



BOARD AND BATTEN METAL WALL PANEL

INSTALLATION INFORMATION

WALL PANELS (NOT SUITABLE FOR ROOF APPLICATIONS)

OUR PORTFOLIO OF METAL SOLUTIONS BRANDS



IMPORTANT INFORMATION

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. It is recommended to follow all building regulations and standard industry practices.

Cornerstone Building Brands is not responsible for the performance of the wall 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 actual erection drawings, the erection drawings are to take precedence.

Prior to ordering and installing materials, all dimensions should be verified by field measurements.

Cornerstone Building Brands reserves the right to modify, without notice, any details, recommendations or suggestions. Any questions you may have regarding proper installation of these Concealed Fastened Wall Panel systems should be directed to your local sales representative.

Oil canning is not a cause for rejection. Oil canning can be described as the amount of waviness found in the flat areas of metal panels. Oil canning is an inherent characteristic of light gauge cold formed metal products, particularly those with broad flat areas. There are many factors which may contribute to oil canning that Cornerstone Building Brands is not able to control. These factors include: misalignment of the support system, over driving of fasteners used on the panels, stress (whether inherent in the panel or induced), thermal expansion and contraction of the panel, improper material handling, width, gauge, length, color of panels and improper installation (reference Metal Construction Association "Oil Canning Position Paper"- Appendix A).

Consult your local sales representative for any additional information not outlined in this manual.

This manual is designed to be utilized as a guide when installing a Concealed Fastened Wall Panel system. It is the responsibility of the erector to ensure the safe installation of this product system.

SAFETY

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

The installation of metal wall systems is a dangerous procedure and should be supervised by trained knowledgeable erectors. **USE EXTREME CARE WHILE INSTALLING WALL PANELS.** It is not possible for Cornerstone Building Brands to be aware of all the possible job site situations that could cause an unsafe condition to exist. The erector of the wall system is responsible for reading these instructions and determining the safest way to install the wall system.

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

Fall protection for workers installing wall panels must be provided.

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GENERAL INSTRUCTIONS

Safety: Use proper safety gear, safe equipment and safe processes. Safety gear includes gloves, arm guards, safety goggles and fall protection. Safe equipment includes maintained screw gun, saw, snips and folder. Safe processes include being aware of dangers and taking appropriate measures to avoid them.

Material Availability: Only 24 ga panel and flashing materials in standard colors as noted on the color charts are stocked. Custom colors are secured per project and require minimum order quantities and additional lead times. Not all materials are stocked at all producing locations.

Material Receipt: Upon receipt of material, confirm all parts have been delivered and that there is no damage. Any shortages should be reported to the your sales representative. Transit damage must be noted on the bill of lading.

Material Storage: Material not used right away, should be stored inside, out of the elements. If inside storage is not available, cover the materials with a tarp such that air can circulate. Elevate the crates off the ground and slope so that water will run off.

Handling: Transport panels in the crates to the installation site. Adequate support for individual panels every 6' to 8' is necessary. When carrying a panel, grasp the panel by one side and let the other side hang down. Handling panels with care can avoid a cause of oil-canning.

Wall Condition: Before installing panels, ensure the wall support material is plumb, square and true. Variance from in-plane should not exceed 1/4" in 10'.

Wall Assembly: Cover building envelope sheathing with a moisture barrier, such as peel-and-stick underlayment or synthetic building wrap for resistance to air and water penetration through the wall assembly. Install the moisture barrier horizontally from the bottom upward, overlapping each run over the previous, lower run.

Spacers: Spacers with a minimum depth of 1/4" are recommended in assemblies with horizontal panels. Spacers should be placed behind clips and trim at the lower side of the bottom panel to hold the wall assembly off of the wall line, allowing water to drain. Spacers may be shims, hat channels or furring strips installed to not hold water.

Plan the Work: Before installing panels on a wall section, plan for alignment with panels on adjacent wall sections. Consider the locations of wall penetrations and openings and how the panels will align. Decide if the first panel will be a full or partial panel.

Clip / Panel Fasteners: Do not overtighten the panel or clip fasteners. The fasteners should be brought just to firm contact between the support material, panel and clip. The panel must be capable of sliding along its length after the clips are installed. A clip must be installed within 6" of each end of the panels.

Panel Care and Maintenance: See the Building Maintenance Manual on your brand's website, for information about taking care of your panels so they will last, perform as intended and keep their attractive appearance.

Strippable Film: Panels and trim are typically provided with strippable film as protection against minor fabrication, transit and handling damage. The strippable film must be removed just before installation. Waiting until after panel installation to remove the strippable film or after significant exposure to sunlight or heat can make removal very difficult.

Cutting Material: When panel and trim parts must be cut, Cornerstone Building Brands recommends the use of shears, such as power shears or double-cut shears. Saw cutting is not recommended as it tends to damage the paint film near the cut and leave a rough edge that is prone to excessive red rusting on steel panels. When materials are saw-cut, it is recommended to conceal such cuts by the use of hems or cutting the end that will concealed by covering at a lap or by covering with a piece of trim, such as at the eave or rake.

MATERIAL HANDLING

RECEIVING MATERIAL

It is the responsibility of the installer to unload material from the delivery truck. The installer shall be responsible for providing suitable equipment for unloading of material from the delivery.

Cornerstone Building Brands is not responsible for any damages or shortages unless they are documented in writing and presented to your customer service representative within 48 hours. A claim should be made against the carrier as soon as possible.

After receiving material:

- Check the condition of the material
- Review the shipment against the shipping list to ensure all materials are all accounted for
- If damages or shortages are discovered, it should be noted on the Bill of Lading at the time of delivery

GENERAL HANDLING

Each bundle should be handled carefully to avoid being damaged. Care should be taken to prevent bending of the panel or scratching of the finish. Whenever possible, the bundle should remain crated until it is located in its place of storage or use. If bundles must be opened, we recommend you re-crate them before lifting. To avoid damage lift the bundle at its center of gravity.

CAUTION

Improper loading and unloading of bundles and crates may result in bodily harm and/or material damage.

Cornerstone Building Brands is not responsible for bodily injuries and/or material damages resulting from improper loading and unloading.

MECHANICAL HANDLING

A forklift or crane may be used for panels up to 20'-0" long. Make sure the forks are at their maximum separation. Do not transport open bundles. When transporting bundles across rough terrain, or over a longer distance, some means of supporting the panel load must be used.



MATERIAL HANDLING

UNSTACKING MATERIAL

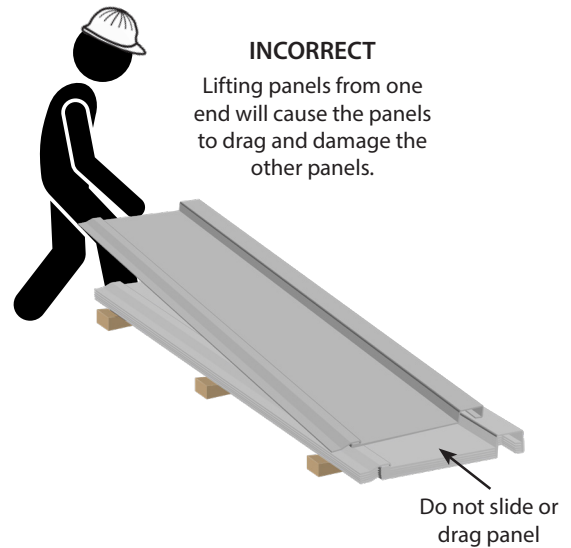
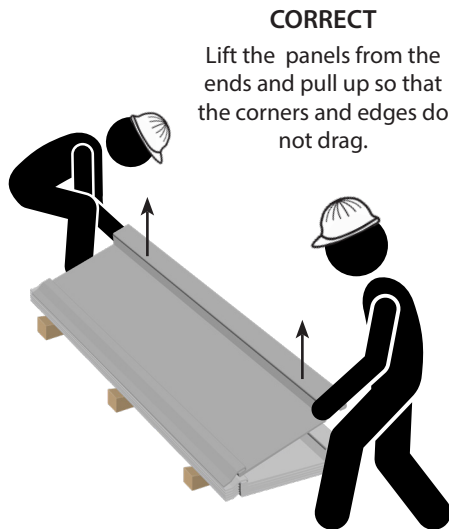
For panels over 5'-0" in length at least two people on the ends of the panel are required. Additional help will be needed for every 10'-0" in length beyond that.

Panels will arrive stacked vertically in a crate. If panels are moved out of the crate for staging, take care when unstacking to ensure panels are lifted up and not across other panels in the stack. Minimize handling of panels when unstacking and stacking to avoid damage. Be sure to wear appropriate safety equipment including clean gloves, as panel edges are sharp.

Inspect panels before lifting. Cornerstone Building Brands is not responsible for damage created by unstacking panels incorrectly. Dragging or sliding the panels will cause the corners and edges to scratch the paint.

Defect claims must be reported upon inspection and *before* panels are handled or installed.

Restacking – Align bottom-side edge with the stack and lay panel onto the stack.

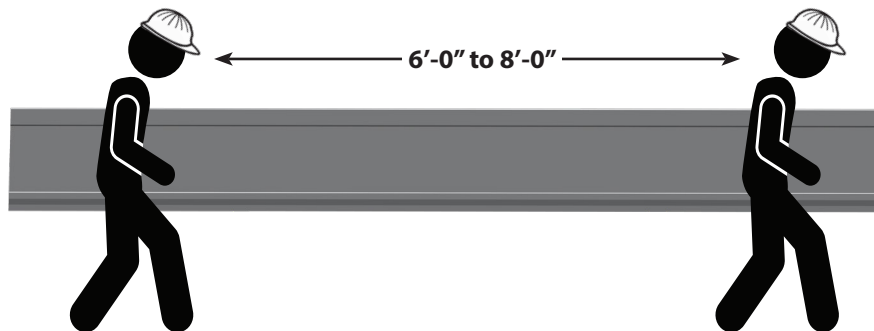


TRANSPORTING MATERIAL

Handling of individual panels should be done carefully and properly to avoid bending or damaging. Panels should be carried by grasping the edge so that the panel is vertical to the ground.

Normally, individual panels can be handled by people placed every 6'-0" to 8'-0" along the length of the panel.

The panel should not be carried with the width of the panel horizontal to the ground as this could cause the panel to buckle or bend in the center.



STORAGE AND FOOT TRAFFIC

STORAGE

Please inspect panels for moisture accumulation. If moisture has formed, the panels should be unbundled, wiped dry, and allowed to dry completely. Once dry, carefully re-stack the panels and loosely recover allowing for ample air circulation.

Bundled sheets should be stored high enough off of the ground to allow for air circulation and prevent contact with accumulating water. Elevate one end of the bundle to allow any moisture to run off the panels. Cornerstone Building Brands recommends covering the bundle with a tarp. Do not use tight fitting plastic-type tarps as panel bundle covers. While they may provide protection from heavy downpours, they can also retard necessary ventilation and trap heat and moisture that may accelerate metal corrosion. If panels are to be stored in possible bad weather, we suggest they be stored inside. Extended storage of panels in a bundle is not recommended.

