GENERAL

This guide is intended to enable successful installation Nichiha’s 1818mm and 3030mm Architectural Wall Panels (AWP-1818, AWP-3030) in a horizontal orientation. Spanish and French versions are available. Further installation information and technical resources such as animated 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/resources.

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. This install guide’s effective date is January 2019.

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 or Nichiha Customer Service, toll-free, at 1.866.424.4421. Keep the products dry prior to installation. It is best to store the products indoors, otherwise keep them covered. Do not stack pallets more than two high.
BASICS OF THE AWP SYSTEM

The are two sizes of Nichiha panels: AWP-1818 and AWP-3030. There are unique aspects to both sizes. 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-coded and applicable to all AWP.

AWP-1818

Metric dimensions (in millimeters) are 455 (h) x 1,818 (l) x 16, 18, or 21 (t). Imperial equivalents (in inches) are 17-7/8 (h) x 71-9/16 (l) x 5/8, 3/4 or 7/8 (t).

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. Joint Tab Attachments are required at vertical joints. AWP-1818 must be installed horizontally.

AWP-3030

Metric dimensions (in millimeters) are 455 (h) x 3,030 (l) x 16 (t). Imperial equivalents (in inches) are 17-7/8 (h) x 119-5/16 (l) x 5/8 (t).

AWP-3030 edges are shiplapped only on the top and bottom, with the top edge including a 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. AWP-3030 may be installed horizontally or vertically. Refer also to the AWP-3030 Vertical Install Guide.

AWP ATTACHMENT HARDWARE

Ultimate Clips and Starter Track 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.

SYSTEM THICKNESS

For the overall thickness of the AWP system, add the 10mm rainscreen channel to the thickness of the panel (16, 18, or 21mm) for a total system depth of 26, 28, or 31mm.

Panels of different thicknesses may not be jointed directly as they require particularly-sized Ultimate Clips. Panels of mismatched thicknesses must be separated by compression and/or control joints.

Dimensions are measured from the edges of the panel face, which includes the left (AWP-1818 only) and bottom shiplaps (all panels).
LIMITATIONS, TECHNICAL REVIEWS & SPECIAL APPLICATIONS

Natural limitations on product usage are inherent to any cladding product’s design, physical characteristics, and attachment system. Nichiha AWP are intended as a low-to-mid-rise cladding product.

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 process.

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.

AWP are not to be used in any applications/uses not specified or described in this installation guide or other Nichiha technical documents. Any such use shall not be backed by the manufacturer’s product warranty.

Do not use AWP on open screen walls.

Insulated Concrete Forms (ICFs) require additional measures.

Installation of AWP products on modular structures that are factory-constructed and then transported to a final site are not approved; and further, excluded from the Limited Product Warranty, per Section 2.F.

AWP installed as soffit is not covered by the Nichiha Product Warranty or the Nichiha Finish Warranty. Refer to pages 38-41.

Please contact Nichiha Technical Services for assistance.

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.

Always wear 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 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.

Always clean panels after cutting. Fiber cement dust can potentially bind to the panel finish. HEPA vacuuming is best, with care taken not to damage panel finish.
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 Spacer may be used in conjunction with panel attachment hardware if necessary to ensure an even substrate.

Nichiha AWP cladding may be installed on flat, vertical walls only. No curves nor tilted or sloped walls. Wood or steel framing, concrete/masonry with furring, Structural Insulating Panels (SIP), and pre-engineered metal buildings (PEMB) must meet the following requirements:

Refer to our third party building code certification(s) and/or state/local approvals for allowable wind design pressures. [http://www.nichiha.com/resources/product-certifications](http://www.nichiha.com/resources/product-certifications)

WOOD STUDS

Size: minimum 2x4 studs
Spacing: 16” o.c. max
Sheathing: exterior grade minimum 7/16” plywood/OSB (APA rated), ½” or 5/8” gypsum

METAL STUDS

Gauge: minimum 18
Spacing: 16” o.c. max
Sheathing: exterior grade minimum 7/16” plywood/OSB (APA rated), ½” or 5/8” gypsum

CONCRETE/MASONRY

Furring is required for installation of AWP over concrete and masonry structures.

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

Metal Furring: hat channel, c-stud, or z-furring, minimum 18 gauge, oriented vertically, spaced 16” o.c. max

STRUCTURAL INSULATING PANELS (SIP)

SIPs should be installed in accordance with the manufacturer’s instructions and local building codes. Additional special Nichiha installation requirements for SIPs are discussed in the Fasteners and Panel Installation sections to follow. For installations taller than one story, contact the Technical Department for assistance.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

Metal buildings must be new construction.
No retrofits/remodels.

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

50 ksi metal panels must have ribs spaced no more than 12” O.C. with metal gauge determined by allowable wind design pressures:

<table>
<thead>
<tr>
<th>METAL PANEL GAUGE</th>
<th>ALLOWABLE PRESSURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 gauge</td>
<td>-31.41 psf</td>
</tr>
<tr>
<td>22 gauge</td>
<td>-39.29 psf</td>
</tr>
</tbody>
</table>

Projects with allowable design pressures in excess of the table values may not utilize AWP directly over PEMB metal panels.

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

Where exterior/continuous insulation is used, horizontal AWP may be installed directly over up to 1” of foam plastic insulation on wood or gypsum sheathing. For such applications, a minimum compressive strength of 25 psi insulation is highly recommended. Thicker insulations 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.

