

Fasten Starter Track at every metal panel rib at 12" o.c. max.

Essential Starter Flashing
Always follow waterproofing best practices with respect to WRBs and metal flashings or trim.



PANELS BELOW STARTER TRACK

When panel layouts necessitate a partial panel at the bottom of the wall, it is best to add the cut panel below the Starter Track course. This is also true for sloped grade conditions.

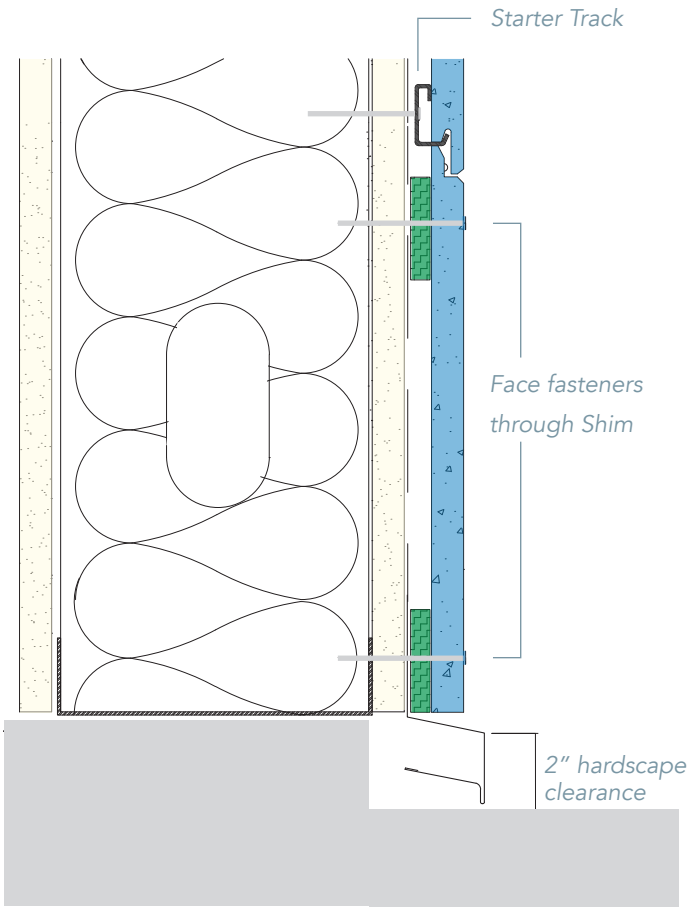
Begin with Starter Track at lowest possible continual level line and install it as directed in this guide.

To clad **below** Starter Track:

Add FS1010 Shim below the Starter Track and at the termination point at the wall base.

Cut the bottom edge of the partial panel. Insert the top shiplap under the Starter Track. This will form the appearance of a regular horizontal joint with the bottom shiplap of the panel on the Starter Track.

Face fasten the bottom edge of the panel, 1 inch up from the cut edge. Also face fasten the top edge of this panel as shown in the drawing.



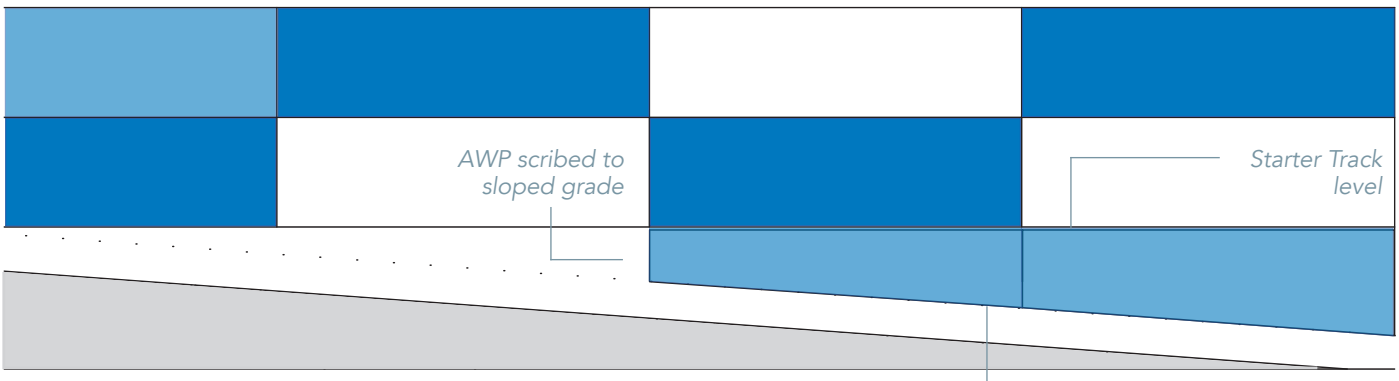
Cut, fill-in panel below Starter Track

SLOPED GRADE & MULTIPLE PANEL COURSES

Below the Starter, if installing more than one course of panels, install the full-sized under the Starter and fasten upside-down Panel Clips underneath, with every framing/furring member covered by a clip. It is necessary to pre-drill new fastener holes for clips used upside-down. Face fasten the top edge of the fill-in panel through corrugated Shim under the starter track. Keep fasteners 1" from panel edges.

Add the next course and fasten upside-down clips unless that panel course is the final cut panel. Face-fasten the cut course into place.

At outside corners using Nichiha Corners and Corner Clips, the same procedure can be followed.



Cut, fill-in panels below Starter Track with sloping grade , Keep min clearance requirements

PANELS ABOVE LARGE OPENINGS

Large openings (full panel width or wider) such as storefront windows or garages should be taken into account with respect to Starter Track placement. If possible, utilize Starter Track above these large openings to best support the weight of the panels above and for ease of installation.

Install Starter Track above the opening with the normal procedure. Also refer to *Window/Door Headers for flashing requirements.*

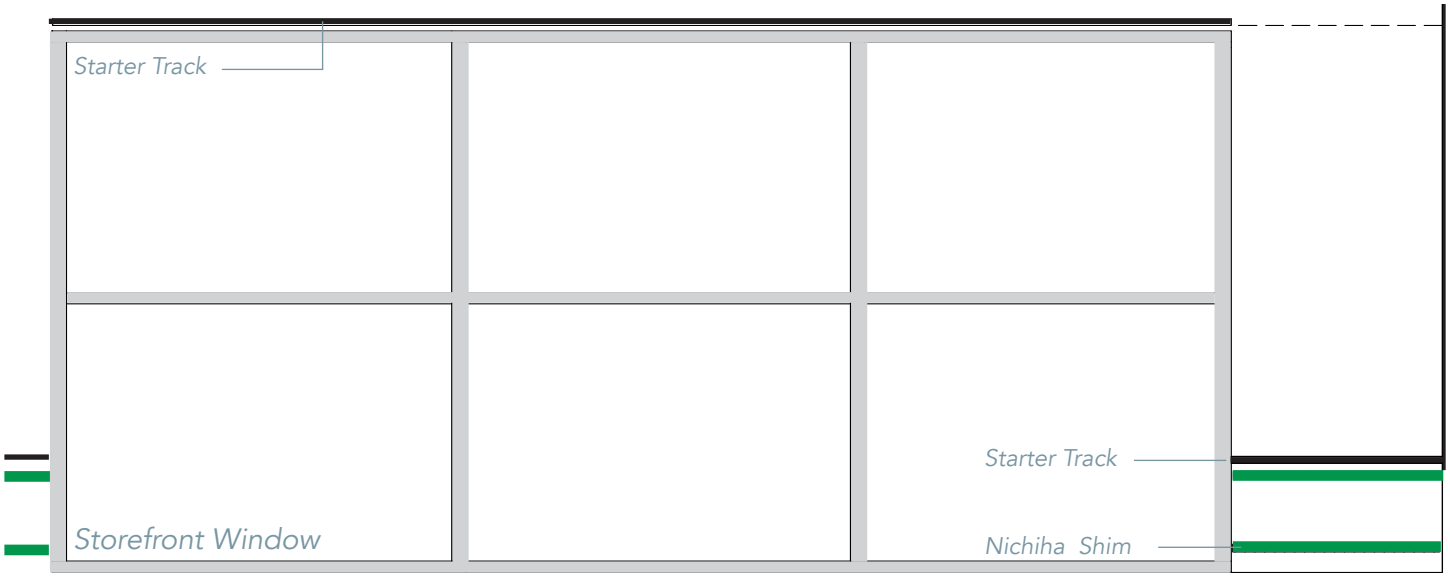
Remember AWP are all 17-7/8" tall and the bottom shiplapped edges hang below Starter Track 3/4".

Establish a level line from the bottom of the installed header Starter Track out to the side on both ends with a laser level.

Use this line to measure down the wall on each side of the large opening to attach the Starter Track for the first full panel at the bottom of the wall. This will ensure that the panels will meet at the proper height with respect to the head of the large opening.

If installing a cut panel (bottom shiplap removed) above the large opening, it is recommended to use a vertical starter track (FA710T) above the header flashing to assist in establishing a level line and ease of installation. Face fastening along the bottom of this panel is still required.

Use the *Panels Below Starter Track* procedure on previous page for adding fill-in panels below the wall base.



Make strategic use of Starter Track above and flanking large openings to course and align horizontal joints of AWP.

CORNERS & OPENINGS

ALL APPLICATIONS

Appropriate flashing and moisture management best practices must be used to prevent moisture penetration at all inside corners, doors, and windows. **Follow moisture management best practices, WRB manufacturer's guidelines, window/door manufacturer instructions, and all local building codes.** ***Nichiha assumes no responsibility for moisture infiltration.***

As necessary, add trim, jamb/sill extenders, and/or other flashings at corners, windows, doors, and other openings prior to AWP installation.

INSIDE CORNERS

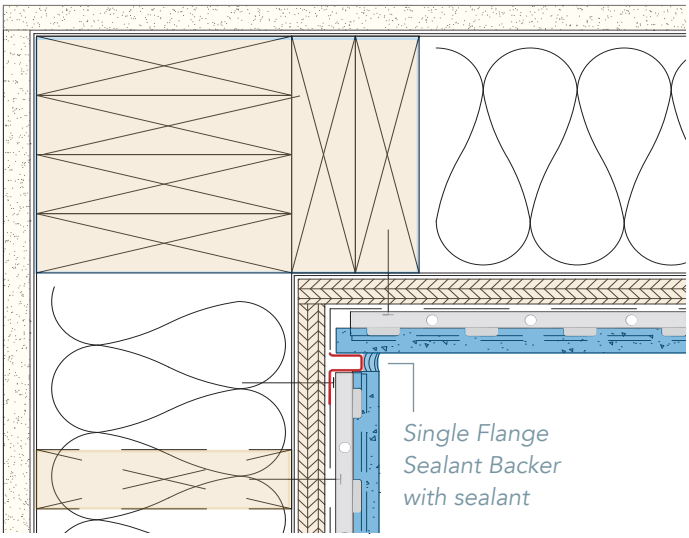
SINGLE FLANGE SEALANT BACKER

Decide the primary line of sight in order to minimize visibility of the sealant joint.

Install the panel (ship-lapped edges at the joint will need to be cut off) on the front wall (more visible) first. Ensure these panels are butted up in moderate contact to the inside corner wall.

Next, fasten the Single Flange Sealant Backer every 16", onto the side wall, against the front wall panel face.

Install the side wall panel directly against the sealant backer and secure with Panel Clips. Refer to sealant page.

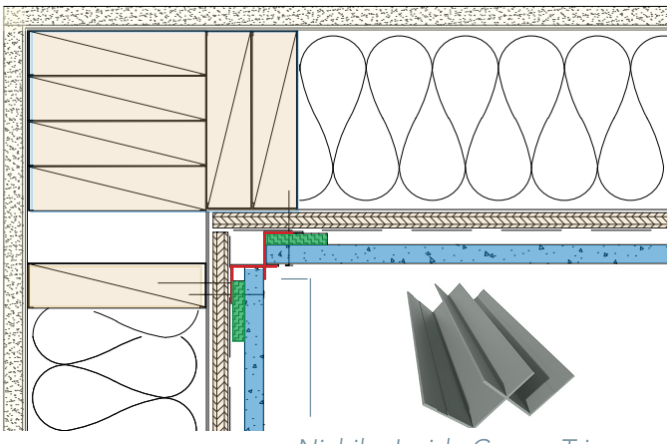


Plan view section at an inside corner

INSIDE CORNER METAL TRIM

Install Nichiha Inside Corner Trim directly against the inside corner sheathing. Fasten metal trim to corner framing/furring every 16" in a staggered fashion on alternating flanges.

If installing AWP 1818, remove the terminating shiplapped edges, seal the cut, and install panels, butting to the Inside Corner Trim in moderate contact.