NOTE:

Under no circumstances should panels be stored near or come in contact with salt water, corrosive chemicals, ash or fumes generated or released inside the building or nearby plants, foundries, plating works, kilns, fertilizer and wet or green lumber.



FOOT TRAFFIC

Care of metal panels and flashings must be exercised throughout erection. Foot traffic can cause distortion of panel and damage to finish.

BEFORE YOU STEP ON THE ROOF:

- Wear proper footwear. Soft-soled, non-slip shoes. Avoid hard soles or shoes with embedded rocks/debris.
- Ensure the roof is clean and dry. Metal panels can be very slippery with dust, moisture, or oil. Never walk on frosty, icy, or wet panels.
- Use proper fall protection. Harnesses, guardrails, lifelines, and anchors are essential, especially on steep-slope roofs.
- Avoid stepping on panels before installation if they are staged or stored on the ground. Any foot traffic on these panels will cause damage and hinder proper installation.

WHERE AND HOW TO STEP:

- Step on the low or flat areas, not the high ribs. The low flats are supported directly by the decking or purlins and are structurally stronger.
- Walk along the panel supports. Step where the panel is fastened to framing avoid unsupported spans that can flex or crease.
- Distribute your weight. Walk slowly and flat-footed. Don't stomp, jump, or twist it can dent or distort the metal.
- Avoid walking on laps and edges. Overlaps and panel edges are weak points that can deform or open up seams.
- Plan foot paths to limit wear.

WHAT TO AVOID:

- Don't drag tools or fasteners they'll scratch the finish.
- Don't stack heavy materials in one spot on the panels.
- Don't step on panels that are not fully secured or still being positioned.
- Don't walk on translucent panels, skylights, or flashing.

WALL SQUARENESS

WALL SQUARENESS

Cornerstone Building Brands panels are designed to be installed over open framing and/or directly over a wood substrate with synthetic building wrap. Always check with local building codes prior to all installations for any additional requirements that may be specific to your area.

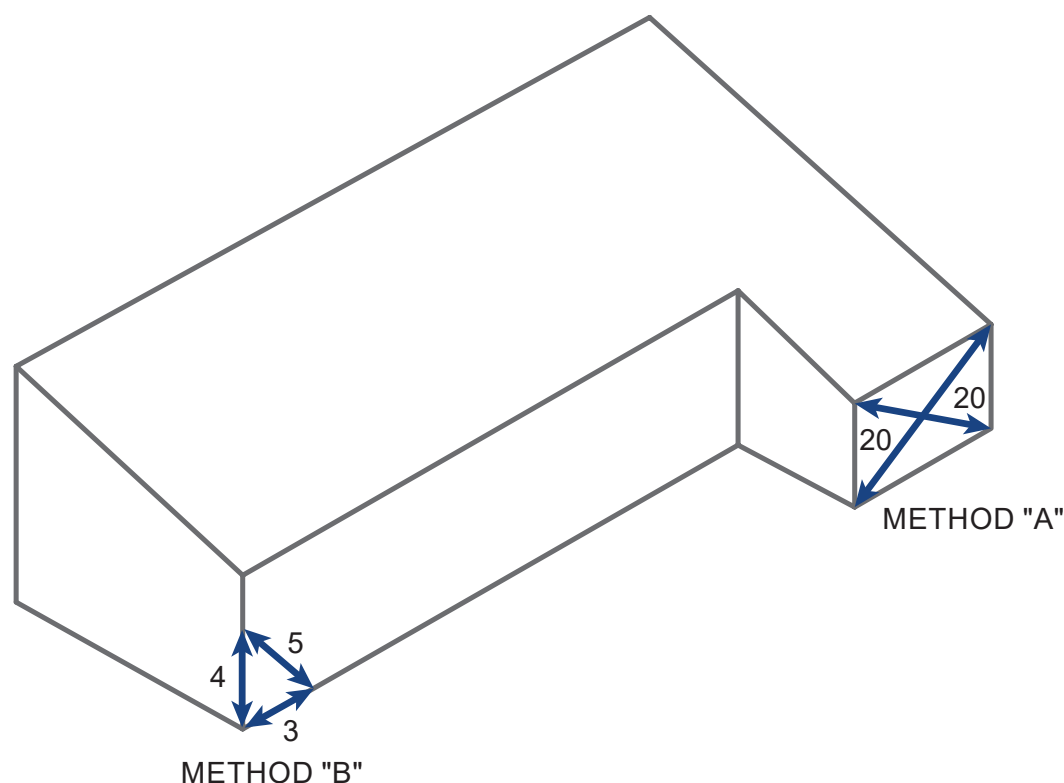
Galvalume panels should not be in contact with, or subject to, water runoff from copper, lead or uncoated steel materials. Condensate water from air conditioning units typically contains dissolved copper.

The wall should be inspected for any trapped moisture or structural damage such as bowing or sagging members and warped or loose sheathing. Also make sure there are no nails or fasteners protruding from the wall framing or wood substrate which could damage the panels and impede the installation process. These areas must be repaired prior to installing new metal wall panels. Panel distortion may occur if not applied over properly aligned and uniform substructure.

Whether installing over new or existing roof, the installer should check the sheathing for squareness before installing panels. Several methods can be used to verify squareness of the structure for proper installation of the panels.

METHOD "A" - One method for checking the wall for squareness is to measure diagonally across one plane from similar points at the eave and base and obtain the same dimension.

METHOD "B" - The 3-4-5 triangle system may also be used. To use this system, measure a point from the corner along the edge of the wall at a module of three (3). Measure a point from the same corner along another edge at a module of four (4). By measuring diagonally between the two points established, the dimension should be exactly a module of five (5) to have a square corner. Multiple uses of this system may be required to determine building squareness. If the wall cannot be made square, the wall system cannot be installed as shown in these instructions.



FIELD CUTTING AND TOUCH-UP

FIELD CUTTING

Tin snips or a "nibbler" type electric tool are recommended for field cutting metal panels. Cutting the steel generates slivers or metal chips. These slivers and metal chips must be immediately removed from the panels because they will damage the finish and shorten the life of the product.

One method of preventing this problem is to flip the panels over when cutting. This allows the slivers and metal chips to be brushed from the back side and avoids damaging the paint on the top side of the panels.

When cutting metal panels and flashings, goggles must be worn for eye protection.

CAUTION

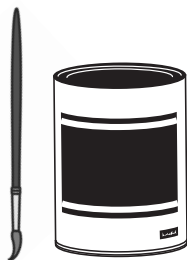
All product surfaces should be free of debris at all times. Installed surfaces should be wiped clean at the end of each work period. Never cut panels over metal surfaces. Metal shavings will rust on the surface, voiding the warranty.

TOUCH-UP PAINT

All painted panels and flashings have a factory applied baked on finish. Handling and installing panels may result in some small scratches or nicks to the paint finish. Touch-up paint is available in matching colors from Cornerstone Building Brands. It is recommended that a small brush be used to apply touch-up paint to those areas that are in need of repair. Touch-up paint does not have the superior chalk and fade resistance of the factory applied paint finish and will normally discolor at an accelerated rate. Aerosol paint should not be used because of the over-spray that may occur.



SPRAY PAINT



TOUCH-UP PAINT

CAUTION

Use as little Touch-up paint as possible. Paint will fade and there is no finish warranty with this product.

VENTILATION

Proper design and installation of vapor barriers and ventilation systems are important to prevent condensation and the resulting problems of moisture damage and loss of insulation efficiency.

Condensation occurs when moisture laden air comes in contact with a surface temperature equal to or below the dew point of the air. This phenomenon creates problems that are not unique with metal buildings; these problems are common to all types of construction.

The underside of the metal panel on a typical metal building should be protected from condensation by insulating with a faced insulation. This should reduce the potential of condensation forming on the underside of the panels.

TOOLS AND SAFETY EQUIPMENT

RECOMMENDED TOOLS

Standard tools for field installation include, but not limited to:

CUTTING TOOLS

Tin Snips
Electric Metal Shears
Turbo-Shears
Circular Saw

SAFETY

Gloves
Safety Goggles
Ear Protection
Safety Harness and Fall Protection

GENERAL

Hammer
Utility knife
Caulking gun
Hand seamer
Ladder and/or scaffolding
Laser Level
Panel Lifters or Suction Cups
Deburring Tool
Tool Belt

FASTENING

Nut Drivers or magnetic hex drivers
Screw Gun with adjustable torque
Pop Rivet Tool

MEASURING/MARKING

Tape Measure
Speed Square
Chalk Line
Marker or Scribe

20" HEMMER



20" DUAL BAR FOLDER/HEMMER



TURN-UP TOOL



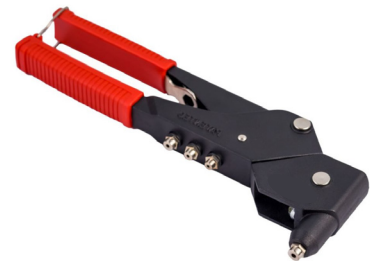
TURBO SHEARS



TIN SNIPS



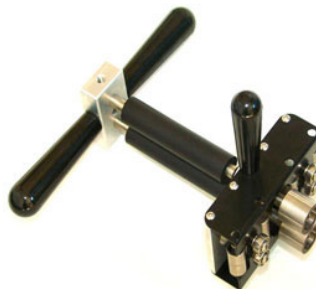
POP RIVET TOOL



VERSA HEMMER



VERSA BENDER SINGLE



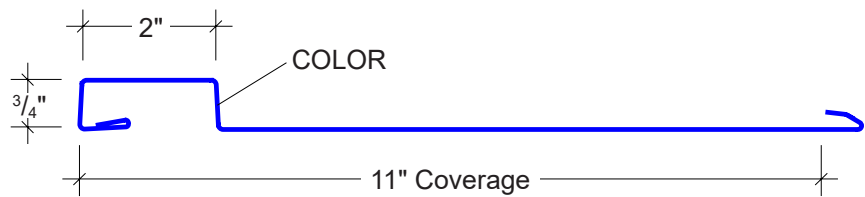
VERSA BENDER DOUBLE STATION



PANEL PROFILES

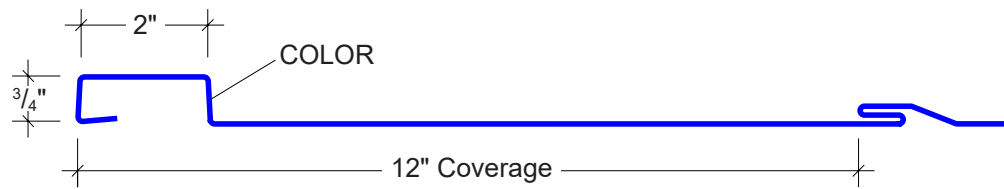
CONCEALED CLIP-FASTENED PANEL

BB75-1111
F-9001



CONCEALED DIRECT-FASTENED PANEL

BBD75-1212
F-9000

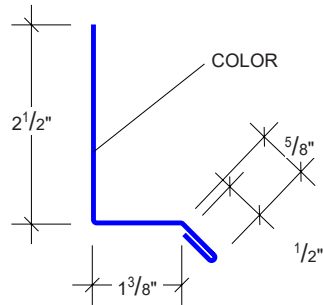


Panels can be produced in lengths from 6' to 20'-2".