Also refer to the Technical Bulletin: Continuous Insulation and AWP available at nichiha.com/resources/technical-bulletins.

Please contact the Nichiha technical department for further assistance.

AWP OVER C.I. ATTACHMENT REQUIREMENTS

When adding a furring grid* to enable AWP installation over c.i., the following general criteria are applicable:

AWP-1818 and AWP-3030 Horizontal Applications

1. Shaped metal 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 combination of horizontal (spaced per engineer’s design) with a second, outermost layer of vertical furring (16” o.c.)

*Consult a structural engineer to design the furring system to manage the AWP system dead load of minimum 4 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 IBC 2015 Table 2603.12.2 for more info.
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. Sealant backers must be fastened every 12-14” 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 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.

IBC 2015 TABLE 2603.12.2

The model building code for 2015 includes information in Chapter 26 about foam plastic insulation/sheathing and furring minimum fastening requirements. Table 2603.12.2 shows various configurations depending upon framing gauge and spacing, fastener size and spacing, thickness of insulation and cladding weight. As an example, according to the table, 3 inches is the maximum thickness of foam sheathing on which a furring can be added directly on top, spaced at 16” o.c. and fastened with #8 screws every 12”-16” (into 18 gauge wall framing), that can support a cladding weight of 3 psf.

ENERGY CODE FRIENDLY MARKET OPTIONS

A number of engineered third party systems exist that are designed to solve the conflicts between energy code compliance and the safe installation of exterior claddings over continuous insulation.

Nichiha has direct experience with these products:

1. Knight Wall CI® and HCI™ Systems
2. Bracket and rail systems:
   a. Cascadia Clips®
   b. Knight Wall MFI®
   c. FERO Cladding Support
   d. ISO Clip
3. SMARTci GreenGirts
WEATHER RESISTIVE BARRIERS

A weather resistive barrier (WRB) is required when installing Nichiha panels over stud walls and SIPs. For CMU/concrete and PEMB assemblies, Nichiha defers to local code requirements. Use an approved WRB as defined by the 2015 IBC. Refer to local building codes. Fluid applied WRBs are acceptable.

A permeable WRB is highly recommended when installing Nichiha panels for residential applications.

A permeable WRB is required for all commercial applications.

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

All openings must have appropriate flashing to prevent moisture penetration.

Follow manufacturer’s guidelines and all local building codes.

STORAGE AND HANDLING

AWP are a finished product and care must be taken to protect them against damage prior to and during installation. Panels must be stored flat and kept dry. Refer to storage information included on product pallets. Do not stack pallets more than two high.

Ensure panels are completely dry before installing. 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 after cutting. Dust can bind to the finish.

When sidewalks are poured after AWP installation, take steps to cover/protect panels near grade.

Always cover pallets with a tarp or store indoors!

Don’t unpack and re-stack panels!
Always carry panels on edge!
FASTENERS
ALL APPLICATIONS

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

Number 10, pan-head screws (HD .365”) were used as clip fasteners for AWP wind load testing. The minimum size for Ultimate Clip, Starter Track fasteners is #8. Clip and track screws must have a pan, wafer, or hex type full head.

Min. Number 7 screws with a bugle or flat head (min. head diameter 0.255”) are appropriate for face fastening locations. Fasteners must penetrate framing or furring per the minimum requirements below. Refer to the Face Fastening Best Practices section on page 17 for face fastening procedure.

WOOD STUDS

Fasteners must penetrate solid structure by a minimum of 1”.

METAL STUDS

Screws must penetrate solid structure by a minimum of 1/2”. Three threads are needed for effective grab.

CONCRETE/ MASONRY

Furring to Masonry: 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 ½”.

STRUCTURAL INSULATING PANELS (SIP)

One inch, full-thread, corrosion resistant wood screws must be used.

Fasten starter track every 16” max to the sill plate.

Double fastening per each Nichiha 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. to the horizontal solid wood included at such locations.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

The PEMB wind load/panel gauge table (see Framing & Sheathing Requirements) is contingent upon use of #10-16 x 1” pan head, S/D screws.
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 II

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 all AWP (except SandStone, VintageBrick, and CinderBlock)

JEL 788 CLIP Compatible only with SandStone, VintageBrick, and CinderBlock

Joint Tab Attachments are included with Ultimate Clips and 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 all AWP Corners (except SandStone, VintageBrick and CinderBlock)

JE 787C Compatible with SandStone, VintageBrick and CinderBlock Corners

CORRUGATED SPACER

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

FS 1010 SPACER – 10mm

FS 1005 SPACER - 5mm

NICHIIHA CORNERS

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

Nichiha Sealant Backers provide exact spacing for expansion and termination joints and the recommended depth of sealant (75-80%).

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 19 for more information.

Single Flange Sealant Backer: FHK 1015 – 10 mm

Double Flange Sealant Backer: FH 1015 – 10 mm

METAL TRIM OPTIONS

Nichiha metal trim provides aesthetically pleasing design options for corners, openings, and transitions, as well as vertical joints.