Inside Corner Trim

Nichiha Inside Corner Trim

TRIM BOARDS

Install trim boards at inside corner first and butt the flat panel edges to Single Flange Sealant Backer or J-Mold.

OUTSIDE CORNERS

There are several Nichiha recommended outside corner installation options:

- Nichiha Fiber Cement Corners
- Metal (Open Outside, Corner Key) Trim
- Fiber Cement and PVC Trim Boards

Appropriate flashing must be used as required to prevent moisture penetration on outside corners.

NICHIHA FIBER CEMENT CORNERS

Install Nichiha Fiber Cement Corners prior to panels.

When using Nichiha Corners, terminate the Starter Track 1/2" short of both sides of the wall corner. Set a Corner on the Starter Track and secure it with a Corner Clip. Fasten with screws into framing/structure on both sides of the Corner Clip.

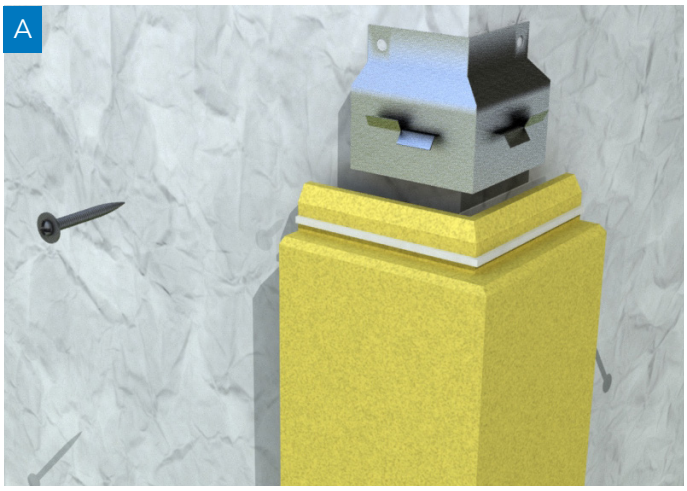
Place the next Corner on top of the first, fitting the ship-lapped edges together over the clips. Secure the top edge in the same manner with a Corner Clip. **(Figure A, B)**

Continue up the outside corner, stacking and securing the Corner pieces.

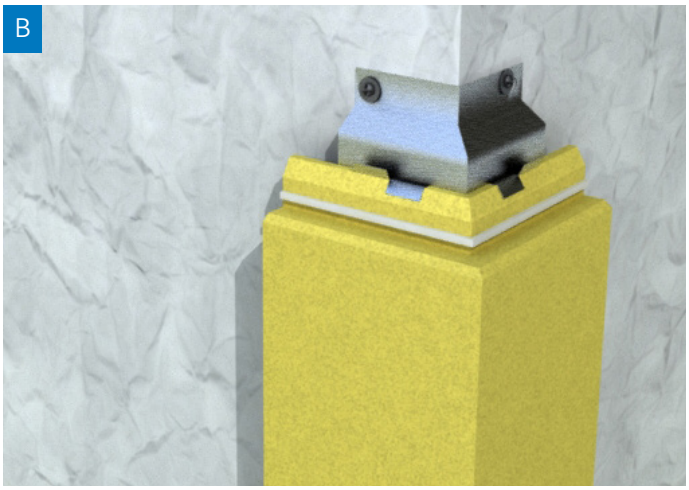
The top Corner will be cut to the appropriate height and face fastened over 10mm Shim.

Add Double Flange Sealant Backer at the Corners on both sides, all the way down from the top of the wall section to the Starter Track. Secure Sealant Backer to structure every 16" on the exposed fastening flanges. **(Figure C)**

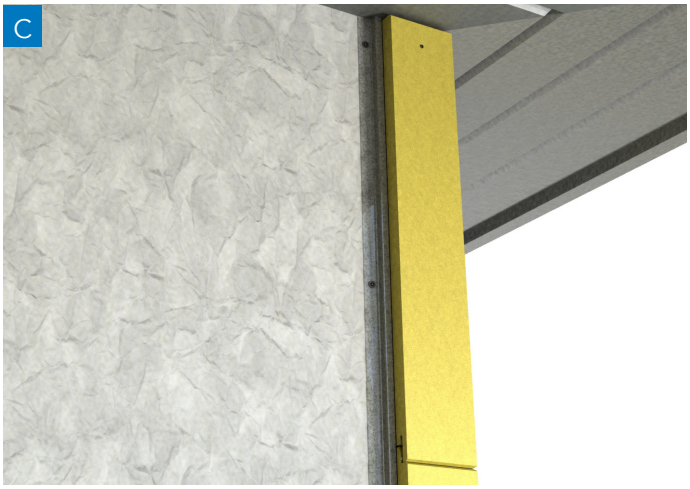
A



B



C



Double Flange Sealant Backer flanking stacked Corners

METAL TRIM CORNER

Install trim channels, such as Nichiha Corner Key or Open Outside Corner, prior to Starter Track and panels. Position corner so that the bottom of the corner will be in line with the bottom of the panels once installed. Fasten trim with corrosion resistant fasteners through the wall mounting flanges every 16" into studs or corner blocking. Stagger the fasteners on alternating sides.

Cut off terminal panels' shiplapped edges, enabling the cut panel edges to fit fully into the trim channels. Panel edges must not be left exposed. Butt the flat panel edges in moderate contact to the center flange of the corner.

Refer to *Vertical Control/Expansion Joints* for placement requirements.

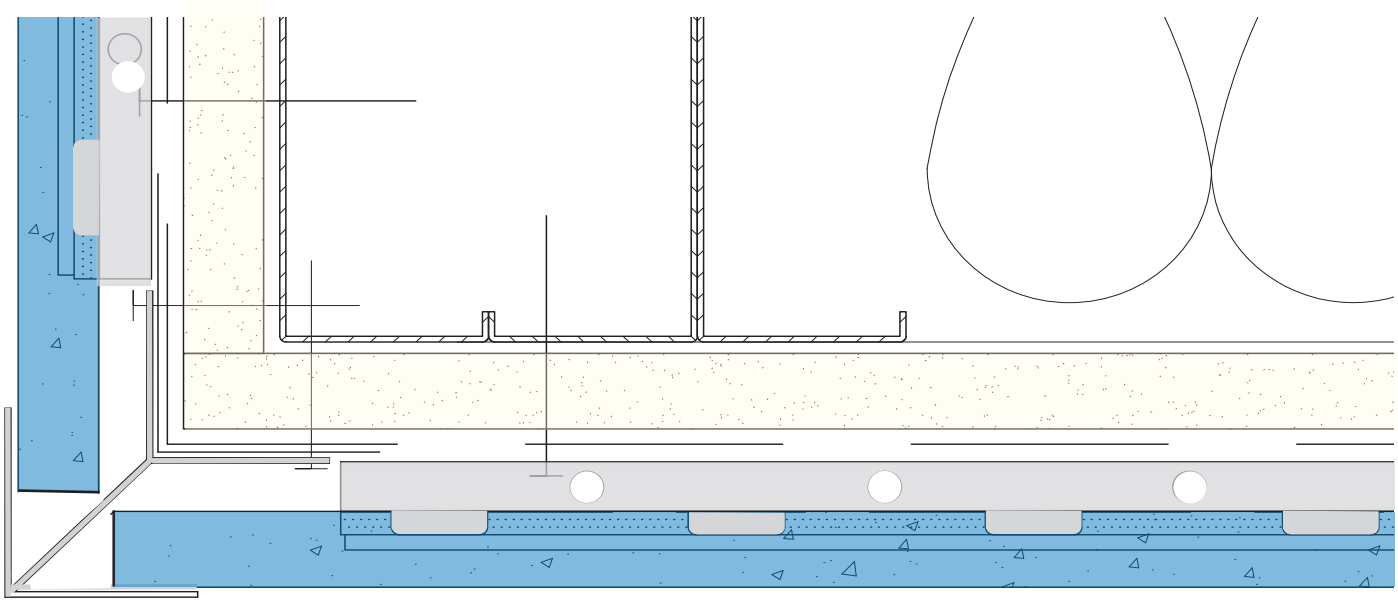
Nichiha metal corner pieces are each 10 feet in length. When butting/stacking metal trim pieces, add a bead of polyurethane sealant at the seam/joint.

Nichiha Metal trim can be pre-finished when purchased to match custom Nichiha Color Xpressions panels and some standard panel colors. Otherwise, for field painting metal trim, it is best to purchase primed trim. Consult a paint professional for best practices on finishing the primed metal trim.

FIBER CEMENT & PVC TRIM BOARDS

Nichiha manufactures a full line of fiber cement trim boards - NichiTrim™, which are available in the Southeast U.S. Refer to Nichiha.com for more information.

When panels are to be butted to fiber cement, wood or other trim pieces, use Nichiha Single Flange Sealant Backer or J-Mold between them.



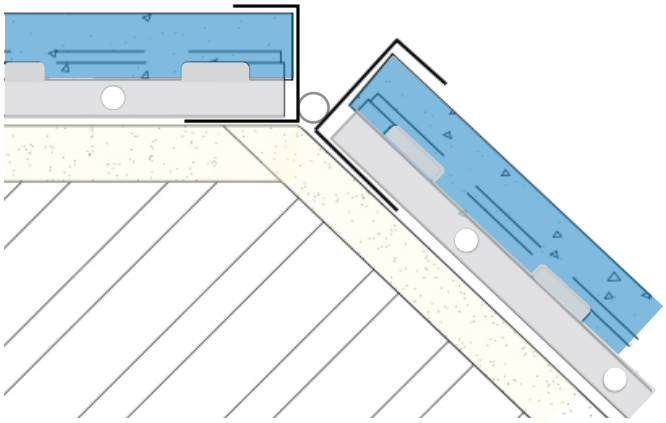
Corner Key Trim outside corner detail with cut panel edges

NON-90-DEGREE CORNERS

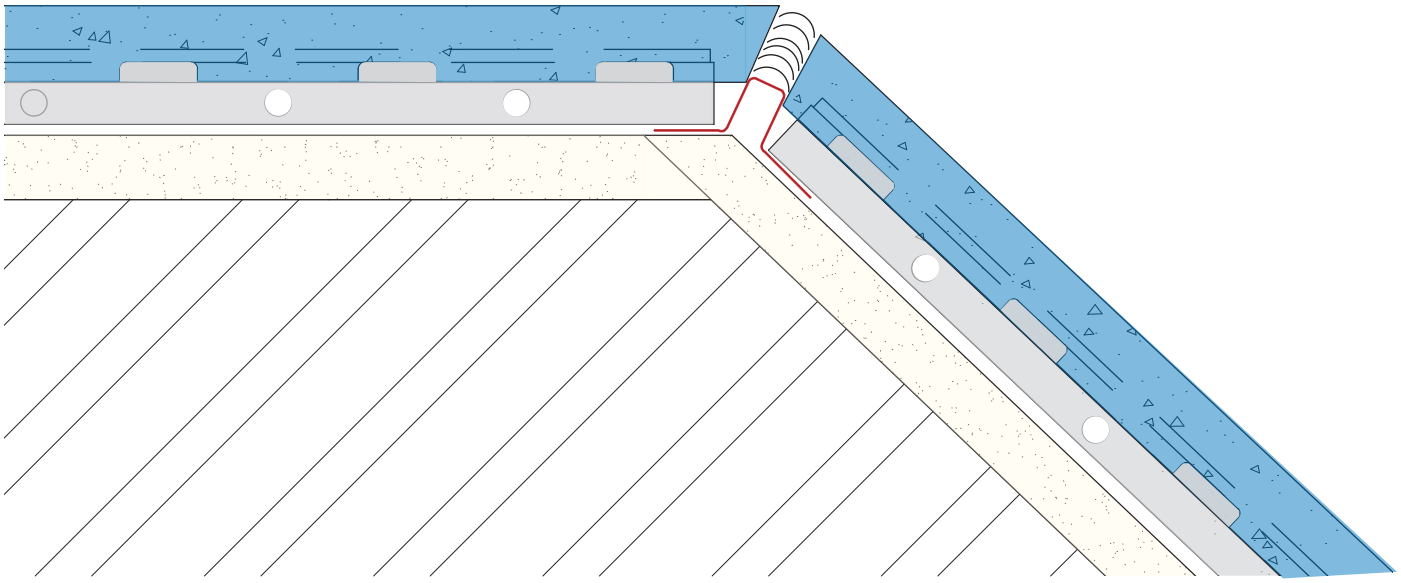
Corners greater or less than 90 degrees can be achieved with custom metal trim, double J-Mold, or with the use of Double Flange Sealant Backer by itself. Miter cut panel edges as needed to create uniform sealant joints.

