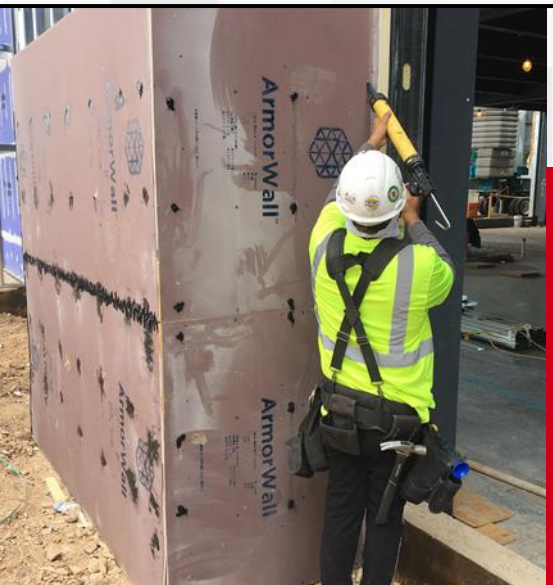
MAXLIFE
INDUSTRIES
INNOVATING THE
BUILDING ENCLOSURE

ARMORWALL PLUS SYSTEM INSTALLATION MANUAL



ArmorWall Plus
Fire-Rated Structural Insulated Sheathing™

1-844-MAX4YOU
www.MaxLifeIndustries.com

Rev 1-21

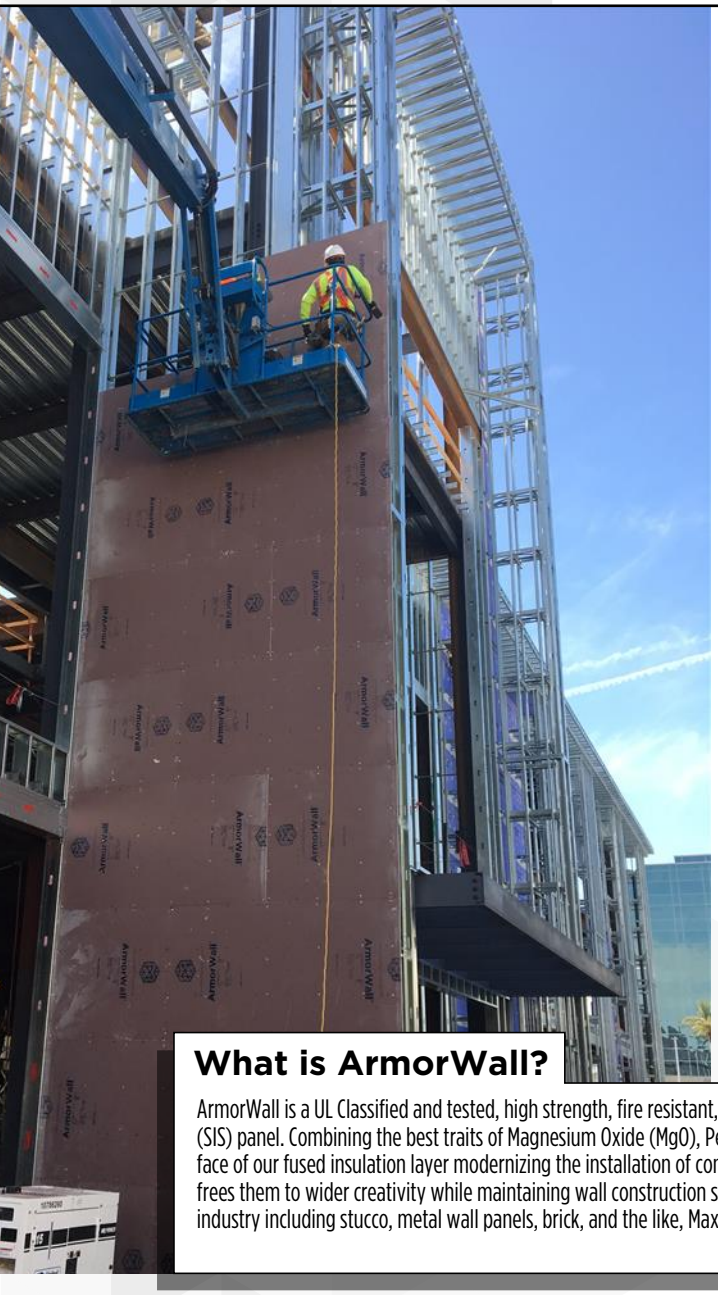


Table of Contents

Page	Title
3	Introduction and Table of Contents
4	Brief Introduction to the ArmorWall Series
5	Brief Introduction to ArmorWall System Components
6	Brief Introduction to ArmorWall System Screws
7	Screw Use Tables
8	Delivery, Storage, and Handling
9	Documentation and Personal Protective Equipment
10	Recommended Jobsite Tools
11	Structure Inspection Prior to Installation
12	Recommended Fastening Patterns
13	Panel Attachment to Steel Stud Frame
14	Panel Attachment to Wood Stud Frame
15	Panel Attachment to Cast-In-Place Concrete or CMU
16	Panel Attachment at the Top of the Panel
17	Panel Attachment at the Bottom of the Panel
18	Panel Attachment at the Bottom of the Panel: Transition to ArmorWall BG
19	Panel Attachment at the Bottom of the Panel: Transition to Traditional Below Grade
20	Capping the Panel Edge
21	Punched Opening Method 1: Affixed Panel
22	Punched Opening Method 2: Unaffixed Panel
23	Punched Opening Method 3: Measured Panel
24	Dos and Don'ts
25	Dos and Don'ts Continued
26	Inside and Outside Corners
27	Inside and Outside Corners Continued
28	Punched Opening Returns Option 1: Full Depth
29	Punched Opening Returns Option 2: Panel Depth
30	Sealing Fasteners
31	Sealing Corners and Field Seams: Gunnable Sealant Option
32	Sealing Corners and Field Seams: Gunnable Sealant Option Continued
33	Sealed Punched Opening
34	Sealing Gaps up to 1/8"
35	Sealing Gaps Greater Than 1/8" to 3/4"
36	Sealing Expansion Joints
37	Sealing Punched Opening Sill with Full Depth Return
38	Types of Returns: Full Depth Return with Liquid Sill Flashing
39	Types of Returns: FRT Blocking Return with Liquid Flashing
40	Types of Returns: Panel Depth Return with Liquid Flashing
41	Types of Returns: Panel Depth Return with Self-Adhered Flashing
42	Types of Returns: Self-Adhered Return with FRT Blocking
43	Types of Returns: Metal Return with Liquid Flashing
44	Typical Penetrations
45	Typical Penetrations with Target Patch
46	Typical Penetrations with ArmorWall Block
47	Typical Penetrations with ArmorWall Block Continued
48	Cladding Attachment to ArmorWall

What is ArmorWall?

ArmorWall is a UL Classified and tested, high strength, fire resistant, exterior/interior insulated wall sheathing product, commonly referred to as a Structural Insulated Sheathing (SIS) panel. Combining the best traits of Magnesium Oxide (MgO), PermaBase Board, and polyurethane insulation, MaxLife's technology fuses a structural element to the exterior face of our fused insulation layer modernizing the installation of commercial and residential wall assemblies. This innovation allows the designer to re-implement legacy design or frees them to wider creativity while maintaining wall construction speed, efficiency, and code compliance. Through rigorous testing and using many common finish elements in the industry including stucco, metal wall panels, brick, and the like, MaxLife is able to bridge the gap commonly found in keeping with continuous insulation (ci) compliance.

NFPA 285 Approved

Fully passed the NFPA 285 on its own without a required cladding on the front. This allows most UL tested, listed, and approved exterior finishes to qualify as part of the complete wall assembly.

Fusion Technology

Each panel is manufactured using patented fusion technology bestowing unique properties to ArmorWall. Lamination not being party to the process allows a smooth foam backing.

Cladding

Claddings, ranging from Brick to Rainscreens, and their attachment systems can directly fasten to the MgO outer layer of ArmorWall, typically not having to fasten to the substrate below the system. This eliminates the need for complicated furring/sub-furring details as well as removes trade and scope overlap.

Thermal Control Layer

The insulating layer comprised of foam insulation is fused to the structural sheathing element which provides ease of use when conforming to the continuous insulation requirements in evolving building codes. The thermal layer is offered in a few standard thicknesses to meet the project required R-Values.

Water Control Layer

Armorwall passes the tests as a weather resistive barrier for pressure totaling two hours. Once the fasteners and seams have been sealed the structure is considered dried-in and interior construction may commence.

Air Control Layer

When properly sealed using ArmorSeal™ Sealant application at all seams and fasteners, the factory-coated panels meet the IBC requirements for an air barrier assembly without the need for additional materials.

Structural Sheathing

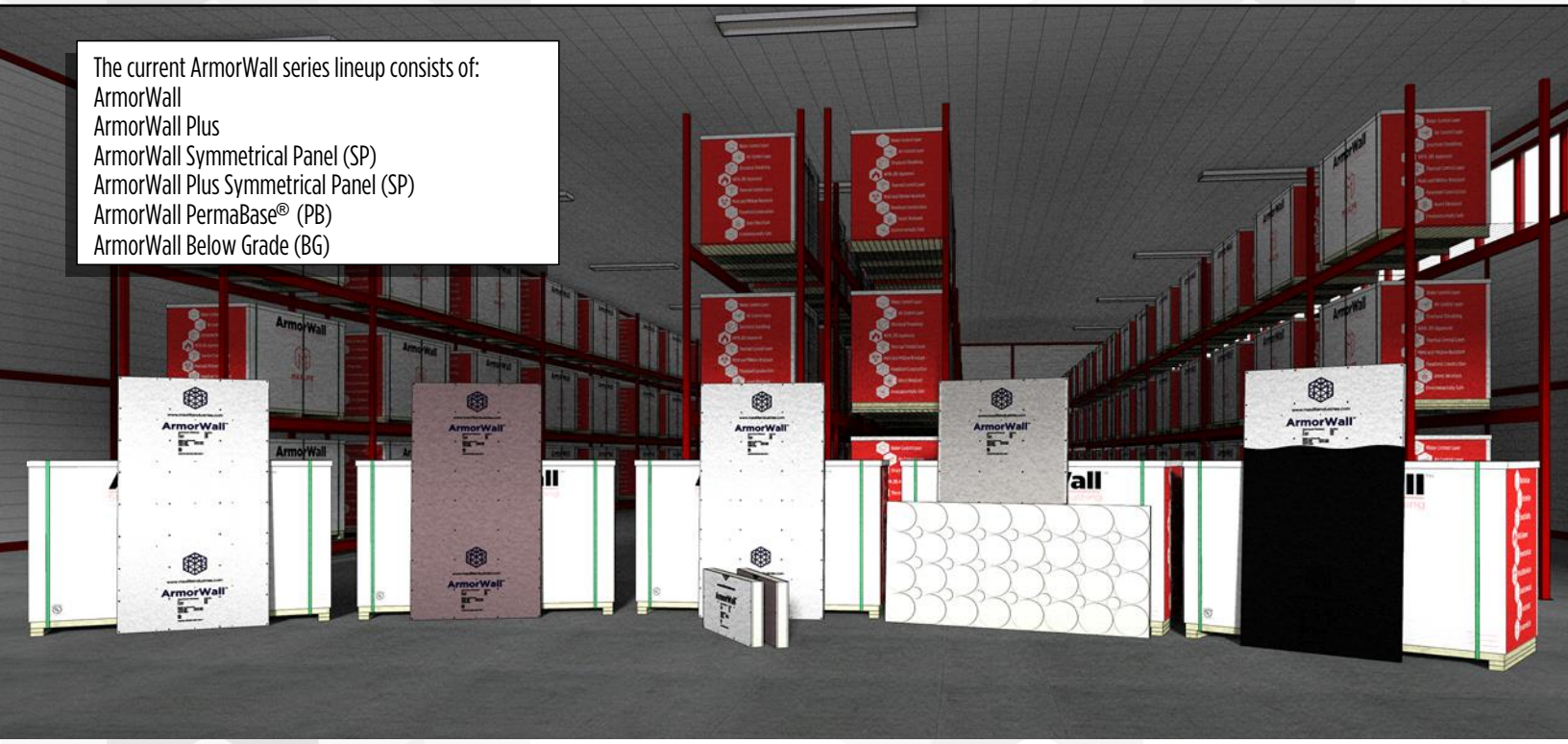
Thanks to the fusion technology and the elements of which ArmorWall is comprised, the structural strength of the panel allows direct attachment for cladding to the panel without the requirement of pin-pointing the studs.

Panelized Construction

ArmorWall is ideal for handling the stress of factory-built wall assembly manufacturing process including movement within the facility, deflection during transportation, and racking during wall erection. Self-adhered membranes have tremendous adhesion to the ArmorWall surface.

Mold and Mildew Resistant

No paper facings exist within the assembly to promote any biological growth.



The current ArmorWall series lineup consists of:
ArmorWall
ArmorWall Plus
ArmorWall Symmetrical Panel (SP)
ArmorWall Plus Symmetrical Panel (SP)
ArmorWall PermaBase® (PB)
ArmorWall Below Grade (BG)

ArmorWall
Fire-Rated Structural Insulated Sheathing™

ArmorWall SP
Fire-Rated Structural Insulated Sheathing™
Symmetrical Panel

ArmorWall PB
Fire-Rated Structural Insulated Sheathing™
PermaBase®

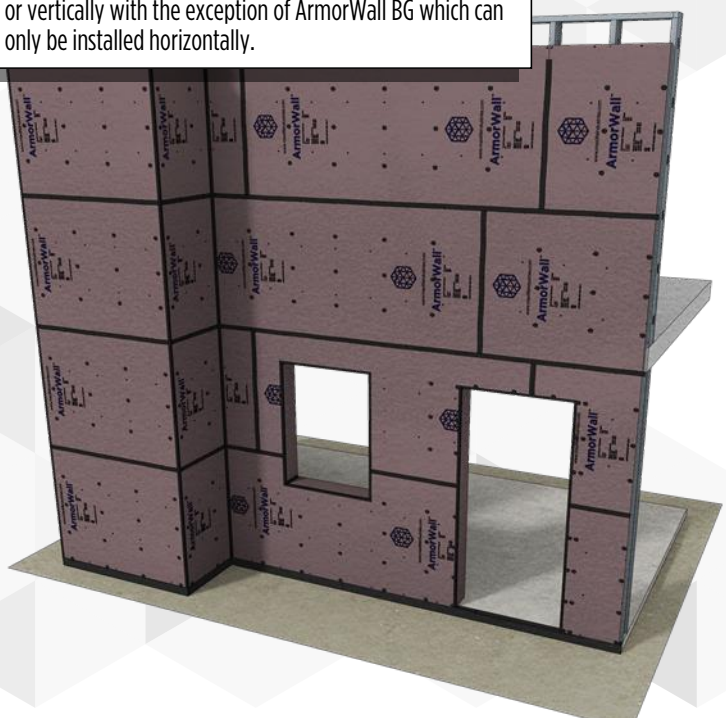
ArmorWall Plus
Fire-Rated Structural Insulated Sheathing™

ArmorWall SP Plus
Fire-Rated Structural Insulated Sheathing
Symmetrical Panel

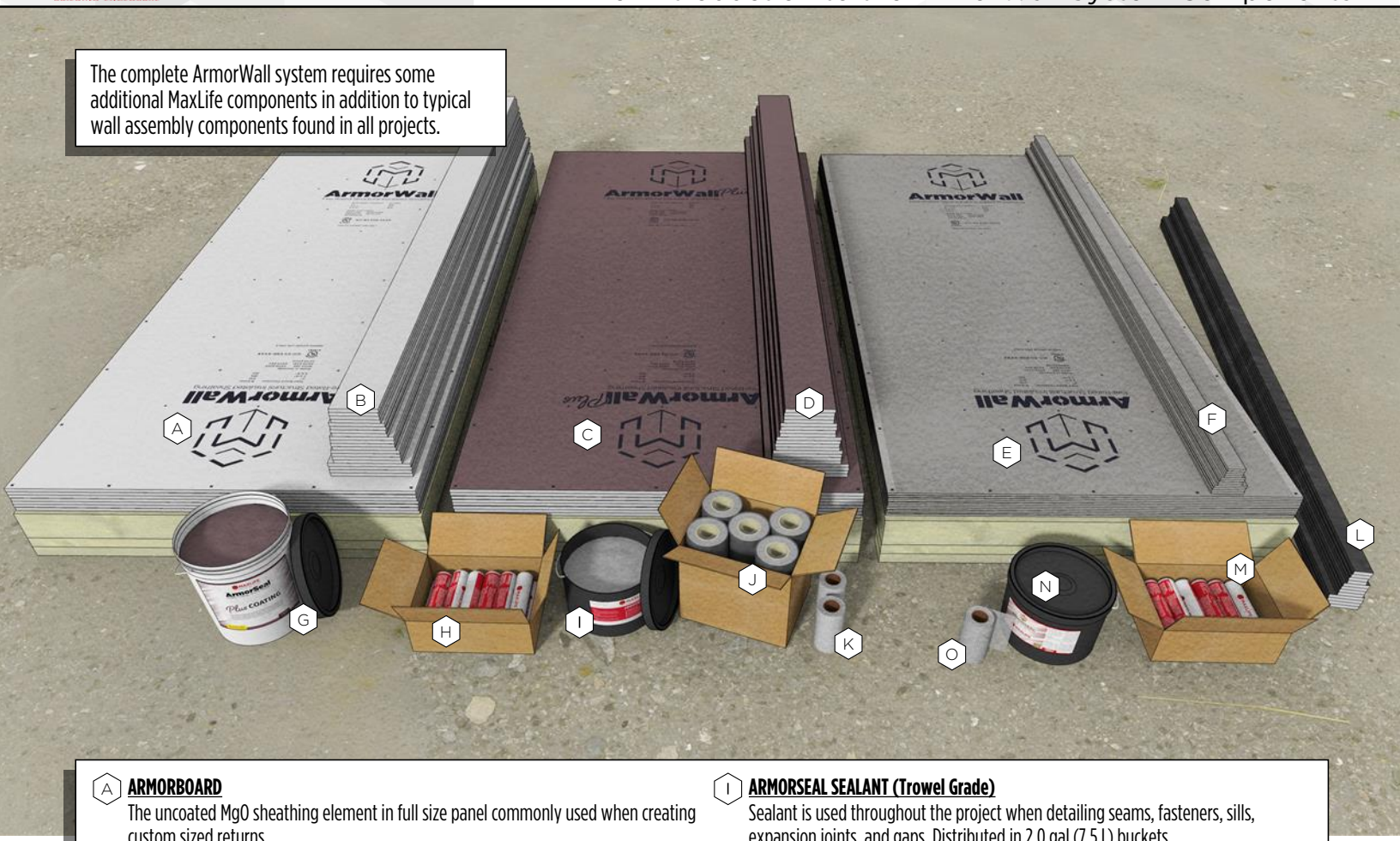
ArmorWall BG
Fire-Rated Structural Insulated Sheathing™
Below Grade

INSTALLATION ORIENTATION

All versions of ArmorWall can be installed both horizontally or vertically with the exception of ArmorWall BG which can only be installed horizontally.