<table>
<thead>
<tr>
<th>TRIM**</th>
<th>APPLICATIONS</th>
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<tbody>
<tr>
<td>Corner Key</td>
<td>Outside Corners</td>
</tr>
<tr>
<td>H-Mold</td>
<td>Vertical Joints - AWP-3030</td>
</tr>
<tr>
<td>Open Outside Corner</td>
<td>Outside Corners</td>
</tr>
<tr>
<td>J-Mold</td>
<td>Terminations</td>
</tr>
<tr>
<td>Inside Corner</td>
<td>Inside Corners</td>
</tr>
</tbody>
</table>

** These trims are only compatible with 16mm thick panels.

ESSENTIAL FLASHING SYSTEM

<table>
<thead>
<tr>
<th>APPLICATIONS</th>
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<tbody>
<tr>
<td>Starter*</td>
</tr>
<tr>
<td>Compression Joint</td>
</tr>
<tr>
<td>Overhang*</td>
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</tbody>
</table>

* Inside and outside corner segments are available.
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.

Reminder: AWP actual dimensions are metric: 455mm (h) x 1,818mm or 3030mm (l). Imperial equivalents: 17-7/8” (h) x 71-9/16” or 119-5/16” (l).

LAYOUTS

AWP-1818 can be installed in a stacked bond or a staggered bond application. Refer to the illustrations on Page 22. AWP-3030 must only be installed with a stacked bond layout. **AWP-3030 may not be staggered.** See the layout illustration on page 26.

VERTICAL CONTROL/EXPANSION JOINTS (PAGE 34)

10mm (3/8”) sealant joints account for thermal expansion in the lateral dimension. These are often, where possible, aligned with window or door jambs, downspouts, or other features in order to minimize their appearance. Depending on sheathing type, additional framing, furring, or blocking may be required.

HORIZONTAL/COMPRESSION JOINTS (PAGE 35)

½” (min.) horizontal, flashed break detail to allow for building compression at floor lines.

INSIDE CORNER LINE OF SIGHT (PAGE 27)

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 9”. The hard minimum width or height is 4”. Adjust the layout or use alternate materials when needed to avoid cutting AWP smaller than 4”.

Specifically, when an individual panel is wider than a window or other opening and is used over the head or under the sill, do not cut it to less than 9” in height. (image A)

When an opening is wider than an individual panel and two or more are needed to cap over the header or cup the sill, do not cut the panel to less than 4” in height. (image B)
HORIZONTAL AWP:

INSTALLING THE HORIZONTAL ULTIMATE STARTER TRACK

MINIMUM CLEARANCES

The Horizontal Ultimate Starter Track must be level and attached at a minimum of 6” above finished soil grade or per local building codes (use a laser level to verify). When installing over a hard surface such as driveways or sidewalks, a 2” clearance is acceptable.

The AWP bottom face edge will extend ¾” below the Starter Track.

Essential Starter Flashing may be installed prior to the Starter Track to conceal the clearance gap above hard scape and decking. Beginning with outside and inside corner segments, fasten Flashing at each stud location or every 10” o.c. to sill plate. Fasten Flashing inside and outside corner segments to framing on both sides, keeping at least 1” from vertical edges. Main segments will slide into/overlap the corner segments.

Position Flashing and/or Starter Track to leave 1/4” clearance between the panel edge and Flashing. This is also true for horizontal transitions to other claddings/finishes.

FASTENING

The Starter Track must be installed using corrosion resistant fasteners. Locate and mark the studs.

WOOD & METAL STUDS OR FURRING

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

CONCRETE/MASONRY

When installing over concrete construction, the wall must be furred out with pressure treated lumber or metal hat channel. Starter Track must be secured at each furring location. Max. 16” o.c.

STRUCTURAL INSULATING PANELS (SIP)

Secure Starter Track every 16” o.c. max. to the sill plate.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

Fasten Starter Track at every metal panel rib at 12” o.c. max.
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 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 Spacer 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, one inch up from the cut edge. Also face fasten the top edge of this panel as shown in the drawing.

SLOPED GRADE & MULTIPLE PANEL COURSES

Below the Starter, if installing more than one course of panels, install the full-sized course up under the Starter and fasten upside-down Panel Clips underneath, with every framing/furring member covered by a clip. Face fasten the top edge of the fill-in panel through corrugated Spacer. Keep fasteners 1” from panel edges.

Add the next course and fasten upside-down clips unless that panel course is the final/terminal, cut/scribed one. Face-fasten the bottom/cut course with backing corrugated Spacer.

Maintain minimum clearances above grade: 2” above hardscape, 6” above soil. Paint, prime, or otherwise seal all cut, exposed panel edges. Clean panels after cutting with a clean, dry cloth to remove dust.

If installing over a masonry/CMU foundation, furring is required. This should be taken into consideration when planning the depth of the exterior wall and cladding above so that the entire wall will have a uniform depth.
INSTALLING STARTER TRACK

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INSTALLING STARTER TRACK

SLOPED GRADE

PANELS BELOW STARTER
FACE FASTENED OVER SPACER

STARTER TRACK 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. 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.

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

Use this line to measure down the wall (each side of the large opening) to attach the wall base Starter Track so that the panels will meet at the proper height with respect to the head of the large opening.

Use the Panels Below Starter Track procedure for adding fill-in panels below the wall base Starter Track(s).

Cut, fill-in panels below Starter Track with sloping grade

Make strategic use of Starter Track above and flanking large openings to course and align horizontal joints of AWP. Reminders: all AWP are 17-7/8” (455mm) tall and the bottom shiplap edge extends 3/4” below Starter Track.
GENERAL PANEL & ACCESSORY BASICS

All trim, Single and Double Flange Sealant Backer should be installed before panels. Refer to Inside Corners, Doors, & Windows and Vertical Expansion Joints sections respectively.

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 taking and 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, except when cutting brick finish panels as it is easier to follow the simulated mortar lines on their face.