When using double J-Molds a bead of sealant must be used where the J-Molds come together with moderate contact.

Flat fiber cement or other trim boards can also be used to facilitate non-90 corners. Miter cut the trim boards to meet and joint at the appropriate angle. AWP can then terminate to the square edges of the trim boards with a J-Mold or Single Flange Sealant Backer and sealant.



Non-90 corner utilizing our Double J-Mold Method



Non-90 corner utilizing modified Double Flange Sealant Backer and miter-cut panel edges.

VERTICAL CONTROL/EXPANSION JOINTS

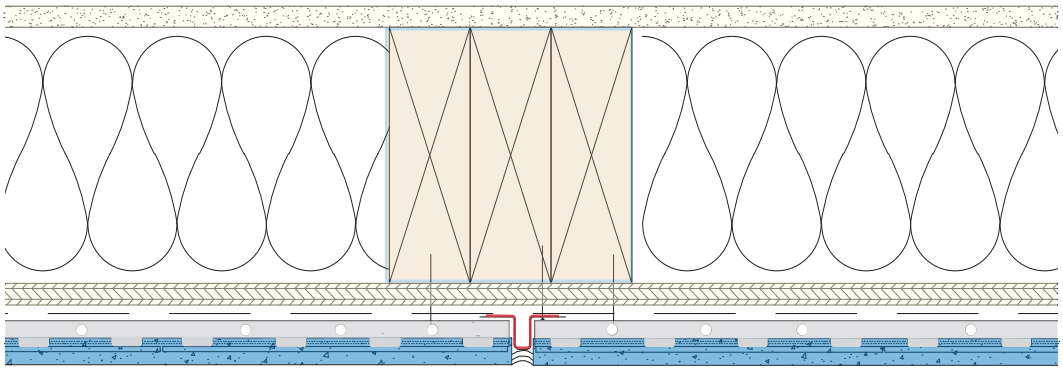
AWP 1818

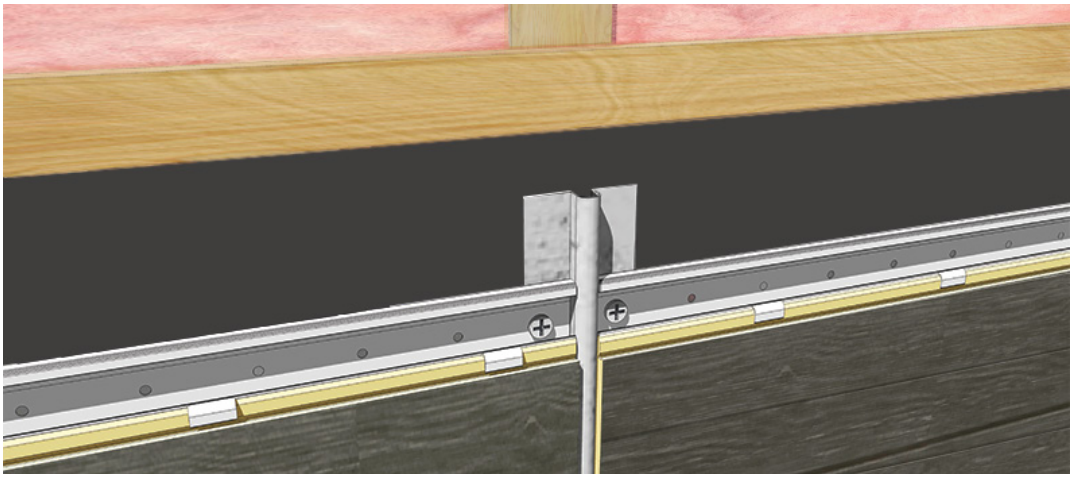
Refer to Panel Layout page for placement requirements.

The Double Flange Sealant Backer can be used for vertical control/expansion joint.

DOUBLE FLANGE SEALANT BACKER

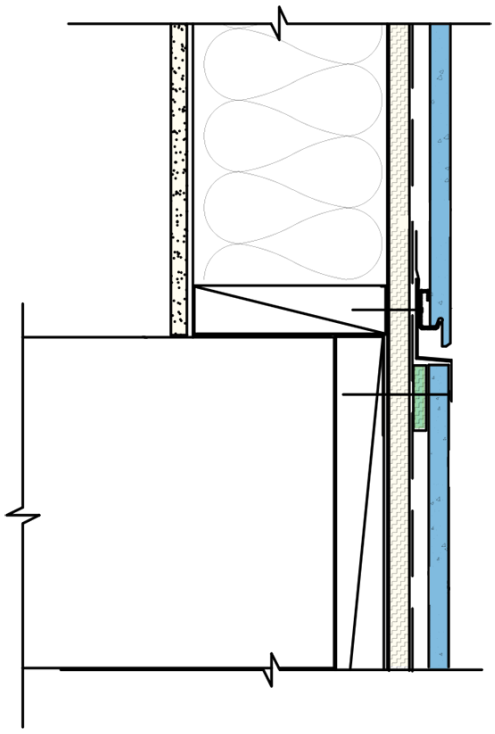
Install Double Flange Sealant Backer to butt up against the panels at pre-determined locations and secure the joint to substrate on one side (the right side flange) every 16". Sealant Backers must be fastened to OSB/Plywood sheathing, framing/furring members (added if necessary to pre-planned joint locations), or blocking. The 17-7/8" edges must be cut, fully removing the shiplaps.





HORIZONTAL/COMPRESSION JOINTS

ALL APPLICATIONS



INSTALLING A HORIZONTAL COMPRESSION JOINT

Refer to panel layout page on page 14 for proper compression joint locations.

Install **Compression Joint Flashing** or adequate z-shaped metal flashing or drip cap over the top edge of the course of panels terminating under the horizontal compression joint location.

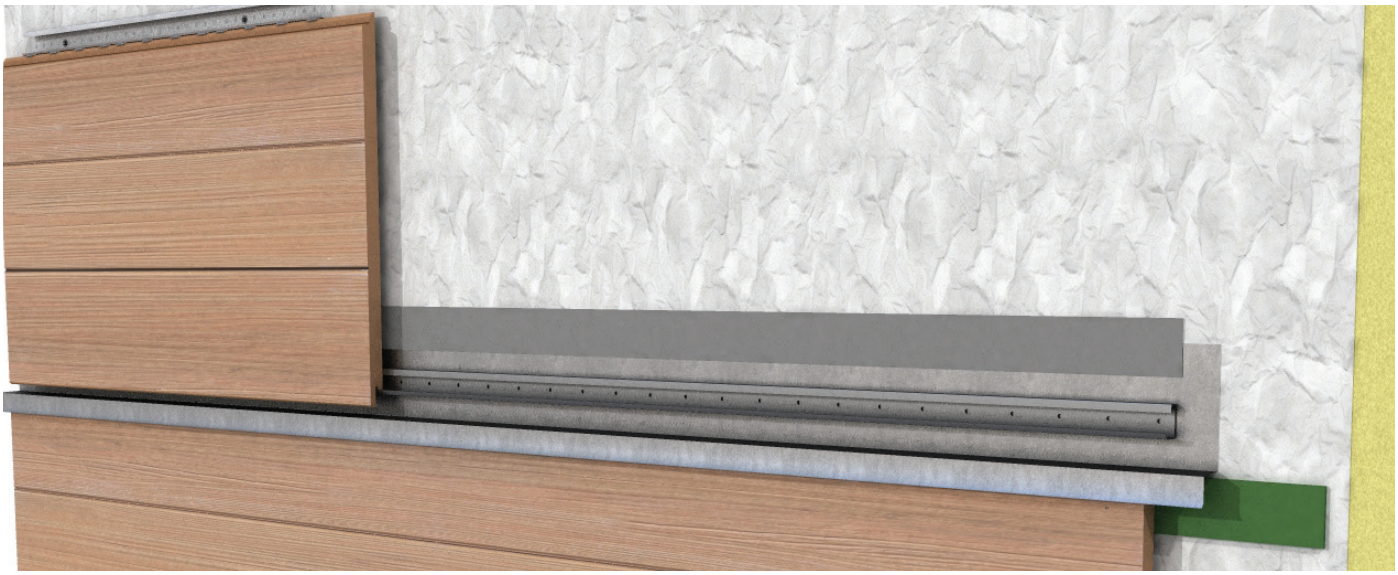
Follow relevant WRB manufacturer instructions and local code for moisture management best practices and detailing for flashings.

The top ship-lapped edge of the bottom panel is cut and secured by face fastening (1" below panel cut edge) to framing every 16"o.c. with 10mm Shim behind.

Install Starter Track above the flashing so that the next course of panels sits a minimum 1/2" above the course below. Remember the bottom ship-lapped edge of panels extend 3/4" below the Starter Track, so the Starter will need to be installed at least 1-1/4" above the edge of the panel course below.

Check for level.

Continue to install panels according to these guidelines with compression joints at the appropriate elevation(s).



WINDOWS, DOORS, AND PENETRATIONS

WINDOW SILLS

For recessed windows, add the window manufacturer's sill flashing/extension attachments or other flashing cap where the panels will terminate so that the top edges are covered or capped at the sill.

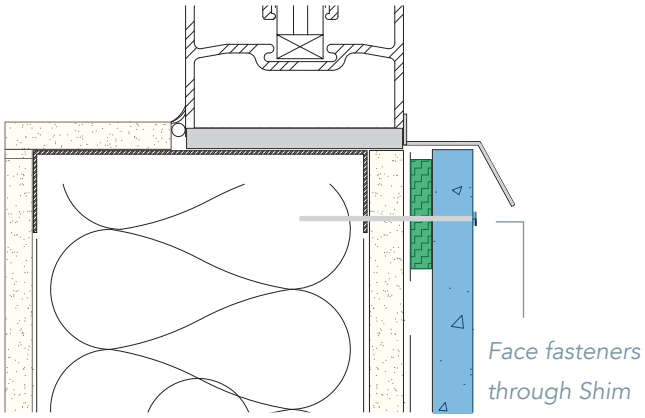
As needed to match the window width, cut the panel to the required height to fit below the window sill.

Add FS1010 Corrugated Shim (10mm) at the sill. Set the panel on the clips of the panel(s) below and position the panel into place to seat properly. Face fasten panel into place at each stud location. Refer to the ***Face Fastening Best Practices*** section.

If the top edge of the panel is fully sheltered under the sill, it is not necessary to seal the 1/4" gap. For better system performance, Nichiha recommends a vented approach.

J-Mold type trim (installed before AWP) may be used at window sills if AWP can be slid into position from the side(s).

Face fasten the top edge of panels at sills.



Use window manufacturer sill extensions/flashing or brake metal to cap over the panels at recessed sill returns.

WINDOW / DOOR JAMBS

Refer to window/door manufacturer guidelines for spacing trims around openings.

SINGLE FLANGE SEALANT BACKER

Window or door jamb must extend a minimum of 1" past the substrate in order to use single flange sealant backer option.

Install the Single Flange Sealant Backer first, butting to the door/window jamb or trim pieces prior to installing the panels.

The Single Flange Sealant Backer must be fastened every 16" to studs, blocking, or structural sheathing.

Install cut edge of panels against sealant backer with moderate contact.

J-MOLD

Pre-install J-Mold trim at window and door jambs prior to AWP. For J-Mold positioning, refer to the window/door manufacturer instructions regarding trim attachments to determine if the J-Mold can be butted directly to the window or door jamb or if a gap is required.

AWP cut vertical edges must fit completely within the J-Mold, leaving no exposed panel edges.

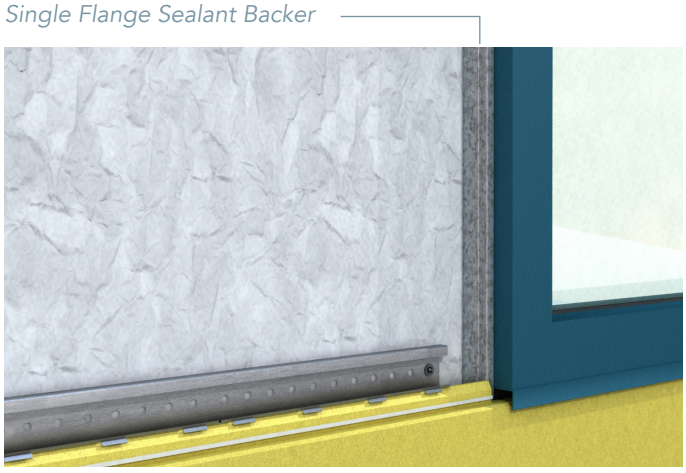
RECESSED JAMBS

At recessed openings, the best option for finishing the jamb returns/recesses is with jamb extension accessories from the window or door manufacturer. The extenders must account for the depth of the return, inclusive of the Nichiha system (1-1.25"). With these in place, the standard Single Flange Sealant Backer or J-Mold steps can be followed.

