



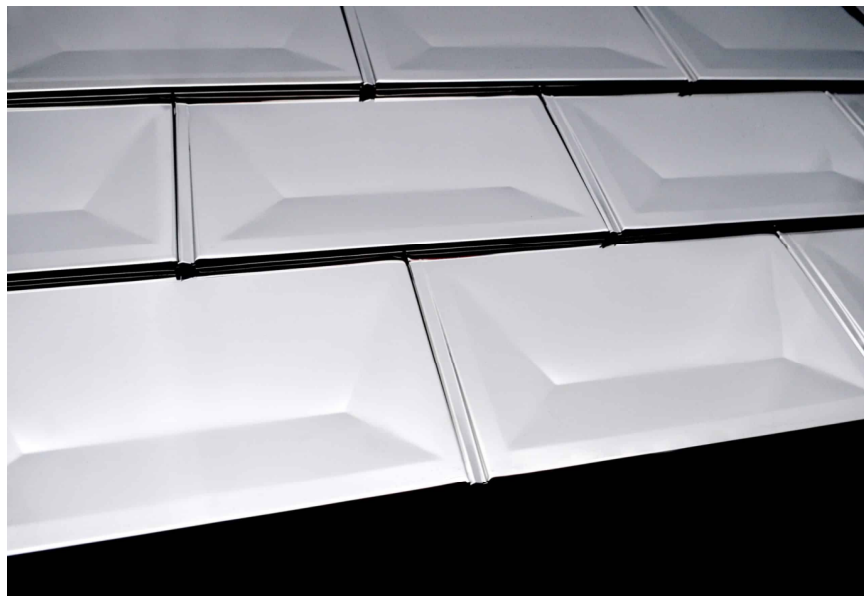
MILLENNIUM
F O R M S

JULY 2026

STAMPED TILES



Installation Guide



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The application and detail drawings in this manual are strictly for illustration purposes and may not be applicable to all building designs or product installations. All projects should conform to applicable building codes for that particular area and jurisdictions. It is recommended to follow all building regulations and standard industry practices.

Prior to ordering and installing materials, all dimensions should be verified by field measurements. If instructions in this installation guide are not adequate or further information and assistance are needed contact: info@millenniumforms.com (262) 723-7778.

Millennial Forms is not responsible for the performance of the metal tile system if it is not installed in accordance with the suggested instructions referenced in this manual. If there is a conflict between this manual and the approved Millennial Forms erection drawings, the approved erection drawings are to take precedence.

SAFETY

STUDY APPLICABLE OSHA AND OTHER SAFETY REQUIREMENTS BEFORE FOLLOWING THESE INSTRUCTIONS.

The installation of metal tile systems should be supervised by trained knowledgeable erectors. **USE EXTREME CARE WHILE INSTALLING METAL TILES.** It is not possible for Millennium Forms to be aware of all the possible job site situations that could cause an unsafe condition to exist. The erector of the metal tiles is responsible for reading these instructions and determining the safest way to install the system.

These instructions are provided only as a guide to show a knowledgeable, trained erector the correct parts placement. If following any of the installation steps would endanger a worker, the erector should stop work and decide upon a corrective action.

Required safety railing, netting, or safety lines for crew members installing tiles is to be provided by the erector or others.

Pre-installation

- Recommend a preinstallation meeting be held with the general contractor, subcontractors, and architect of record to discuss details and installation prior to installation on mockup or the building. Recommend a Mockup be installed and approved by the architect of record prior to installation on the building beginning.
- Recommend the installer and architect of record consider and allow for expansion and contraction of all materials, live load deflections, and movement of the building as a whole
- Recommend the architect of record specify and verify that a high-temperature weather barrier is properly installed behind all materials provided by Millennium Forms due to the high heat that is typical with metal claddings.
- Recommend the architect of record design an assembly for products to be installed in a way that allows for proper drainage and water management behind Millennium Forms products. All flashings and fasteners to be installed in a manner approved by the architect of record to maintain a continuous weather barrier.

Substrate Requirements

- A high temp, self-sealing weather barrier is required behind Millennium Forms tile systems due to its superior performance in preventing water infiltration and withstanding the high thermal loads associated with metal cladding.
- Caulking the window mullions and door jambs directly to the weather barrier is required, thus ensuring a continuous and reliable seal at the water-resistive barrier level. It is not recommended to seal the window mullions or door jambs to metal tile flashings. The underlayment is the true weather barrier; Millennium Forms tiles are a rainscreen watershed system and require a continuous waterproofing element behind fenestration in all exterior applications.
- Contact a Millennium Forms representative before proceeding with installations on walls that are curved in plan.
- Metal tiles will reflect the flatness of the substrate they are installed on. As such, a flat weatherized substrate is recommended. Inspect weather barrier for continuity and proper installation before installation of girts and tiles.

Installer Guidelines

- See project specific shop drawings or standard details to ensure proper girt placement for alignment with tile and trim fasteners.
- Use 300-series stainless steel fasteners for all tile products. Do not use 400-series stainless steel fasteners, as they are prone to rust.
- Oil-canning can occur on all products. Tile fasteners which are overtightened can contribute to oil-canning.

Materials

- Use 300-series stainless steel fasteners for all tile products.
- Prevent dissimilar metals and corrosive nonmetallic materials from coming into direct contact with ZALMAG® materials. Do not allow water to flow from dissimilar metals to ZALMAG® materials, such as runoff from HVAC systems
- ZALMAG® is a carbon steel coated with a mixture of zinc, aluminum, and magnesium. Due to this, its surfaces are ever-changing and continue to patina over time. The rate and way the material will patina is dependent on the climate (location) of a project. All our ZALMAG® products age to a soft grey tone over time.
- ZALMAG® Pre-Patina II and Black are coatings produced as a range of both color and finish. The range of color varies due to the natural variations in the base metal surface, as well as the ZALMAG's natural weathering process.
- A typical cleaning schedule for ZALMAG® applications is 2-4 times a year. This can change depending on the building's proximity to roadways subject to high traffic and road salt, owner's preference, amount of foot traffic, weather conditions, and the surrounding environment.
- Prevent dissimilar metals and corrosive nonmetallic materials from coming into direct contact with stainless steel materials. Do not allow water to flow from dissimilar metals to stainless steel materials, such as runoff from HVAC systems.
- Millennium Forms, Light Interference Color (LIC) process is created through a prismatic separation of light on the surface of stainless steel. Light conditions, viewing angles and the standard tolerances of chemical recipes within stainless steel will create a variation in the perceived color.
- A typical cleaning schedule for stainless steel, including LIC stainless steel, is once every three months. This can change depending on the building's proximity to roadways subject to high traffic and road salt, owner's preference, amount of foot traffic, weather conditions, and the surrounding environment.
- Type 304 stainless steel is Millennium Form's default material. Type 316 should be specified for installations within 2 miles of seawater and salt air. Some urban applications due to high use of road salt will also require the use of Type 316. Consult others for site specific information and select appropriate materials.

Tools

- Eye protection
- cut resistant gloves
- carpenters square
- pencil
- straight cut tin snips
- offset tin snips
- bulldog snips
- nylon tapping block (or similar anti-scratch material)
- bending tool
- rubber mallet
- laser level or chalk line
- electric drill/driver

Storage

- Store the materials in a cool, dry space or in their original packaging, with nothing stacked on top of them. The customer is responsible for providing Millennium Forms photo documentation showing location of material storage at the jobsite and/or offsite. Photo documentation to show 4 sides of container/trailer and photos of Millennium boxes inside container/trailer. Photo documentation to be stamped with date and time.
- Prevent dissimilar metals and corrosive nonmetallic materials from coming into direct contact with the product. Do not allow water to flow from dissimilar metals to the product.