FLASHING PROFILES

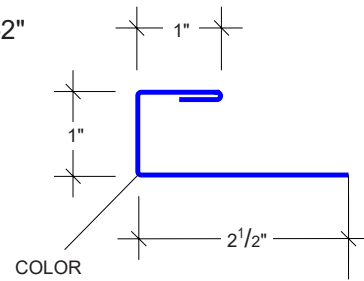
Base Trim

T-5534 - 10'-2"



Jamb Trim

FL-514A - 10'-2"

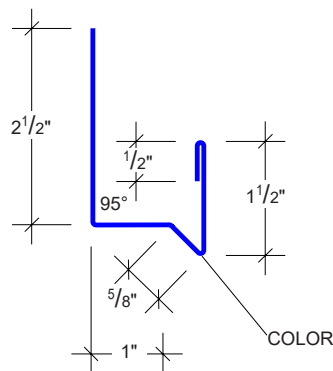


Head Trim

T-5511 - 3'-6"

T-5513 - 10'-4"

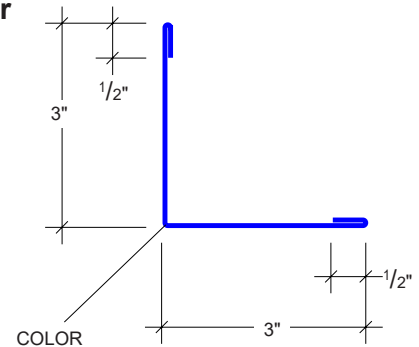
T-5515 - 14'-4"



Outside Corner

T-5505 - 10'-2"

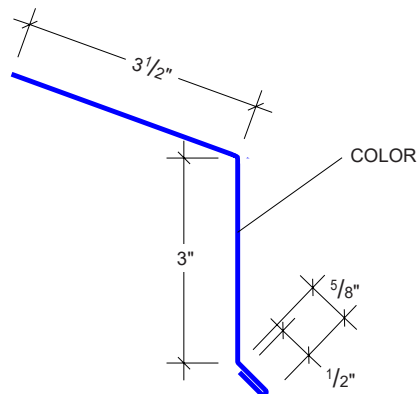
T-5506 - 20'-2"



Eave Trim

T-5143 - 10'-2"

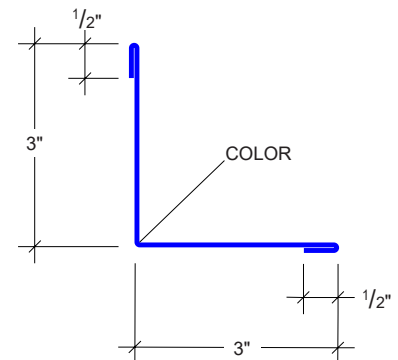
T-5144 - 20'-2"



Inside Corner

T-5507 - 10'-2"

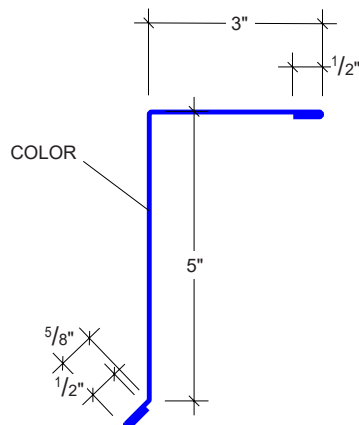
T-5508 - 20'-2"



Rake Trim

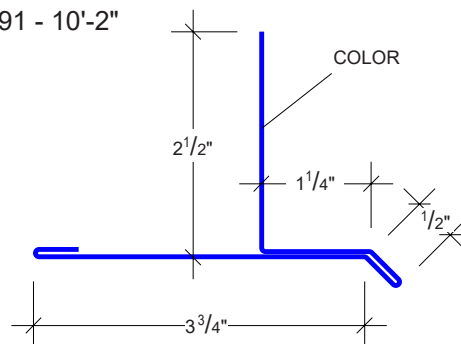
T-5233 - 10'-2"

T-5234 - 20'-2"



Sill to Soffit

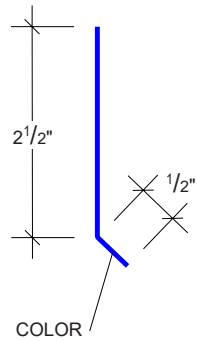
T-5191 - 10'-2"



FLASHING PROFILES

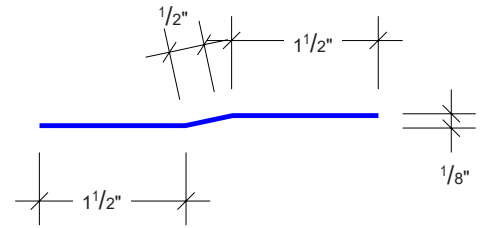
Continuous Cleat

T-5121 - 10'-2"



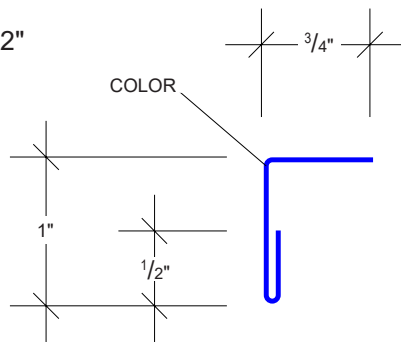
Offset Cleat

T-5131 - 10'-2"



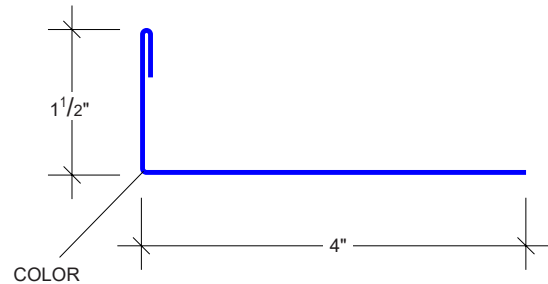
Angle Trim

T-5051 - 10'-2"



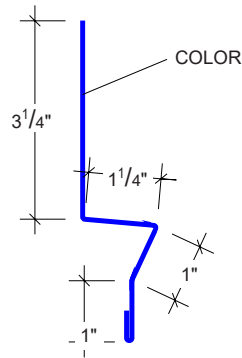
Jamb / Sill Case Trim

T-5517 - 10'-2"



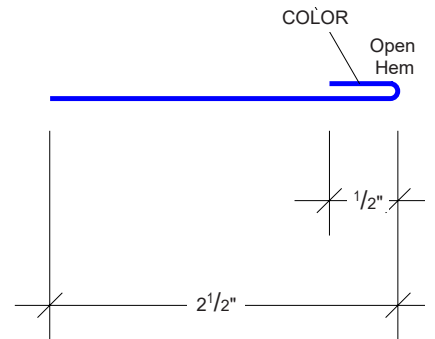
Wall Splice 3/4" Trim

F-9012 - 10'-2"



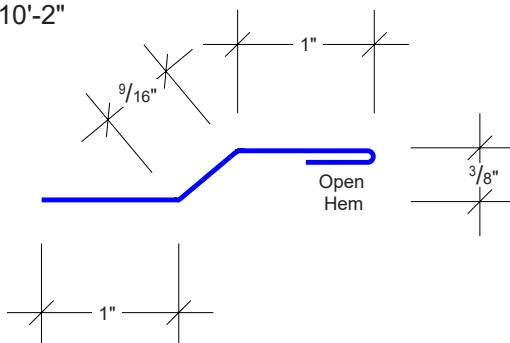
Panel Starter

T-5111 - 10'-2"



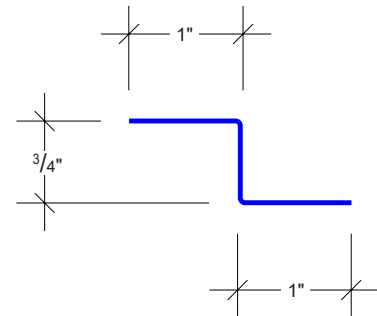
Panel Cleat

T-5530 - 10'-2"



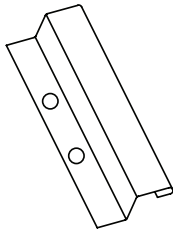
Support Zee

T-5526 - 10'-2"



ACCESSORIES

CONCEALED WALL CLIP



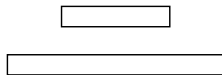
Product No.	Size	WT/100	Finish
HW-20090	1 ³ / ₄ " x 4" x ³ / ₈ "	16 lbs	G90 Galv
HW-20091	1 ³ / ₄ " x 4" x ³ / ₈ "	16 lbs	Stainless

UNIVERSAL CLOSURE



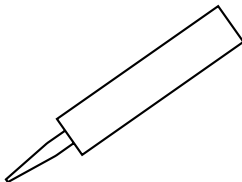
Product No.	Description	WT/Each	Type
HW-414	1 ⁵ / ₈ " x 1" x 48"	0.13 lbs	Foam
HW-422	1 ¹ / ₂ " x 1" x 48"	0.13 lbs	Foam

TAPE SEALANT



Product No.	Description	WT/Ctn.	Type
HW-507	1 ¹ / ₂ " x ³ / ₃₂ "	40.00 lbs	Butyl
HW-506	1" x ³ / ₃₂ "	41.00 lbs	Butyl

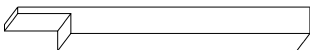
TUBE SEALANT



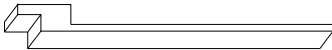
Product No.	Description	WT/Each	Color
HW-540	10 oz Tube	3.31 lbs	White
HW-541	10 oz Tube	3.31 lbs	Gray
HW-544	10 oz Tube	3.31 lbs	Almond
HW-542	10 oz Tube	3.31 lbs	Bronze

FOAM CLOSURES

BB75-1111
OUTSIDE CLOSURE



BB75-1111
INSIDE CLOSURE



BBD75-1212
OUTSIDE CLOSURE



BBD75-1212
INSIDE CLOSURE



Product No.	Description	WT/Each	Color
HW-20120	BB75-1111 Outside Closure	0.10 lbs	Black
HW-20112	BB75-1111 Inside Closure	0.10 lbs	Black
HW-20116	BBD75-1212 Outside Closure	0.10 lbs	Black
HW-20108	BBD75-1212 Inside Closure	0.05 lbs	Black

FASTENERS

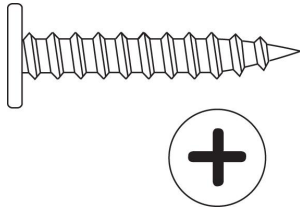
POP RIVET



Product No.	Description	WT/250	Finish
#14	1/8" x 3/16" Pop Rivet	0.75 lbs	Painted

Used to attach trim to trim or trim to panel.