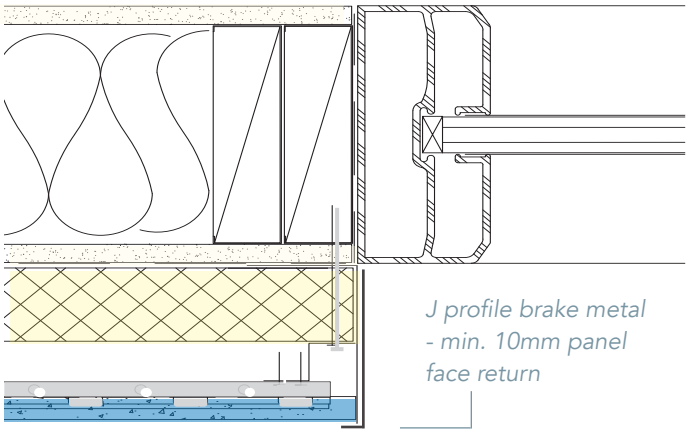
BRAKE METAL

Another option at recessed jambs is to use brake metal to cover the return over furring, continuous insulation, or other assembly components that create the recessed window condition. Because of thermal expansion and contraction of AWP, the brake metal must be of a heavier gauge sheet steel (24 or thicker) or equivalent aluminum.

For an L-angle shaped metal, terminate the AWP to a Single Flange Sealant Backer meeting the outward fin, which must extend to just beyond the panel face or include a face return flange on the brake metal to form a J-Mold type profile. With a minimum 10mm (3/8") return leg covering the panel edge and face, the sealant joint can be eliminated. Insert the panel edge in moderate contact with the metal.



Flush window jamb with Sealant Backer



J profile brake metal at a recessed window jamb

NICHIHA CORNERS

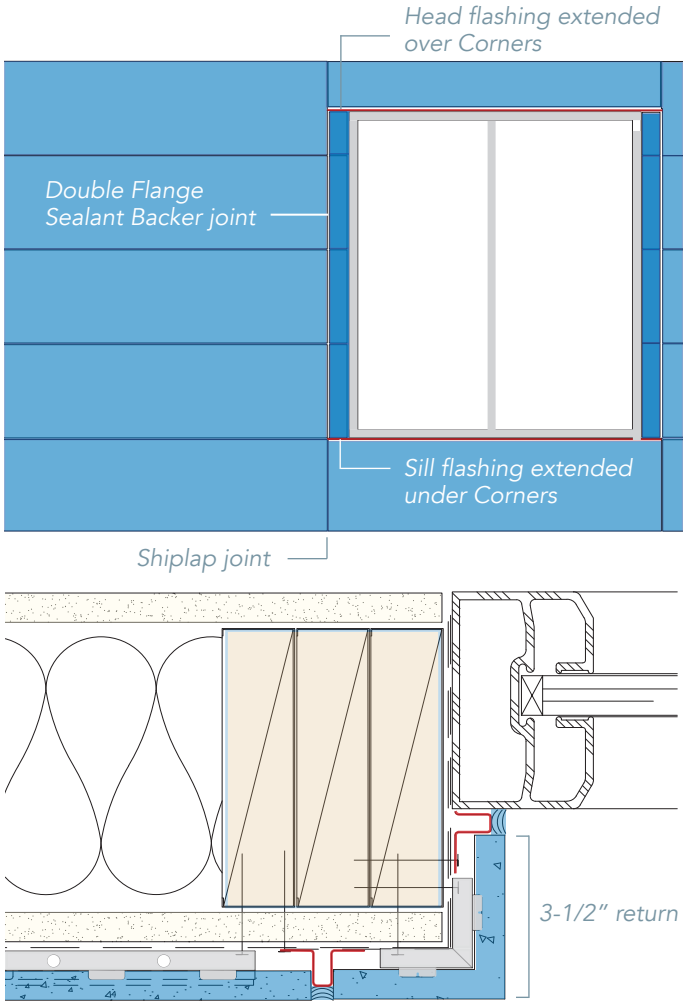
Nichiha Fiber Cement Corners cannot be used at the header or sill.

Nichiha Corners can be used to wrap recessed window jambs. Corners have returns of 3-1/2" (face dimension). Cut the pieces as needed for shallower returns but there must be sufficient depth for use of Corner Clips.

Extend the opening's header and sill flashing to cover the width of the Corner pieces that will flank the opening. Add Single Flange Backer where the Corner will return and meet the recessed opening frame.

Wrap the base of the jamb with cut pieces of Starter Track (or FS1010 Shim if face fastening). Maintain a min. 1/4" clearance above the sill flashing. Install Corner pieces at the jamb using Corner Clips.

Through 10mm Shim, face fasten shortened Corners under the head flashing. Then add Double Flange Sealant Backers to the sides of the Corners prior to the main panel installation.



Factory outside Corner at a recessed window jamb

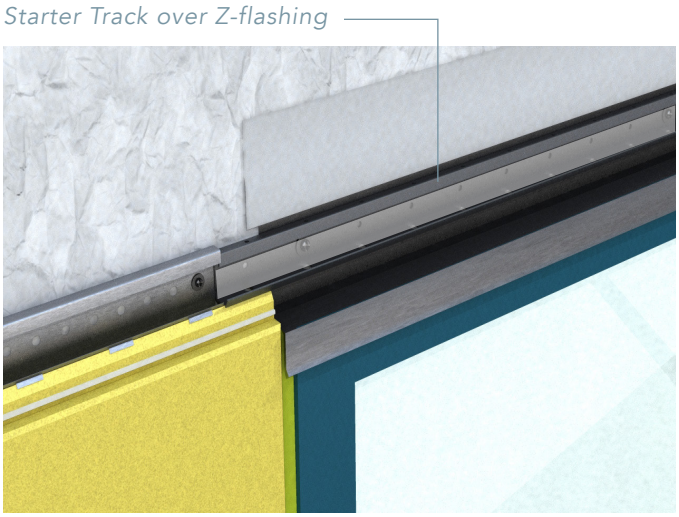
WINDOW/DOOR HEADERS

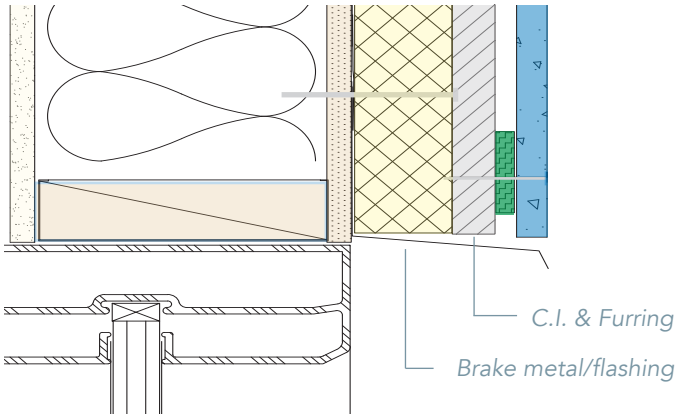
STARTER TRACK

When starting a course of whole panels above a window or door, add flashing and Horizontal Starter Track at the header, installed with fasteners at each framing/furring member or into header framing, every 16". Follow the WRB installation instructions with respect to window heads and metal flashings. Refer to *Starter Track Above Large Openings* on page 19.

FACE FASTENING

When adding a cut panel above the opening, install drip edge flashing and 10mm corrugated Shim first and follow WRB manufacturer installation instructions with respect to window/door heads and metal flashings. Then face fasten panels every 16" to the header framing or at each vertical framing/furring member. Keep fasteners a min. 1" from the panel bottom edge(s).





Face fasten cut panels through 10mm Shim at opening heads. Use extenders or brake metal for recessed returns.

FACE FASTENING BEST PRACTICES

To minimize the appearance of face fasteners, utilize the following steps:

Apply low adhesive tape such as painters tape to the panel at face fastening locations.

Pre-drill panels a minimum 1" from the cut edge to be face fastened. It is recommended to use a bi-metal countersink drill bit matching the head diameter of the face fasteners.

Fill counter-sunk fastener holes with an exterior patching compound.

Use a high grade exterior acrylic latex paint to conceal the patched area.

It is very important to keep the paint to the patched hole area only. Feathering the pain into a large area can negatively highlight the fastener locations.

Remove the painter's tape only after applying the patch and touch up paint.

PENETRATIONS & ATTACHMENTS

ALL APPLICATIONS

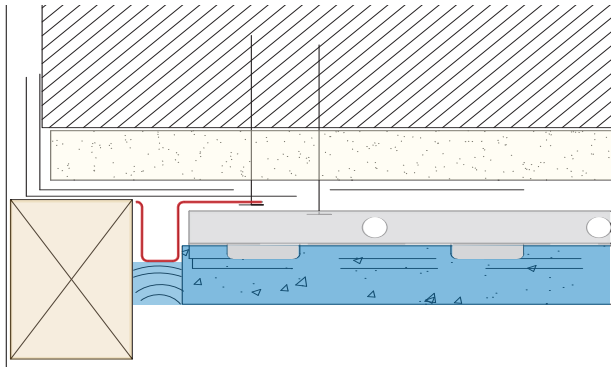
Openings for small penetrations like pipes or conduits may be cut through a panel and the hole sealed with ASTM C920 compliant sealant. For larger non-circular penetrations greater than 6" treat the penetration like a small window.

Along the jambs of the opening install Single Flange Sealant Backer. Cut panel edges as needed to butt to Single Flange Sealant Backer and add recommended sealant.

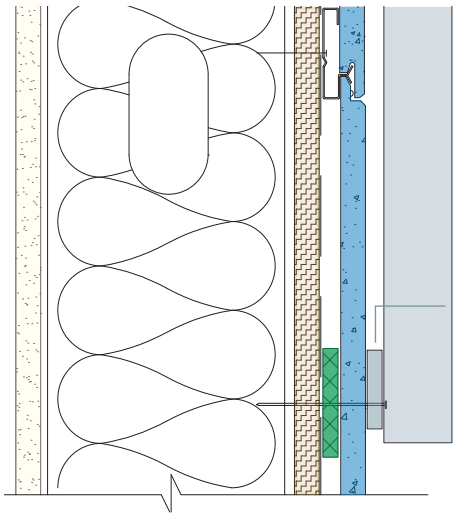
Underneath the opening, install a single flange sealant backer and FS1010 Shim as needed to face fasten the top panel edge at framing locations. Terminate the panel with moderate contact to the single flange sealant backer.

Above the penetration, add flashing and install FS1010 Shim as needed for face fastening the panel edge at framing locations. Ensure a minimum 1/4" gap between the bottom of the panel edge and flashing. Keep any face fasteners 1" away from panel edges.

If installing railings, signage, or other items directly over AWP, ensure the fasteners are secured through Shim to the framing or other structural support. Do not fasten any attachment solely to AWP. Further, add a small Shim (up to 10mm) between signage/attachments and AWP to prevent moisture pooling on top of the attachment and seeping between it and the AWP, becoming trapped.



Blocked penetration jamb condition



Signage/Attachment fasteners through shims, AWP, & 10mm Shim into framing/blocking

Signage/Attachments detail

SEALANT

Sealants to be used with AWP must match the following requirements:

- Comply with ASTM C920
- Have a Class of 35, 50, or 100/50 (minimum 35% joint movement)
- Sealant complying with ASTM C920, Class 35 (min.) is required where Single and/or Double Flange Sealant Backer is used.
- Provide two-sided adhesion at joints (Nichiha sealant backers are light gauge steel with galvalume and fluorine coatings.)

Refer to the Technical Bulletin: ***Sealants*** available at Nichiha.com/resource-center.

SEALANT JOINTS/CAULKING

Fasten Single Flange Sealant Backers at inside corners (one wall at corner), along window and door jambs, and transition points with other cladding. Fasten to framing, blocking or OSB/plywood sheathing at 16" o.c. with the 3/8" bump/sealant portion butting the corner or jamb.

Refer to the sealant manufacturer's instructions or requirements.

1. Place low-adhesive tape over the panel along the areas requiring sealant joints for a clean caulk line.

2. Fill the gap between the panels with a color-matched/coordinating sealant. Nichiha Sealant Backers allow for the proper depth of sealant (75-80%).

3. Before removing tape, tool the sealant with a caulk spatula or similar tool to ensure an even and smooth surface.

4. Remove tape before sealant cures.

5. Following the sealant manufacturers recommendations remove any excess sealant from the face of the panel before allowing it to cure.

AWP 1818 PANEL INSTALLATION

AWP installation proceeds by working from left to right. Refer to page 12-13 for fastener specifications.