The complete ArmorWall system requires some additional MaxLife components in addition to typical wall assembly components found in all projects.



A **ARMORBOARD**
The uncoated MgO sheathing element in full size panel commonly used when creating custom sized returns.

B **ARMORBOARD RETURN**
Uncoated returns come in standard depths of 5 5/8", 6 3/8", 7 3/8", 8", 8 3/4", and 9 3/4". Returns are cut down on site to be used for punched openings and complex penetrations.

C **ARMORBOARD PLUS**
The MgO sheathing element in full size panel commonly used when creating custom sized returns in ArmorWall Plus wall assemblies. ArmorBoard Plus is factory-coated with ArmorSeal Plus Coating.

D **ARMORBOARD PLUS RETURN**
Factory-coated with ArmorSeal Plus Coating coated, returns come in standard depths of 5 5/8", 6 3/8", 7 3/8", 8", 8 3/4", and 9 3/4". Returns are cut down on site to be used for punched openings and complex penetrations.

E **ARMORWALL PB BOARD**
The PermaBase sheathing element in full size panel commonly used when creating custom sized returns in ArmorWall PB wall assemblies.

F **ARMORWALL PB RETURN**
ArmorWall PB Returns come in standard depths of 2", 2 3/4", and 3 3/4". Returns are cut down on site to be used for punched openings and complex penetrations.

G **ARMORSEAL PLUS COATING**
This premium air/water resistive barrier scientifically engineered for use with MgO board, when not factory-applied to ArmorWall Plus, is often used for on-site touchups or as part of material transition flashing with embedded reinforcement mesh.

H **ARMORSEAL SEALANT (Gunnable Grade)**
Sealant is used throughout the project when detailing seams, fasteners, sills, expansion joints, and gaps. Distributed in 20 oz (591 ml) sausage tubes.

I **ARMORSEAL SEALANT (Trowel Grade)**
Sealant is used throughout the project when detailing seams, fasteners, sills, expansion joints, and gaps. Distributed in 2.0 gal (7.5 L) buckets.

J **ARMORSEAL 6" AND 9" FLASHING**
Breathable self-adhered air/water barrier membrane used above grade to seam open joint cladding from extended UV exposure.

K **ARMORSEAL MESH REINFORCEMENT**
Non-woven polyester fabric reinforcement is embedded in ArmorSeal Plus Coating as part of material transition flashing.

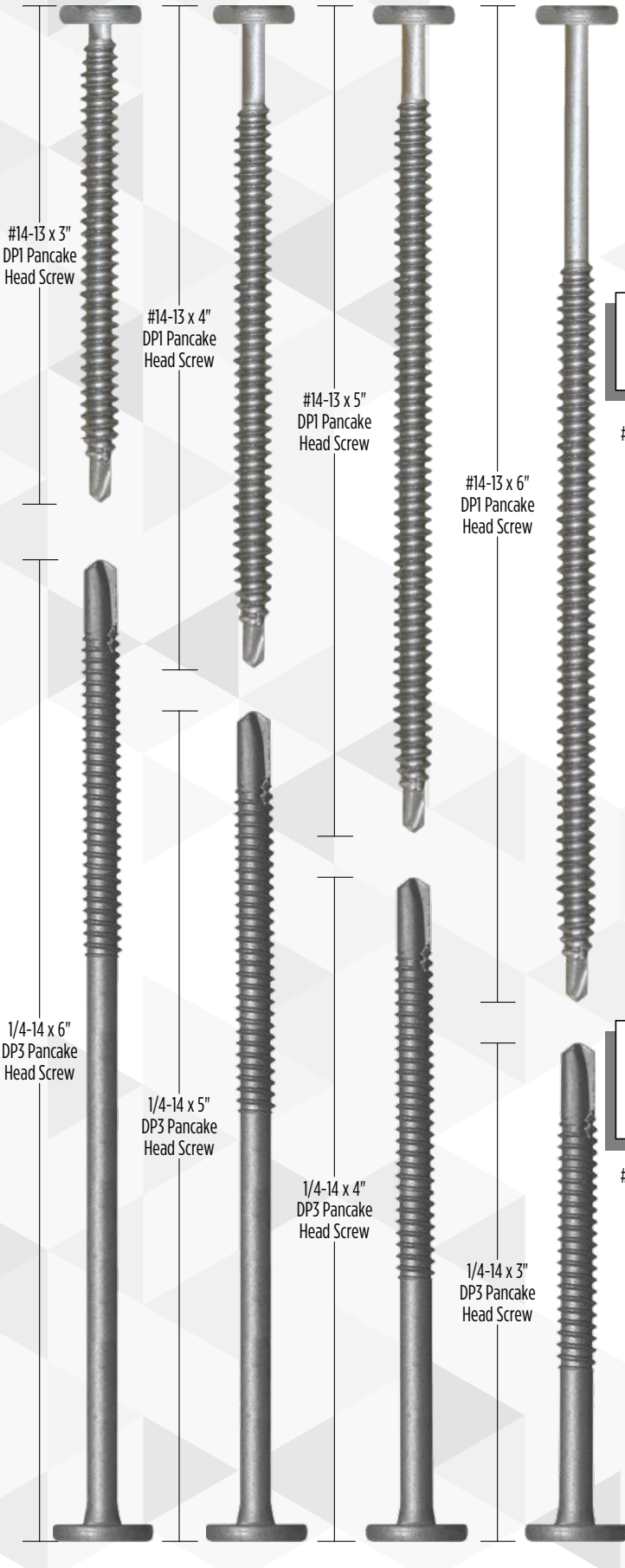
BELOW GRADE PRODUCTS

L **ARMORBOARD BG RETURN**
Factory-coated with ArmorSeal BG Coating, these returns come in standard depths of 2", 2 3/4" and 3 3/4". ArmorBoard BG Returns are used to cap the ends when ArmorWall BG is cut down to a custom size.

M **ARMORSEAL BG SEALANT (Gunnable Grade)**
ArmorSeal BG Sealant is used throughout the project when detailing below grade seams, fasteners, gaps, touchups or as part of material transition flashing with embedded mesh reinforcement. Distributed in 20 oz (591 ml) sausage tubes.

N **ARMORSEAL BG SEALANT (Trowel Grade)**
The trowel grade version of the ArmorSeal BG Sealant is used throughout the project when detailing seams and corner applicatins. Distributed in 3.50 gal (13.24 L) pails.

O **ARMORSEAL BG MESH REINFORCEMENT**
Woven polyester reinforcement used in below grade three course seaming.



The #10-9 and #10-13 pancake head low profile head fasteners have been successfully tested to attach exterior cladding to the face of the ArmorWall panel.

#2 Square Recess Drive

#10-13 x 2" Coated Pancake Head Screw

#10-13 x 1-1/2" Stainless Steel Pancake Head Screw

The DP1 screw is primarily used when affixing ArmorWall to the structure whether light gauge metal, wood, or concrete/CMU.

#2 Square Recess Drive

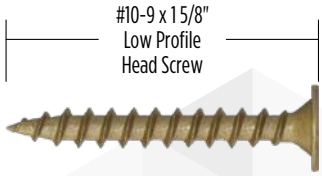
#10-13 x 1-1/2" Coated Pancake Head Screw

The #10-9 ultra low profile head fasteners are best used when not attaching steel clips or anchors. This includes wood furring strips or similar compression material.

#2 Square Recess Drive

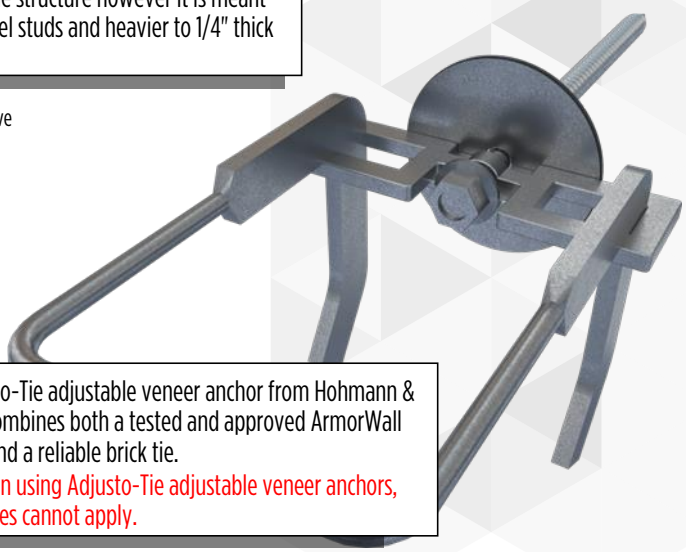
#10-9 x 2 1/8" Low Profile Head Screw

#10-9 x 1 5/8" Low Profile Head Screw



Similarly to the DP1, the DP3 is used for affixing ArmorWall to the structure however it is meant for 18 gauge steel studs and heavier to 1/4" thick steel members.

#3 Square Recess Drive



The Adjusto-Tie adjustable veneer anchor from Hohmann & Barnard combines both a tested and approved ArmorWall fastener and a reliable brick tie.
Note: When using Adjusto-Tie adjustable veneer anchors, shear values cannot apply.

ArmorWall Cladding Attachment: Screw Use Table

Cladding Material Connection Type	Concealor ULP	Concealor Pancake Head	Stainless Drywall Screw
RainScreen Clips (metal)			
RainScreen Clips (composite)			
Metal Stand-off Channels			
Wood Furring Strips			
IQBrick Panels			
DW-10 Brick Anchors			
Window/Door Returns			
ArmorWall Board			

*Do NOT use impact drivers to install cladding attachments to ArmorWall panels. Use torque control variable speed driver. Most common setting control is (11) for torque.

Structure Key	
Concrete	
Wood / Steel /Concrete	
Wood / Steel Studs (18 gauge* and lighter)	
Steel Studs (18 gauge* and heavier to 1/4" Steel)	

*Installers may use either DP1 or DP3 screws when using 18 gauge steel.

ArmorWall Sheathing Attachment to Substrate: Screw Use Table

	Concealor DP-1 3"	Concealor DP-1 4"	Concealor DP-1 5"	Concealor DP-1 6"	Concealor DP-3 3"	Concealor DP-3 4"	Concealor DP-3 5"	Concealor DP-3 6"
ArmorWall Fire-Rated Structural Insulated Sheathing™								
2"								
2 3/4"								
3 3/4"								
ArmorWall Plus Fire-Rated Structural Insulated Sheathing™								
2"								
2 3/4"								
3 3/4"								
ArmorWall SP Fire-Rated Structural Insulated Sheathing™ Symmetrical Panel								
2 3/4"								
3 3/4"								
4 1/4"								
ArmorWall SP Plus Fire-Rated Structural Insulated Sheathing Symmetrical Panel								
2 3/4"								
3 3/4"								
4 1/4"								
ArmorWall PB Fire-Rated Structural Insulated Sheathing™ PermaBase®								
2"								
2 3/4"								
3 3/4"								
ArmorWall BG Fire-Rated Structural Insulated Sheathing™ Below Grade								
2"								
2 3/4"								
3 3/4"								

*Use a 3/16" bit when pre-drilling holes for concrete structure applications.

Delivery

ArmorWall products are delivered in wrapped, protected 48"x96"x60"pallets via dry van or flatbed. ArmorWall panels vary in weight; an approximate pallet weight of 3,000 pounds can be used for load calculations.

Delivery locations with dock access will receive dry vans that can be unloaded with a drive-in forklift. Dry vans contain pallets loaded lengthwise or widthwise and require fork extensions to unload.

Delivery locations without dock access, such as project sites, will receive fully tarped flat beds on a specialty basis.

FLATBED TRUCK CAPACITIES
Flat beds are 48'-53' long with all side access. Capacity of 10-12 pallets. Flat bed transportation must use rigid corner protectors.

DRY VAN TRUCK CAPACITIES
Dry vans are 53' long with 102" wide door openings. Capacity of 12 pallets.

Contractors Tip:

ArmorWall Thickness	Panels per Truck	Coverage in Square Feet
2" ArmorWall (R10)	360	11,520
2 3/4" ArmorWall (R15)	264	8,448
3 3/4" ArmorWall (R21)	192	6,144

Storage

ArmorWall should be stored off the ground and in original shipment condition until ready for installation. Do not stack pallets. Pallets should be covered by a breathable tarp while at the project site. Avoid ground contact or continuous exposure to moisture and direct sunlight.

Handling

ArmorWall can be cut and installed using standard job site hand tools. When being cut to size, avoid breathing dust and minimize contact with eyes. Some skinning and direct coloration of the insulation edges is normal if exposed to UV light prior to installation; however, this does not affect the performance of the panel. Some cupping of the panel is expected during shipment and can be rectified during installation by beginning installation from the center of the panel and working outward per the fastener standard of the designed application.

Documentation

Always read necessary project documentation, product installation manuals, data sheets, and safety data sheets prior to commencement of work. You can find all current MaxLife Industries product information on the website www.MaxLifeIndustries.com.

Recommended Personal Protective Equipment

- A CONSTRUCTION SAFETY HELMET (HARD HAT)
- B SAFETY GLASSES/GOGGLES
- C DUST MASK
- D HIGH VISIBILITY SAFETY APPAREL
- E PROTECTIVE GLOVES

ArmorWall does not require specialized tools not commonly found on construction projects.

A **RECIPROCATING SAW**
May be used when cutting penetration or punched openings with an affixed panel.

B **CIRCULAR SAW**
May be used when performing cuts to panels for punched holes or when cutting panel to size.

C **HAMMER DRILL**
May be used when pre-drilling concrete/CMU walls.

D **SPEED SQUARE TOOL**
Recommended when marking panels and components for necessary cuts to maintain accuracy.

E **SCREW GUN**
Installation of both the ArmorWall panels and cladding to the panels throughout the project using a 2,000 RPM screw-gun with torque control. Do not use impact tools with ArmorWall.

F **SAUSAGE GUN**
May be used as an applicator of gunnable grade ArmorSeal Sealant at seams and fasteners.

G **ROTOZIP**
May be used when preparing panels for outside corner joints or otherwise notching the foam components within ArmorWall panels.

H **JIGSAW**
May be used when preparing panels for penetrations or otherwise notching the panel for regular and irregular shapes.

I **LEVEL**
Recommended to check levels throughout the projects and useful when marking long straight lines.

J **ANGLE GRINDER**
May be used when preparing panels for penetrations or otherwise notching the panel for regular and irregular shapes.

K **CHALK LINE TOOL**
Recommended throughout the project for preparing long precision cuts to the panels.

L **TAPE MEASURE**
Recommended throughout the project for accuracy in preparation for panel layout and panel cuts.

M **PUTTY KNIFE / TROWEL**
N May be used to easily spread sealant when detailing the wall assembly

O **INSULATION KNIFE**
Allows for easy cutting of the foam insulation element of ArmorWall and may be used when dealing with outside corner weaved joints.

P **ROLLER BRUSH**
1/4" nap roller brush may be used as an applicator of trowel grade ArmorSeal Sealant at punched opening sills.

Q **MARKER**
Best used for marking guides on the foam insulation for necessary modifications.