Handling

- During installation, boxes are to remain on pallet and not come to contact with the ground. Materials to remain protected throughout the installation with nothing stacked on top of them.
- Protect installed tiles to ensure that, except for normal weathering, tiles will be without damage or deterioration at time of substantial completion. Photo documentation of post installation protection to be performed at the end of each day and stamped with date and time
- Recommend installers always wear clean and dry gloves while handling materials provided by Millennium Forms. Visible grease or oil from gloves or hands may be highlighted on the finish.
- Expediently remove any plastic protective coating once installed.
- Consult Millennium Forms material specific cleaning instructions and warranty information before cleaning materials: info@millenniumforms.com (262) 723-7778.

WARRANTY

PROPER STORAGE AND HANDLING AND DOCUMENTATION MAY BE REQUIRED FOR WARRANTY

A summary of storage and handling instructions is provided above. Reference the product literature provided for your materials by Millennium Forms for complete warranty instructions. Product literature and projects specific information provided by Millennium Forms takes precedence over the information provided here.

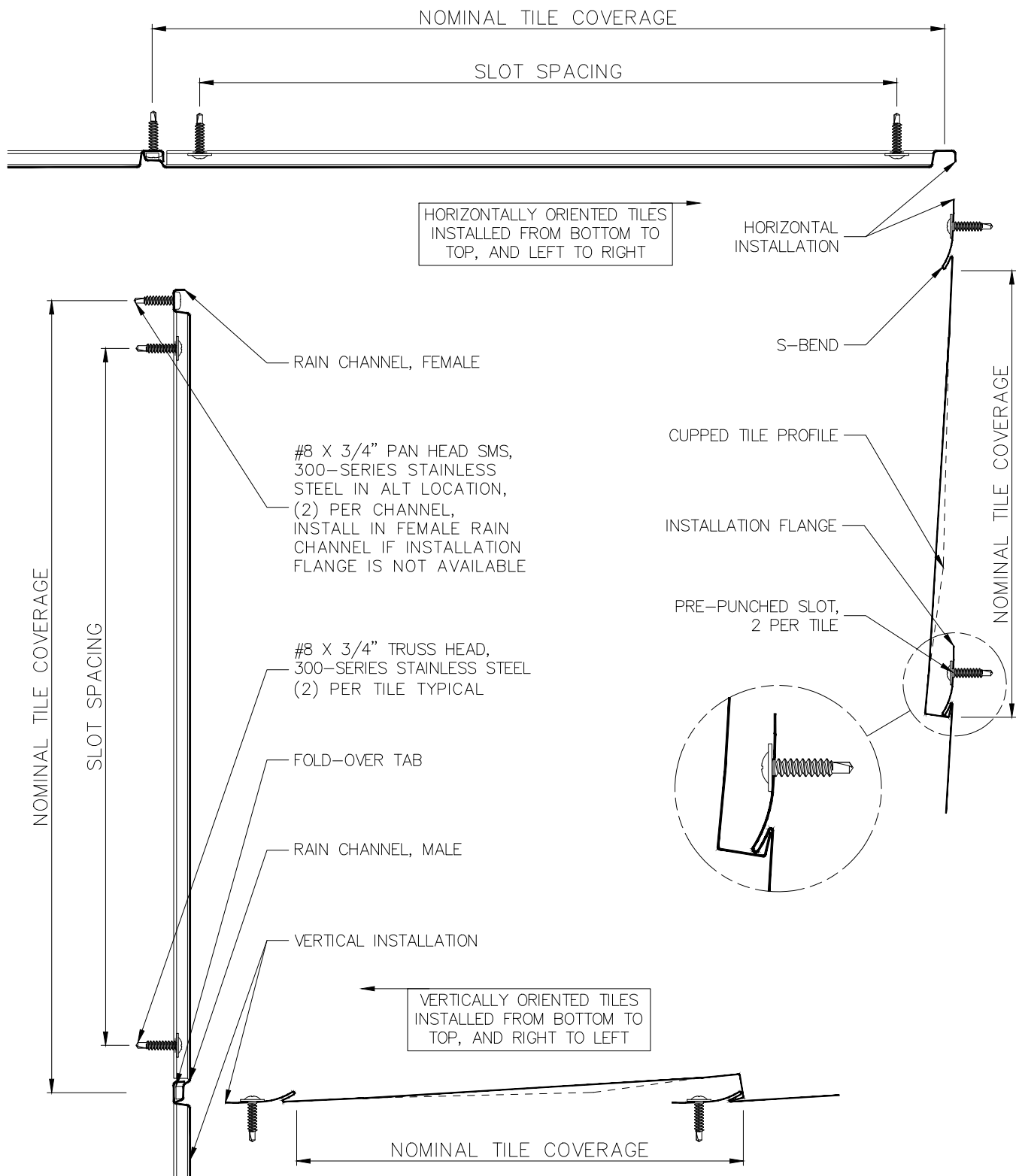


Figure 1

Inspect Substrate Assembly

An uneven substrate surface can have an impact on the appearance of the Millennium Forms tile system. Before installing tiles, ensure the support material is square, true and plumb or properly sloped if plans dictate. Wall panel industry standard expectation is to not deviate more than +/- 1/8" over 5-feet (or a cumulative +/- 3/8" over 20-feet). For multi-story applications, follow any project specific building deflection accommodations as included in the approved shop drawing submissions.

Before installing tiles, ensure the weather barrier meets all necessary requirements for air and water resistance. Check that the barrier as well as all seams, laps and terminations of the barrier will properly shed water and have no visible gaps in coverage, holes, cuts or penetrations.

Layout Installation

All tile orientations are installed from bottom row to top row. When tiles are oriented horizontally, install the row of tiles from left to right (see figure 1). When tiles are oriented vertically, install the row of tiles from right to left (see figure 1). A row of tiles can be installed at an angle by adapting these installation guidelines. In all cases, install tiles so they overlap with a shingled effect to maximize water shedding. See the detail catalog for assistance with determining the sequence of installing tiles and trim. Sequence the fastening of all tiles and trim in each detail so that all fasteners can be accessed during installation.

Before installing tiles on a section of the building, plan for alignment with adjacent sections. Determine if the first and last tiles in the run should be full or partial tiles. Consider the locations of all penetrations and openings. Pull tiles from four to five boxes (or more) during installation to ensure random variation of finish and color, unless a more specific color distribution is expected by Architect.

Color Distribution Requirements

Wall panel installation shall be randomized to achieve a visually balanced distribution of colors across each elevation. Installation shall avoid clustering of similar colors, repetitive patterns, or disproportionate concentration of any single color. The completed installation shall present a uniform and aesthetically balanced appearance as determined by the Architect.

Where a specific color arrangement, sequence, gradient, pattern, or other intentional layout is desired, the color distribution shall be designed and documented by the Architect. Such layouts shall be submitted to Millennium Forms for review and approval prior to panel fabrication and material ordering. Any installation deviating from randomized color distribution shall require approved elevation drawings identifying the location of each panel color.

For projects utilizing randomized color installation, panels will be fabricated, packaged, and shipped in crates or pallets containing a randomized assortment of colors, not packaged in installation sequence.

Requirements for color sorting, sequencing, crate segregation, pallet labeling, installation-specific packaging, or other special handling shall be identified and approved prior to fabrication. Such services may affect lead times and shall be provided at additional cost.

Millennium Forms is responsible only for furnishing panels in the specified colors and quantities. Final panel placement, color distribution, and aesthetic appearance of the installed work remain the responsibility of the installing contractor and Architect unless a project-specific color layout has been prepared, approved, and incorporated into the contract documents.