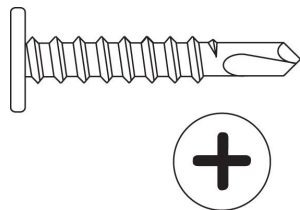
PANCAKE HEAD WOOD SCREW



Product No.	Description	WT/250	Finish
#13	#10-12 x 1" Pancake Head Wood Screw	1.80 lbs	Plated

Used to attach trim to wood supports.

PANCAKE HEAD DRILLER



Product No.	Description	WT/250	Finish
#12	#10-16 x 1" Pancake Head Driller	1.75 lbs	Plated

Used to attach trim or panel clip to steel framing supports.

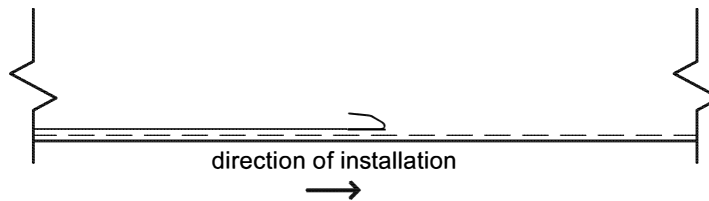
Clip fasteners attach panels to support materials, such as:

- Steel Framing in 18 ga, 16 ga, 14 ga and 12 ga thicknesses
- Wood Sheathing, OSB and plywood in 7/16", 1/2", 5/8" and 3/4" nominal thicknesses
- Wood Framing in 1x and 2x lumber

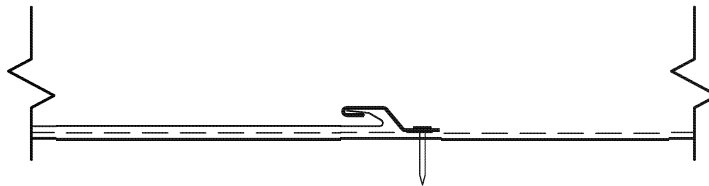
BB75-1111 PANEL ATTACHMENT

CONCEALED CLIP-FASTENED PANEL

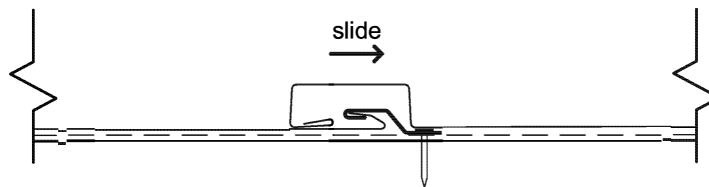
Step 1 Put previous panel in place.



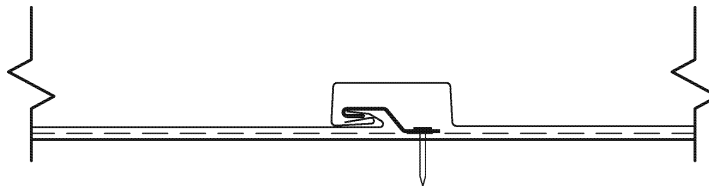
Step 2 Secure previous panel with clips and fasteners.



Step 3 Prepare to engage next panel.



Step 4 Engage next panel.



Fasteners:

- For wood support members, use Fastener #13.
- For steel support members, use Fastener #12.

The views above are PLAN VIEWS. Panels can be installed from left-to-right or right-to-left.

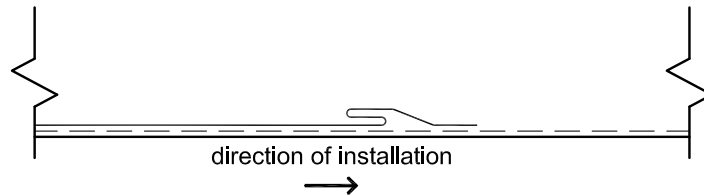
These panels cannot be endlapped due to their box-rib profile.

The BB75-1111 profile uses the Concealed Wall Clip, HW-20090, shown on page 13. A clip is required within 6" of each end of panels and along the length as required by the project design. Two fasteners are required per clip.

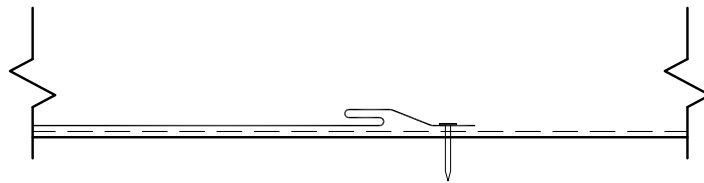
BBD75-1212 PANEL ATTACHMENT

CONCEALED DIRECT-FASTENED PANEL

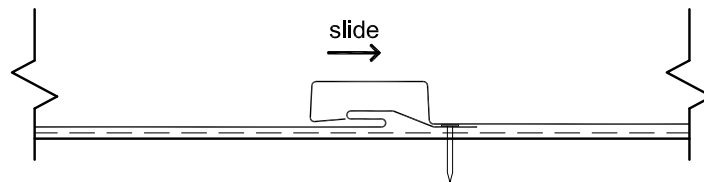
Step 1 Put previous panel in place.



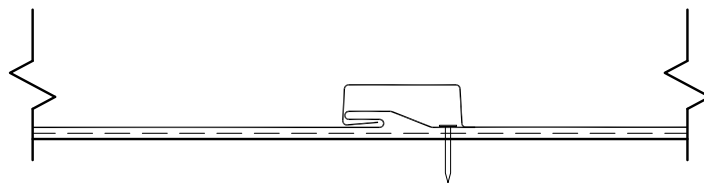
Step 2 Secure previous panel with fasteners.



Step 3 Prepare to engage next panel.



Step 4 Engage next panel.



Fasteners:

- For wood support members, use Fastener #13.
- For steel support members, use Fastener #12.

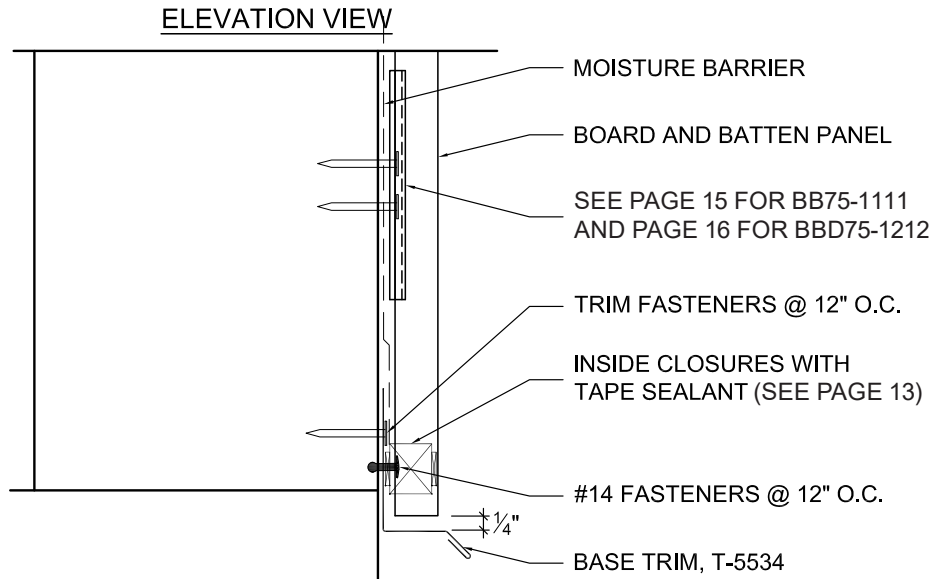
The views above are PLAN VIEWS. Panels can be installed from left-to-right or right-to-left.

These panels cannot be endlapped due to their box-rib profile.

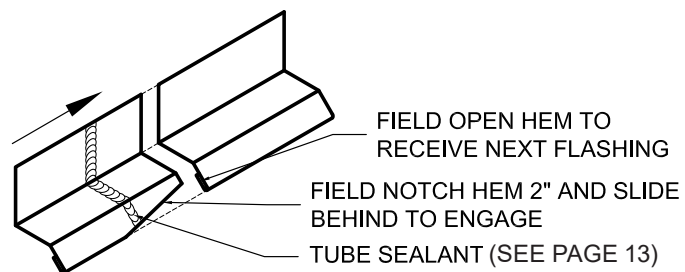
The BBD75-1212 profile does not use a clip for attachment.

A fastener is required within 6" of each panel end.

BASE - VERTICAL PANELS



TRIM LAP

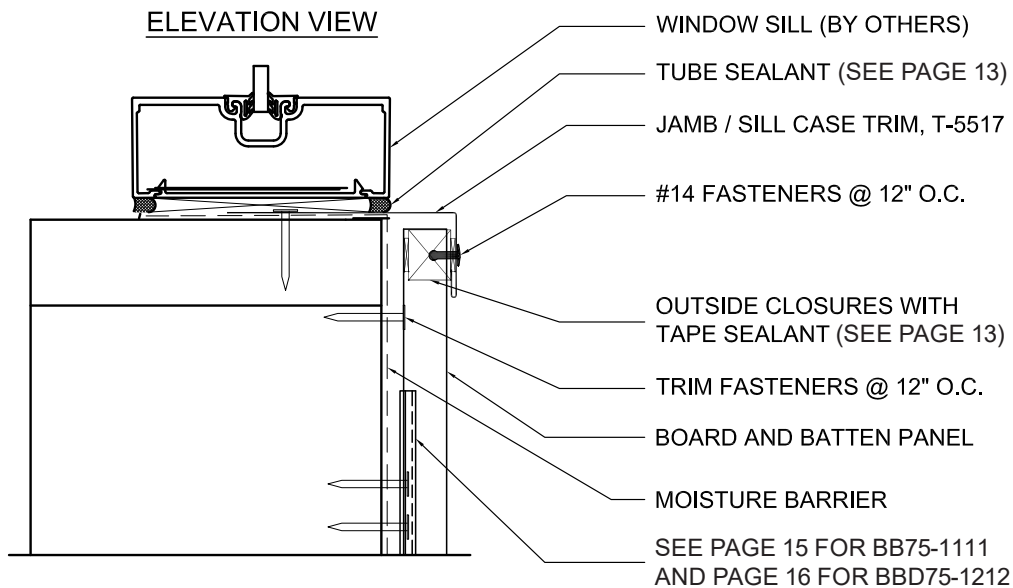


NO FASTENERS THROUGH TRIM LAP

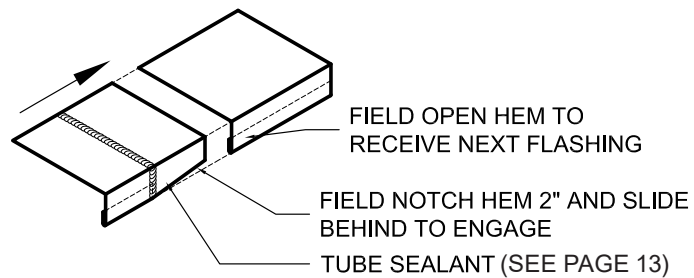
FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