Inspecting the Structure

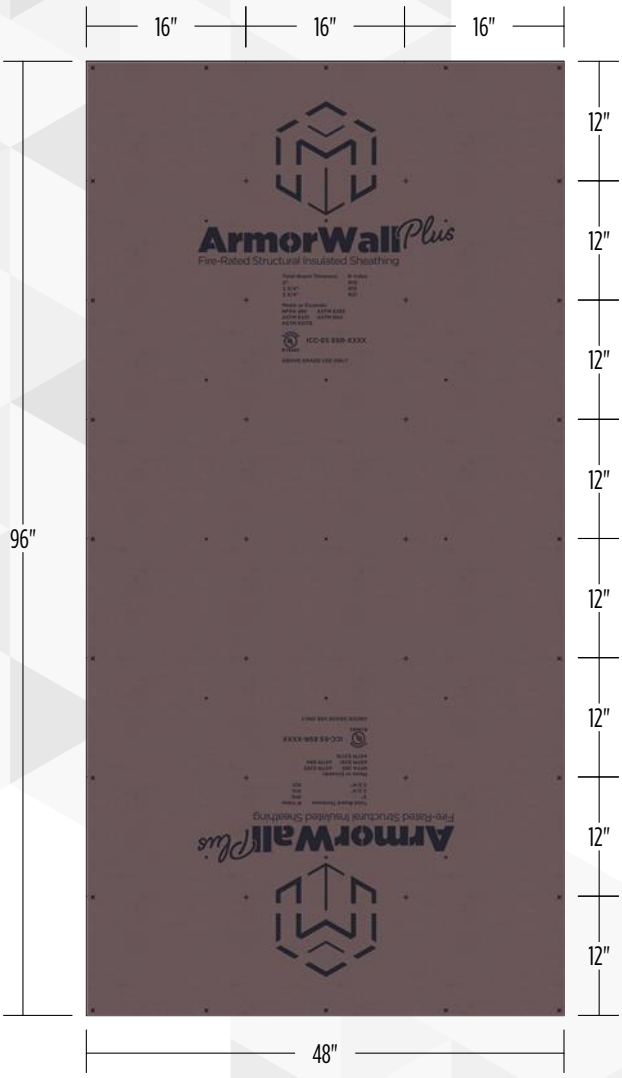
Examination: Verify that the surfaces and conditions are ready to accept ArmorWall. This includes located built-in items and penetrations and ensuring all punched openings are in the correct locations. Any major structural deficiencies should be reported and remedied prior to installation.

Preparation: Protect surrounding areas from any possible damage caused during the installation of the panels. Any examined projections, protruding fasteners, and/or loose foreign matter preventing proper installation should be removed accordingly.

Limitations: Do not install ArmorWall on structure sloped less than 45° (12:12).

Compatible Structures

ArmorWall can be installed to the face of steel studs, wood studs, concrete, and masonry.

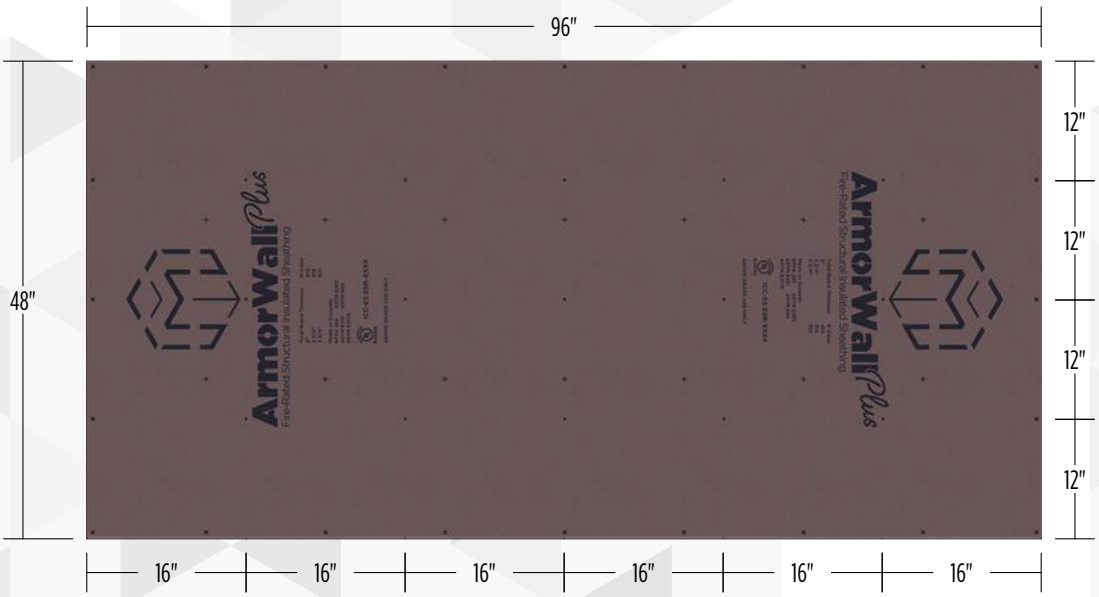


Most panels have a factory-applied fastening pattern directly on the board allowing for quicker installation in both horizontal and vertical orientations. Use the corresponding symbols to the preferred orientation. Usage in high wind zones may require alternate fastening or when appropriate panels are used as shear walls. Follow engineered requirements as necessary for the project.

Vertical Installation Standard Fastener Position Symbol

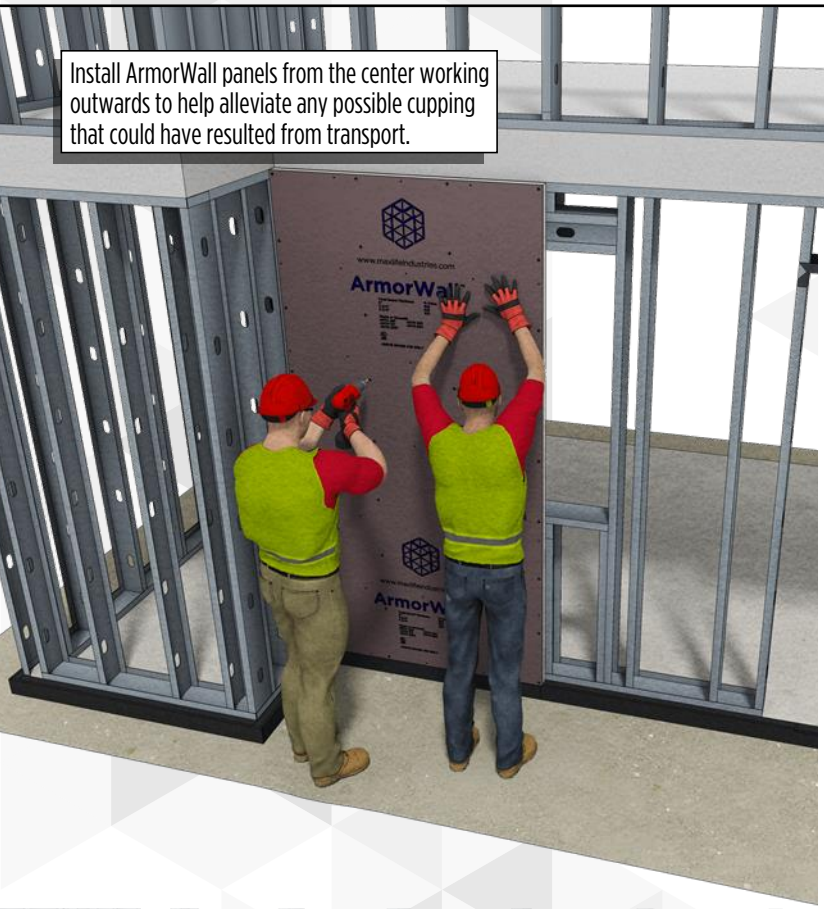
Horizontal Installation Standard Fastener Position Symbol

Vertical and Horizontal Shared Installation Standard Fastener Position Symbol

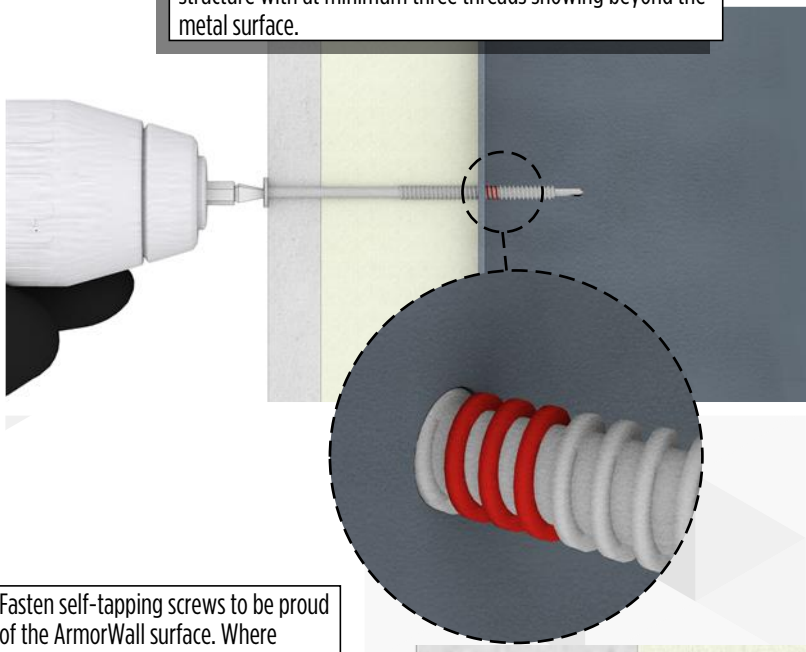


ArmorWall standard panel length is 8'-0" however it is possible to special order 10'-0" panels.

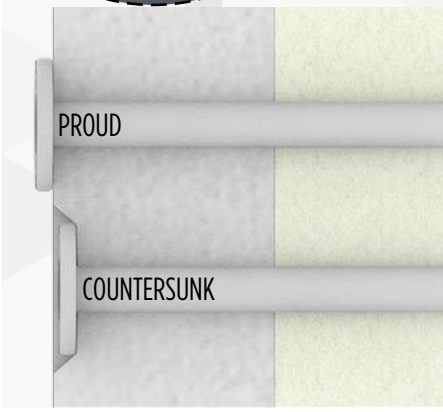
Install ArmorWall panels from the center working outwards to help alleviate any possible cupping that could have resulted from transport.



Each self-tapping screw must penetrate the steel stud structure with at minimum three threads showing beyond the metal surface.



Fasten self-tapping screws to be proud of the ArmorWall surface. Where countersinking the screws is preferred, always use a countersink bit. Do not countersink screws in high wind zones.



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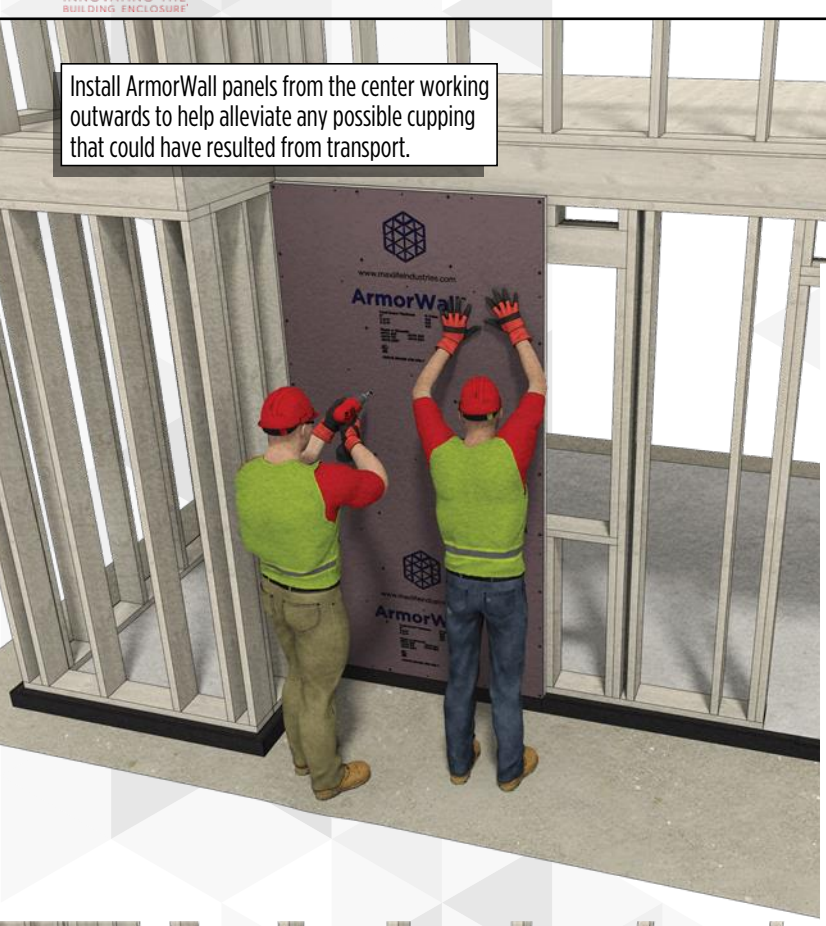
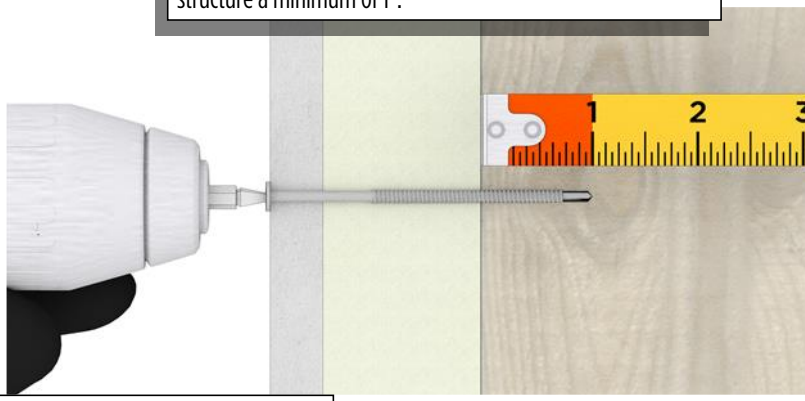
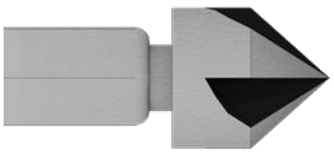
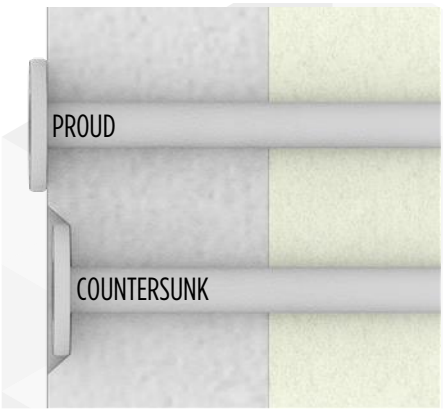


Each #14-13 self-tapping screw must penetrate the wood stud structure a minimum of 1".



Fasten #14-13 self-tapping screws to be proud of the ArmorWall surface. Where countersinking the screws is preferred, always use a countersink bit. Do not countersink screws in high wind zones.





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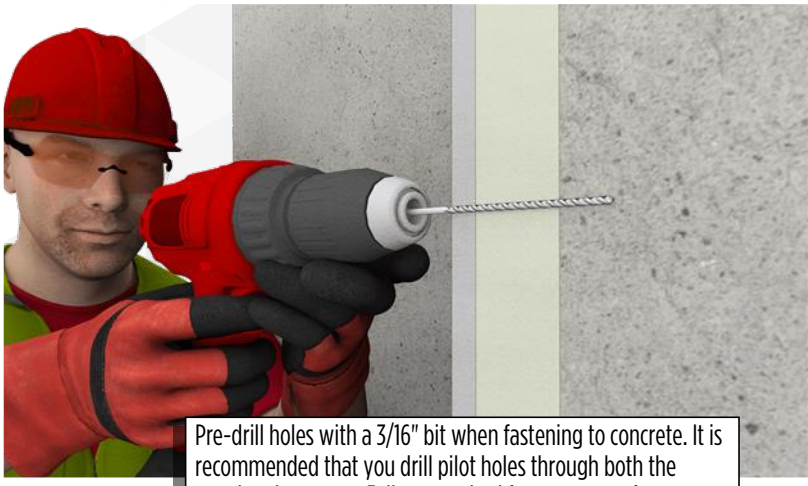
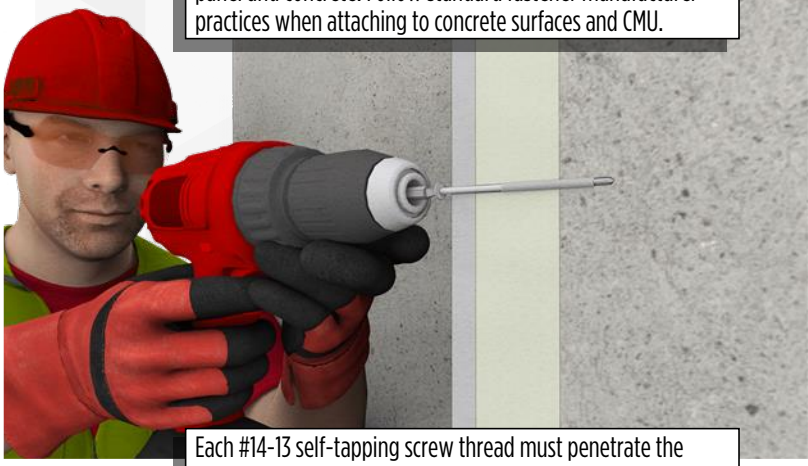
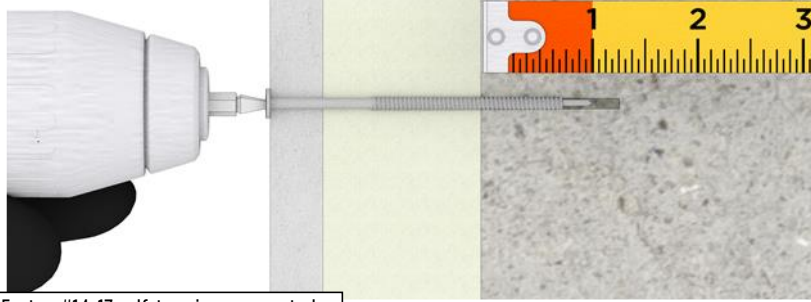


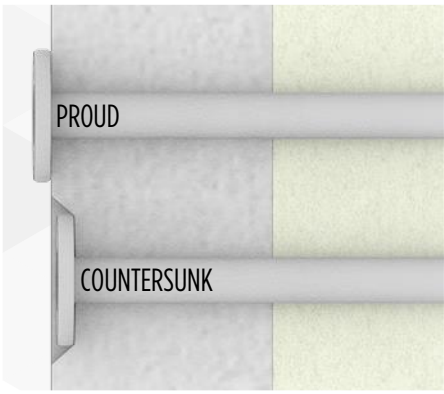
Pre-drill holes with a 3/16" bit when fastening to concrete. It is recommended that you drill pilot holes through both the panel and concrete. Follow standard fastener manufacturer practices when attaching to concrete surfaces and CMU.