Maintain Alignment

Ensure the starter or j-channel is installed level at the bottom of the surface. Using a chalk line or laser line, mark a level line on the surface which the run of tiles should follow. If installing tiles at an angle, adjust the angle of the starter and the marked lines accordingly. Continue to mark every 2-3 rows, and at the first row after an opening, to ensure the tiles remain aligned. Check the coverage of each tile and the modularity relative to the end of the run after installing every tenth tile. A video of horizontal Stamped Tile Installation on a starter is available: <https://millenniumforms.com/resources/installation-videos/>

Fasten Tiles

Overlap the left-hand rain channel (male) with the previous tile's right-hand rain channel (female). A fold-over tab on the bottom of the male channel and an alignment tab at the top of the female channel will aid in alignment. Use the bottom flange of the tile to engage with the S-Bend of the tile or starter below. Fully engaging the bottom flange into the S-Bend of the tile below is critical. If needed, use a tapping block and mallet to ensure engagement. Some tiles may require opening the flange with a bending tool. Do not allow loss of engagement to occur by over-opening of the flange. A video of Stamped Tile Installation is available: <https://millenniumforms.com/resources/installation-videos/>

Tile fasteners that are overtightened tend to oil-can tiles more. Install all fasteners straight and flush. If a fastener penetrates the weather barrier and the fastener is removed during installation, then use a manufacturer's recommended sealant that is compatible with the weather barrier to fill the hole.

All tiles require two fasteners. Attach each tile to the substrate by driving fasteners through the installation flange. Two pre-punched slots have been provided at either end of the installation flange. Another oversized hole through the installation flange may be created if one of the slots was removed or inaccessible. If the installation flange has been removed from a tile, smaller headed fasteners may be driven through the rain channel on the female side (see figure 1).

CAUTION

DO NOT ALLOW DISSIMILAR METALS TO COME INTO CONTACT WITH TILES BEING INSTALLED

Prevent dissimilar metals and corrosive nonmetallic materials from coming into direct contact with ZALMAG® or stainless steel materials. Do not allow water to flow from dissimilar metals to ZALMAG® or stainless steel materials, such as runoff from HVAC systems.

Trim Tiles

If a pre-punched slot is removed when trimming a tile, field drill a slightly oversized hole. All holes should be 1/2" from the edge of the tile and a minimum of 1" apart. If a trimmed tile is less than 2" in width the tile also must be adhered to the adjacent tile. Adhesive compatibility with finish to be confirmed by Millennium Forms: info@millenniumforms.com (262) 723-7778.

Trimmed tiles will be terminated into or behind trim. To prevent audible vibrations, tiles that terminate behind trim, such as a hemmed j-channel, with no fasteners hidden behind the trim, may be given a 3/4" bent leg at the trim. Snip off the rain channels at the cut edge and leave 3/4" of extra material along the rest of the cut edge. Bend this 3/4" of excess material toward the front of the tile until it is slightly less than 90° from the surface of the tile. As you slide this tile behind the trim, the bent leg should engage the trim and hold the cut edge of the tile in place, preventing audible vibrations post installation. A video of Soffit Termination including the forming of the bent leg is available:

<https://millenniumforms.com/resources/installation-videos/>

Install Trim

Standard J-channels, inside angles and outside angles with a hemmed edge are to be installed wherever trimmed tiles will be terminated into or behind trim. All sharp edges of tiles and trim are to be hidden after installation is complete. J-channels at the bottom of a section of tiles or over openings and penetrations through that section of tiles will require regularly spaced weep slots, (see figure 2).

A detailing strip of the weather barrier or similar must lap over the top of any trim and flashings fastened into the weather barrier at the bottom of a section of tiles, and at the top of openings and penetrations through that section of tiles (see figure 2). Determine the sequence of installing and fastening of all weather barriers, tiles and trim to ensure that all fasteners that will be concealed by trim can be accessed for installation.

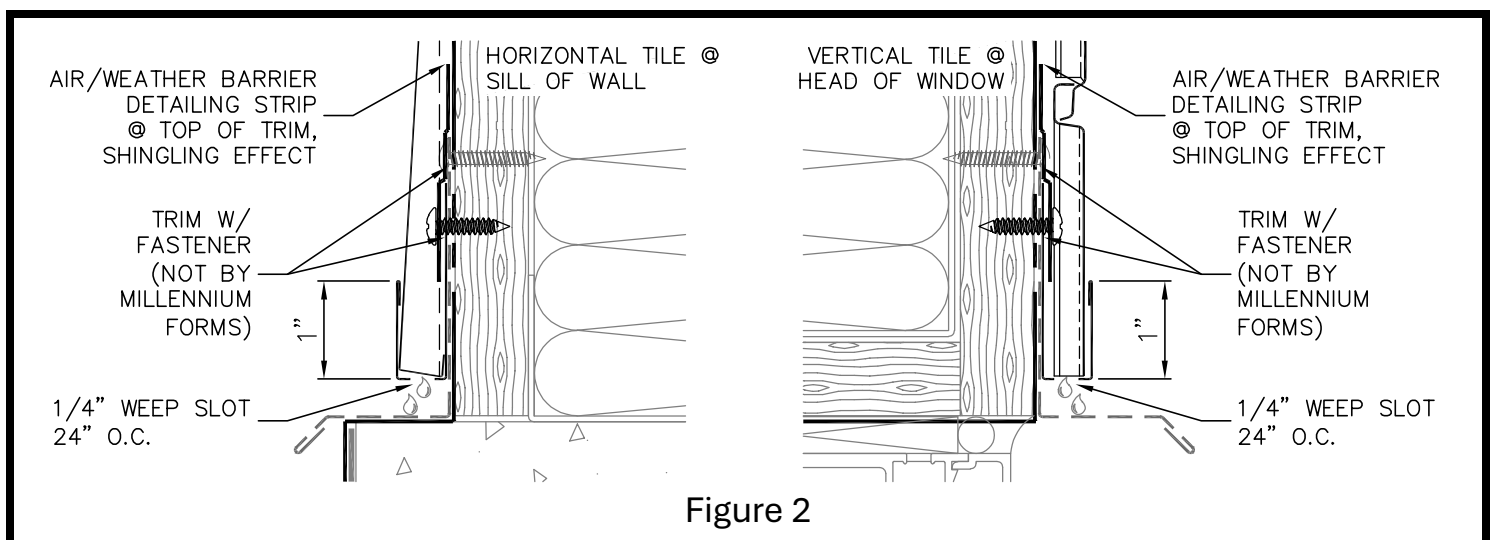
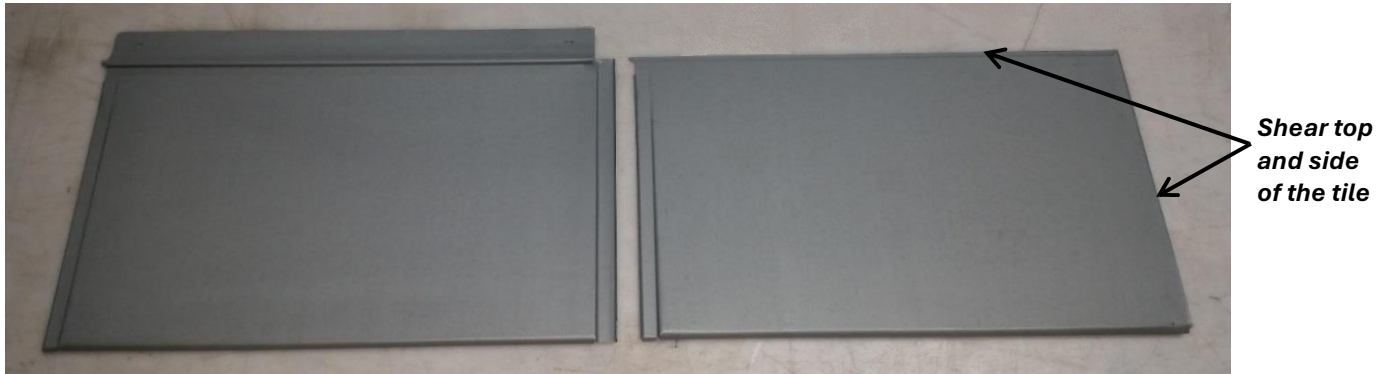