For AWP 1818, trim off the left side ship-lapped edge so the panel will fit against an already installed Inside Corner metal trim, Sealant Backer, or Outside Corner metal trim.

Set the first panel into the Starter Track and secure the top edge with a Panel Clip, placing the first clip approximately 1" from the left edge of the panel. Fasten the Ultimate Clip at each stud location. Every full clip will cover 2 studs and must be fastened to each. **(Figure 21-A,B)**

Proceed along the panel to the right, placing another clip 4"-5" inches from the end of the previously installed clip so that the second clip is roughly centered over the panel middle but DO NOT skip any studs.

Place the second panel next to the first, making sure the shiplap joint fits tightly together.

A rubber mallet or block of wood may be used to seat the panels firmly in place and tighten to the left. Do not hammer directly anywhere on the panels as direct contact may cause cracks, gouges, or chipping. **(Figure 21C)**

Place a clip on top of this vertical joint. Vertical joints must be spanned with a clip covering the top edge of where the panels meet. Continue fastening the clips to each stud. Each long panel edge should be supported by approximately 2.5 clips. **(Figure 21D)**

Verify the first course of panels is level. Large commercial buildings require checking level around the entire building.

Start the second row in the same fashion as the first, but, in addition to the previous steps, add the **Joint Tab Attachment** against the bottom right hand corner of each panel. The Joint Tab Attachment seats inside the panel clip, with tabs that fit on the clip's rainscreen flange. Fasten the Joint Tab Attachment to the panel clip with the provided fastener. **(Figure 21E) Only one fastener is required for the joint tab attachment.**

Fit panels tightly together on both horizontal and vertical joints, ensuring the panel edges are properly butted together.

Complete the second and remaining non-terminal rows in the same way, with the Joint Tab Attachments at the base of each vertical joint. Terminal rows such as under *Compression Joints* or at the *Last Course* are covered in subsequent sections of this guide.

Vertical Control/Expansion Joints are required on walls wider than 30 feet.

Horizontal/Compression Joints are required on structures taller than three stories.

FIG. 21A

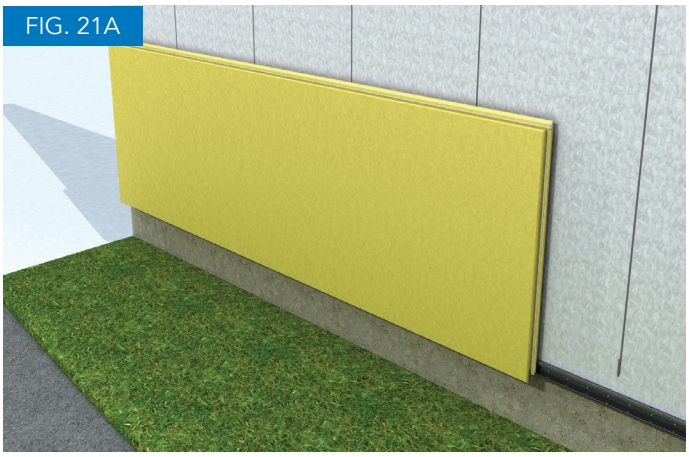


FIG. 21B

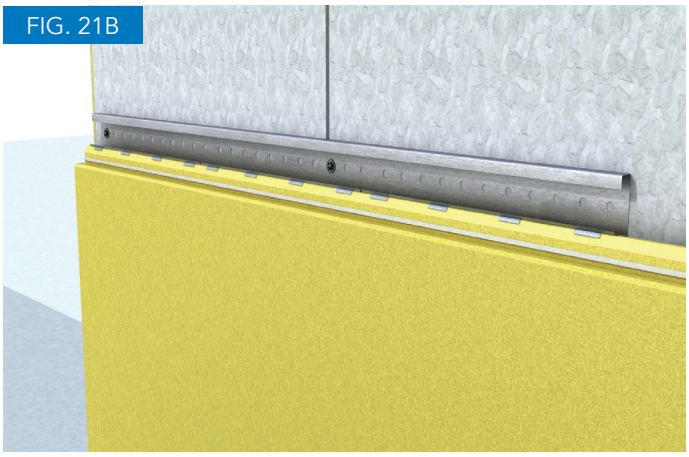


FIG. 21C

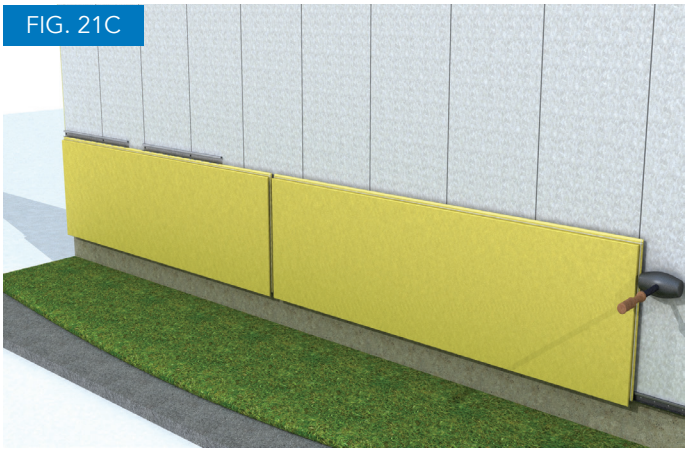
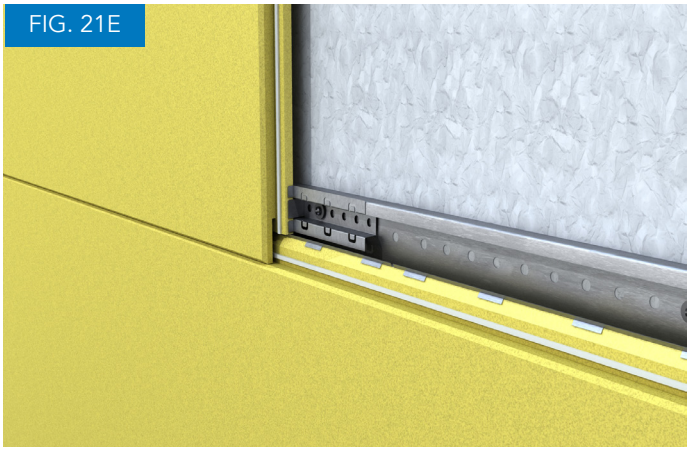


FIG. 21D

FIG. 21E



AWP 3030 INSTALLATION

AWP 3030 may only be installed in a stacked bond. Refer to layout illustration on page 35. Refer to page 13-13 for fastener specifications.

For AWP 3030, the left and right panel edges are flat and do not require initial cutting.

The panel will fit against an already installed Inside Corner metal trim, Sealant Backer, or outside corner trim.

Set first panel into the Starter Track and secure the top edge with an Ultimate Clip, placing the first clip about one inch from the left edge of the panel. Fasten clip at each stud location. Every full clip will cover 2 studs and must be fastened to each. (**Figure 25A**)

Proceed along the panel to the right, placing another clip 3”-4” inches from the end of the previously installed clip. DO NOT skip any studs. Continue fastening clips at each stud location. Each full AWP 3030 long edge must be covered by 4 clips. (**Figure 25B**)

Since AWP 3030 do not have shiplaps on their short edges, a control joint or H-Mold trim detail is needed at each vertical joint.

Fasten the Double Flange Sealant Backer at vertical joints between panels. Fasten Sealant Backer on the right side flange every 16 inches to framing, blocking, 18 ga strapping, or OSB/plywood sheathing.

Install the next panel with moderate contact to the Double Flange Sealant Backer and secure it with clips at each stud location. The sealant joint is ~3/8”wide. (**Figure 25C,D**)

Alternatively, H-Mold metal trim can be used at vertical joints for horizontal AWP 3030. This trim, must be fastened to framing, blocking, 18 ga strapping or OSB/Plywood sheathing. Fasten metal trim every 16”.

For H-Mold, it is recommended to have moderate contact between the edge of the panel and the center flange of the H-Mold. (**Figure 25E**)

Verify the first course of panels is level. Large commercial buildings require checking level around the entire building.

Complete the second and remaining non-terminal rows in the same way. Fit panels tightly together on horizontal joints, ensuring the panel edges are properly butted together. A rubber mallet or block of wood may be used to seat the panels firmly in place and tighten downward.

The **Joint Tab Attachments** are **NOT** used with AWP 3030.

Terminal rows such as under *Horizontal/Compression Joints* or at the *Last Course* are discussed in subsequent sections of this guide.

FIG. 25A

FIG. 25B

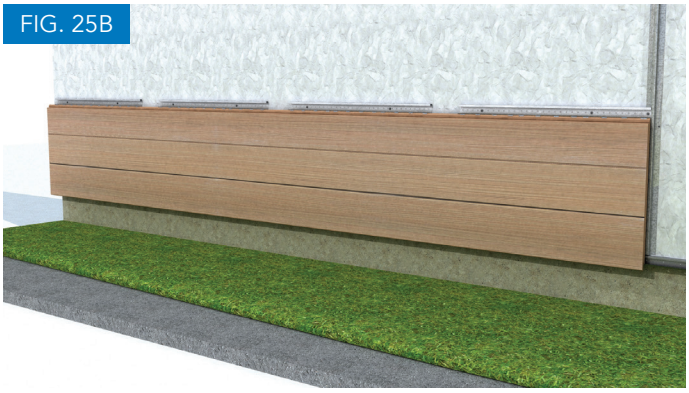


FIG. 25C

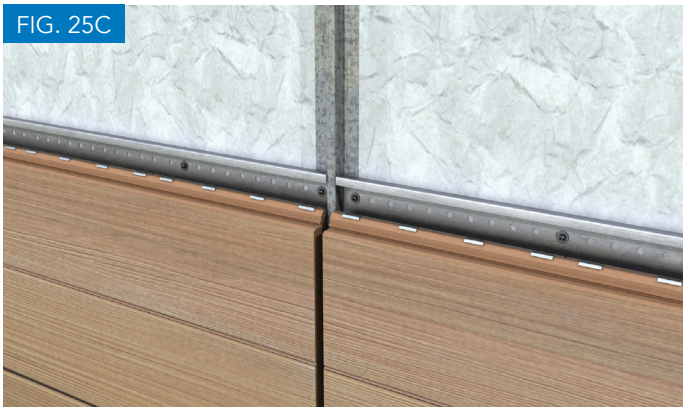
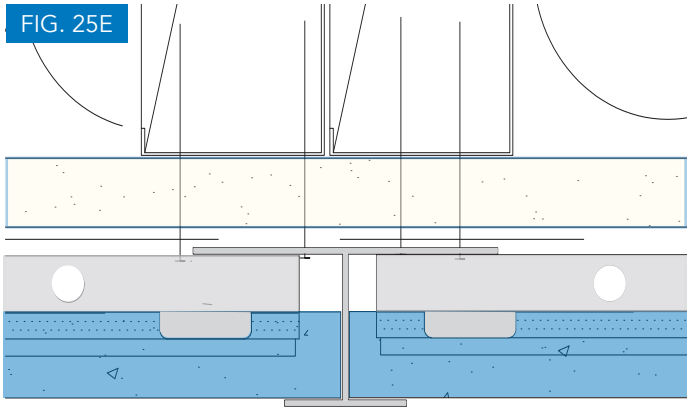


FIG. 25E



H-Mold as the AWP-3030 vertical joint detail

FIG. 25D

GABLES & OVERHANGS

ALL APPLICATIONS

Allow a minimum of 1" clearance (as per local building codes) for AWP above a sloped roof line.

At the wall top, cut the panels to follow the slope of the gable roof.

Panels installed along gable edges must be face fastened along the angled edges. All face-fastened panel edges must be shimmed out with FS 1010 Shim. Use Ultimate Clips wherever possible, positioning them as close to the end of the horizontal/ shiplap edge as space permits. Apply the fasteners at least 1" from any panel edge. This will avoid cracking or breaking of the panel. Fasten every 16" max.

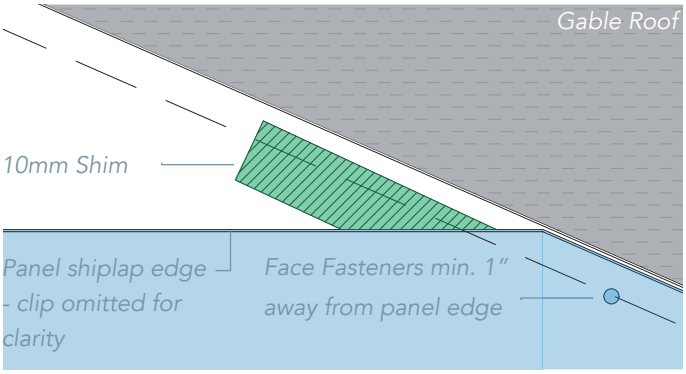
Seal all cut panel edges. Do not leave any panel edges exposed. Clean any cut panels to remove dust.