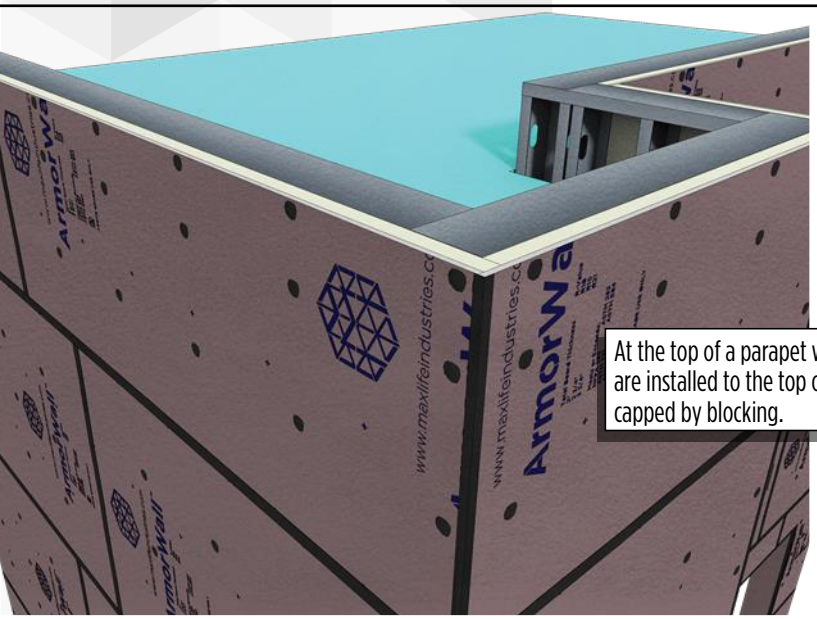


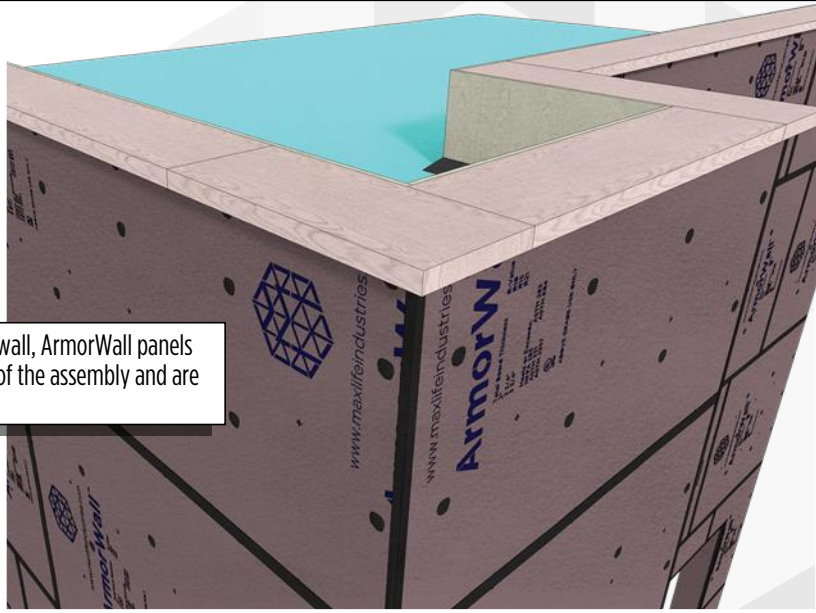
Each #14-13 self-tapping screw thread must penetrate the concrete structure a minimum of 1".



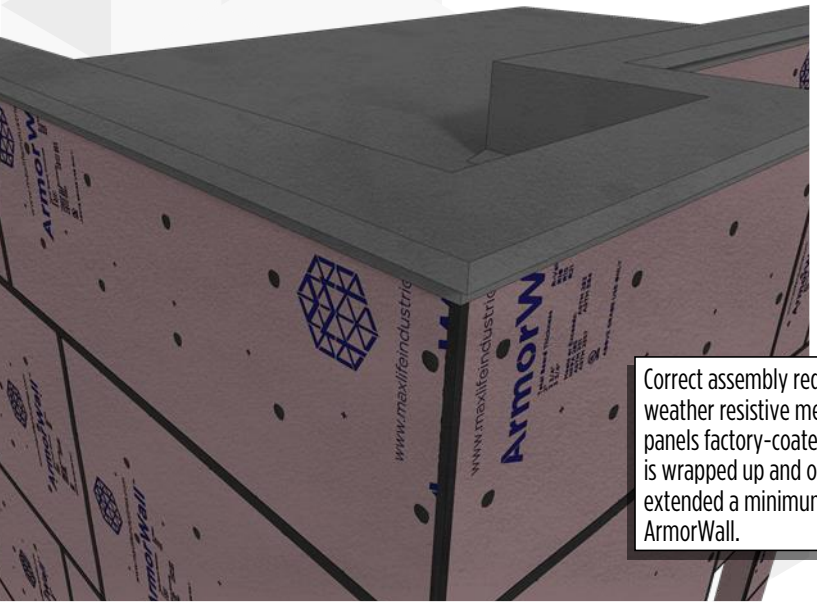
Fasten #14-13 self-tapping screws to be proud of the ArmorWall surface. Where countersinking the screws is preferred, always use a countersink bit. Do not countersink screws in high wind zones.

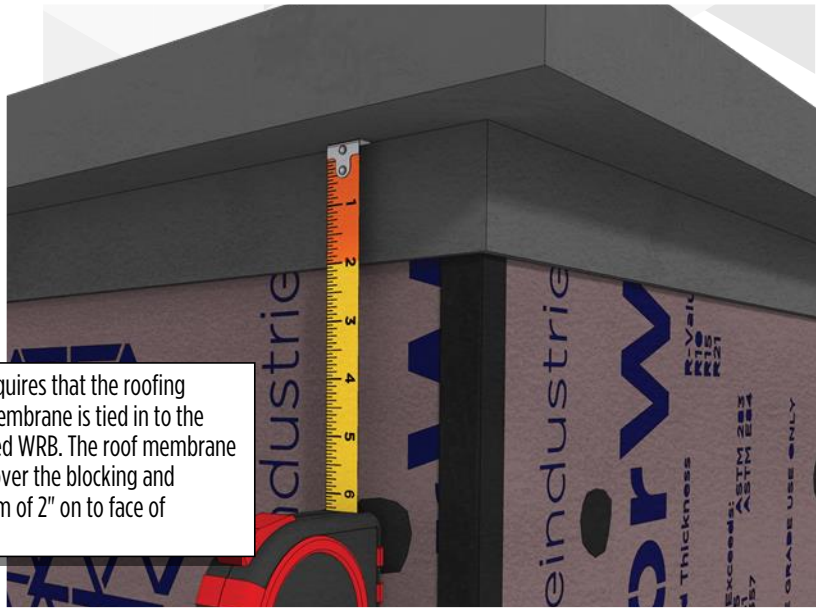






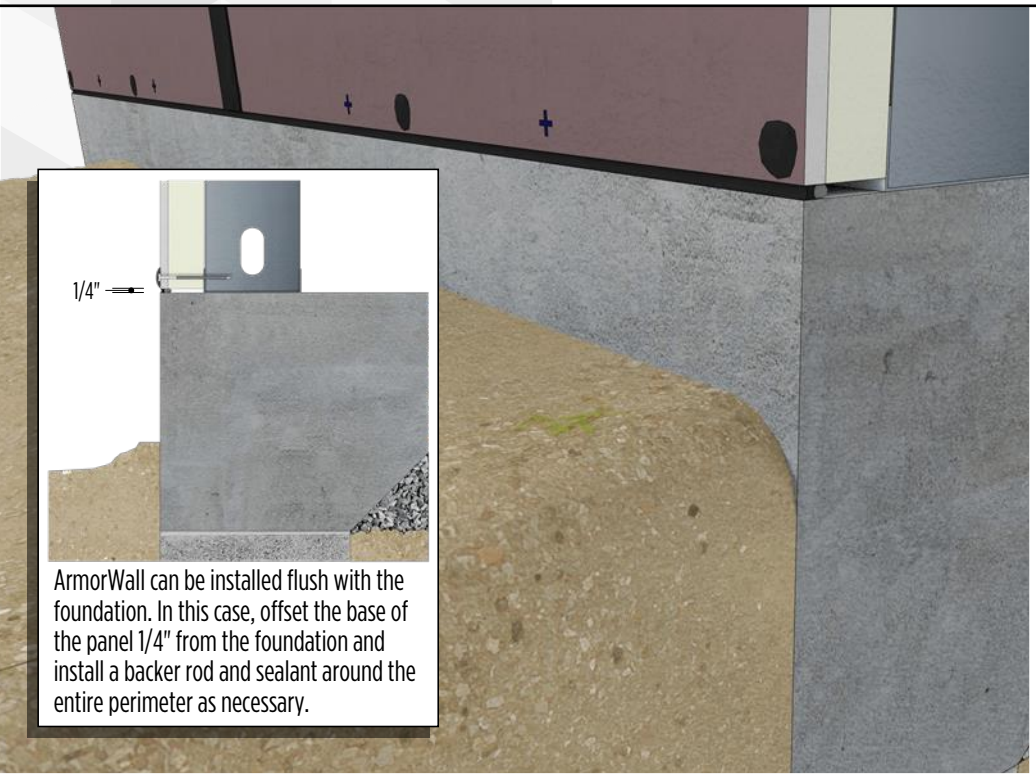
At the top of a parapet wall, ArmorWall panels are installed to the top of the assembly and are capped by blocking.



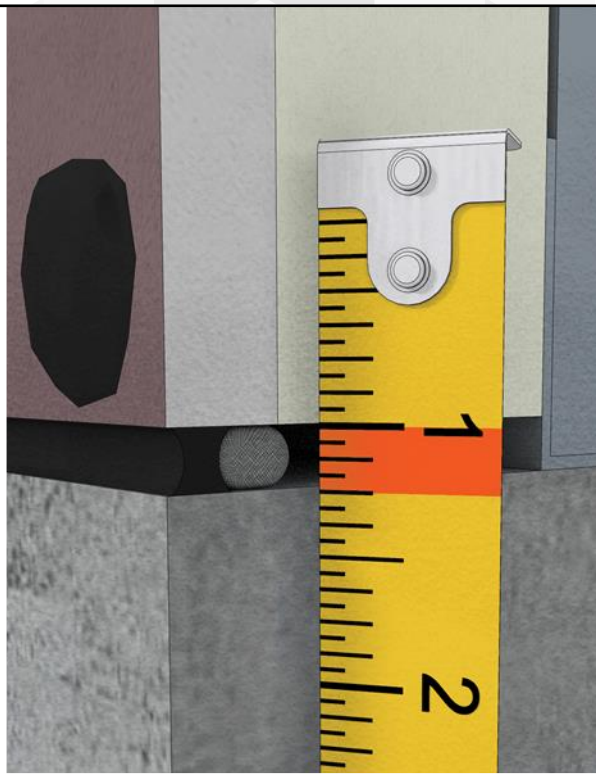


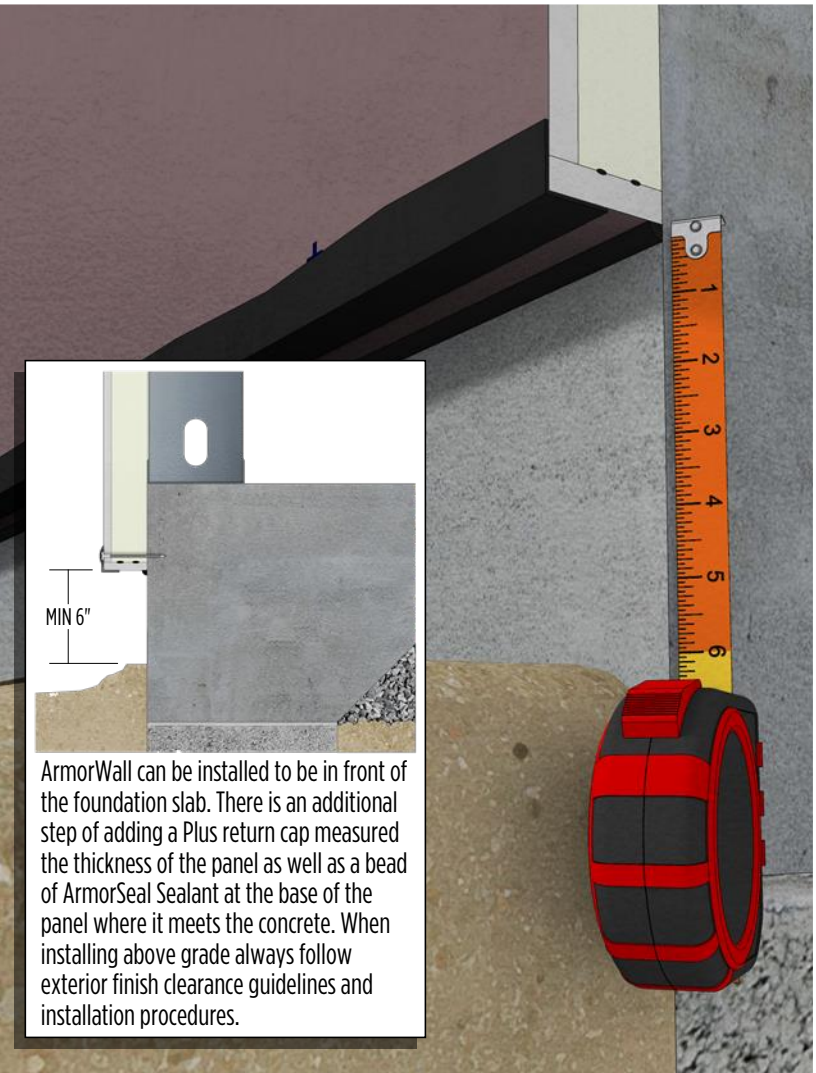
Correct assembly requires that the roofing weather resistive membrane is tied in to the panels factory-coated WRB. The roof membrane is wrapped up and over the blocking and extended a minimum of 2" on to face of ArmorWall.

Install desired cladding per the manufacturer installation instructions.

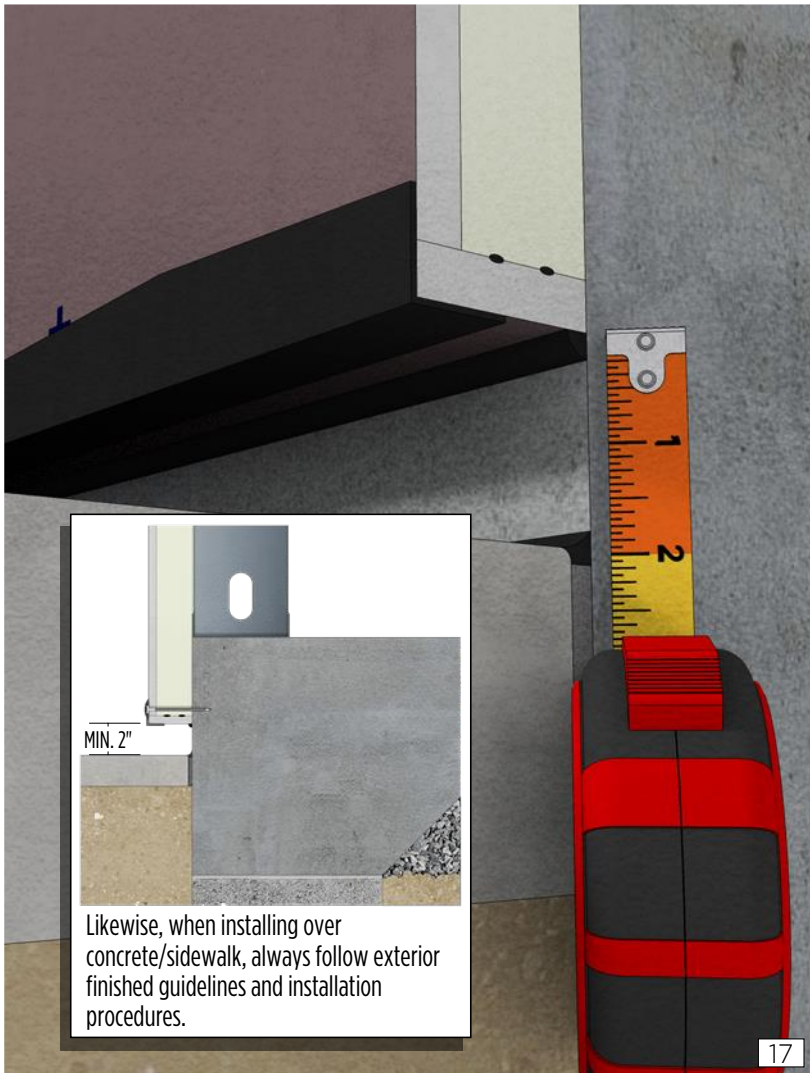


ArmorWall can be installed flush with the foundation. In this case, offset the base of the panel 1/4" from the foundation and install a backer rod and sealant around the entire perimeter as necessary.