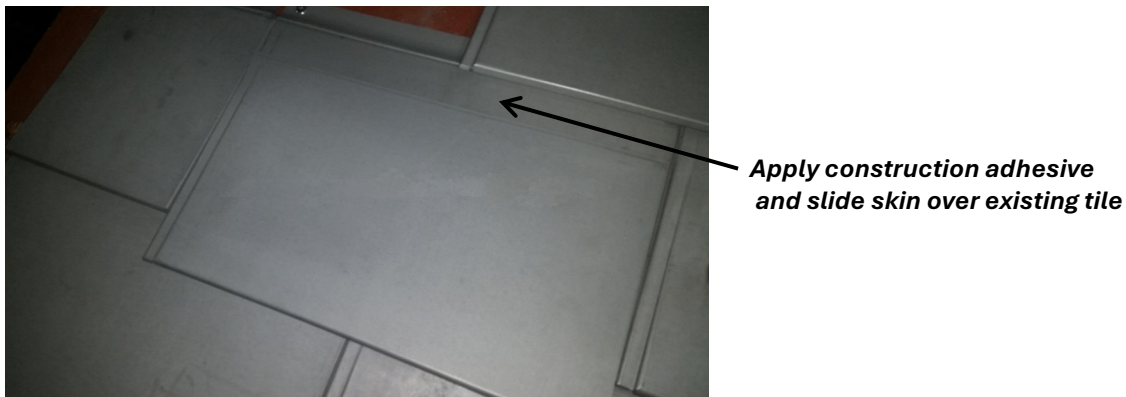
Figure 2

The following method can be a solution for scratches, dents, dings or other minor imperfections. If the damage to the tile is too severe, replacement might be necessary.

Step 1: Shear the top and side of a new tile. Cut along the center of the s-bend at the top. Cut along the edge of the exposed surface of the tile along the female rain channel.



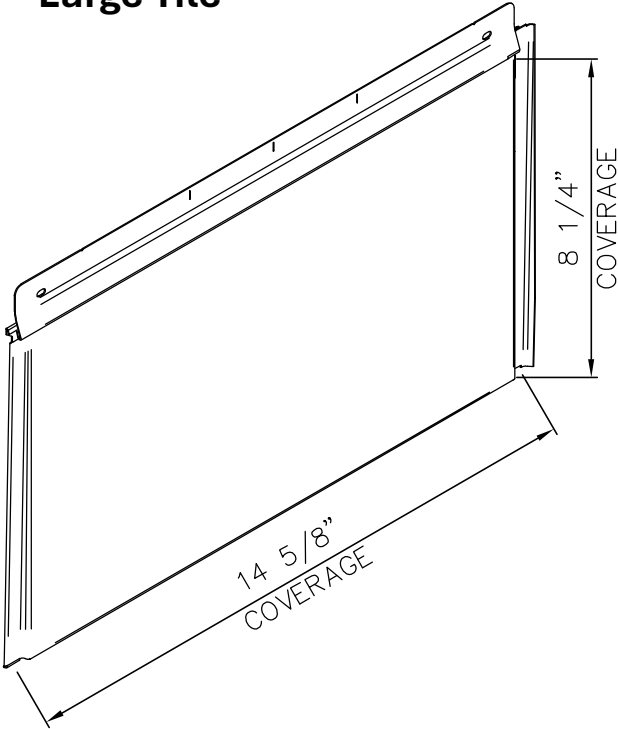
Step 2: Apply construction adhesive over the exposed surface of the damaged tile. Use adhesives with a letter of compatibility from the manufacturer.



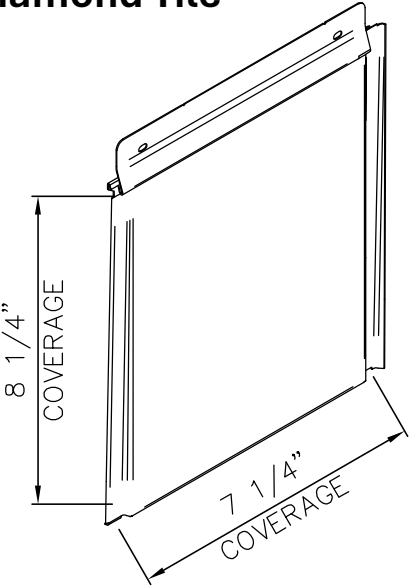
Step 3: Slide the sheared tile over the damaged tile.



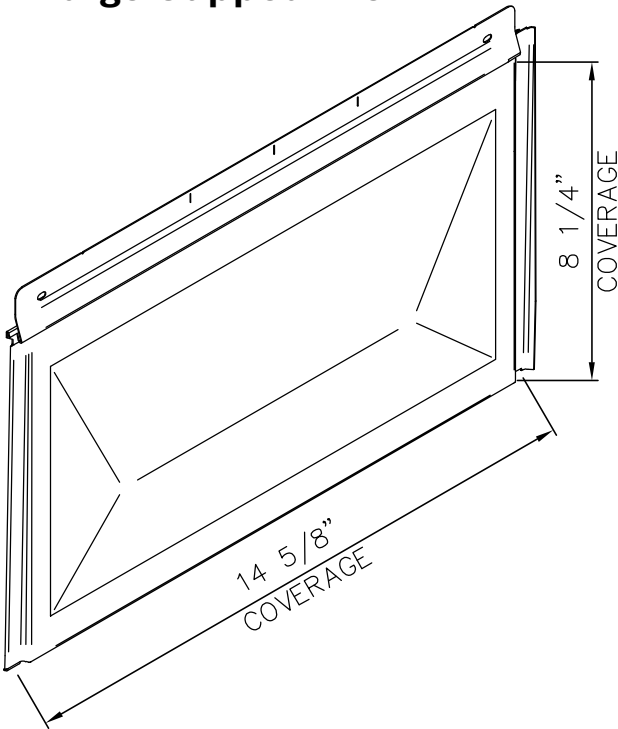
Large Tile



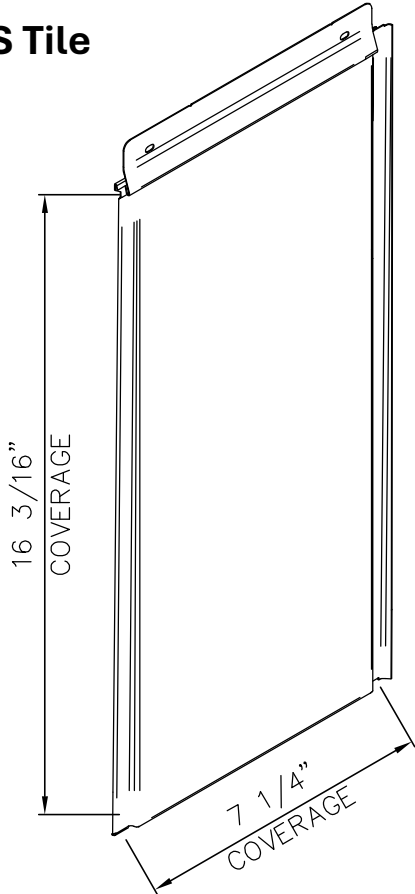
Diamond Tile



Large Cupped Tile



TS Tile



Tile Coverage
When installed horizontally

Tile Type	Slot Spacing	Hor. Coverage	Vert. Coverage
Large Cupped Tile	12-7/8"	14-5/8" nominal	8-1/4" nominal
Large Tile	12-7/8"	14-5/8" nominal	8-1/4" nominal
Diamond Tile	5-1/2"	7-1/4" nominal	8-1/4" nominal
TS Tile	5-1/2"	7-1/4" nominal	16-3/16" nominal