Essential Overhang Flashing may be used at the base of overhangs/bump-outs or porte-cocheres. Keep a minimum clearance of 1/4" from the panel edge to the flashings. Do not seal this gap. ***Always follow WRB manufacturer instructions and local code with respect to moisture management best practices for treating and detailing metal through-wall flashings.***

Prior to panel installation, "tack" Overhang Flashing to the substrate. Beginning with corner segments. Main segments will slide under/overlap corner segments.

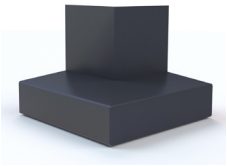
Use Joint Clip segments to join main segments together. After the first piece is secured, add a Joint Clip, fastening through both it and the first main segment. The next main piece will slide behind the Joint Clip.

Position Overhang Flashing so that its bottom/ return flange overlaps soffit materials. The bottom return portion must extend beyond the face of the fascia substrate. Positioning the flashing too high can deform it from its original shape. The bottom return should slope away from the soffit as pictured.

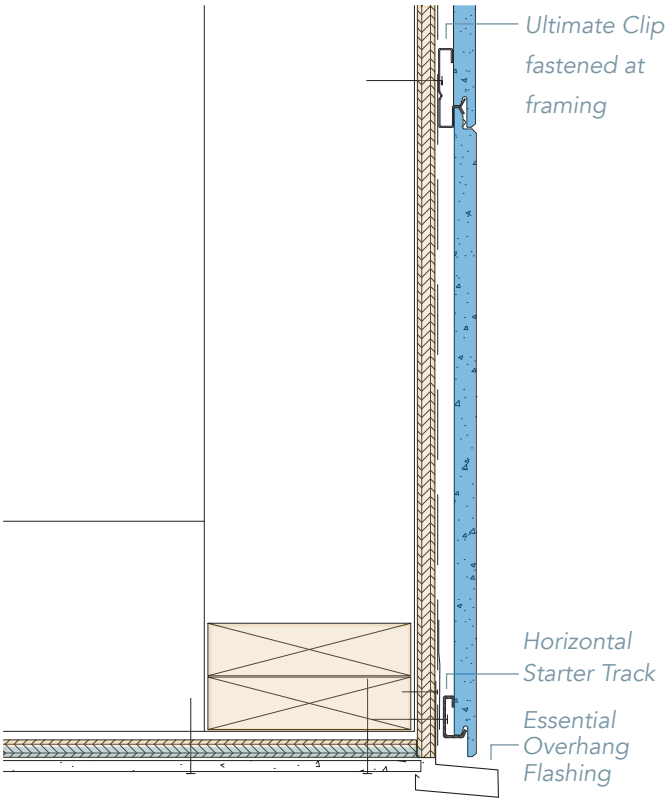


ESSENTIAL OVERHANG FLASHING & JOINT CLIP

OUTSIDE CORNER



INSIDE CORNER



GENERAL PANEL & ACCESSORY BASICS

PANEL SELECTION

Nichiha AWP are packaged with two panels in a pack, which are placed on pallets consisting of two stacks. Due to alternating patterns of texture and color between individual panels as well as how the panels are manufactured and packaged, it is best to install all panels from each individual stack before installing panels from the second stack on the same pallet. Do not alternate installing from one stack and the second, which may result in undesirable patterns.

SEALING CUT PANEL EDGES

When cutting AWP, it is best to cut with the panel face down.

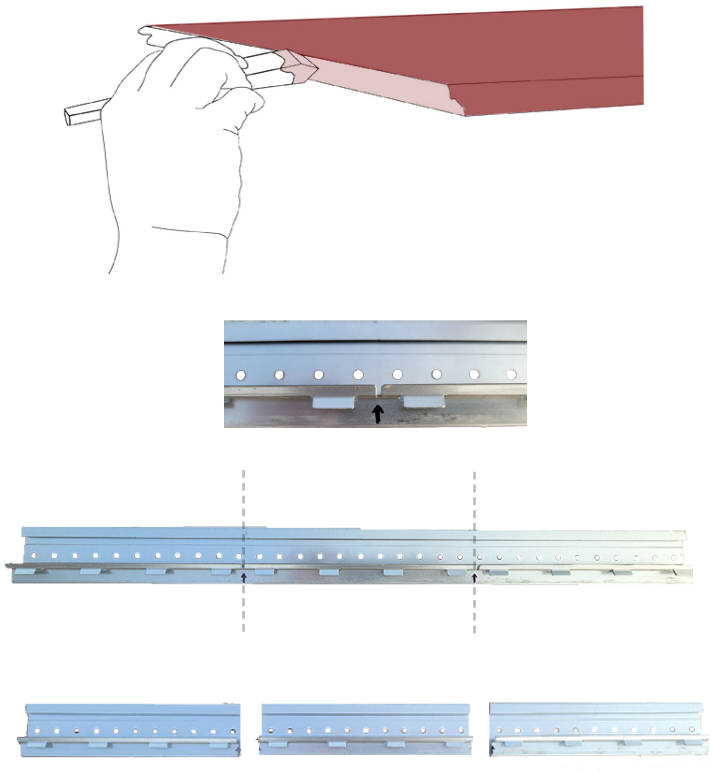
Cut panel edges must be sealed. An exterior grade color matched acrylic latex paint is highly recommended. No oil based paints.

Do not use Color Xpressions touch up paint for edge sealing as there will not be sufficient supply for the project. *Be sure to clean panels with a clean, dry soft cloth or HEPA vacuuming after cutting to prevent dust from bonding to the finish.*

CUTTING ULTIMATE CLIPS

JEL778 Ultimate Clips are 26" long. Where full length clips can be used, they are required. However, there may be conditions where clips must be cut to accommodate shortened vertical panels such as under windows.

Notches on the upward panel engagement flanges indicate where clips can be cut evenly into thirds. These 1/3 segments can be further reduced evenly into two or four pieces each with weep holes serving as dividing points. The smallest segment must include at least one downward panel engagement flange. Always use the widest clip segment possible. Cut clips with a non-ferrous saw blade on a band or chop saw.



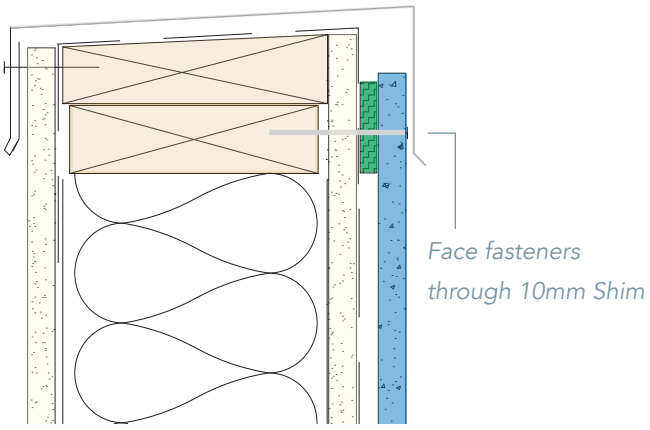
LAST COURSE

ALL APPLICATIONS

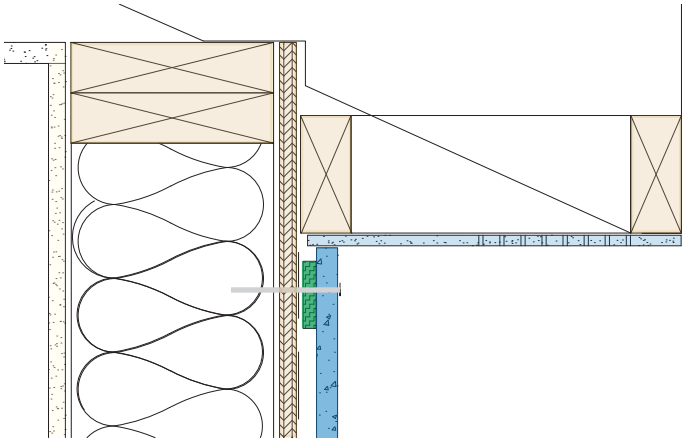
Fasten 10mm Shim (FS 1010) to the wall where the last panel course will terminate. This is needed to maintain the rainscreen without the use of the clips. Cut the panels (horizontally) to properly fit at the termination line. Face fasten the panel at each stud location. Refer to our Face Fastening page.

Where applicable cover the top panel row edge with a roof cap/coping. If the coping cap extends beyond the face fasteners, simply place a dab of sealant to seal the exposed fastener head.

It is not recommended to seal between AWP and soffit. J-Mold is optional to cap AWP.



Parapet cap termination detail



Soffit termination detail

SOFFITS & ANGLED (NON-VERTICAL) WALLS

Nichiha Architectural Wall Panels may be used in a soffit application and/or on non-vertical, angled walls (leaning forward only) when installed in strict accordance with the following provisions and requirements. Nichiha is not responsible for any actions or defects incurred as a result of incorrect installations using AWP as soffit. Those opting to deviate from these installation procedures incur all responsibility for their actions and any defects that result.

GENERAL REQUIREMENTS

If applicable, remove existing soffit materials and sheathing to accommodate blocking and (required) face fastening detailed in these instructions. Do not install AWP over existing soffit.

Framing spacing must be no greater than 16" o.c. Add blocking as needed to enable Ultimate Clip and face fastening of the panels.

Nichiha AWP hardware (clips and tracks) must be used normally for soffit and angled wall panel installations. In addition face fastening is also required at each framing member along the centerline of each panel.

Particularly with angled wall applications, ensure starter track and panels are horizontal/level. Check with a laser level regularly.

All short-edge joints between panels must be factory shiplapped joints for AWP 1818 or H-mold joints for AWP 3030.

Treat all cut panel edges by coating them with exterior acrylic latex paint.

Do not add attachments directly on AWP used on angled walls.

REQUIRED FASTENERS

ULTIMATE CLIPS AND STARTER TRACK:
Refer to and follow ***Fasteners*** on pages 12.

FACE FASTENERS:
Minimum #8 or larger, stainless steel or corrosion-resistant exterior, full-headed screws are required. The length of the screws must enable minimum penetration of 1" into wood or 1/2" into min. 18 gauge steel framing.

PROCEDURES

SOFFIT

Begin soffit installation by measuring and adding 10mm Shims to the framing or sheathing where the centerlines of each panel course will occur, accounting for the soffit depth, number of AWP courses, and reduced/cut panels.

At the wall-soffit angle/intersection, there are two options to secure the first edge of AWP:

1. Starter Track: Position the track to allow for the AWP shiplap edge which will extend 3/4" past the track. Fasten the track to framing every 16"
2. Remove the panel shiplap and face fasten through 10mm Shim, keeping screws 1" from the panel edge.

If additional courses of panels will be utilized, add Ultimate Clips to the panel edges in the same fashion as normal/vertical wall installation. Fasten Clips to framing every 16". Utilize Joint tab attachments for AWP 1818. *Ensure panel edges are fully seated within the clips and joints are closed in moderate contact.*

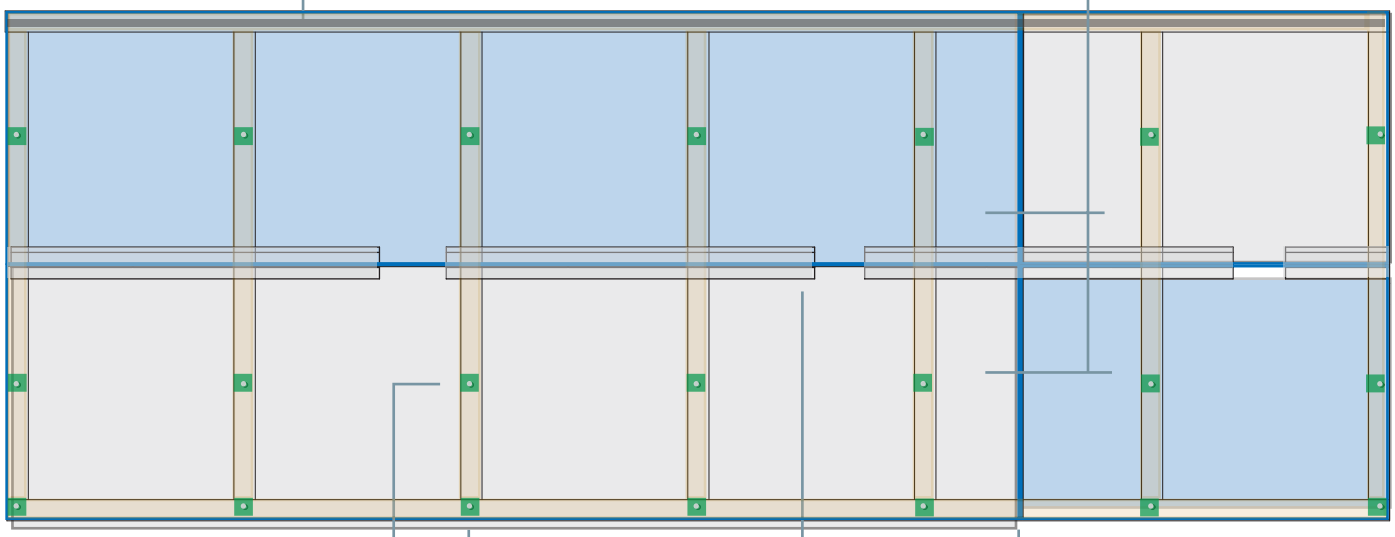
Along the centerline of each panel course, face fasten at framing members every 16" o.c.