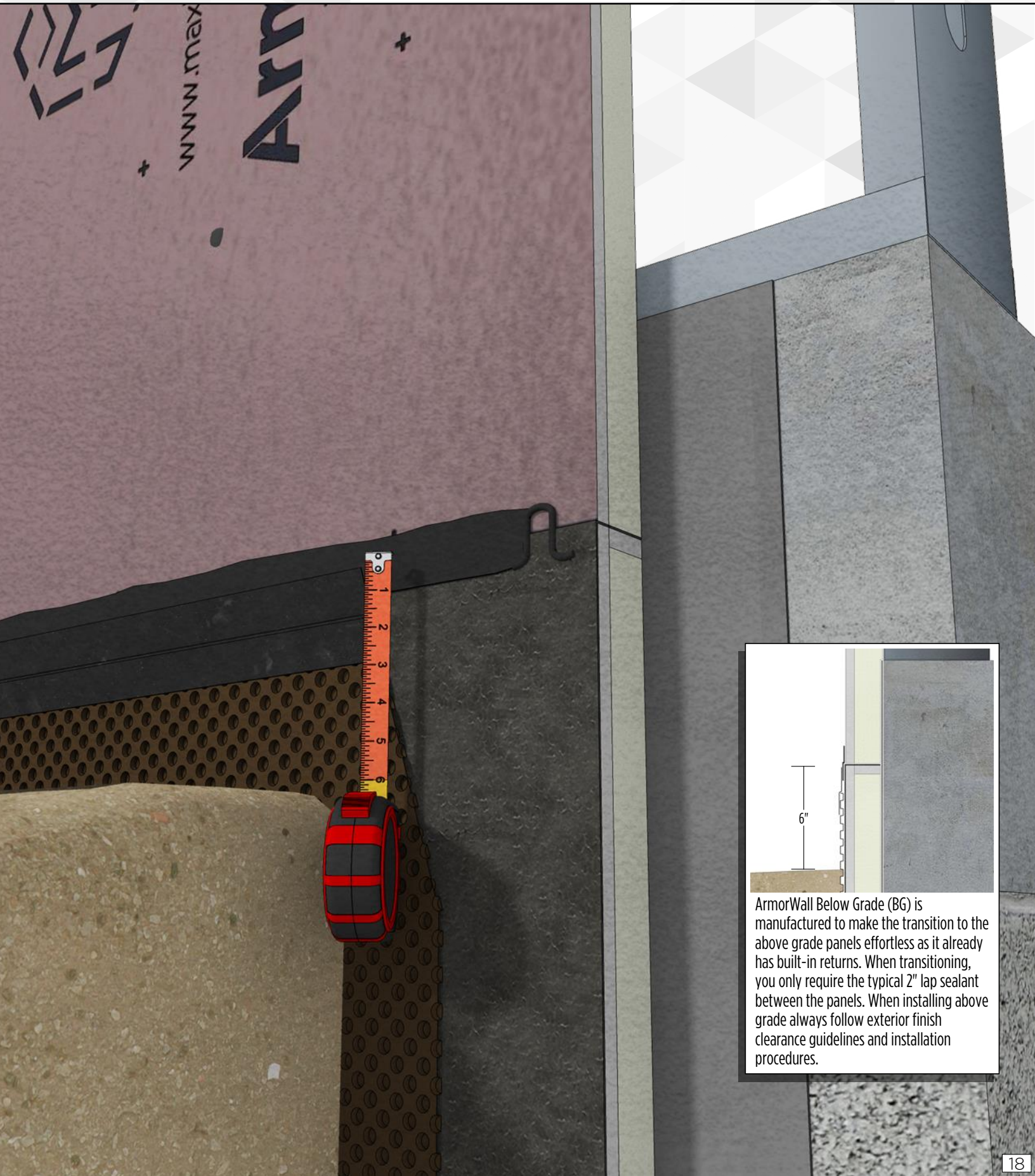




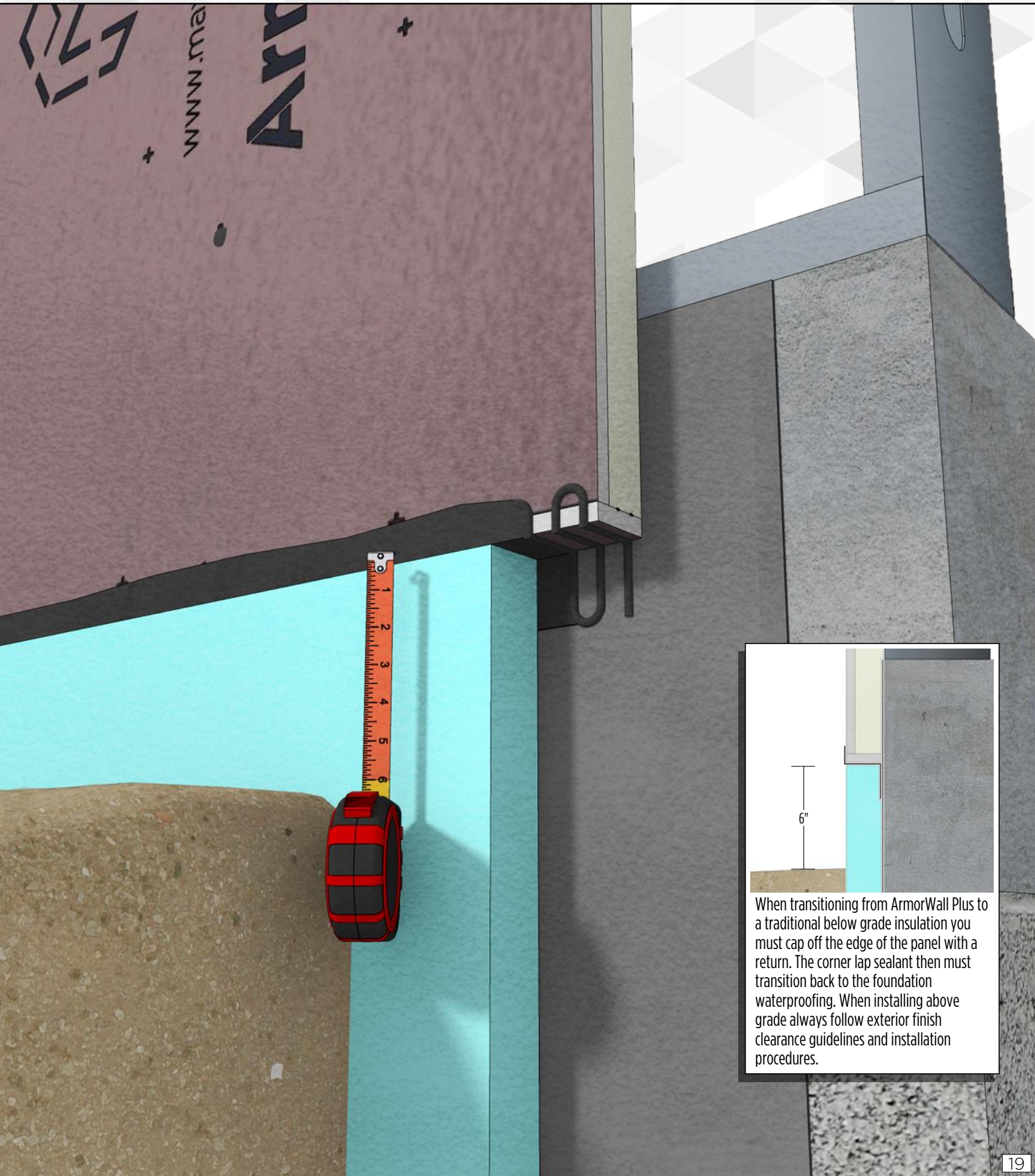
ArmorWall can be installed to be in front of the foundation slab. There is an additional step of adding a Plus return cap measured the thickness of the panel as well as a bead of ArmorSeal Sealant at the base of the panel where it meets the concrete. When installing above grade always follow exterior finish clearance guidelines and installation procedures.



Likewise, when installing over concrete/sidewalk, always follow exterior finished guidelines and installation procedures.



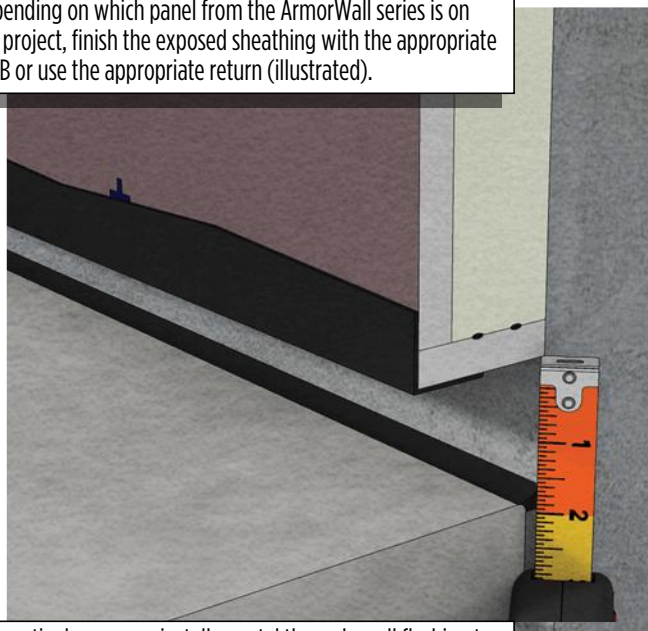
ArmorWall Below Grade (BG) is manufactured to make the transition to the above grade panels effortless as it already has built-in returns. When transitioning, you only require the typical 2" lap sealant between the panels. When installing above grade always follow exterior finish clearance guidelines and installation procedures.



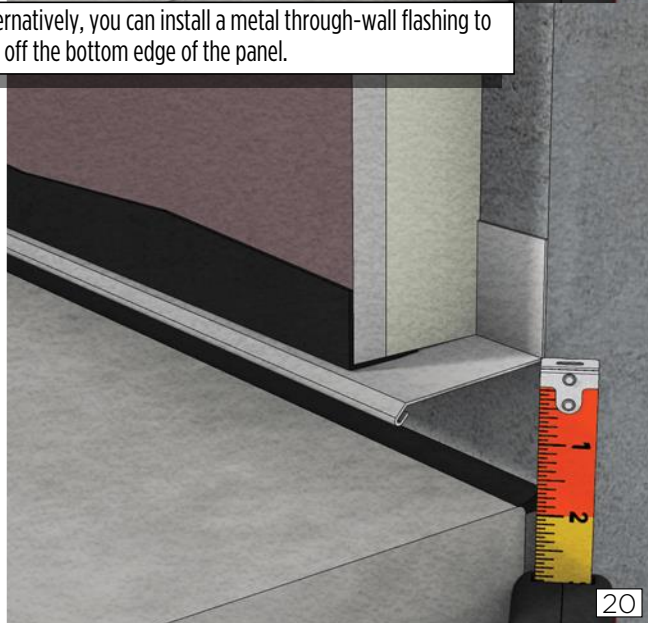
When transitioning from ArmorWall Plus to a traditional below grade insulation you must cap off the edge of the panel with a return. The corner lap sealant then must transition back to the foundation waterproofing. When installing above grade always follow exterior finish clearance guidelines and installation procedures.

Apply (2) beads of ArmorSeal Sealant (Gunnable Grade) along the edge of the panel and adhere the ArmorBoard Plus Return.

Depending on which panel from the ArmorWall series is on the project, finish the exposed sheathing with the appropriate WRB or use the appropriate return (illustrated).



Alternatively, you can install a metal through-wall flashing to cap off the bottom edge of the panel.

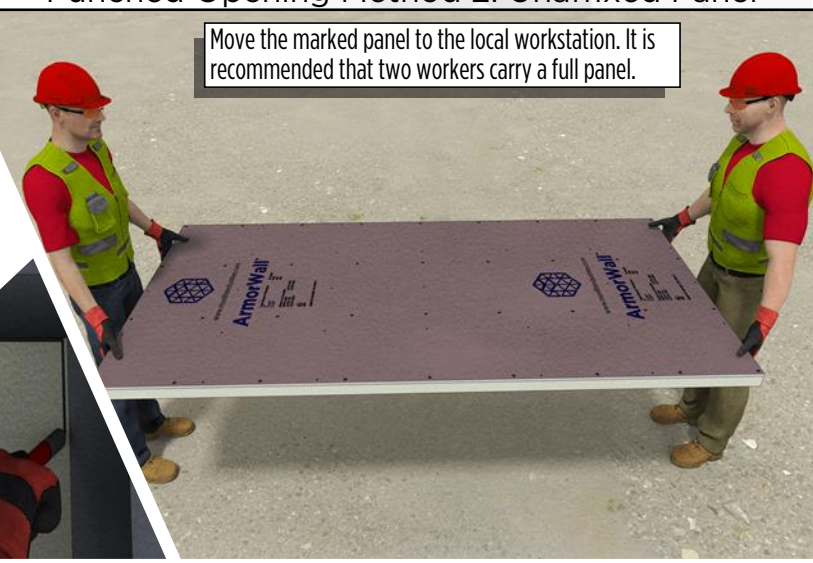


Install ArmorWall panels from the center working outwards to help alleviate any possible cupping that could have resulted from transport.

Using the rough opening as a guide, carefully cut the opening using a reciprocating saw.

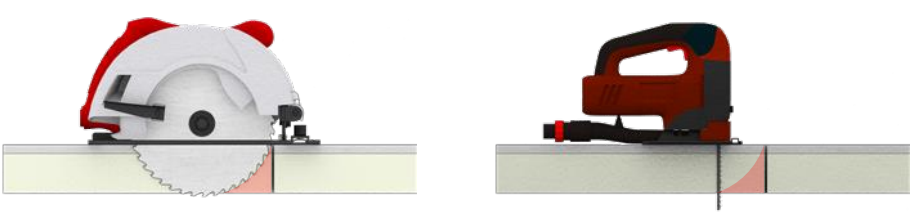
Cut away the extra panel at the door punched opening, again using the opening as the guide.

Hold the panel in position while marking the entire interior perimeter of the punched opening onto the foam insulation. Use a permanent marker for best contrast and writability on the foam insulation.



Move the marked panel to the local workstation. It is recommended that two workers carry a full panel.

Using a circular saw, cut out the punched opening along the markings. Take proper care when operating power tools and always wear the required personal protective equipment.



It is recommend to finish the inside corners after the circular saw using a jig saw tool.

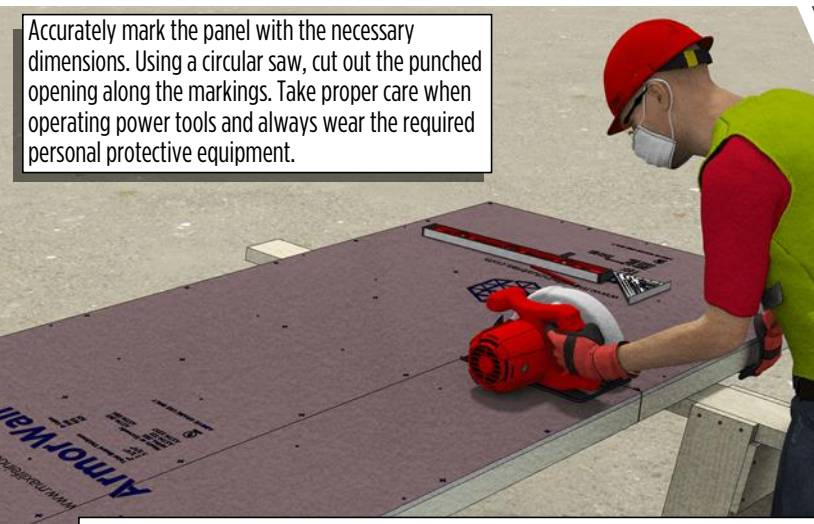
Install ArmorWall panels from the center working outwards to help alleviate any possible cupping that could have resulted from transport.

Take the necessary measurements required to properly locate the punched opening onto the ArmorWall panel.