Available Materials

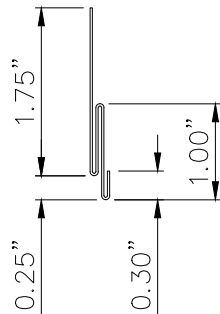
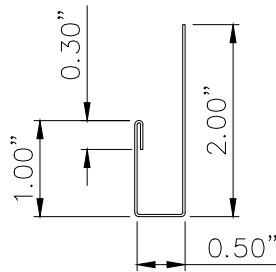
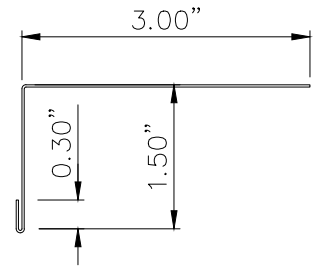
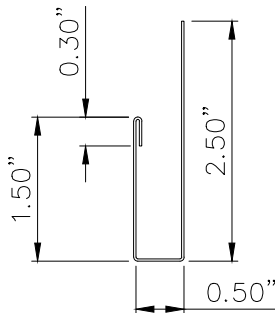
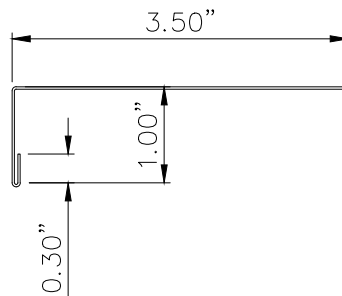
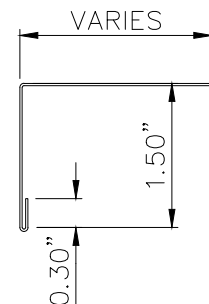
Material Type	Finishes	Thickness
ZALMAG®	natural, pre-patina II, black	26 gauge
stainless steel	LIC bright, LIC mill	26 gauge
steel	painted	24 gauge
aluminum	painted, anodized	0.032"

Material/Finishes

- steel / ZALMAG® coating (ASTM A1046-A1046M Type 1, ASTM A1003)
- 304 and 316 stainless steel / Light Interference Color bright finish (ASTM A240/A240M)
- 304 and 316 stainless steel / Light Interference Color mill (ASTM A240/A240M)
- aluminum (ASTM B209) / architectural class I or II anodized (ASTM B580).
- aluminum (ASTM B209) / 70% PVDF coating (ASTM D3222-21).
- steel / 70% PVDF coating (ASTM D3222-21).

Support Material

- 5/8" minimum plywood w/ sheet metal screws, not self-drilling.
- Metal girt system w/ self-drilling sheet metal screws.
- For other options, contact: info@millenniumforms.com (262) 723-7778.

Starter

J-Channel

Inside Corner Angle

Outside Corner J-Channel

Outside Corner Angle

Alternate Window Cap

Available Materials

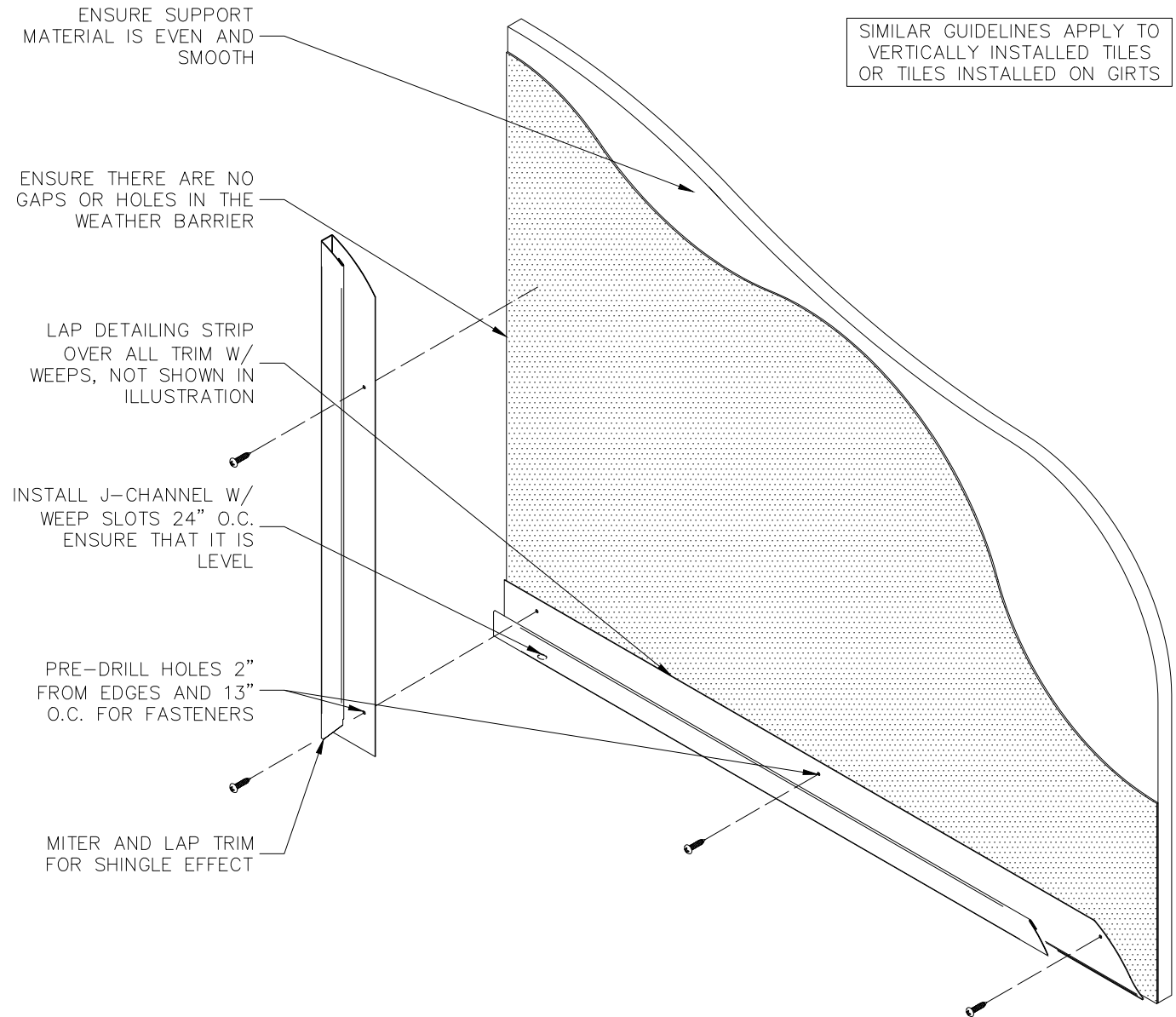
All steel trim is 24 gauge; aluminum trim is 0.032" thick. Materials and finishes match tiles. See standard catalog details for coordinated trim assemblies.

Fasteners

Fasteners to be 1/2" from edge of materials and 2" from ends. Fastener spacing 13" on center maximum.