WINDOW SILL - VERTICAL PANELS



TRIM LAP



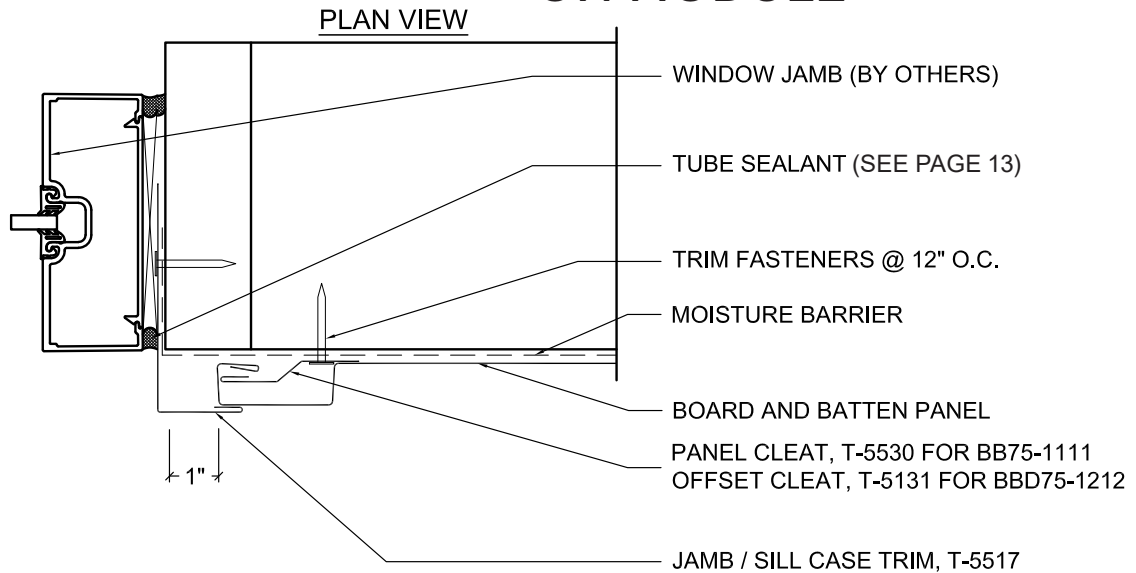
NO FASTENERS THROUGH TRIM LAP

FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

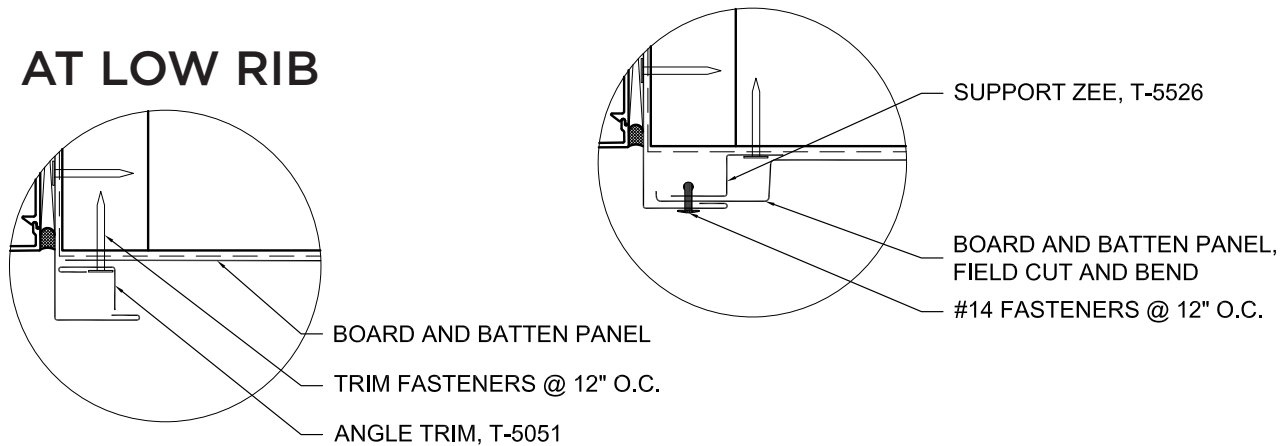
WINDOW JAMB - VERTICAL PANELS

ON MODULE

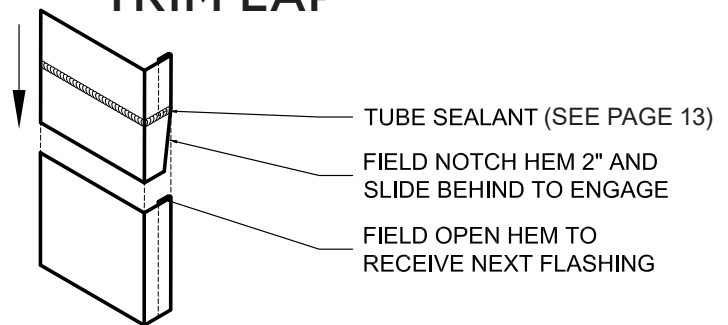


AT HIGH RIB

AT LOW RIB



TRIM LAP

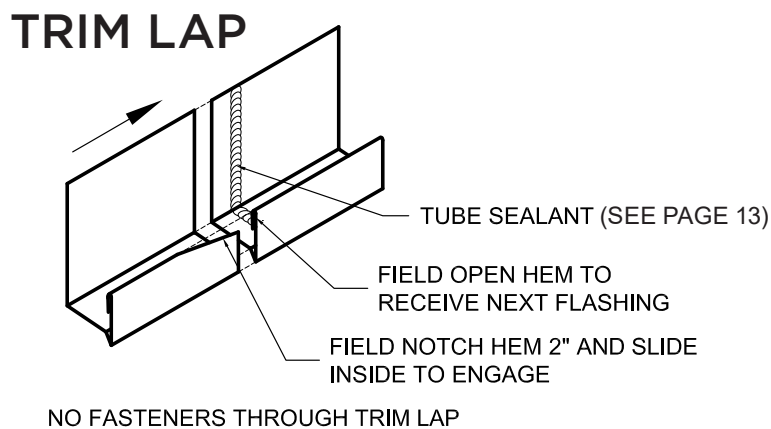
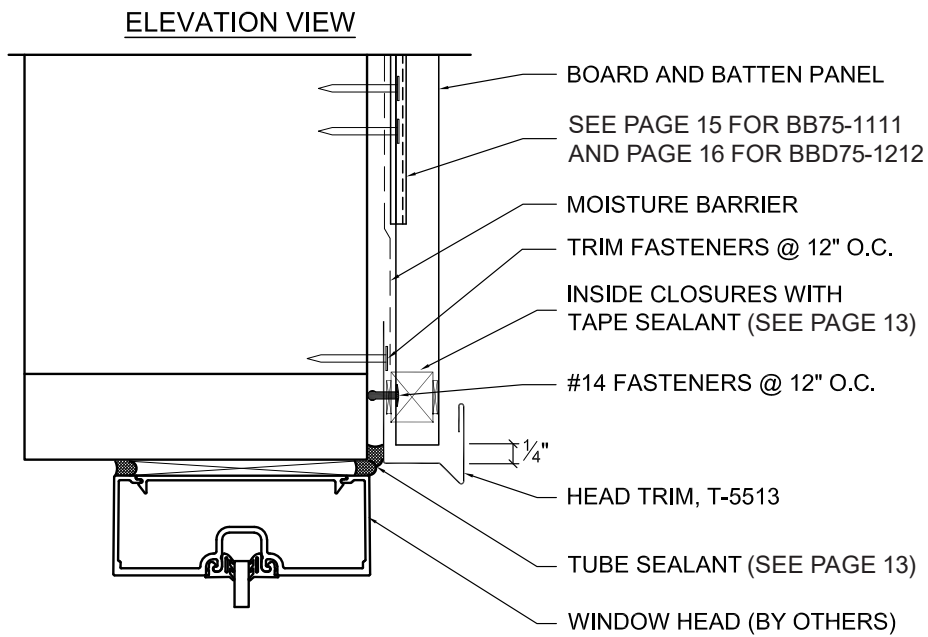