Cut and exposed panel edges must be primed or sealed with fiber cement sealer (e.g. DryLock®) or latex paint such as Kilz Premium® or Kilz Max®. Do not use Color Xpressions touch up paint for edge sealing as there will not be sufficient supply for larger projects. 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**

JEL778/788 Panel 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 panels or corner pieces in smaller areas or segments such as narrow columns, pilasters, or insets, recessed openings, or small areas between 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 with a non-ferrous saw blade on a band or chop saw.

**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 1” from the cut edge to be face fastened. Use a countersink drill bit with chamfer matching the head diameter of the bugle-head type screws to be used for face fastening.

Fill counter-sunk fastener holes with exterior cementitious filler, such as MH Ready Patch® and later dab touch-up paint with cotton swabs or an artist brush.

Remove the painter’s tape only after applying the patch and touch up paint.
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)
- Be a polyurethane, polyurethane hybrid, or Adfast Adseal 4580
- Provide two-sided adhesion at joints

OSI® QUAD® may not be used for Nichiha expansion joints

- It is a class 25 product.
- QUAD® MAX is acceptable since it is a Class 50


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 plywood/OSB sheathing at 12-14” o.c. with the 3/8” bump/sealant portion butting the corner or jamb.

Sealant complying with ASTM C920, Class 35 (min.) is required where Single and/or Double Flange Sealant Backer is used.

Refer to the sealant manufacturer’s instructions or requirements.

Place low-adhesive tape (masking or painter’s) over the panel along the areas requiring sealant joints for a clean caulk line.

Fill the gap between the panels with a color-matched/coordinating sealant which complies with the ASTM C920, Class 35 (min.) standard. Nichiha Sealant Backers allow for the proper depth of sealant (75-80%).

Before removing tape, press the surface of the sealant with a caulk spatula or similar tool to ensure an even surface. Remove masking tape before sealant cures. If excess sealant adheres to panel, remove completely using a putty knife or soft cloth.
AWP-1818

AWP PANEL INSTALLATION

AWP installation proceeds by working from left to right.

WOOD, METAL, CONCRETE / MASONRY WITH FURRING

For AWP-1818, trim off the left side ship-lapped edge so the panel will fit tightly against an already installed Inside Corner metal trim, Sealant Backer, or outside corner trim. If starting at an inside corner, predetermine which wall will include the Single Flange Sealant Backer for an inside corner detail. Consider the location to minimize the visibility of the sealant joint line. Clad the higher visibility wall without the sealant joint first so that the adjoining wall panels can terminate to it with the Single Flange Sealant Backer detail. Or use Inside Corner metal trim.

Set the first panel into the Starter Track and secure the top edge with a Panel Clip, placing the first clip about one inch from the left edge of the panel. Fasten the clip at each stud location the clip reaches. Every clip will cover 2-3 studs and must be fastened to each. (Figure 21-a,b)

Proceed along the panel to the right, placing another clip 3-4 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. Fasten clips at each stud location.

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. Fasten the clip to each stud it reaches, again not skipping any studs. Each long panel edge should be supported by about 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 Vertical Joint Tab Attachment against the bottom right hand corner of each panel. The Attachment seats inside the panel clip, with tabs that fit on clip’s rainscreen flange. Fasten the Attachment to the panel clip with the provided fastener. (Figure 21e)

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 Vertical 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.
STRUCTURAL INSULATING PANELS (SIP)

In general, the steps mirror those for stud wall applications. However, double fastening per each panel clip (minimum of 4 screws per clip) is required as there are fewer or no studs to secure the system.

There must be about 2.5 clips per AWP-1818 edge, with vertical joints spanned by Panel Clips and the Joint Tab Attachment seated in and fastened to the Panel Clip at the lower right corner of each panel.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

Refer again to general requirements concerning PEMB installations in the *Framing and Sheathing Requirements* section.

With metal panel ribs spaced no more than 12” o.c., install AWP in the same manner as with stud wall applications but with Panel Clips fastened to each rib they reach. Screws (#10x1”) applied at no more than 12” o.c.

There must be about 2.5 clips per AWP-1818 edge, with vertical joints spanned by Panel Clips and the Joint Tab Attachment seated in and fastened to the clip at the lower right corner of each panel.
AWP-3030 HORIZONTAL INSTALLATION

AWP installation proceeds by working from left to right. AWP-3030 may only be installed in a stacked bond. Refer to layout illustration on page 26.

WOOD, METAL, CONCRETE / MASONRY WITH FURRING

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. If starting at an inside corner, predetermine which wall will include the Single Flange Sealant Backer for an inside corner detail. Consider the location to minimize the visibility of the sealant joint line. Clad the higher visibility wall without the sealant joint first so that the adjoining wall panels can terminate to it with the Single Flange Sealant Backer detail. Or utilize Inside Corner metal 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 the clip reaches. Every clip will cover 2-3 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. Fasten clips at each stud location. Each AWP-3030 long edge must be covered by four 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. Do not butt vertical edges directly. The vertical joint is continuous and not split up or staggered.

Fasten the Double Flange Sealant Backer at vertical joints between panels. Fasten Sealant Backer on right side flange every 12-14” to framing, blocking, or plywood/OSB sheathing.

Install the next panel right up to the Double Flange Sealant Backer and secure with clips at each stud location. The sealant joint is 10mm (3/8”) wide. (Figure 25c,d)

Alternatively, H-Mold metal trim can be used at vertical joints for horizontal AWP-3030. This trim, as well as Nichiha Sealant Backer must be fastened to plywood/OSB sheathing, framing, furring, or blocking. Fasten metal trim every 12-16” in a staggered fashion on alternating flanges.