Custom Flashing

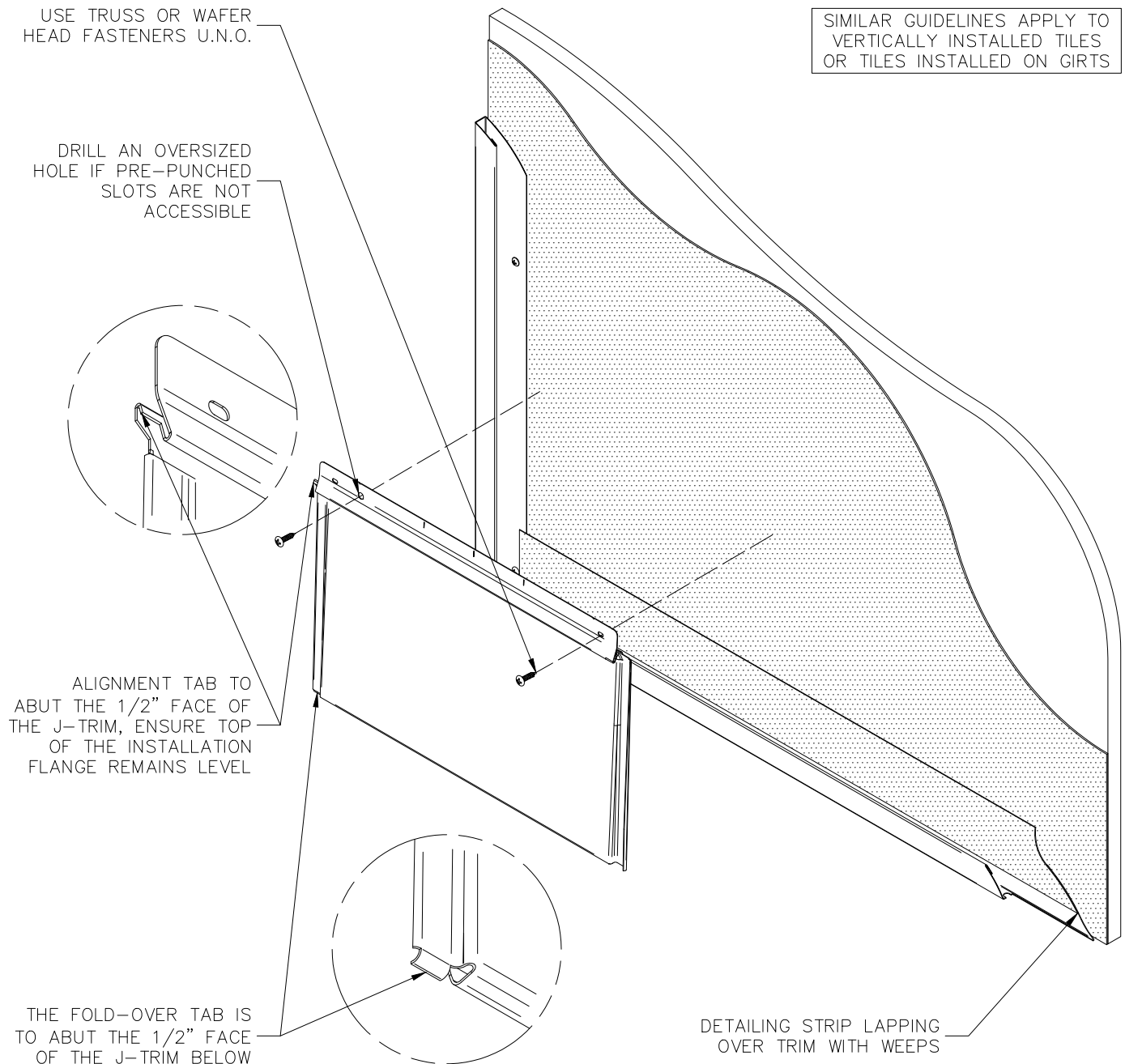
Custom flashing and trim available from Millennium Forms. Sheet stock finished to match for field fabrication is also available. Contact: info@millenniumforms.com (262) 723-7778