The terminal edge must be cut and secured via face fasteners through 10mm Shims. Add screws every 16", keeping 1" from the cut edge. J-Mold trim may be utilized at terminations.

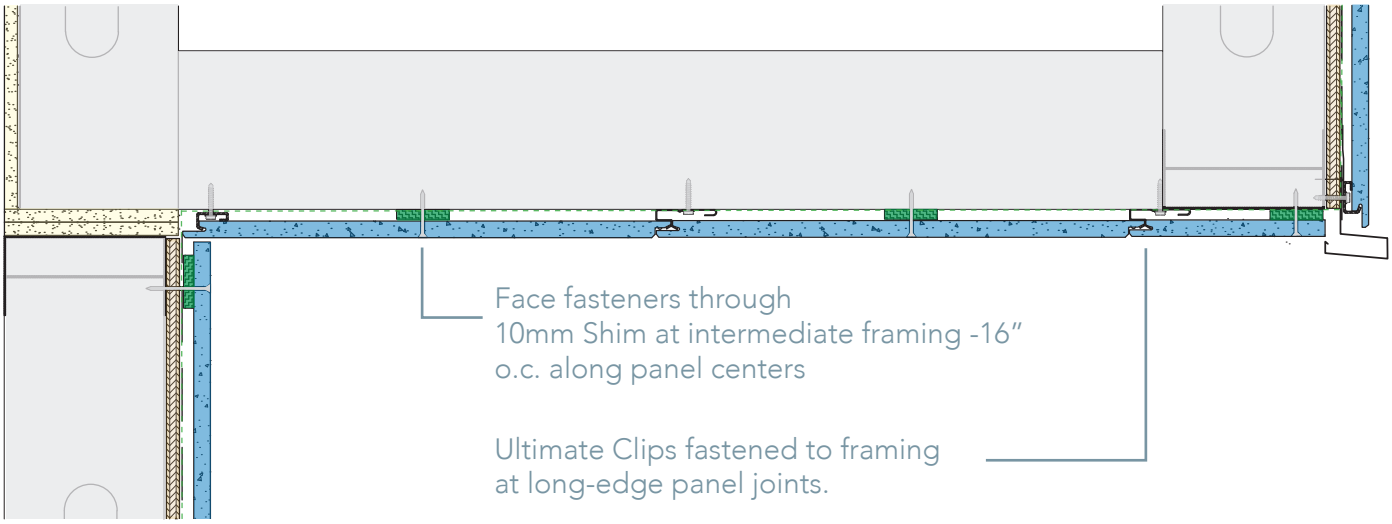
Refer to and follow ***Face Fastening Best Practices***.

Soffit vents may be added to or used in conjunction with soffit panels.

Detail One



Detail Two



For terminal course/cut panels less than 10″ in width, the center face fasteners are not needed.

Angled (non-vertical) Walls

Angled walls may only be pitched forward as shown in *Detail Three - to where the wall to grade angle is less than 90 degrees*. Backward leaning walls are not permitted as they create roofing-like conditions, greatly accelerating the weathering of AWP.

Begin angled wall installation with typical installation of Starter Track at the wall base, fastening to framing every 16" o.c. *Ensure the track is level. Check with a laser level.*

Add 10mm Shim to the sheathing or furring where the centerline of the first panel course will occur.

Set the first panel on the Starter Track and secure the top shiplap edge with Ultimate Clips in the same manner as vertical wall (standard) installations. Each clip will be fastened to a minimum of two framing members. Add the second panel and span the panel joint with an Ultimate Clip (for AWP 1818 only). AWP 3030 vertical joints must follow the steps on page 34. Continue working normally from left to right and low to high.

Beginning with the second course of panels, utilize the Joint Tab Attachment with AWP 1818.

Regularly check for level with a laser to ensure panel courses are horizontal.

Along the centerline of each panel course, face fasten at framing members every 16" o.c. through 10mm Shim.

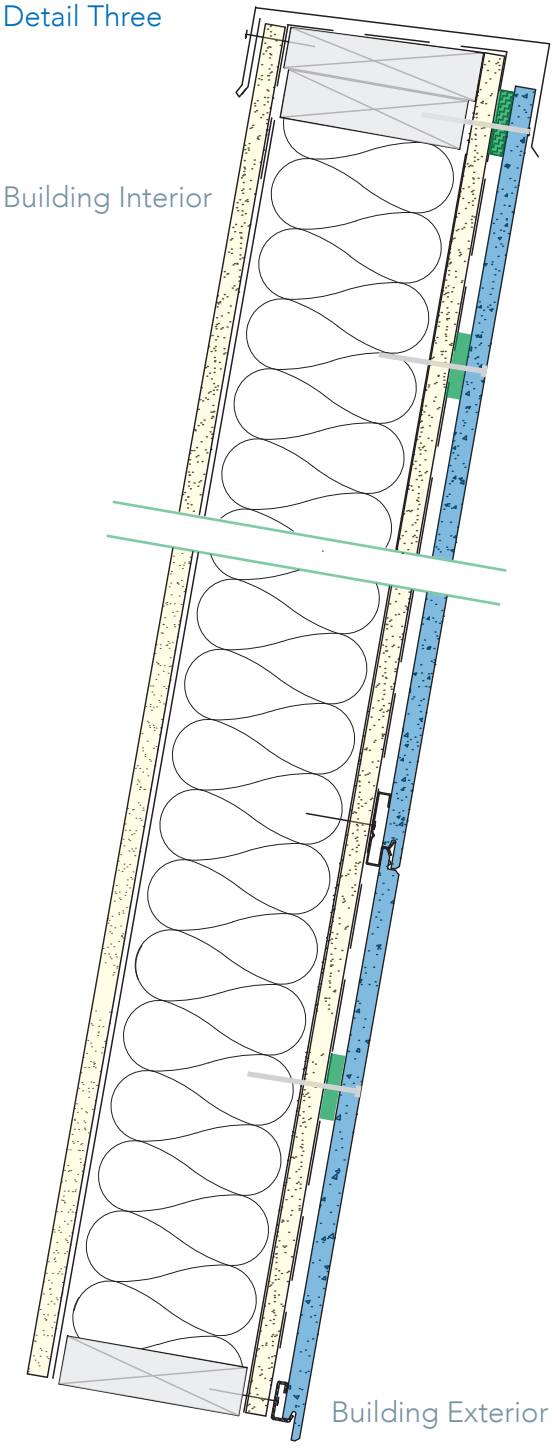
The terminal edge must be cut and secured via face fasteners through the 10mm Shim. Add screws every 16", keeping 1" from the cut edge.

Refer to and follow ***Face Fastening Best Practices***.

Outside Corners: Metal trim corners are strongly recommended.

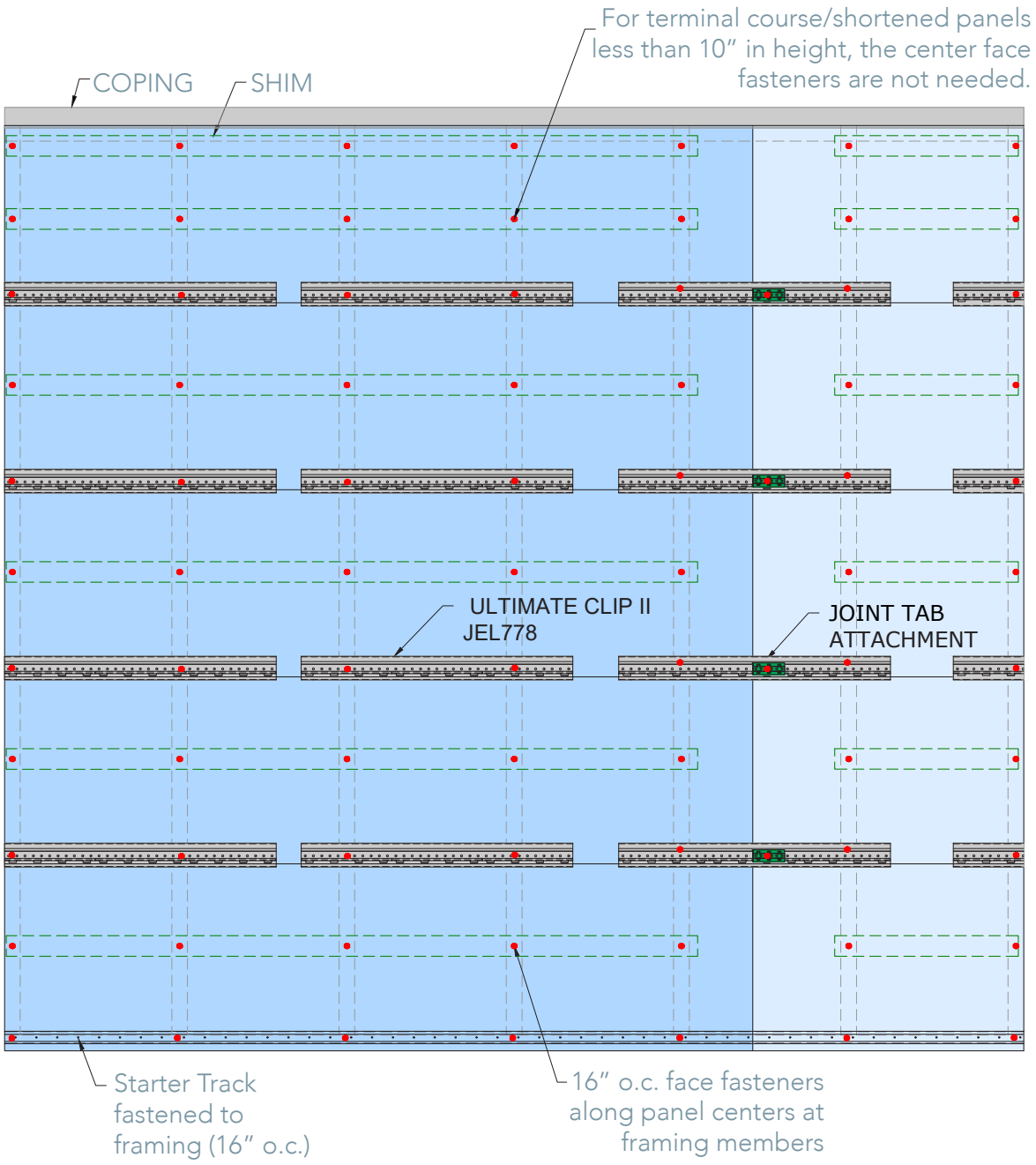
Reminder: do not add attachments such as light fixtures or signs on AWP on angled walls. Utilize blocked penetrations only.

Detail Three



DETAIL FOUR

(AWP 1818 DEPICTED. REFER TO P. 17 FOR AWP 3030 PANEL/CLIP LAYOUT AND ADD FACE FASTENERS AS SHOWN HERE.)



PANEL REPLACEMENT

ALL APPLICATIONS

Set the depth of a circular saw blade slightly deeper than the panel so the saw blade does not cut into the building wrap or sheathing.

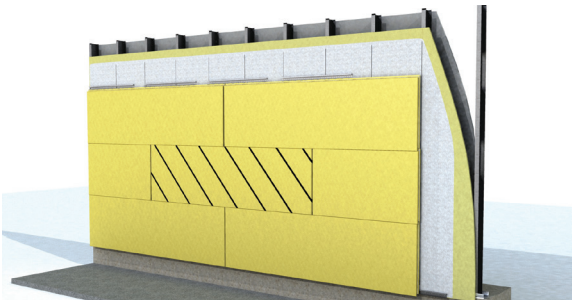
A. Make cuts into the damaged panel and break it into pieces for easier removal of the damaged panel.