For H-Mold, leave a no more than a 1/8” gap between the edge of the panel and the center flange of the trim. (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.
H-Mold as the AWP-3030 vertical joint detail
STRUCTURAL INSULATING PANELS (SIP)

In general, the steps mirror those for stud wall applications. However, double fastening per each Panel Clip (minimum of four screws, evenly spaced per clip) is required as there are fewer or no studs to secure the system. There must be four clips per AWP-3030 edge.

PRE-ENGINEERED METAL BUILDINGS (PEMB)

Refer again to general requirements concerning PEMB installations in the Framing and Sheathing Requirements section.

With metal panel ribs spaced no more than 12” o.c., install AWP in the same manner as with stud wall applications but with Panel Clips fastened to each rib they reach. Screws (#10 x 1”) applied at no more than 12” o.c.

There must be four clips per AWP-3030 long edge.

STACKED PANEL LAYOUT ONLY - AWP-3030

AWP-3030 must be installed with continuous vertical joints. No panel staggering is permitted. (Figure 26)
Appropriate flashing and moisture management best practices must be used to prevent moisture penetration at all inside corners, doors, and windows. Refer to window/door manufacturer requirements and local building codes. Cut and exposed panel edges must be primed or sealed with fiber cement sealer or paint.

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 12-14” o.c., onto the side wall, right up against the front wall panel faces.

Install the side wall panel directly against the sealant backer and secure with Panel Clips. Fill space with sealant.

INSIDE CORNER METAL TRIM

Install Nichiha Inside Corner metal trim directly against the inside corner sheathing. Fasten metal trim to corner framing/furring every 12-16” in a staggered fashion on alternating flanges.

If installing AWP-1818, remove the shiplapped edges, treating the cuts, and install panels normally, butting to the Inside Corner trim in moderate contact.

TRIM BOARDS

Install trim boards at inside corner first and butt the flat panel edges to Single Flange Sealant Backer. Add ASTM C920, Class 35 (min.) compliant sealant to the gap.
WINDOW SILLS

FACE FASTENING

For recessed windows, add a flashing where the panels will terminate so that the top edges are covered or capped at the sill. As needed to match the window width, remove panel top ship-lapped edge, cutting the panel to the required height to fit below the window sill, leaving a ¼” gap between the top of the cut panel edge and the window sill or trim board.

Cut panel edges must be sealed with 100% acrylic latex primer or paint, such as Kilz Premium or Kilz Max. Clean any dust off the panel with a clean, soft, dry cloth.

Add FS1010 Corrugated Spacer (10mm) at the sill, set the panel on the clips of the panel(s) below, and then face fasten the top, cut edge of the panel at the sill, every 16” o.c. max. Keep screws 1” below panel edge. This will avoid cracking or breaking the panel. Pre-drill the panel before fastening.

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 the 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).
WINDOW / DOOR JAMBS

A minimum gap of 1/4” is required when butting panels into windows, doors, and trim boards. Refer to window/door manufacturer guidelines for spacing trims around openings.

SINGLE FLANGE SEALANT BACKER

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 a minimum of 12” to 14” o.c. to studs, blocking, or structural sheathing.

Cut panels to the appropriate width, at least removing ship-lapped edges. Remember to clean freshly cut panels with a soft, dry cloth.

Install panels and fill gap with ASTM C920, Class 35 (min.) compliant sealant.

J-MOLD

Pre-install J-Mold trim per window/door manufacturer instructions regarding trim/accessory clearances. Panels must fit completely within trim, with no exposed panel edges.

Lastly, add closed-cell foam backer rod and sealant to any gap between the J-mold and jamb, if applicable.

NICHIHA CORNERS AT RECESSED JAMBS

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 it must be of sufficient depth for use of Corner Clips or a clip segment.

Wrap the base of the jamb with cut pieces of Starter Track (or FS1010 Spacer if face fastening). Install Corner pieces at jamb prior to main panels using Corner Clips or cut Panel Clips (refer to Cutting Panel Clips section). Cut clips must retain at least one downward panel engagement flange.

Install Single Flange Sealant Backer with the sealant bump against the Corner piece, fastening at 12” - 14” o.c. along the fastening flange.

Where Corner pieces meet the termination point at the window, leave a minimum ¼” gap and add ½” closed-cell backer rod and sealant.
OUTSIDE CORNERS

There are several Nichiha recommended outside corner installation options:

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

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

NICHIIHA CORNERS

Install Nichiha Corners prior to panels. Corners may only be used in vertical applications. They may not wrap window heads and sills.

Set a Corner on the Starter Track and secure 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 Spacer.

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 12-14” on the exposed fastening flanges. (Figure C)

After all the panels have been installed, apply ASTM C920, Class 35 (min.) compliant sealant to the Sealant Backers.
Double Flange Sealant Backer
**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](http://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 between them.

Apply sealant compliant with ASTM C920, Class 35 (min.).

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**METAL & VINYL TRIM**

Install trim channels, such as Nichiha Corner Key or Open Outside Corner, manufactured by Tamlyn, prior to panels and fasten with corrosion resistant fasteners through trim flanges every 12-16” into studs or corner blocking. Stagger fasteners on alternating sides.