NO FASTENERS THROUGH TRIM LAP

FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

WINDOW HEAD - VERTICAL PANELS

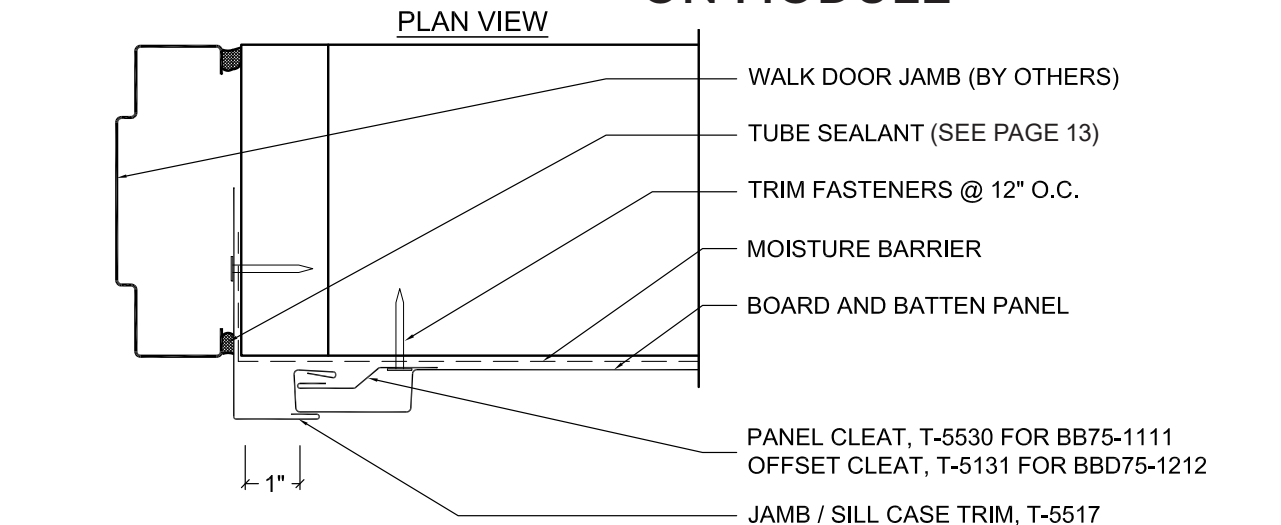


FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

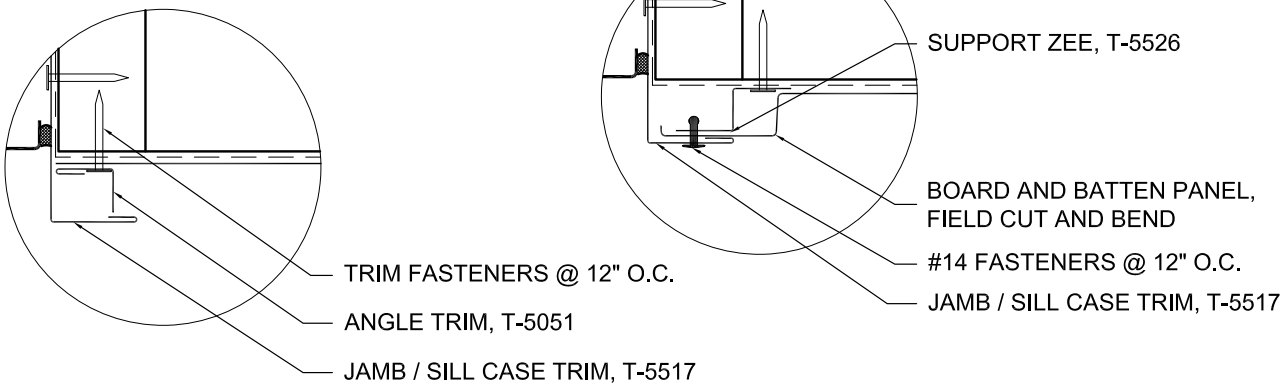
WALK DOOR JAMB - VERTICAL PANELS

ON MODULE

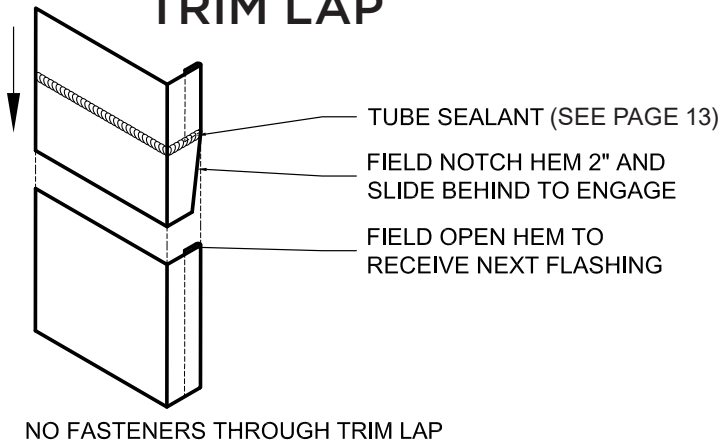


AT HIGH RIB

AT LOW RIB



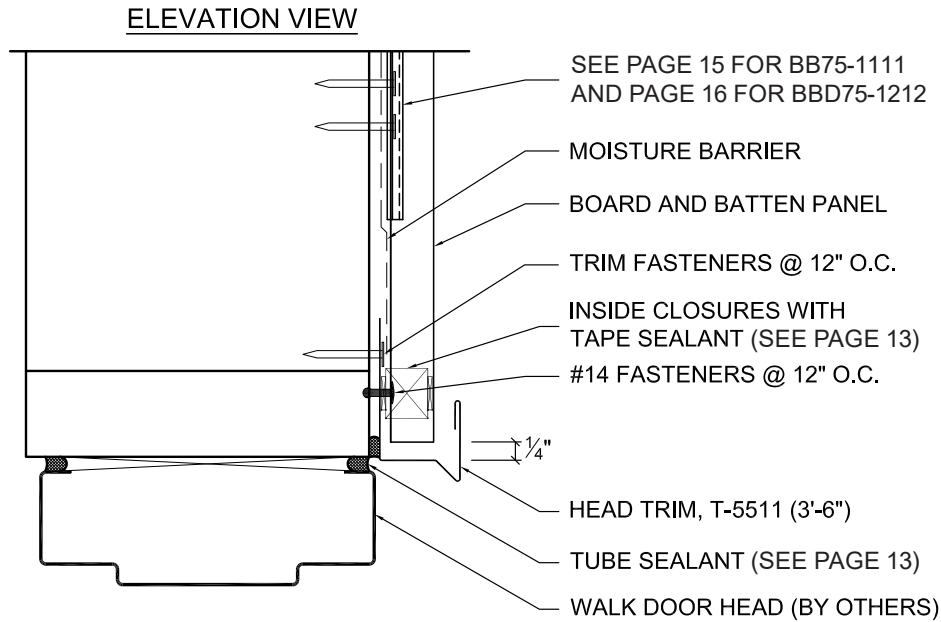
TRIM LAP



FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

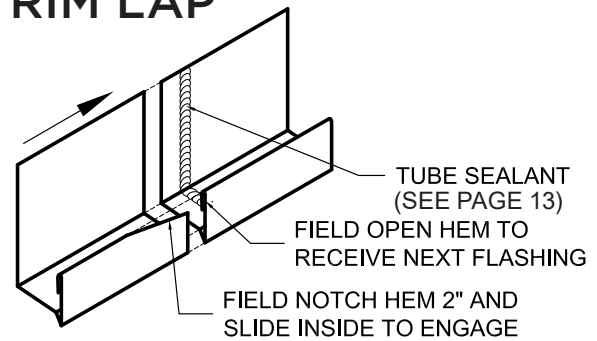
WALK DOOR HEAD - VERTICAL PANELS



FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

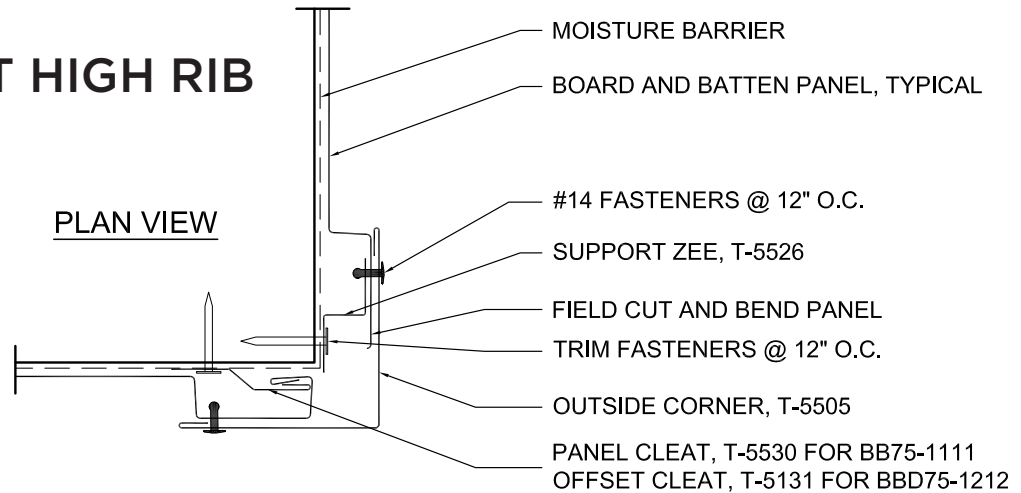
TRIM LAP



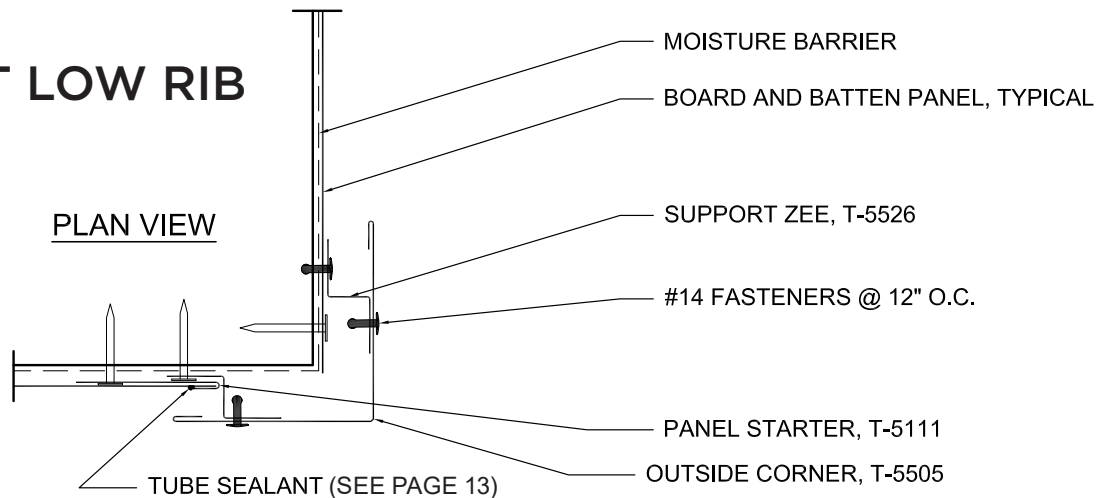
NO FASTENERS THROUGH TRIM LAP

OUTSIDE CORNER - VERTICAL PANELS

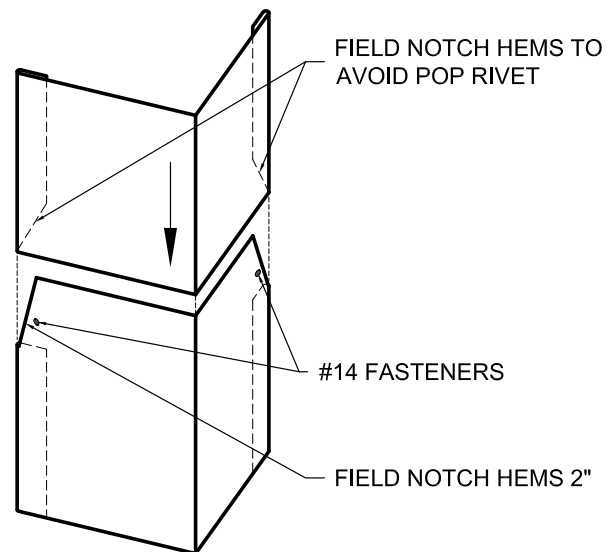