B. Remove damaged panel.

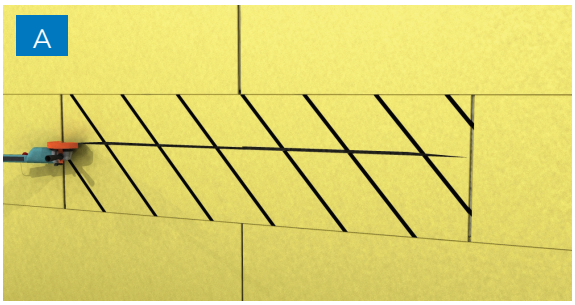
C. Use a 10mm Corrugated Shim and place it behind the new panel at bottom, just above exposed Panel Clips or Starter Track. Cut 3/16" off the back shiplapped edge at bottom of panel. If panel to be replaced is at the top course or under a window, cut the top edge of the panel as needed and leave the bottom shiplap intact . Add shim at top of uncovered wall space and face fasten the ripped top edge of the replacement panel.

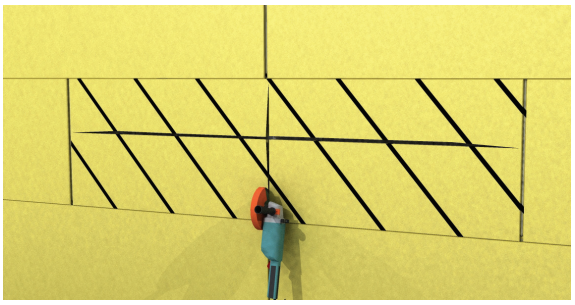
D. For AWP 1818, cut the right side shiplapped edge off the panel.

E. Lift panel into place by prying from the bottom upward. Pre-drill and face fasten the panel with a screw into the framing members, 2" from panel bottom.

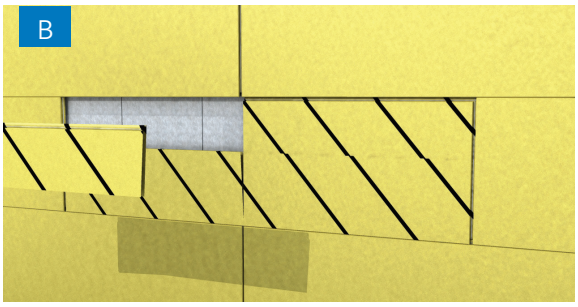


A





B



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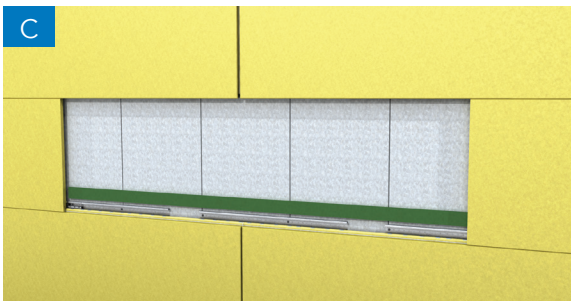
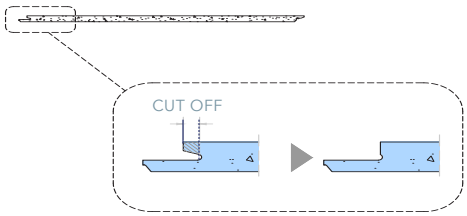
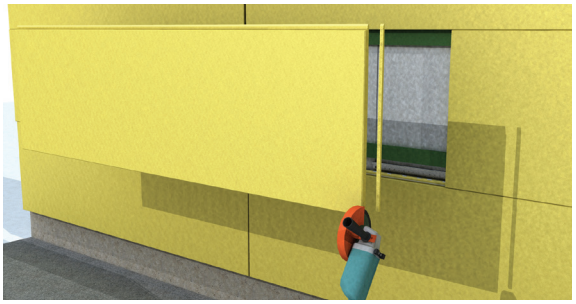


D





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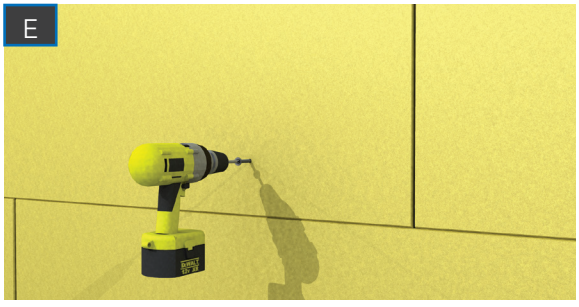
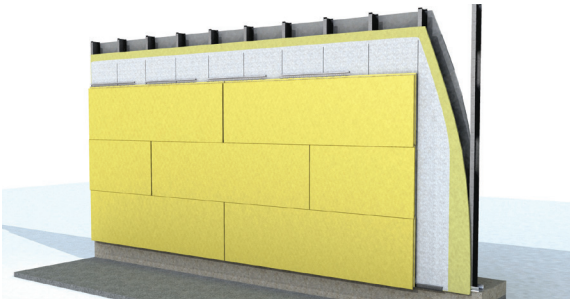




TECHNICAL RESOURCES

TECHNICAL DESIGN REVIEWS

If your project meets any of the criteria listed below, or you simply wish to take advantage of the service, your Nichiha Sales Representative can connect you to Technical Department staff for a Technical Design Review. It's our way of assuring that your project will be implemented without issues prior to installation. Refer to nichiha.com/technical-design-review

*All require a technical review by Nichiha to evaluate feasibility via our Technical Design Review (TDR) process. Submission of a TDR does not imply or guarantee project approval.

- Any project of more than three stories or 45 feet
- Those located in high wind coastal areas (Exposure Categories C and D with Basic Wind Speed in excess of 130 mph (Vult))
- Those with any wall assembly not described in the Framing & Sheathing Requirements
- Continuous Insulation projects (thicker than 1")

TECHNICAL BULLETINS

Even the power of possibilities has limitations. Nichiha offers a wide variety of Technical documents to help aid your design. Refer to nichiha.com/resources/technical-bulletins.

- AWP and Sierra Finishes
- AWP Maintenance Guide
- AWP Minimum Cuts
- Crystalline Silica
- ICFs
- NichiBoard Replacement
- NichiProducts Blocked Penetrations
- NichiProducts Quick Care and Maintenance
- NichiProducts Soffit
- NichiProducts, Sierra, and Savannah Care Maintenance
- Retrofits with AWP
- Sealants
- Sierra Shake Layout
- Vertical AWP Above Sloped Surfaces
- Continuous Insulation and AWP

DETAILS

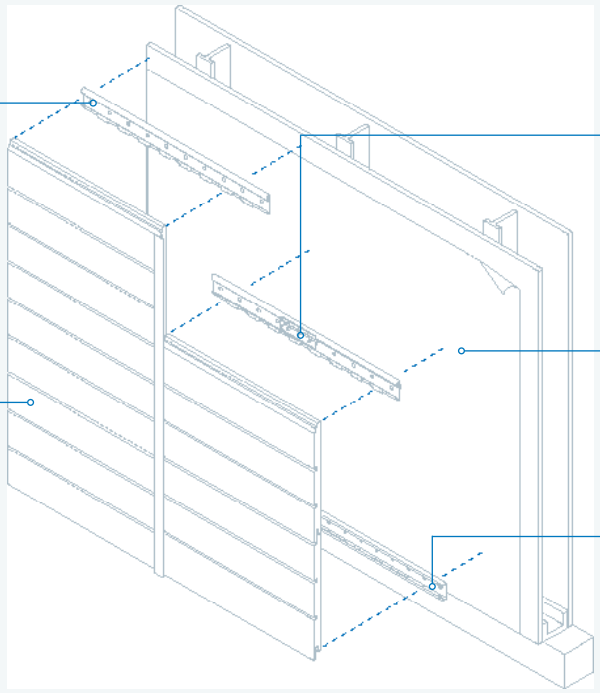
For complete offerings of AutoCAD and Revit details visit nichiha.com/architectural-details

For Installation hardware, accessories and full installation requirements/details visit: nichiha.com/resource-center

Efficient installation. Rainscreen performance.

THE ULTIMATE CLIP
creates a hidden fastening system that all but eliminates face fastening. Installation is quick and easy and never requires specialty subcontractors.

NICHIHA ARCHITECTURAL WALL PANELS
are lightweight, easy to handle, and available in a virtually endless color palette and a diverse offering of textural finishes.



NICHIHA'S JOINT TAB ATTACHMENT
is designed to support panel lateral stability, helping vertical joints stay tightly closed. The tab fits in place easily and is fastened to the Ultimate Clip with provided screw.

DRAINED AND BACK-VENTILATED RAINSCREEN
design allows water to escape and air to circulate, reducing the risk of mold and water damage inside the building.

THE ULTIMATE STARTER TRACK
pulls double duty. It ensures a fast, level installation, and its patented drainage channel directs water out and away from the base of the wall.

EASY INSTALLATION

Time-saving clip installation system that reduces construction time and minimizes mistakes.

NO MORTAR, NO MESS

Prefinished panels eliminate the need for messy mortar or costly masonry-skilled labor.

ANY-WEATHER PRODUCT

Products can be installed year round in any climate across the country. No geographical restrictions mean more possibilities.

LOW MAINTENANCE

No-fuss products. Little ongoing cleaning or regular maintenance needed. Bring your vision to life and ensure it looks great for years to come.

ENGINEERED FOR PERFORMANCE

Go beyond our durable panels and discover a meticulously engineered moisture management system that provides a vertical drainage point for air and moisture to exit.

Never underestimate the power of REALLY GOOD TOOLS.

Whether you are an architect, a builder or a contractor, Nichiha wants to ensure that you have all the information you need to make your project go as smoothly as possible. The way we see it, we are partners. Our website offers a comprehensive collection of technical information, installation videos, Architectural details, in-depth specifications and everything you'll ever need to know about installing Nichiha products. You can even schedule a Technical Design Review via nichiha.com/technical-design-review, and our Field Technical Services team can make site visits for installation training and/or preconstruction guidance.

DESIGN REVIEW GUIDE

Download our quick reference guide to get an overview on our Architectural Wall Panels.

nichiha.com/resource-center

ARCHITECTURAL DETAILS

Take a closer look and download our conceptual detail drawings.

nichiha.com/architectural-details

INSTALL VIDEOS

Watch our installation instructions come to life — check out our installation videos today!

nichiha.com/resource-center/install-support

SUPPORT

Our field and in-house technical teams are here to assist. If you have questions, comments, concerns, or wish to schedule a site visit or pre-con meeting, please call or email us.

1.866.424.4421 or technicalservices@nichiha.com

THE POWER OF POSSIBILITIES AND PARTNERSHIPS

Your creative vision is unique. That's why Nichiha wants to offer you the power of cooperation to help your project move from conception to completion. Our ever-expanding offering of textures and finishes lift buildings to new and unexpected places and we want to share them with you. We place a high value on our relationships and are proud to work with our dedicated partners across the country. Join us and discover the power of possibilities and partnerships with Nichiha.

NICHIHA WARRANTIES AND CERTIFICATIONS

- ILLUMINATION SERIES PANELS
  15-year limited warranty* on panels,
  15-year limited warranty* on finish.
- ARCHITECTURAL WALL PANELS
  (Brick, Block, Stone, Wood, Kurastone)
  15-year limited warranty* on panels,
  15-year limited warranty* on finish.
- METAL TRIM
  Tamlyn warrants defective-free products for a period of 15 years for the original purchaser. Please visit tamlyn.com for detailed information on terms, conditions and limitations.

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Florida Approval

Canada CCMC

NOA

Build America, Buy America Compliant

Texas Department of Insurance

*See Nichiha warranties for detailed information on terms, conditions and limitations. Visit nichiha.com for easy downloadable warranties or call toll-free 1.866.424.4421 for a copy. Nichiha SDS are available on nichiha.com.

SILICA DUST WARNING: Nichiha products may contain some amounts of crystalline silica [a.k.a. sand, silicon dioxide], which is a naturally occurring mineral. The amount will vary from product to product. Inhalation of crystalline silica into the lungs and repeated exposure to silica can cause health disorders, such as silicosis, lung cancer, or death depending upon various factors. To be conservative, Nichiha recommends that whenever cutting, sawing, sanding, sniping or abrading the product, users observe Safety Instructions. For further information or questions, please consult the MSDS, your employer, or visit osha.gov/SLTC/silicacrystalline/index.html and cdc.gov/niosh/topics/silica. The MSDS for Nichiha products are available at nichiha.com, at your local Nichiha dealer or through Nichiha directly at 1.866.424.4421. FAILURE TO ADHERE TO OUR WARNINGS, MSDS, AND OTHER INSTRUCTION MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.

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