Cut off terminal panel ship-lapped edges to fit panel into channel the trim so that edges are not exposed. Butt the flat panel edges in moderate contact to the center flange of the trim. With Corner Key trim, this will necessitate miter cutting the panel edges.

Refer to *Vertical Control/Expansion Joints*.

Nichiha metal trim pieces are each 10 feet in length. To cut metal trim, a non-ferrous carbide miter saw blade is appropriate. When butting/stacking metal trim pieces, add a bead of polyurethane sealant at the seam/joint.

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, which readily accepts a variety of exterior paints. See [Tamlyn’s XtremeTrim Painting Guide](http://Tamlyn.com).

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Corner Key Trim outside corner detail with miter cut panel edges
NON-90-DEGREE CORNERS

Corners other than 90 degrees can be achieved with custom metal trim, butting panels to trim board with a minimum ¼” sealant gap, or with the use of Double Flange Sealant Backer (refer to Vertical Control/Expansion Joints) to set cut panel edges at the desired corner angle. Miter cut panel edges as needed to create uniform sealant joints.

The Double Flange Sealant Backer detail can be utilized to accommodate use of AWP on segmented, radius-like walls. Do not attempt to curve AWP. Contact the Nichiha Technical Department for assistance.
VERTICAL CONTROL / EXPANSION JOINTS

AWP-1818

When using metal trim outside corners on walls wider than 30 feet, Vertical Control/Expansion Joints (Double Flange Sealant Backers) are required within 2-12 feet of both sides of outside corners and then approximately every 30 feet thereafter. Where cut panel edges terminate to trim channels, ensure the edges butt in moderate contact with them.

Projects using Nichiha Corners (see Figures on page 31) satisfy the 2’-12’ Rule but still require expansion joints roughly every 30 feet beyond the Corner joints.

For example, a 60-foot wall with two outside corners would require three vertical control joints: one near each outside corner and one towards the center.

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) at 12” - 14” o.c. Sealant Backers must be fastened to plywood/OSB sheathing, framing/furring members (added if necessary to pre-planned joint locations), or blocking. AWP-1818 17-7/8” edges must be cut, fully removing the shiplaps. H-Mold may not be used as a substitute for required AWP-1818 expansion joints.

AWP-3030

Double Flange Sealant Backers or H-Mold trim (see pages 24, 25) are required between each AWP-3030. The 455mm (17-7/8”) edges of the panels are flat (without shiplaps) and may not be butted together. These vertical joints may not be split up or staggered. A stacked panel layout is required. Double Flange Sealant Backer joints are 10mm (3/8”) wide.

SEALANT APPLICATION (1818 & 3030)

Apply low-adhesive tape along the panel edges at Double Flange joints to protect panel finishes from sealant and for a smoother look when the sealant is applied and tape removed.

Apply ASTM C920, Class 35 (min.) compliant sealant into the expansion joint, starting at the bottom and pushing sealant into the gap.

Follow the contour of the panel edges so that the sealant depth always matches the face edge/depth of the panels.
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. In general, Nichiha recommends such joints at each floor level.

With metal framing projects of more than three stories or 45 feet, add a compression joint approximately every 25 feet, located at the floor line(s) nearest this distance.

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

Locate compression joints at floor lines.

Please contact the Nichiha Technical Department for assistance.

INSTALLING A HORIZONTAL COMPRESSION JOINT

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

Fasten Flashing at each stud location. A best practice is to add flashing tape to cover the top edge of the flashing and its fasteners.

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 Spacer behind.

Install Starter Track above the flashing such that the next course of panels sit at least 1/2 inch 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 the joint.

Check for level.

Continue to install panels according to these guidelines with compression joints at the appropriate elevation(s).
Openings for small penetrations for pipes or conduits may be cut through a panel and the hole sealed with ASTM C920 compliant sealant. For larger penetrations greater than 1.5”, it is best to block or frame out the opening. 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 block out, install FS1010 Spacer as needed for face fastening the top panel edge at framing locations. Terminate the panel with ¼” gap. Sealant here is optional, depending on the depth of the blocking.

Above the penetration, add flashing and install FS1010 Spacer as needed for face fastening the panel edge at framing locations. Ensure minimum ¼” gap between the bottom of the panel edge and penetration blocking. Keep any face fasteners 1” away from panel edges.

If installing railings or signage over AWP, ensure fasteners are secured through Spacers to the framing or other structural support. Do not fasten any attachment solely to AWP.

Fasten 10mm Spacer (FS 1010) to the wall where the last panel course will terminate. This is needed to maintain the rainscreen without use of the clips. Cut the panels (horizontally) to properly fit at the termination line. Apply low adhesive/painter’s tape to panels at face fastening locations. Pre-drill with countersink 1” down from the top (cut) edge. Face fasten at the studs and through the green Spacer (FS 1010) all along the top using bugle head type screws.

Fill counter-sunk fastener holes with exterior cementitious filler, such as MH Ready Patch® and later dab touch-up paint with cotton swabs. Remove the painter’s tape.

Cover the top panel row edge with a roof cap/coping, where applicable.
GABLES & OVERHANGS

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

At top, cut the panel to follow the slope of the gable.

When installing soffit, AWP should be installed first, with the soffit installed over/butting to the panels.

Panels installed along gable edges must be face fastened. When adding face screws, apply fasteners at least 1” from any panel edge. This will avoid cracking or breaking of the panel. Fasten every 16” max.

All face-fastened panels must be shimmed out with FS 1010 Spacer.

Seal all cut panel edges with 100% acrylic primer or paint. 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-cochères.