AT HIGH RIB



AT LOW RIB



TRIM LAP

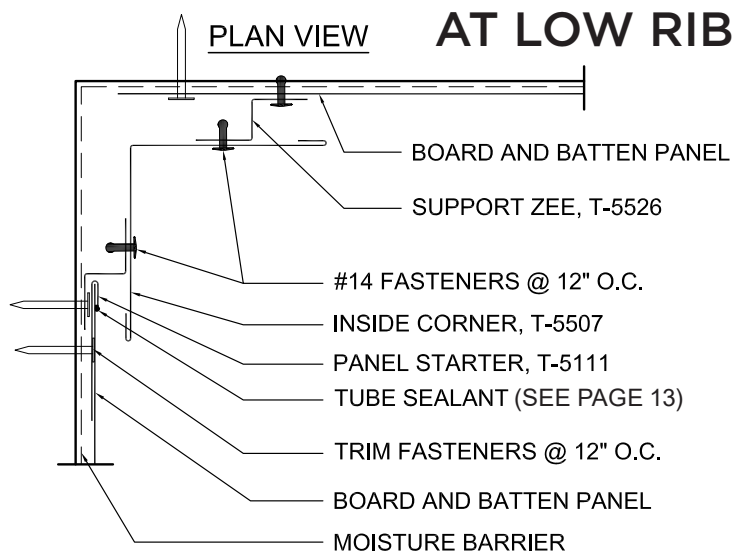
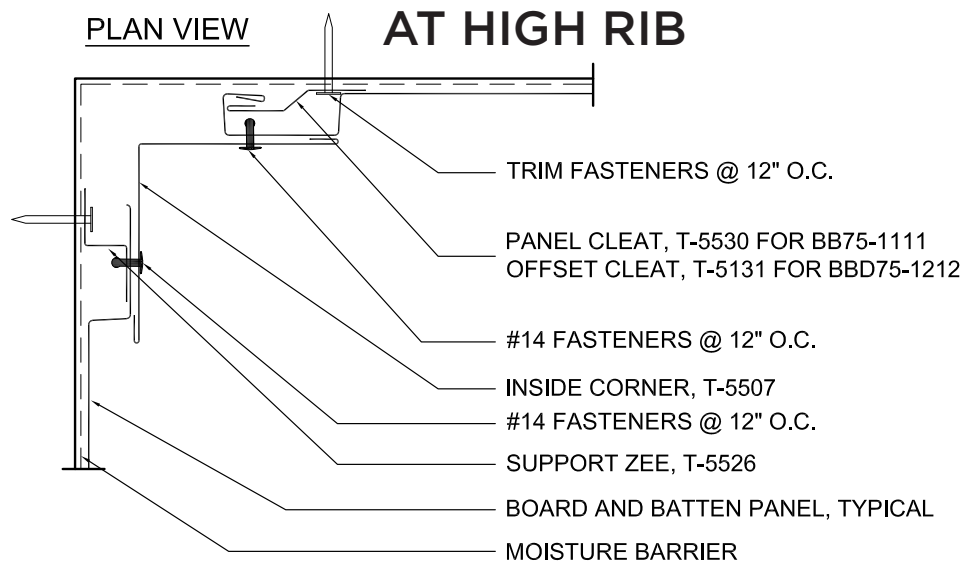


NOTE:
INSTALL SUPPORT ZEE WITH
COLOR SIDE FACING THE EXTERIOR.

FASTENERS, UNLESS NOTED:
- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

NO FASTENERS THROUGH TRIM LAP

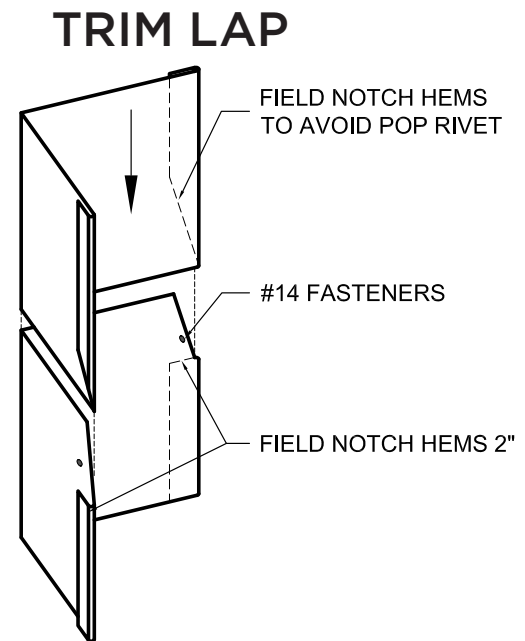
INSIDE CORNER - VERTICAL PANELS



NOTE:
INSTALL SUPPORT ZEE WITH
COLOR SIDE FACING THE EXTERIOR.

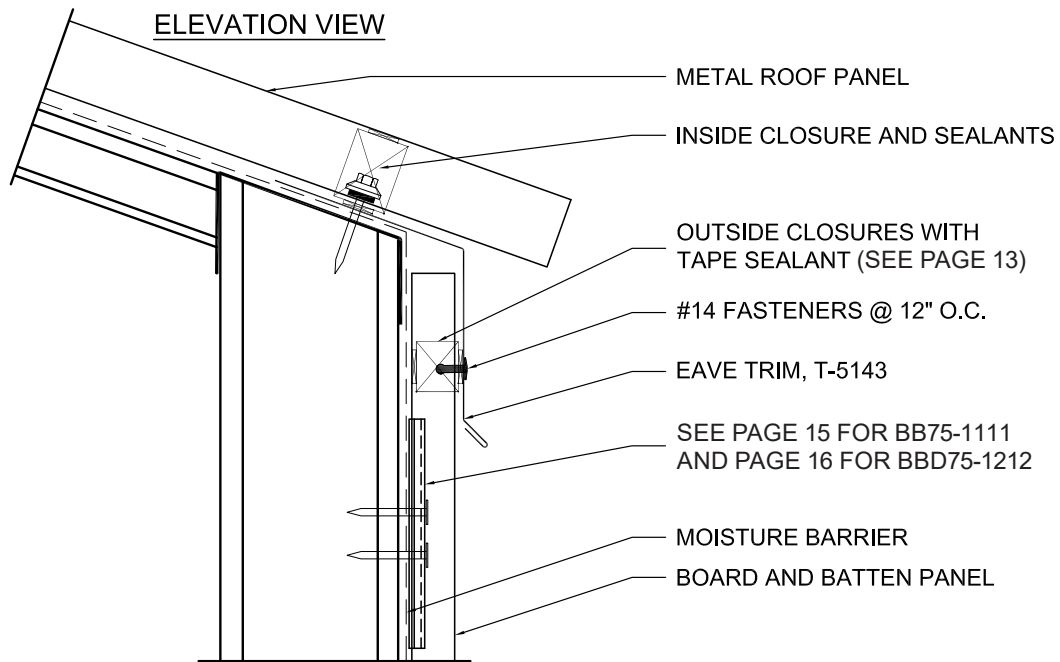
FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

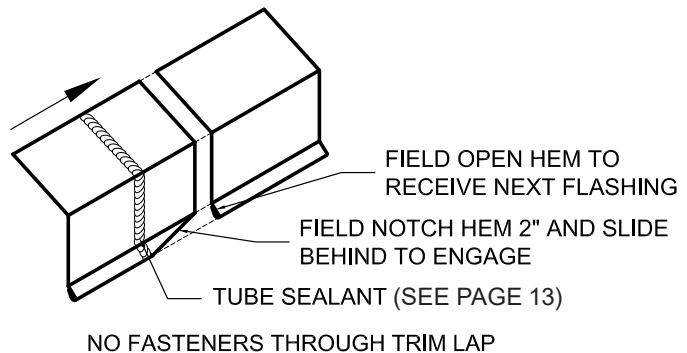


NO FASTENERS THROUGH TRIM LAP

EAVE - VERTICAL PANELS



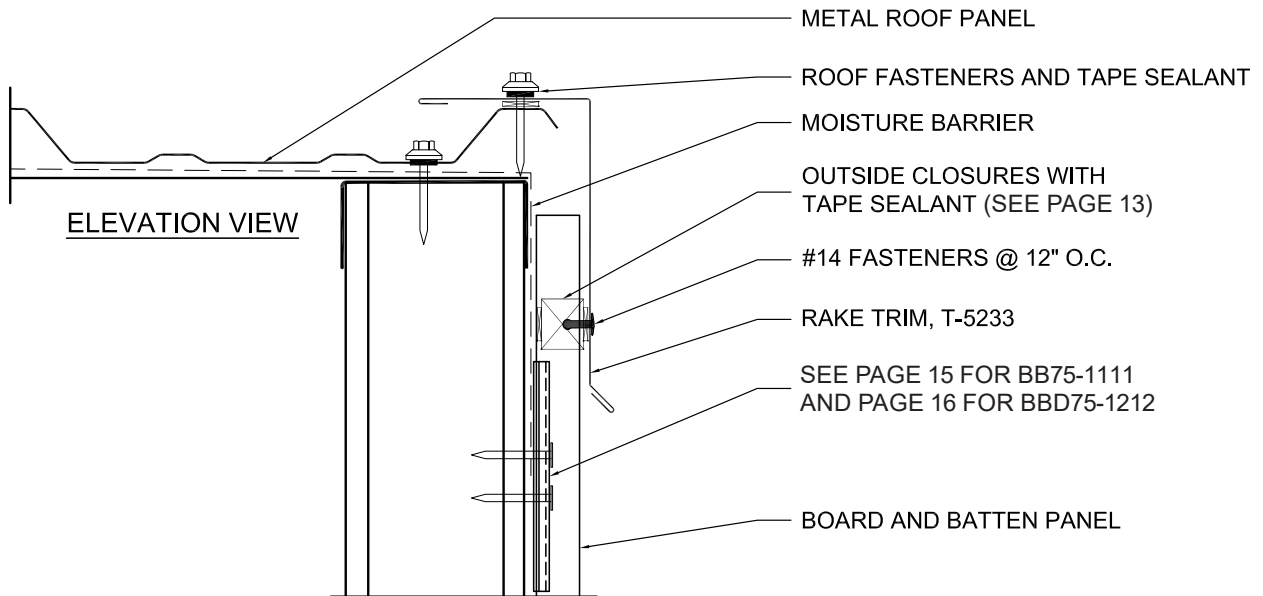
TRIM LAP



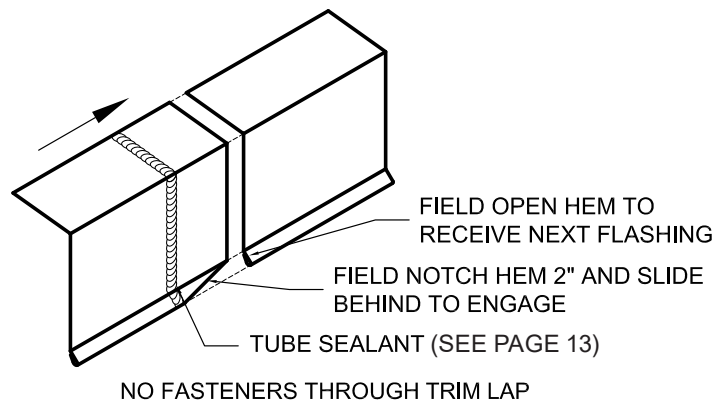
FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