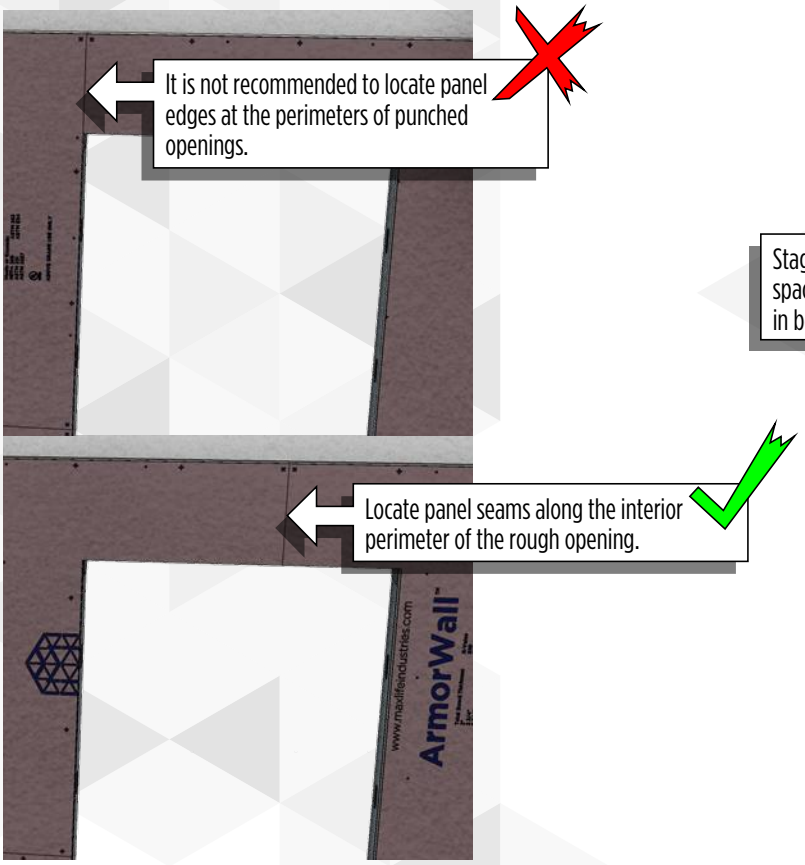

Move the panel to the local workstation. It is recommended that two workers carry a full panel.

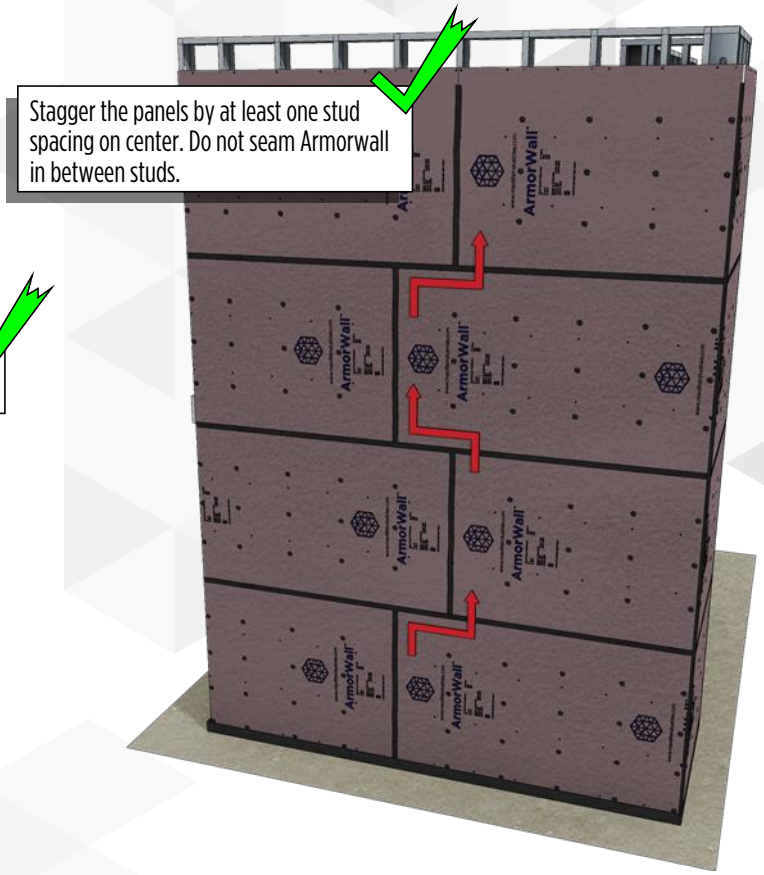
Accurately mark the panel with the necessary dimensions. Using a circular saw, cut out the punched opening along the markings. Take proper care when operating power tools and always wear the required personal protective equipment.

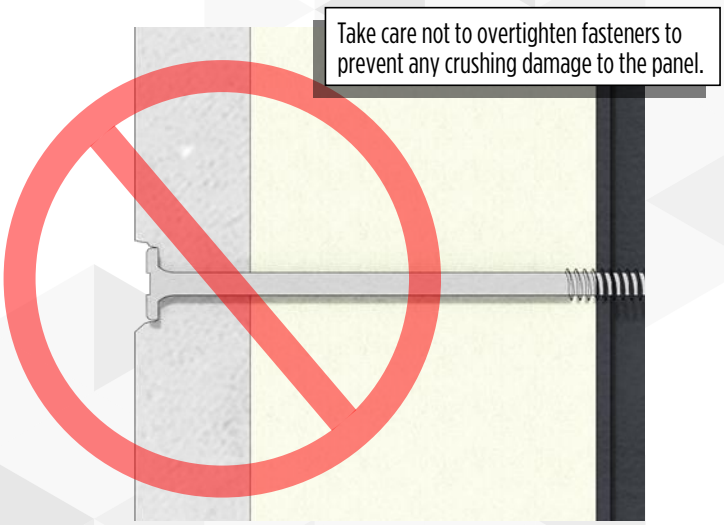


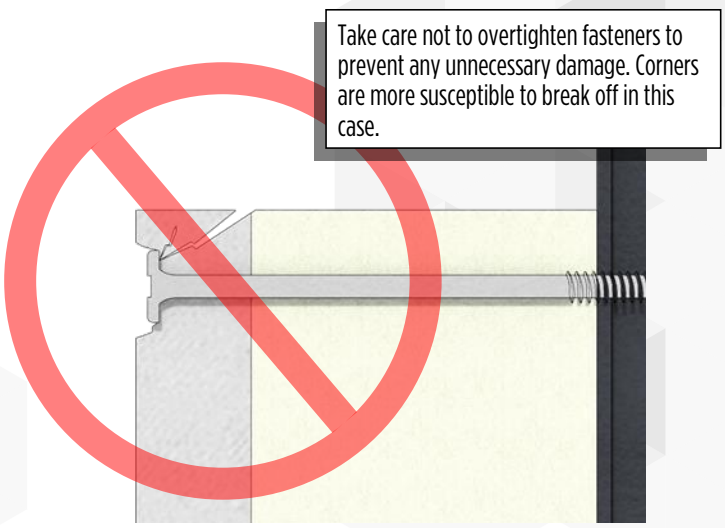

It is recommend to finish the inside corners after the circular saw using a jig saw tool.

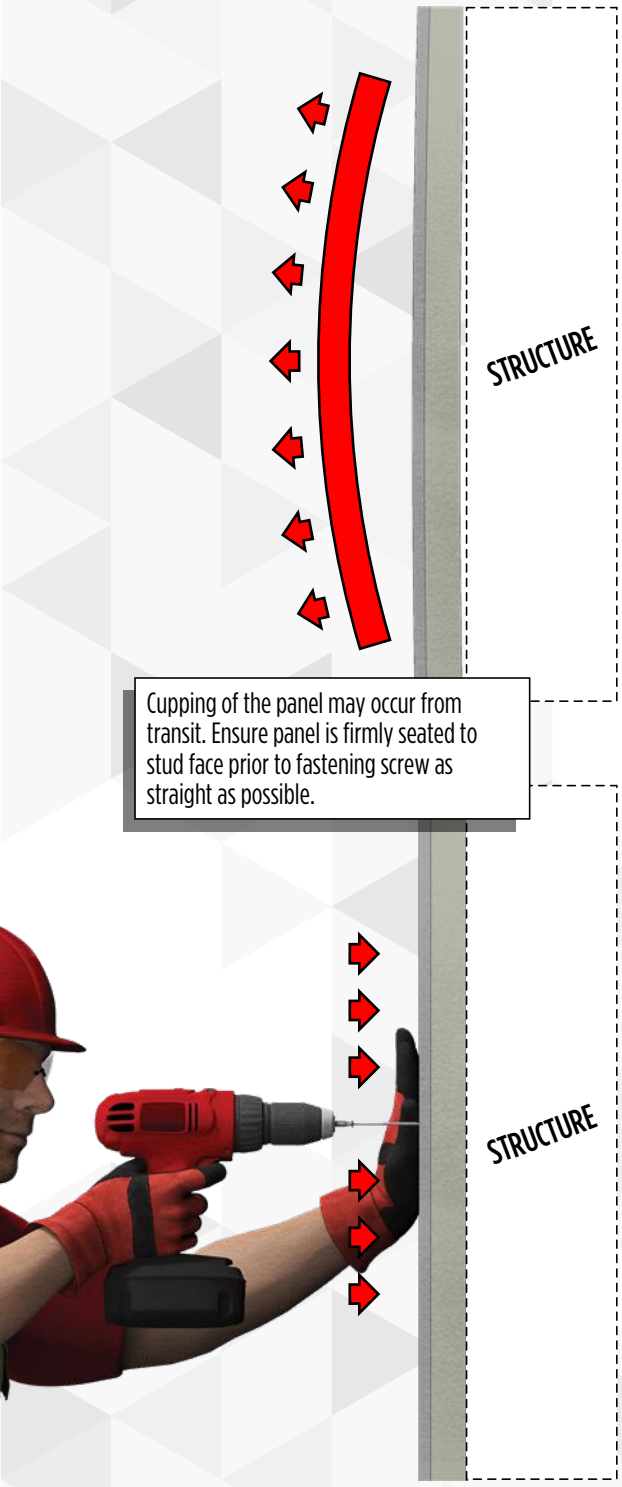
Install ArmorWall panels from the center working outwards to help alleviate any possible cupping that could have resulted from transport.


It is not recommended to locate panel edges at the perimeters of punched openings.
Locate panel seams along the interior perimeter of the rough opening.
ArmorWall
www.maxlifeindustries.com

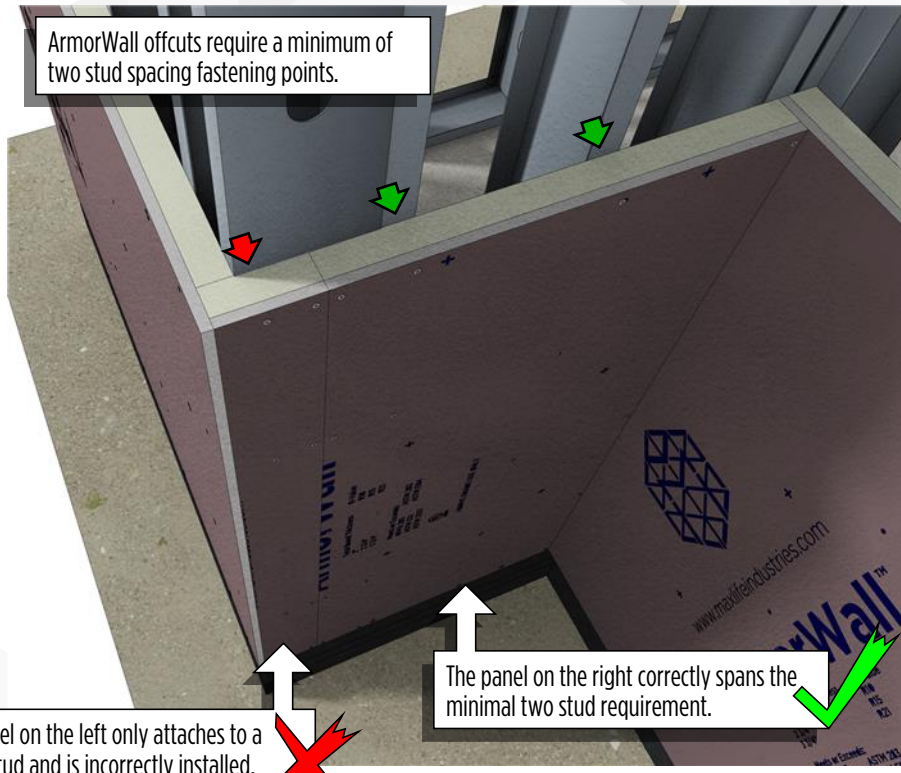

Stagger the panels by at least one stud spacing on center. Do not seam Armorwall in between studs.
ArmorWall


Take care not to overtighten fasteners to prevent any crushing damage to the panel.


Take care not to overtighten fasteners to prevent any unnecessary damage. Corners are more susceptible to break off in this case.



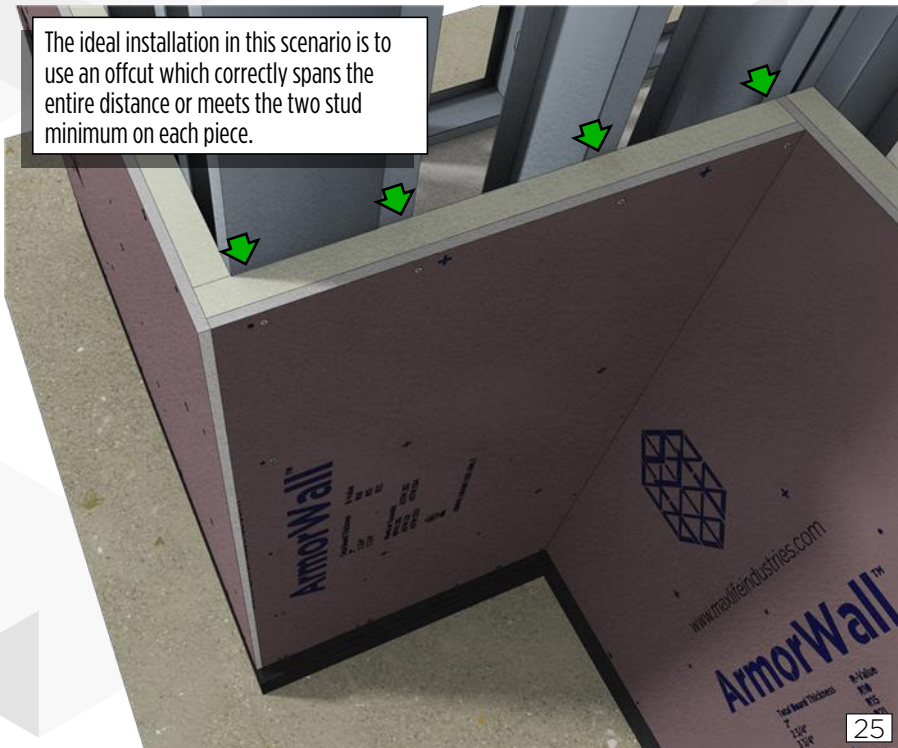
Cupping of the panel may occur from transit. Ensure panel is firmly seated to stud face prior to fastening screw as straight as possible.



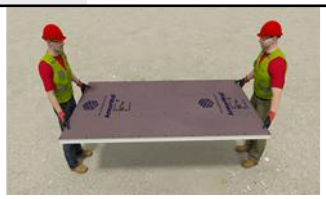
ArmorWall offcuts require a minimum of two stud spacing fastening points.

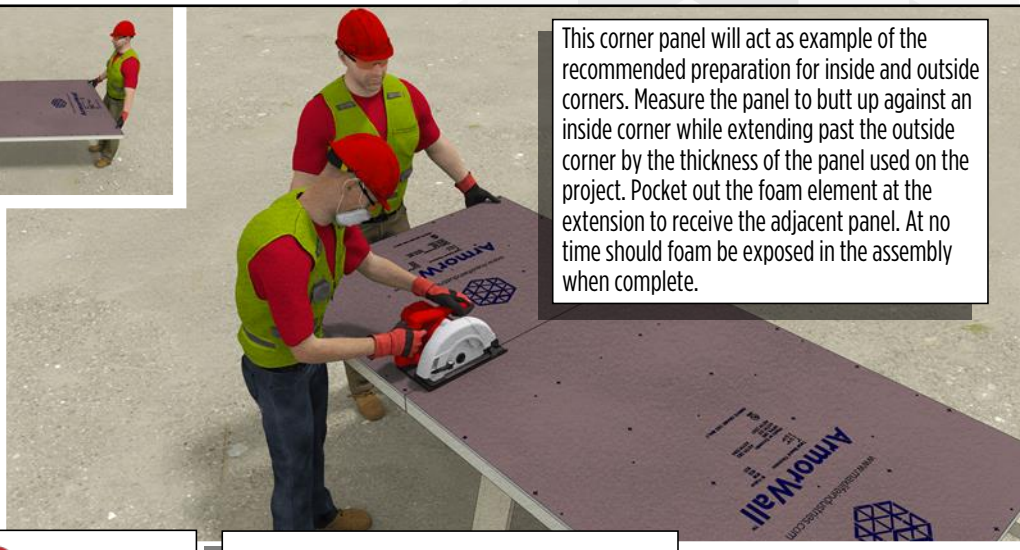
The panel on the left only attaches to a single stud and is incorrectly installed.

The panel on the right correctly spans the minimal two stud requirement.



The ideal installation in this scenario is to use an offcut which correctly spans the entire distance or meets the two stud minimum on each piece.