Prior to panel installation, fasten Overhang Flashing at each stud location, 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 butts to or overlaps soffit. The bottom return portion must extend beyond the face of the fascia substrate.
AWP AS SOFFIT

Nichiha Architectural Wall Panels may be used in a soffit application when installed in strict accordance with the following provisions and requirements. AWP installed as soffit is not covered by the Nichiha Product Warranty or the Nichiha Finish Warranty. Nichiha is not responsible for any actions or defects incurred as a result of installations using AWP as soffit. Those opting to use this installation process 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 schedules outlined in these instructions. Do not install AWP over existing soffit. At this time, wood framing and/or blocking with 2x lumber is required.

Framing spacing must be no greater than 16” o.c. Added blocking is required to enable the perimeter and field face fastening of the panels.

The face fastening schedule provided is required. Nichiha AWP hardware (clips and tracks) may NOT be used for soffit panel installations. Green Spacers are also not applicable.

Soffit panels are oriented with the long dimension (1818 mm (71-9/16”) or 3030 mm (119-5/16”)) parallel to the wall and the short panel dimension (455mm (17-7/8”)) perpendicular to the wall. Maximum soffit depth is 35” (two whole panels minus one shiplapped panel edge each).

All joints between panels must be factory shiplapped joints or H-Mold trim.

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

The soffit framing must be level, at a 90-degree angle with respect to the vertical walls. Sloped applications are not within the scope of these instructions.

**Required Fasteners & Fastening:**

Minimum 2” long, stainless steel or corrosion-resistant exterior, #8 or larger, full-headed and fully-threaded screws are required (lath head, bugle head). Color-matched fasteners are recommended.

Space the face fasteners at a maximum of 8” o.c. around the perimeter and along intermediate framing members (field). All edges must be supported by 2x lumber framing and/or blocking.

Keep fasteners 1” away from cut edges (full thickness of the panels) and 2” from shiplapped edges.

Pre-drill the panels at face fastener locations with a #6 countersink bit.

**Procedures:**

**Single Panel Soffit Depth**

Full-width AWP-1818 and AWP-3030 will require added blocking to accommodate all edge fastening.

AWP-1818 short edges & shiplap joints (17-7/8” wide edges) will break every 71-9/16”, which will not typically coincide with standard 16” or 12” o.c. framing. Add additional framing/blocking to enable face fastening along both sides of the joints, keeping screws 2” back from the joints. Space the added studs/blocking at 4” o.c. (one on each side of the panel joint location, 2” away from it). Refer to Detail One.

Similarly, AWP-3030 short edges will break every 119-5/16” which will also necessitate added framing to support the fastening of these edges. Because these edges are not shiplapped, fasteners shall be min. 1” away from the square-cut short edges (17-7/8”). H-Mold trim is required. Do not butt panel flat edges directly together.

For the AWP edges adjacent to the wall, cut off the shiplaps from the long dimension of the panels. Cut off the bottom/female edge of the panel, removing one inch of material (the entire profiled edge) to create a square-cut edge at the wall. Remove the top/male shiplapped edge, which will align with the fascia/overhang edge, away from the wall. Treat cut edges by coating with acrylic latex paint. See Detail Two.

Pre-drill and face fasten panels every 8” o.c. around the perimeter and in the field (along intermediate studs).

With AWP-3030, install H-Mold trim at the joint locations, fastening 16” o.c. to the framing (or added blocking as necessary) running parallel to the wall.
Added 2x framing/blocking supports, 4” o.c. for fastening panel short edges

8” o.c. (max) face fasteners (keep 1” from cut edges)

Detail One

Shiplap or H-Mold Joint (fasten 2” away from shiplap joints)

Detail Two

Face fasten the panels with min. #8 full-threaded screws (bugle or lath head), around the perimeter every 8” o.c. (max.) and along the intermediate framing and blocking/added framing.

Fasteners along the panel midpoint will be no more than 8” from the long edges.

Face Fasteners every 8” (max.) perimeter and field

Essential Overhang Flashing
Double Panel Soffit Depth

For soffit depths up to 35” that require a second course of panels, further blocking is needed to accommodate support for the long shiplap joint at the center of the soffit. Position the added framing and blocking to enable face fastening along the panel edges, keeping the screws 2” away from the joints. Space the added studs/blocking at 4” o.c. (one on each side of the panel joint location, 2” away from it). Treat any cut panel edges by coating them with exterior acrylic latex paint. Refer to Detail Three.

Pre-drill and then face fasten the panels with min. #8 full-threaded screws around the perimeter every 8” o.c. (max.), and along the intermediate framing and blocking/added framing. Fasteners along the panel midpoint will be no more than 8” from the long edges. See Detail Four.
Added 2x framing/blocking supports for panel edges

Shiplap or H-Mold Joint (fasten 2” away from shiplap joints)

8” o.c. (max) face fasteners (keep 1” from cut edges)

Face Fasteners every 8” (max.) perimeter and field

Added Blocking to support face fastening 2” away from shiplap joint

Detail Three

Detail Four
CLEANING & MAINTENANCE

CLEANING PANELS

After completion of the installation or for periodic maintenance, it may be necessary to clean panels.

When cleaning panels, use no more than 400 psi of water pressure at 10” to 12” away. Do not pressure wash custom color panels.

To clean heavily soiled areas, a mild household detergent and/or soft bristle brush may be required.

Do not allow any detergent/cleaner to dry on panels. Rinse immediately after cleaning.