01

ISOMETRIC, STEP 1

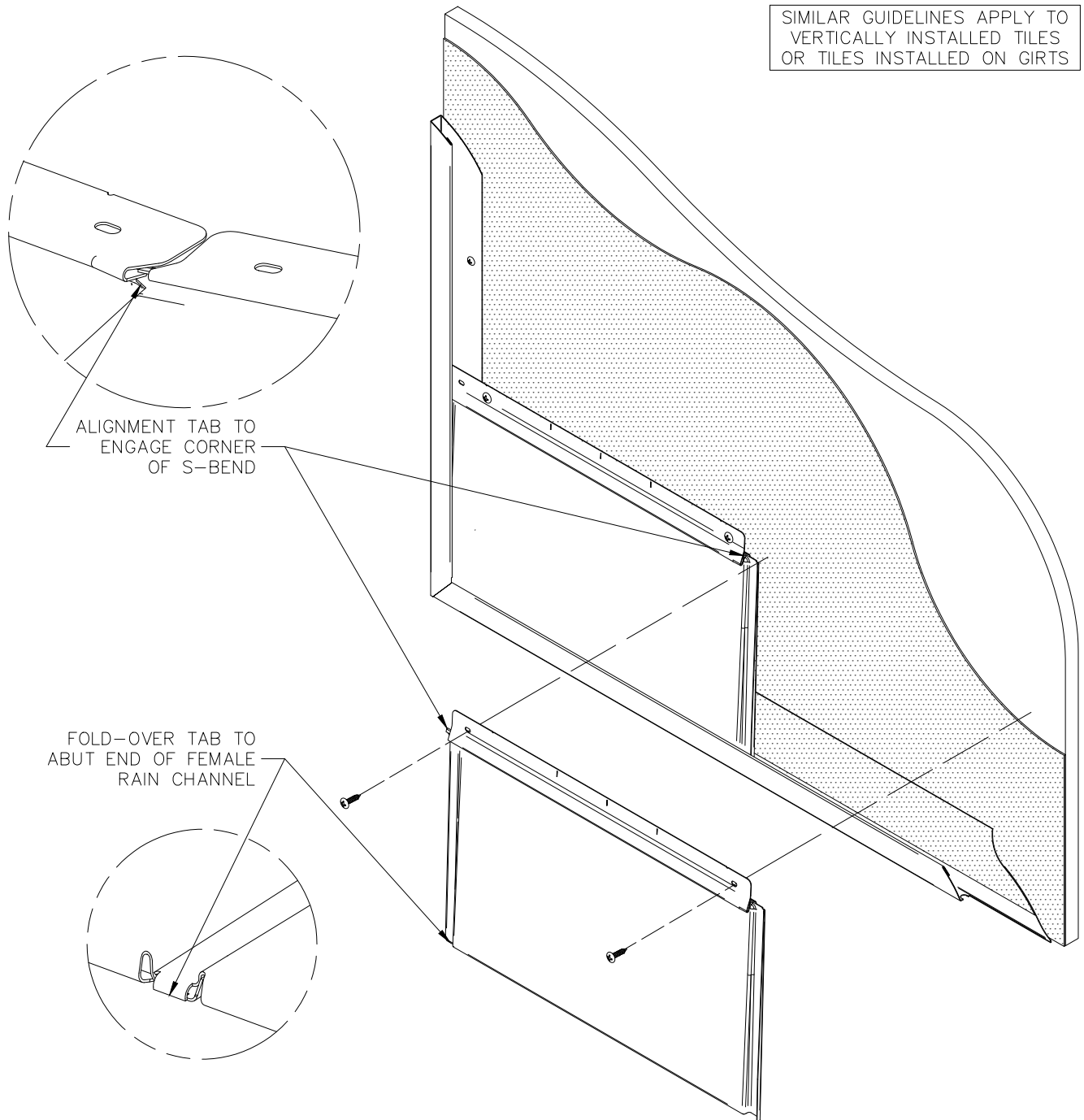
LARGE TILE - HORIZONTALLY ON PLYWOOD



02

ISOMETRIC, STEP 2

LARGE TILE - HORIZONTALLY ON PLYWOOD



03

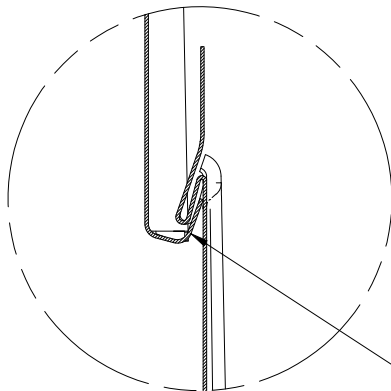
ISOMETRIC, STEP 3

LARGE TILE - HORIZONTALLY ON PLYWOOD

THE CUT END OF THE TILE
IS TO ABUT THE 1/2"
FACE OF THE J-TRIM

SIMILAR GUIDELINES APPLY TO
VERTICALLY INSTALLED TILES
OR TILES INSTALLED ON GIRTS

FULLY ENGAGE BOTTOM
FLANGE INTO S-BEND
OF TILES BELOW BEFORE
FASTENING TILE

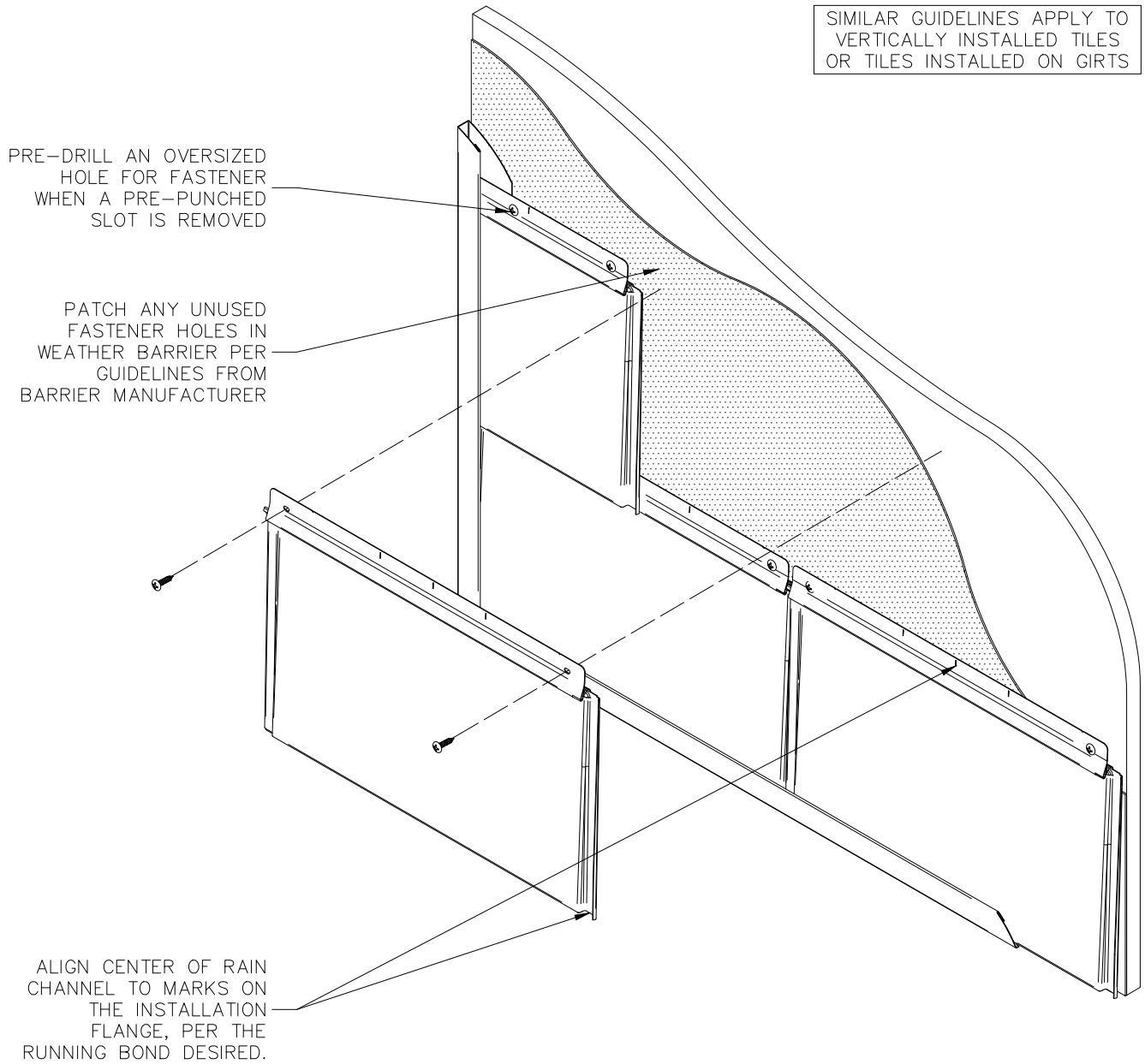