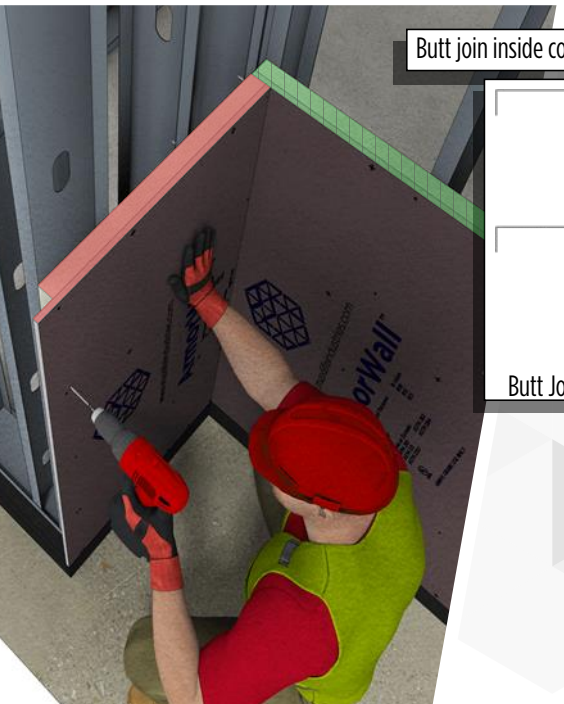




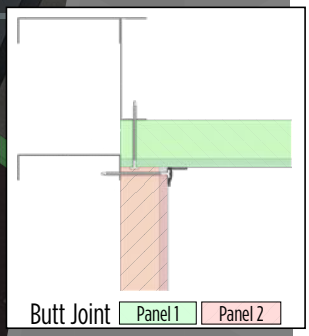
This corner panel will act as example of the recommended preparation for inside and outside corners. Measure the panel to butt up against an inside corner while extending past the outside corner by the thickness of the panel used on the project. Pocket out the foam element at the extension to receive the adjacent panel. At no time should foam be exposed in the assembly when complete.

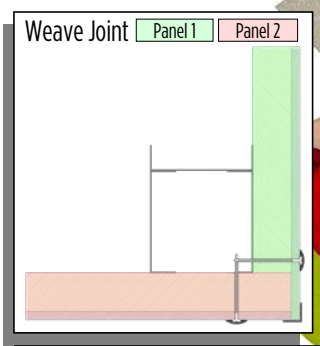
Set the depth of your saw to only cut the foam insulation.

Position the router along the sheathing component and set the depth to route out up to the saw cut.



Butt join inside corners to adjacent panels.

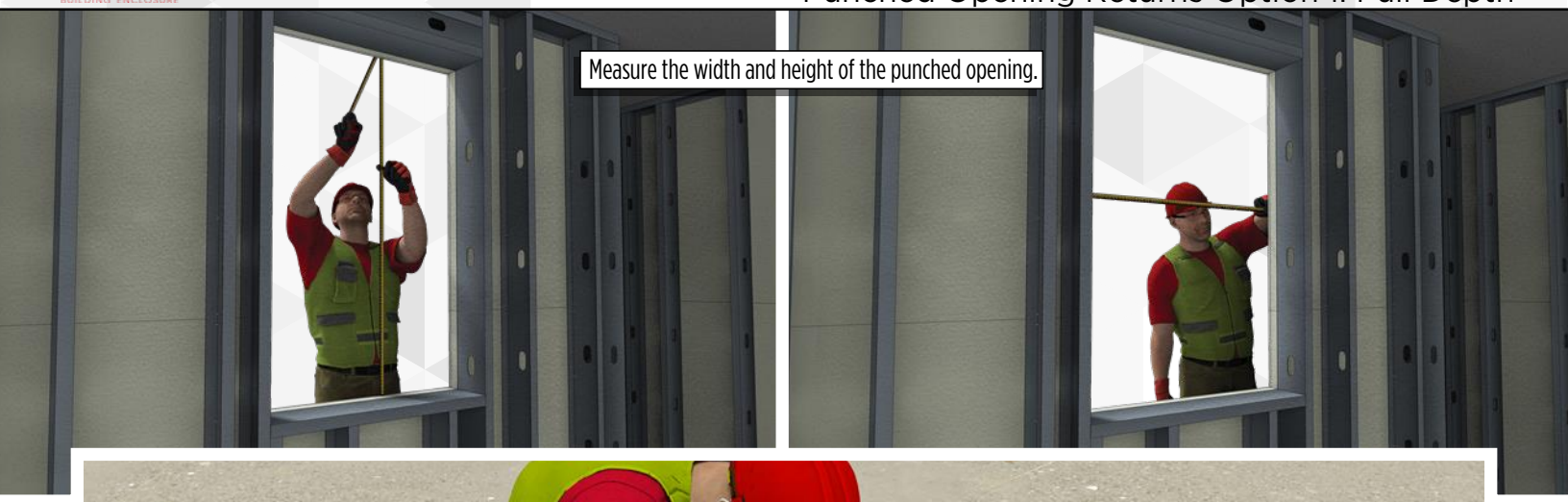




Fasten next panel around the outside corner in to the pocketed extension to complete the weave joint.

Continue rounding the next corner using the same outside corner steps having prepared the panel for the weave joint.

Using the same steps as the first row of panels continue to install ArmorWall up the structure.

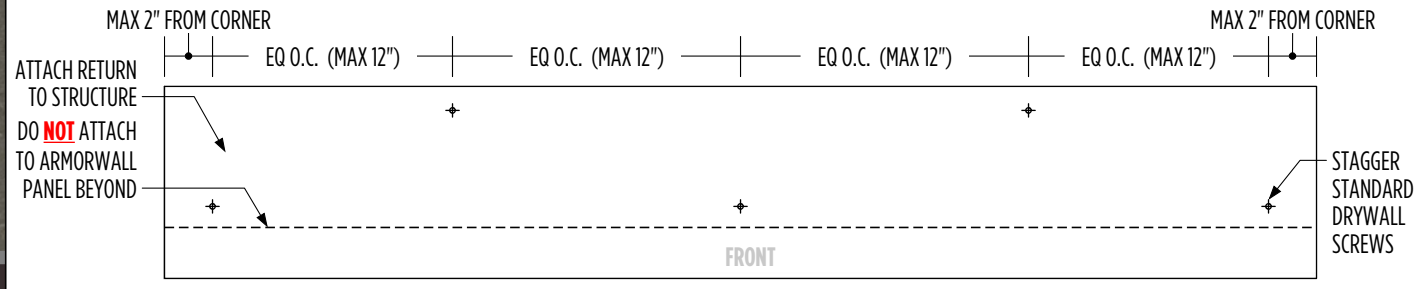


Measure the width and height of the punched opening.

For easier installation it is recommended that you install the top and bottom returns first followed by the sides. Measure and cut the returns accordingly to achieve this result.

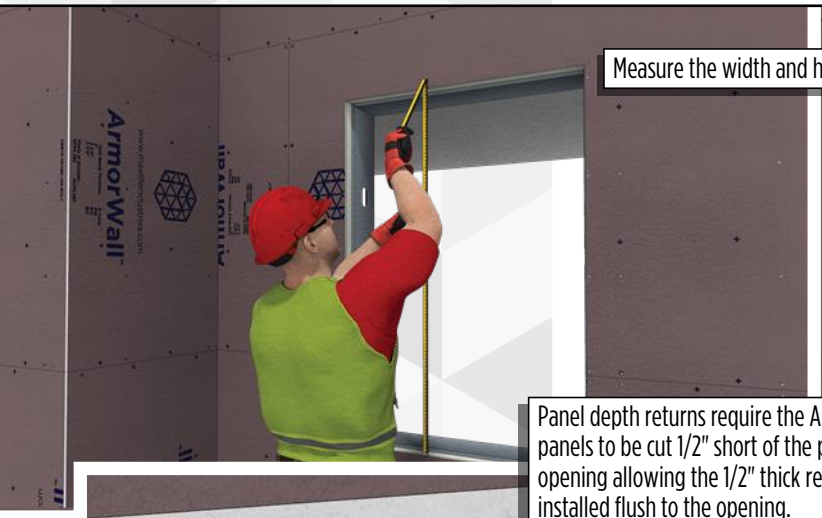
Returns are fastened with standard stainless steel drywall screws of appropriate length and drill type for the application.

Return Fastening Pattern



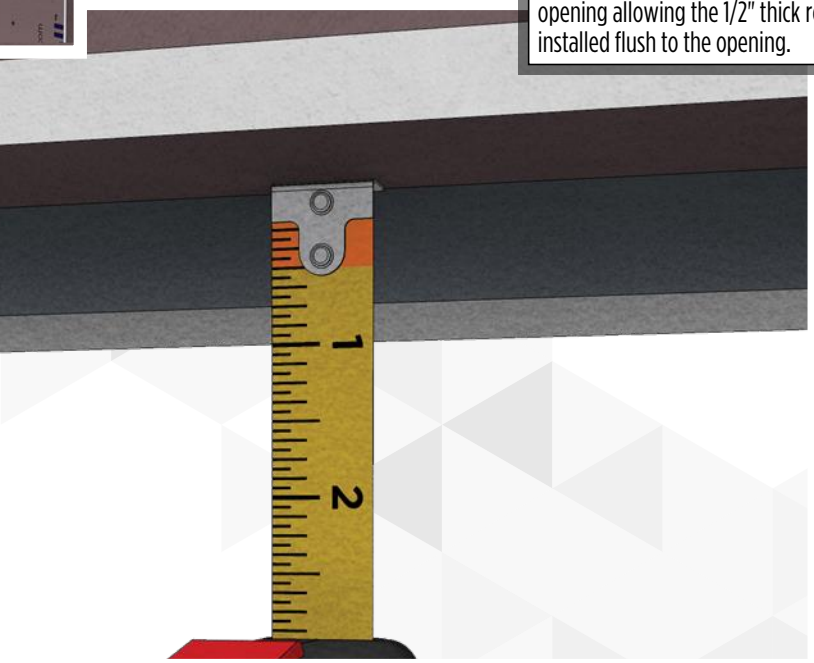
Follow the return fastening pattern to install the top and bottom returns.

Follow the return fastening pattern to install the side returns.

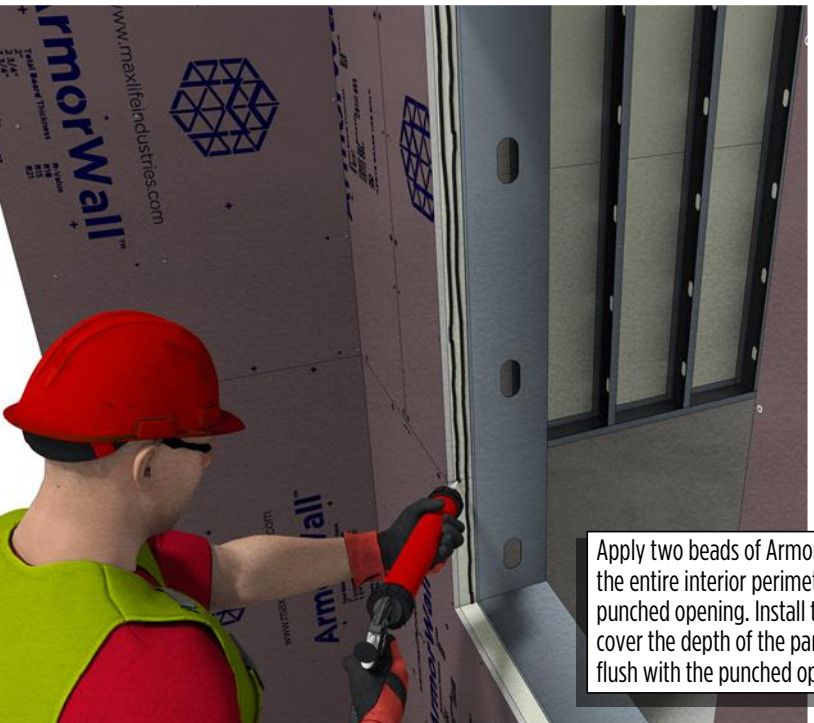


Measure the width and height of the punched opening.

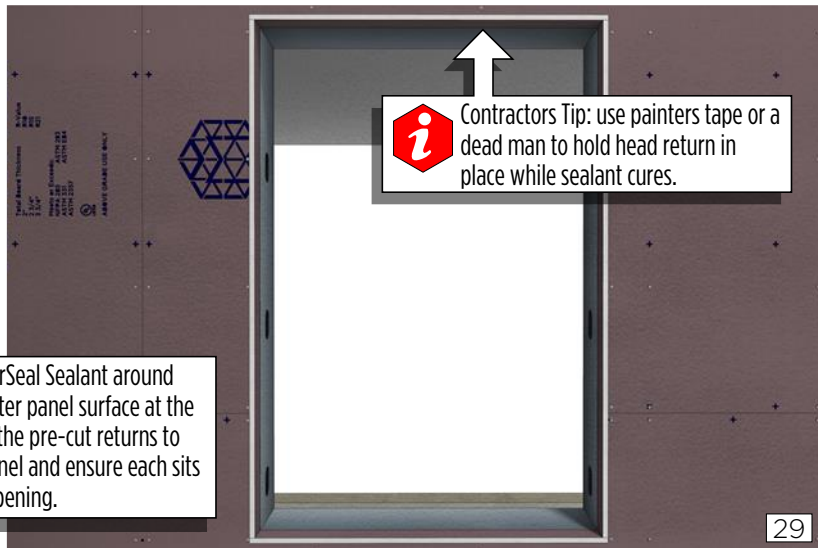
Panel depth returns require the ArmorWall panels to be cut 1/2" short of the punched opening allowing the 1/2" thick return to be installed flush to the opening.



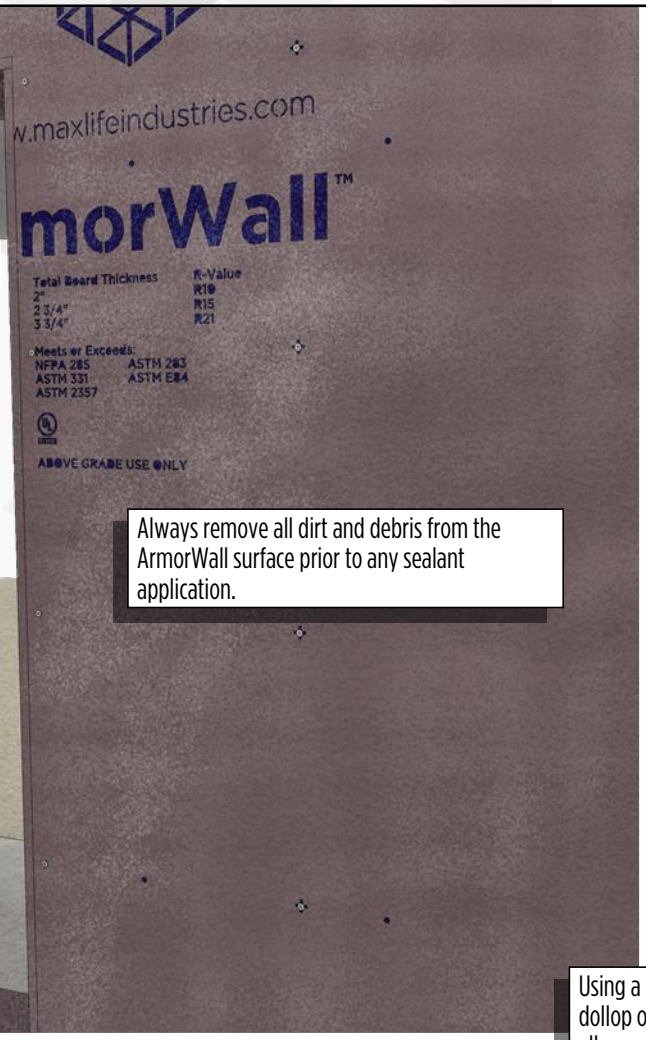
For easier installation it is recommended that you install the top and bottom returns first followed by the sides. Measure and cut the returns accordingly to achieve this result.



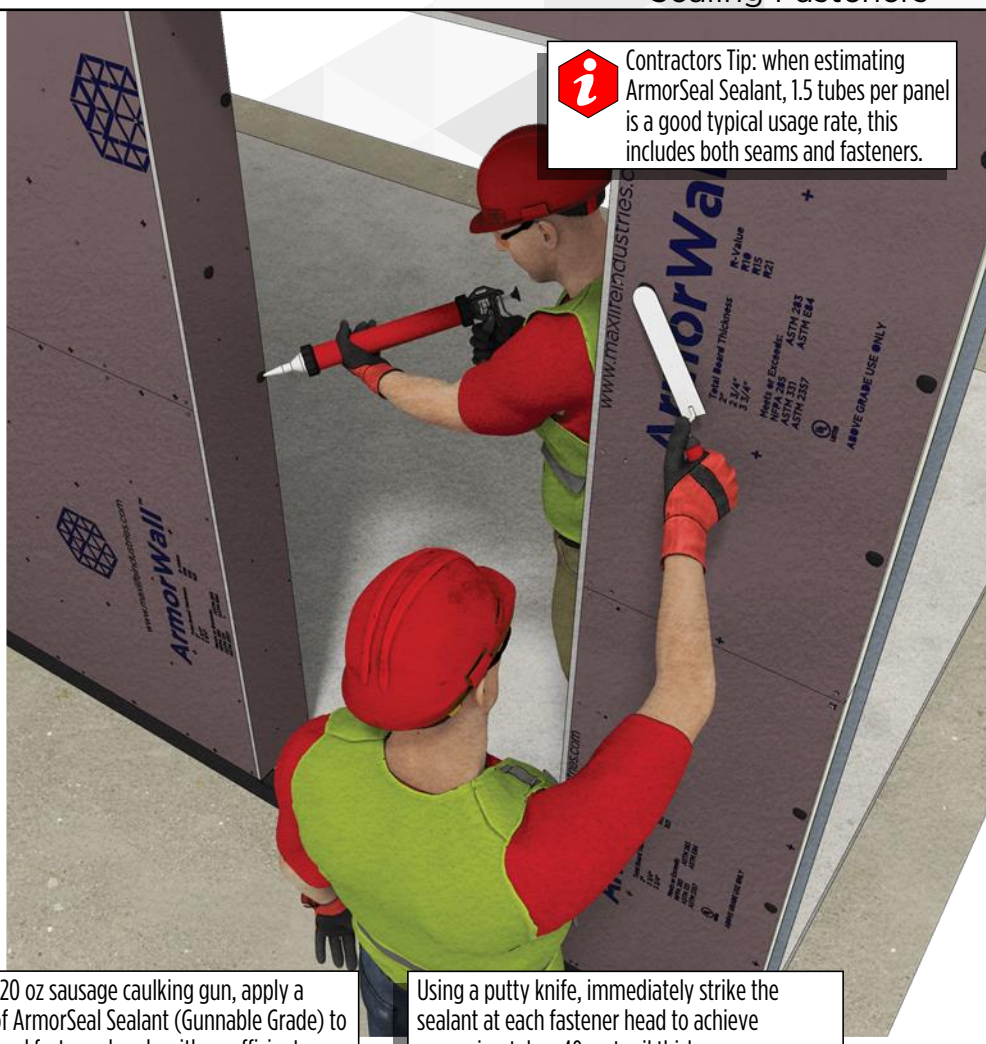
Apply two beads of ArmorSeal Sealant around the entire interior perimeter panel surface at the punched opening. Install the pre-cut returns to cover the depth of the panel and ensure each sits flush with the punched opening.