RAKE - VERTICAL PANELS



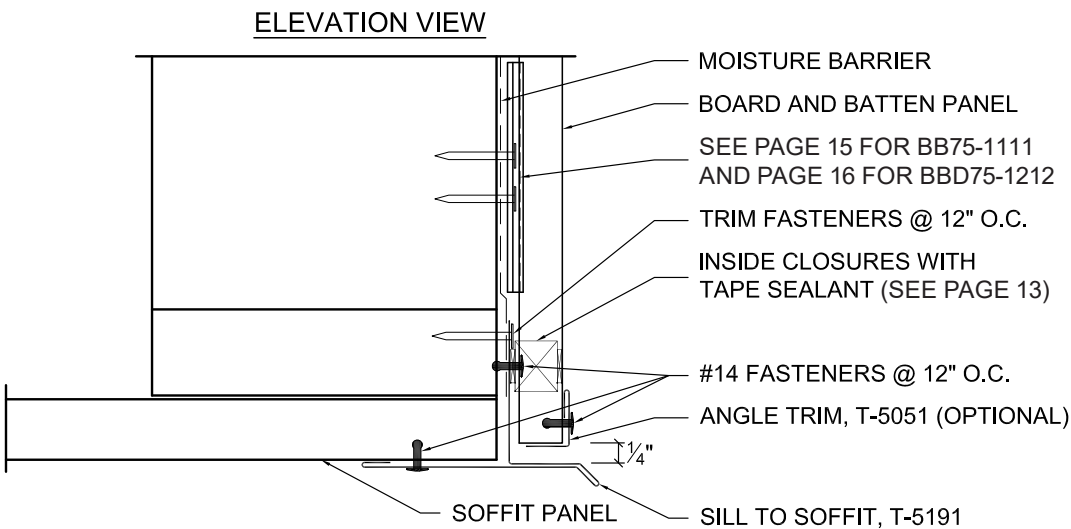
TRIM LAP



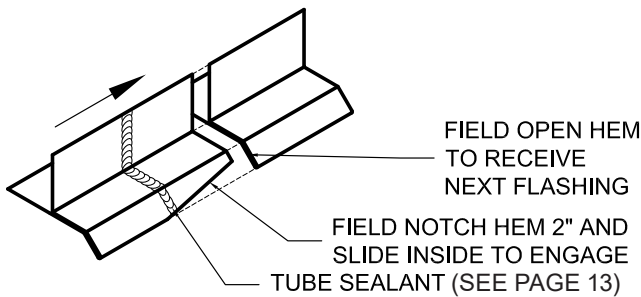
FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

SILL TO SOFFIT - VERTICAL PANELS



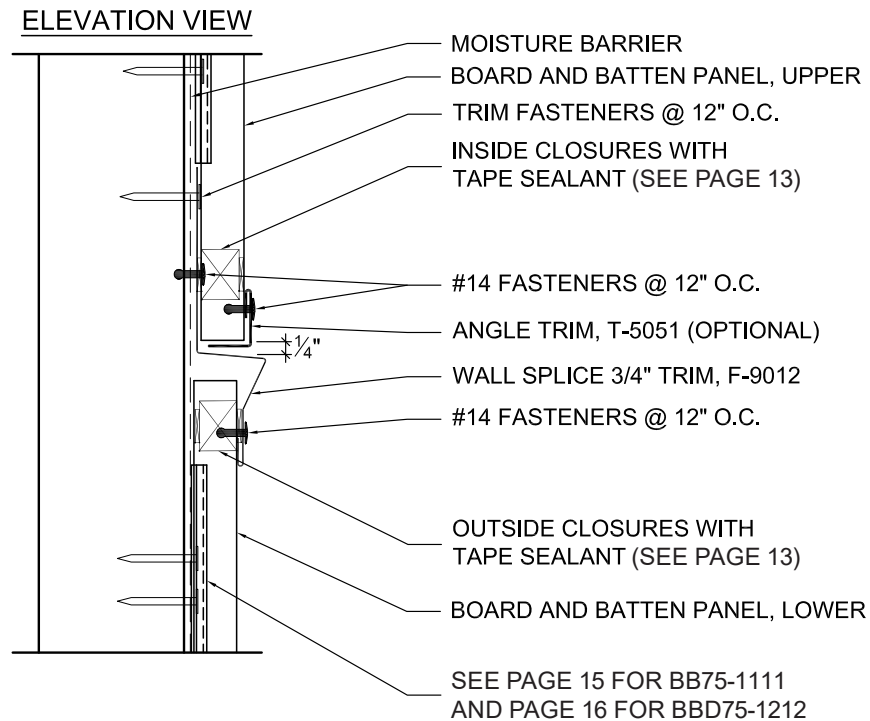
TRIM LAP



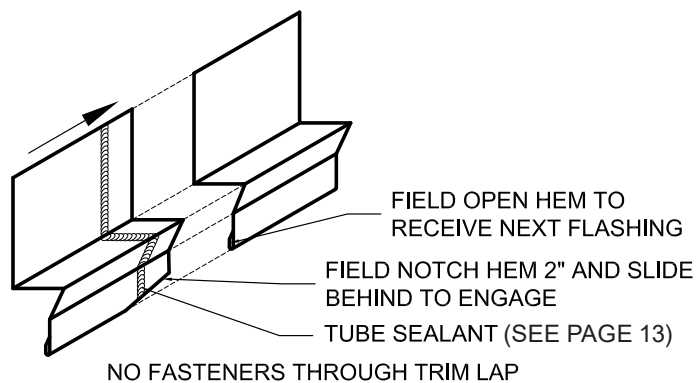
NO FASTENERS THROUGH TRIM LAP

FASTENERS, UNLESS NOTED:
- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

TRANSITION - VERTICAL PANELS



TRIM LAP

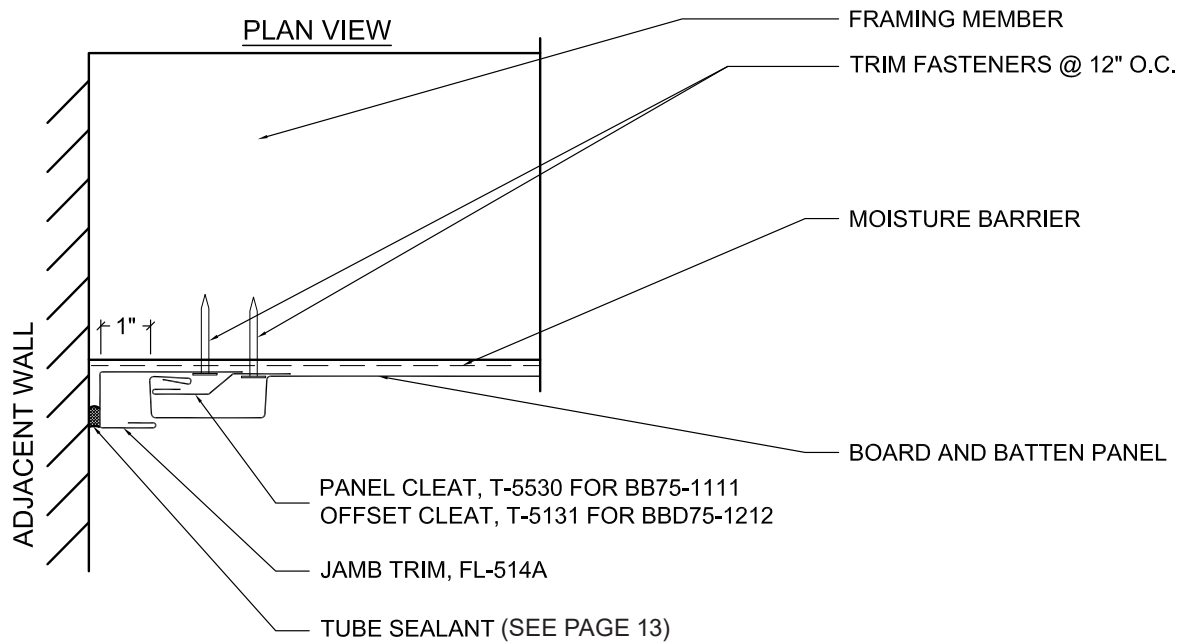


FASTENERS, UNLESS NOTED:

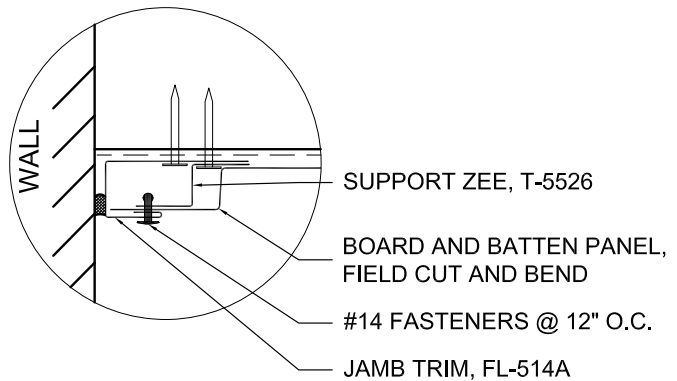
- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

TERMINATION - VERTICAL PANELS

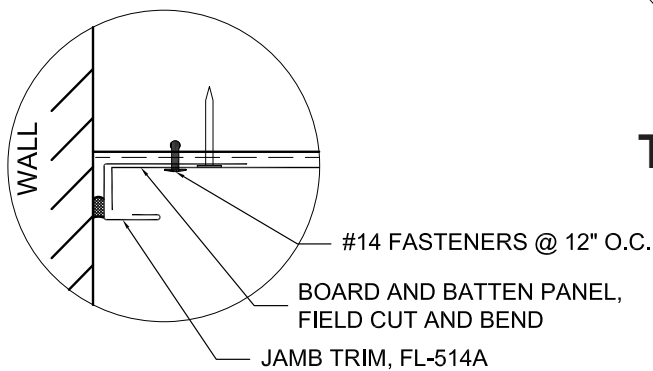
ON MODULE



AT HIGH RIB



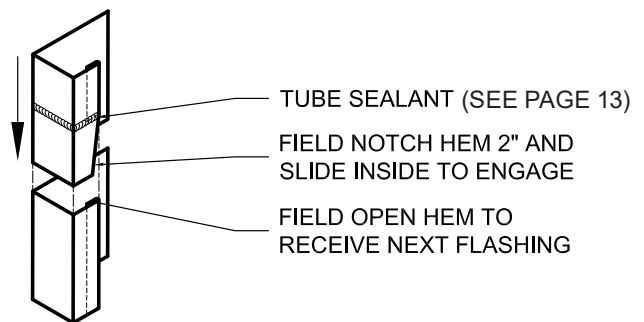
AT LOW RIB



FASTENERS, UNLESS NOTED:

- FOR WOOD SUPPORT MEMBERS, USE #13.
- FOR STEEL SUPPORT MEMBERS, USE #12.

TRIM LAP



NO FASTENERS THROUGH TRIM LAP

NOTES

[illegible]



OUR PORTFOLIO OF METAL SOLUTIONS BRANDS