PAINT TOUCH-UP

Touch up paint must be exterior grade 100% acrylic latex and can be color matched by taking a panel sample to your local paint or home improvement store.

A small can of touch-up paint is supplied with your custom color panel order. Do not use for edge coating/sealing for larger projects as there will not be sufficient supply.

Isolate touch-up locations with low-adhesive/painter’s tape. Where face fasteners have been used and patched by cementitious filler, use a cotton swab to lightly dab touch-up paint.

For scratches, use a cotton swab for small ones or 1” foam brush for longer ones, again using a dabbing motion rather than brushing in order to minimize the amount of paint applied.

REMOVAL OF EXTERIOR ACRYLIC LATEX PAINT

Wet Paint Removal - While the paint is still wet, flush the area with clean water, using mild abrasion with a clean cloth or soft brush.

Semi-Dry Paint Removal - If paint has set, but not dried, flush and clean as above, followed by light scrubbing with alcohol to remove any remaining paint residue. Rinse with water and a clean cloth.

Dry Paint Removal - Please refer to paint-removal guide in the next section.
OTHER PAINT & GRAFFITI REMOVAL

The following products have been tested on Nichiha panels to aid in the removal of graffiti type markings.* These citrus-based products can also be used for basic panel cleaning purposes. The panels were sprayed with an indoor/outdoor aerosol spray paint and left to dry overnight, and then the paint removal products were applied following the manufacturer’s guidelines.

All products tested achieved good results. However, the outcome may vary depending on the amount of paint that needs to be removed. Be sure to follow all manufacturer’s guidelines and first test in an inconspicuous area before working on a larger area.

*Do NOT use these cleaners with custom color panels. *Nichiha is not liable for any damage caused by the use of these cleaners.

CITRISTRIP
www.citristrip.com

Products tested:
Citristrip Striping Gel - One Quart container
Citristrip Stripping Aerosol - 18 oz. spray can

GOOF OFF GRAFFITI REMOVER
www.goof-off.com

Products tested:
Goof Off Aerosol - 16 oz. spray can
Goof Off - 22 oz. trigger spray bottle

TAGAWAY
www.tagaway.com

Product tested:
Tagaway - 32 oz. trigger spray bottle

REPAIRING MINOR DAMAGE

Isolate the blemish with a low adhesive tape such as painters tape. This will help protect the surrounding area of the panel and aide in creating a more polished, clean repair.

Lightly brush/abrade the surface within the taped off area in order to remove any loose material.

Carefully fill and smooth the resultant prepped area with cementitious patching material such as MH Ready Patch. Allow to dry/cure fully.

Gently smooth the patch and then apply touch-up paint to the affected area. Allow touch-up paint to dry and remove the tape.
PANEL REPLACEMENT

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 Spacer and place it behind the new panel at bottom, just above exposed Panel Clips or Starter Track.

D. Cut 3/16” off the back ship-lapped edge at bottom of panel.*

E. For AWP-1818, cut the right side ship-lapped edge off the panel.

Prepare to set the new panel in place.

F. 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.

Fill countersunk screw heads with color-matching cementitious patching material. Touch up with exterior grade acrylic latex paint

*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 Spacer at top of uncovered wall space and face fasten the ripped top edge of the replacement panel.
A

B

C

D

Trim this edge

E

F
Behind our Architectural Wall Panels is SOME SERIOUS TECHNOLOGY.

**EASY INSTALLATION**
Time-saving Clip Installation System that reduces construction time and minimizes mistakes.

**LOW MAINTENANCE**
No-fuss products. Little ongoing cleaning or regular maintenance needed. You get to bring your vision to life and ensure it looks great for a long time.

**NO MORTAR, NO MESS**
Pre-finished panels that eliminate the need for messy mortar or costly masonry-skilled labor.

**ANY WEATHER PRODUCT**
Products that can be installed year round in any climate across the country. No geographical restrictions means more possibilities.

**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.

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

**NICHIA'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 RAISCREEN**
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.

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

**DESIGN REVIEW GUIDE**
Download our quick reference guide to get an overview on our Architectural Wall Panels.

[nichiha.com/resources](nichiha.com/resources)

**ARCHITECTURAL DETAILS**
Take a closer look and download our conceptual detail drawings.

[nichiha.com/resources/cad](nichiha.com/resources/cad)

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

[nichiha.com/commercial/install](nichiha.com/commercial/install)

**SUPPORT**
Our in-house technical team is here to assist. If you have questions, comments or concerns, 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.

NICHIIHA WARRANTIES

• 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 defect-free products for a period of 10 years for the original purchaser. Please visit tamlyn.com for detailed information on terms, conditions and limitations.

*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.

CERTIFICATION & TESTING

Florida Approval
12875
Report
EC-58

WUI
8140-2029

Miami-Dade
NOA 18-0522.05

L.A.R.R. 26081

CRystalline silica dust warning: Nichiha products may contain some amounts of crystalline silica [a.k.a. sand, silicone 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 appropriate safety protocols. For further information or questions, please consult Nichiha SDS, your employer, or visit osha.gov/silica and cdc.gov/niosh/topics/silica. The SDS for Nichiha products are available at nichiha.com/resources, at your local Nichiha dealer, or through Nichiha directly at 1.866.424.4421. FAILURE TO ADHERE TO OUR WARNINGS, SDS, AND OTHER INSTRUCTION MAY LEAD TO SERIOUS PERSONAL INJURY OR DEATH.