ENGAGE BOTTOM FLANGE
W/ NYLON TAPPING BLOCK
TO PROTECT FINISHES

04

ISOMETRIC, STEP 4

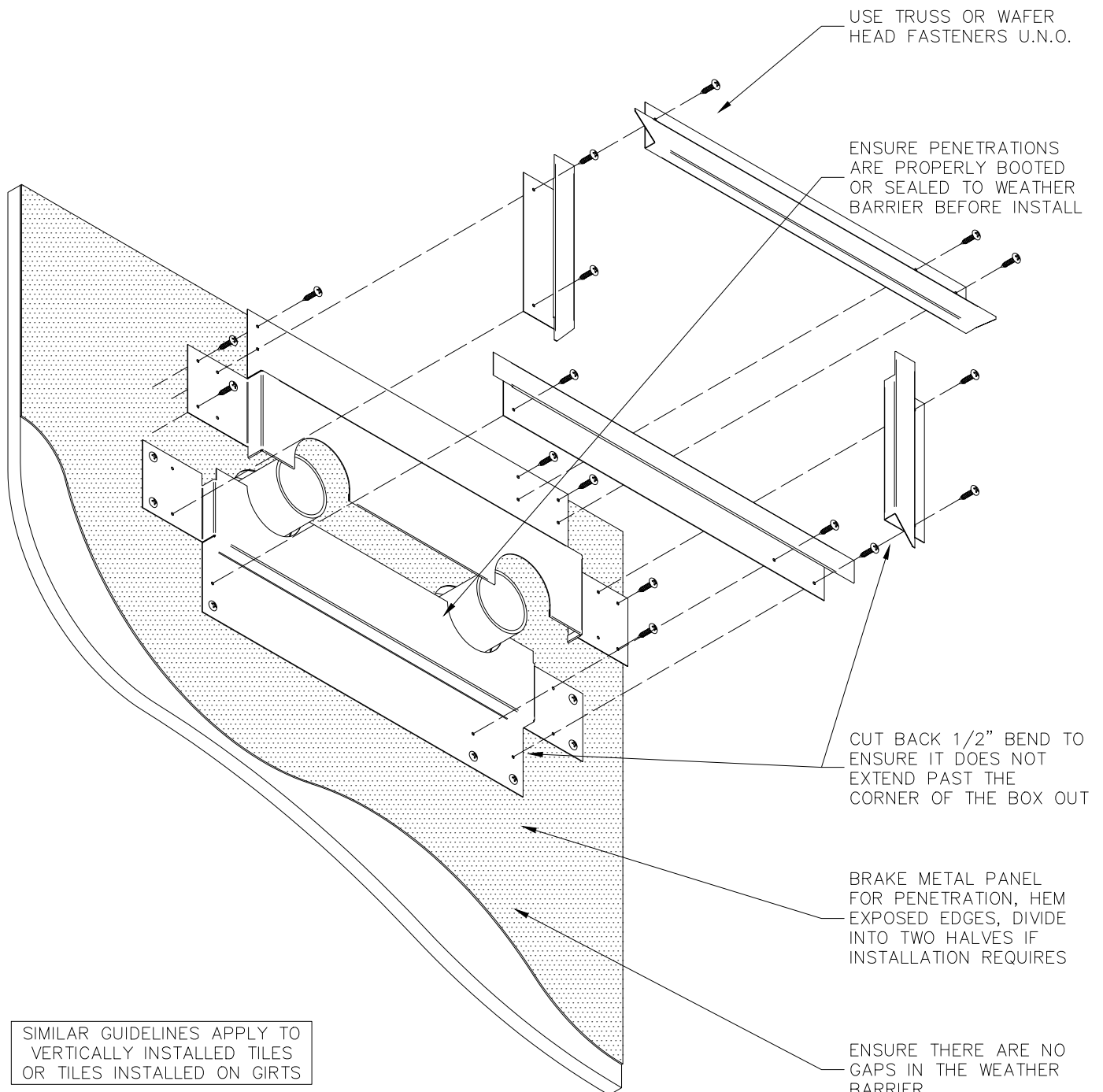
LARGE TILE - HORIZONTALLY ON PLYWOOD



05

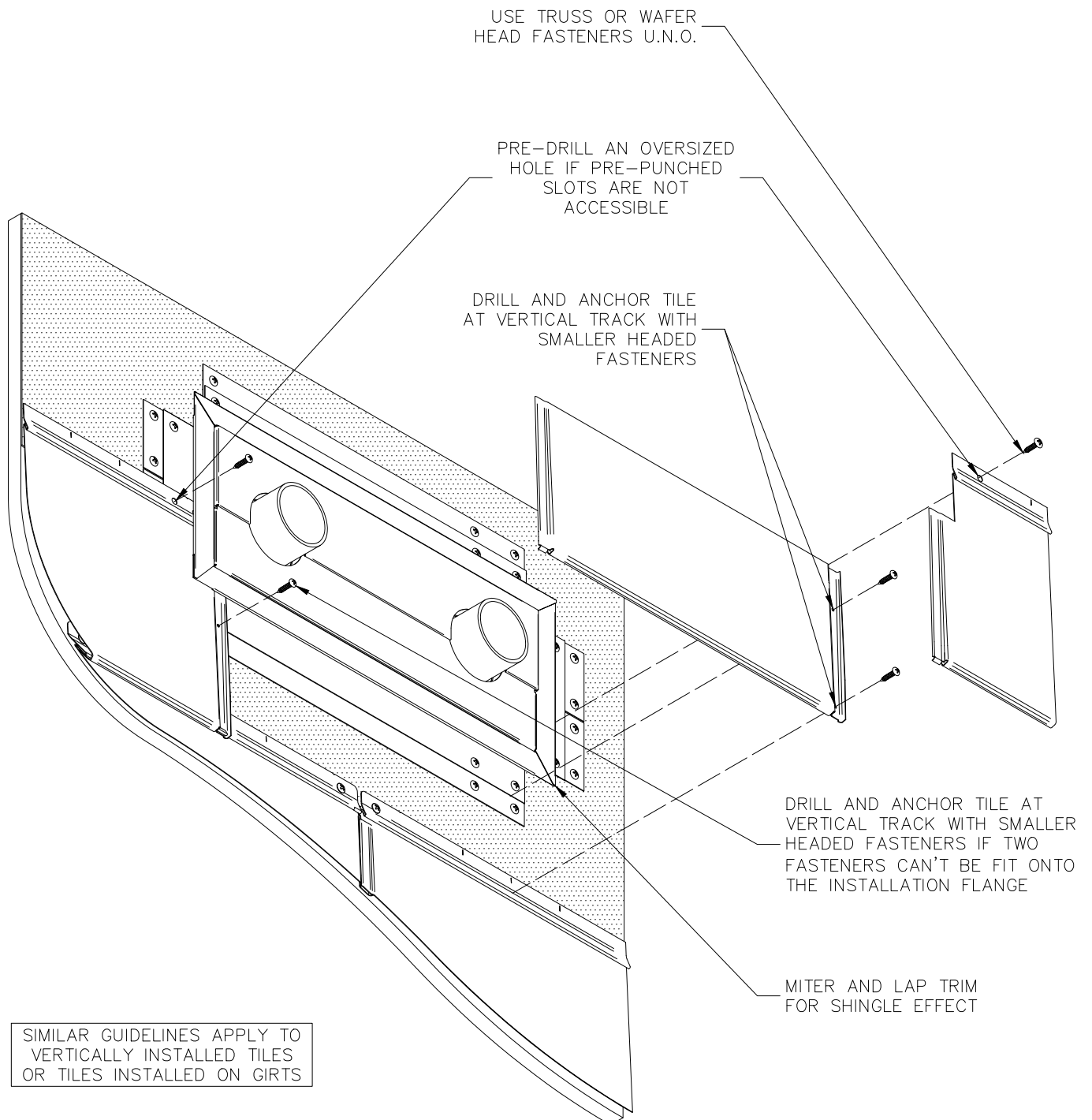
ISOMETRIC, STEP 5

LARGE TILE - HORIZONTALLY ON PLYWOOD



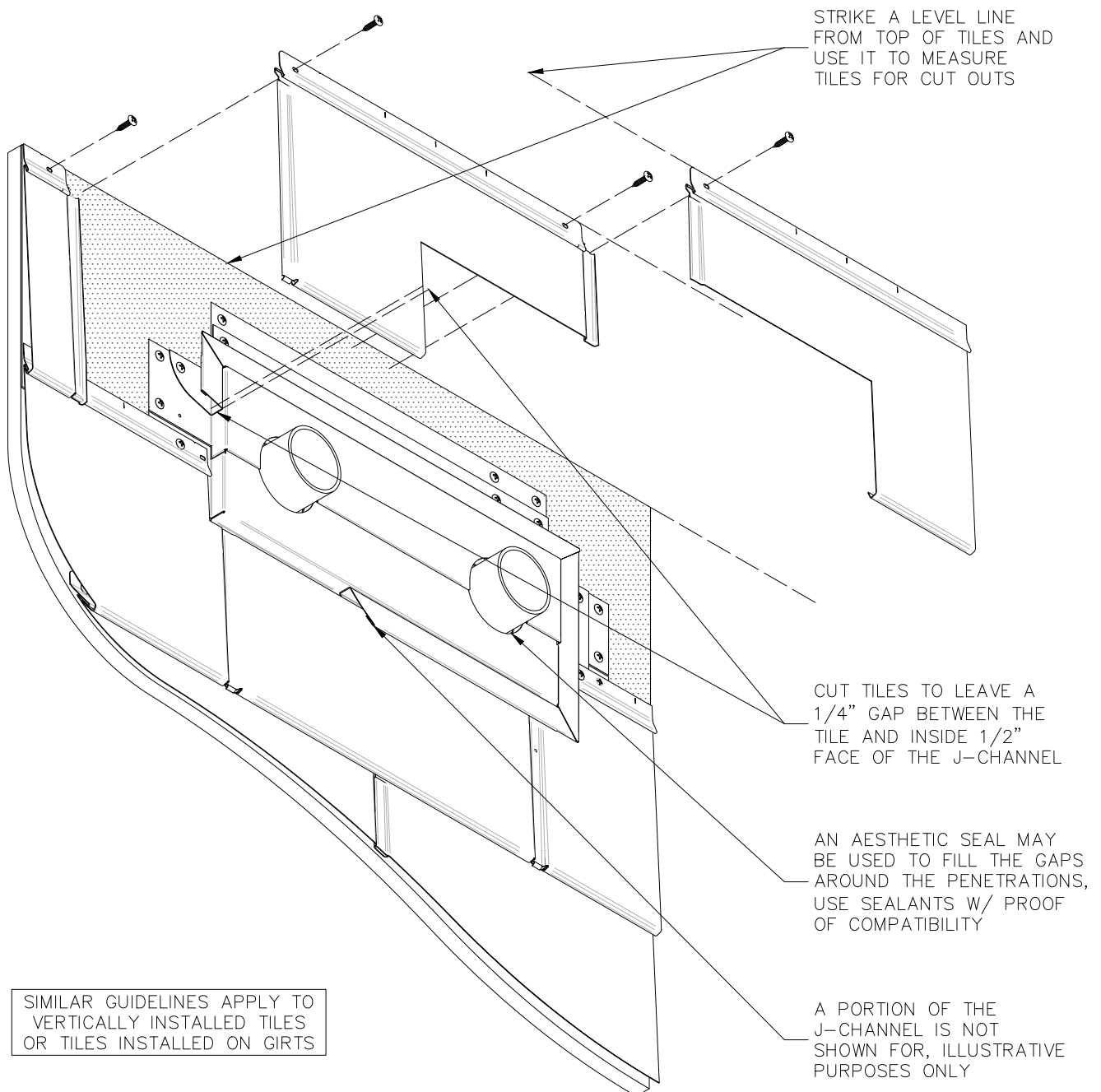
06

ISOMETRIC, WALL PENETRATION 1
LARGE TILE - HORIZONTALLY ON PLYWOOD



07

ISOMETRIC, WALL PENETRATION 2
LARGE TILE - HORIZONTALLY ON PLYWOOD



08

ISOMETRIC, WALL PENETRATION 3
LARGE TILE - HORIZONTALLY ON PLYWOOD