Contractors Tip: use painters tape or a dead man to hold head return in place while sealant cures.



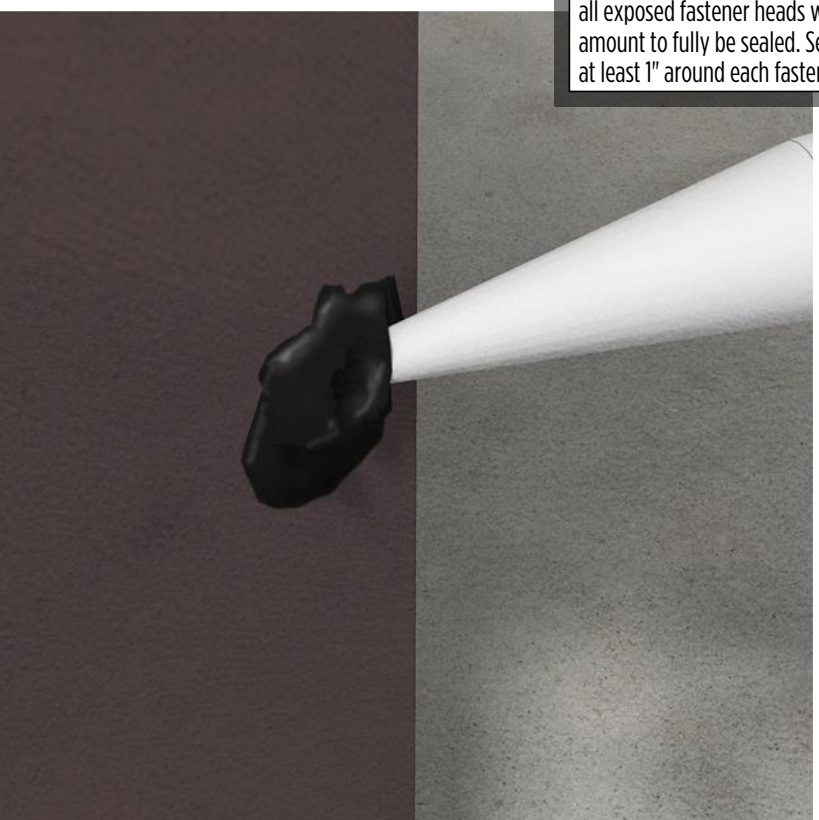
Always remove all dirt and debris from the ArmorWall surface prior to any sealant application.

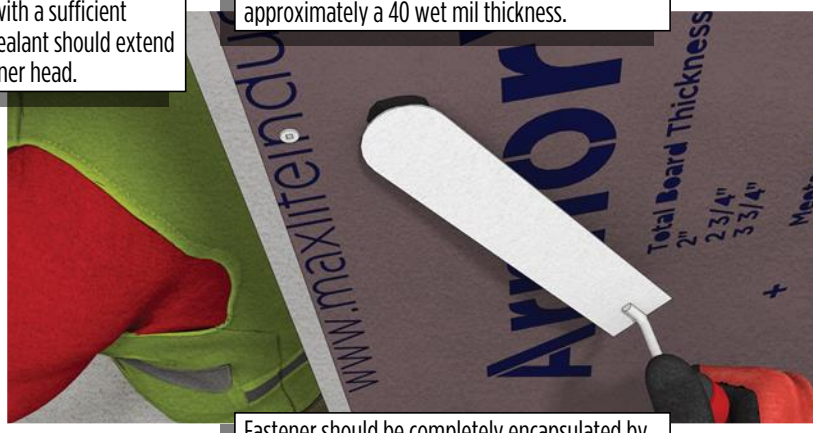


Contractors Tip: when estimating ArmorSeal Sealant, 1.5 tubes per panel is a good typical usage rate, this includes both seams and fasteners.

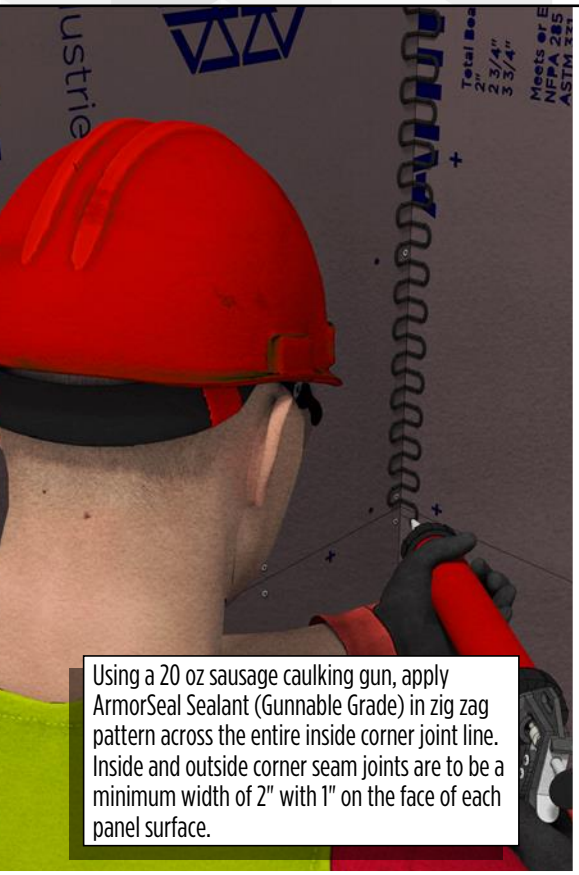
Using a 20 oz sausage caulking gun, apply a dollop of ArmorSeal Sealant (Gunnable Grade) to all exposed fastener heads with a sufficient amount to fully be sealed. Sealant should extend at least 1" around each fastener head.

Using a putty knife, immediately strike the sealant at each fastener head to achieve approximately a 40 wet mil thickness.

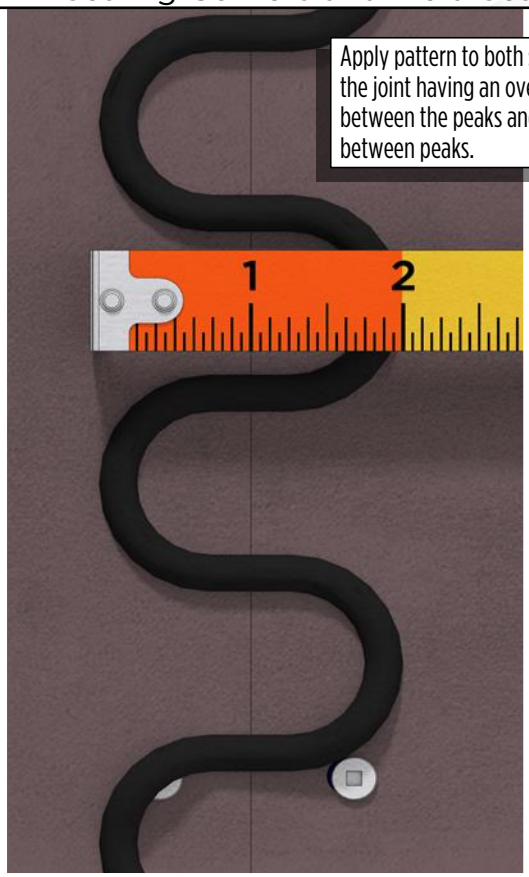




Fastener should be completely encapsulated by ArmorSeal Sealant forming an airtight seal.

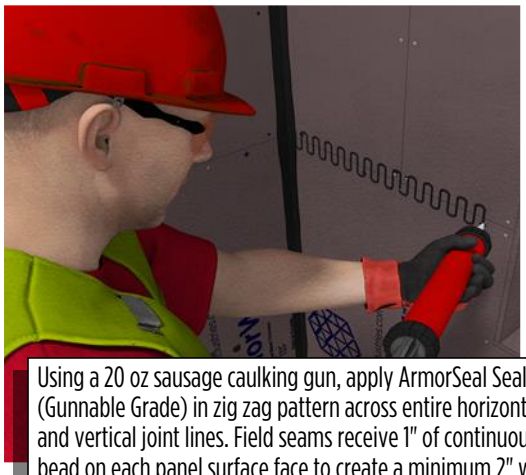


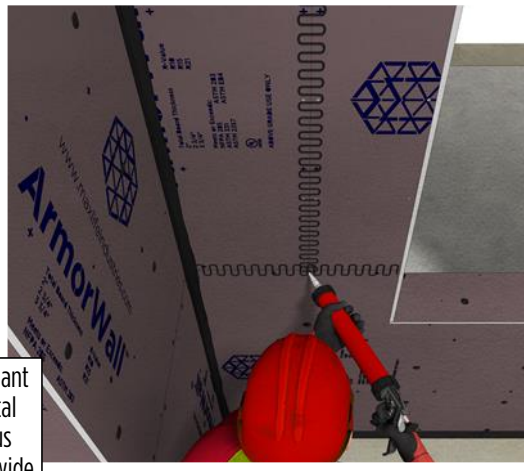
Using a 20 oz sausage caulking gun, apply ArmorSeal Sealant (Gunnable Grade) in zig zag pattern across the entire inside corner joint line. Inside and outside corner seam joints are to be a minimum width of 2" with 1" on the face of each panel surface.



Apply pattern to both surfaces which comprise the joint having an overall distance of 2" between the peaks and valleys and 2 1/2" between peaks.

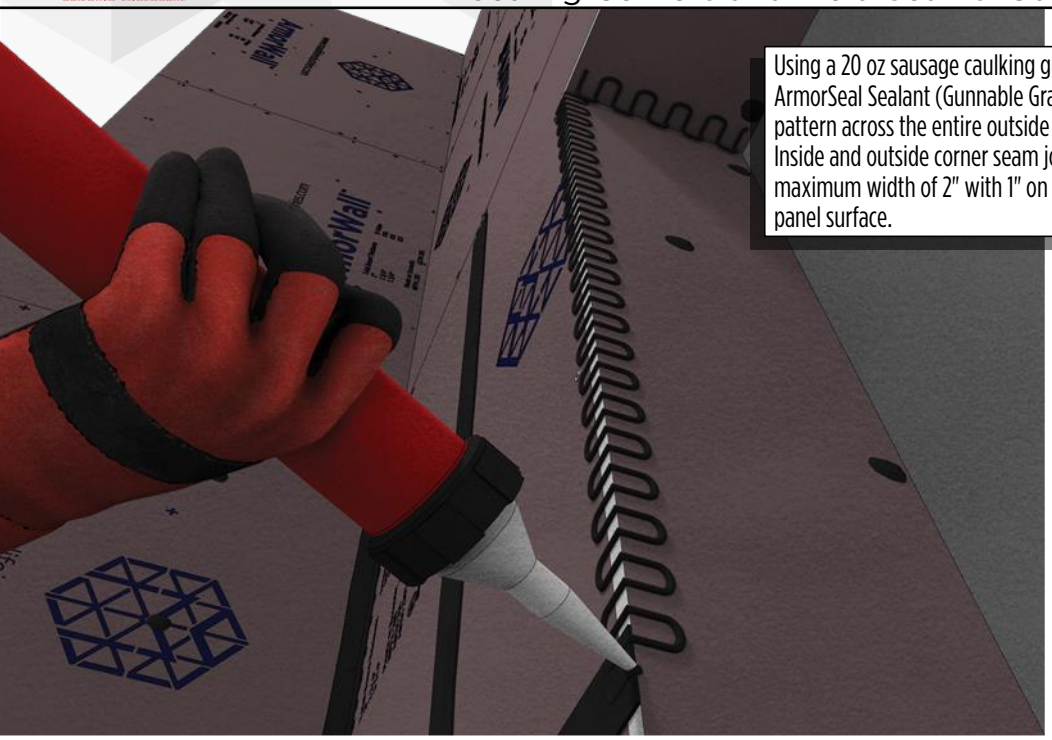
Using a 6" putty knife, strike the sealant to achieve approximately a 40 wet mil thickness and ensure joint remains continuous and entirely free from voids or holidays.



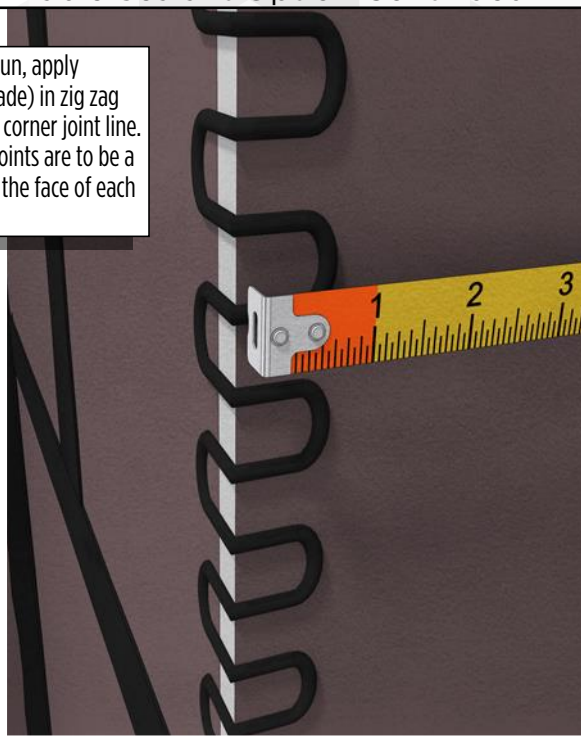


Using a 20 oz sausage caulking gun, apply ArmorSeal Sealant (Gunnable Grade) in zig zag pattern across entire horizontal and vertical joint lines. Field seams receive 1" of continuous bead on each panel surface face to create a minimum 2" wide seam joint. Strike as before.

Contractors Tip: when estimating ArmorSeal Sealant, 1.5 tubes per panel is a good typical usage rate, this includes both seams and fasteners.



Using a 20 oz sausage caulking gun, apply ArmorSeal Sealant (Gunnable Grade) in zig zag pattern across the entire outside corner joint line. Inside and outside corner seam joints are to be a maximum width of 2" with 1" on the face of each panel surface.



Using a 6" putty knife, strike the sealant to achieve approximately a 40 wet mil thickness and ensure joint remains continuous and entirely free from voids or holidays.

Continue sealing the assembly.

Seal all inside corners of the punched opening.

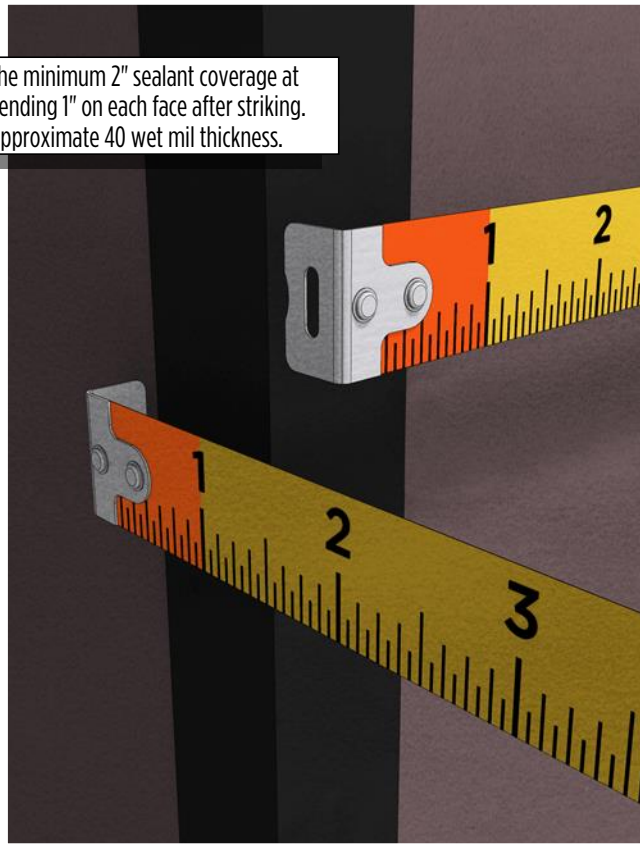
Seal all outside edges of the punched opening.

Seal all inside corners of the punched opening.

Seal all outside edges of the punched opening.

Seal all outside edges of the punched opening.

Maintain the minimum 2" sealant coverage at seams extending 1" on each face after striking. Maintain approximate 40 wet mil thickness.

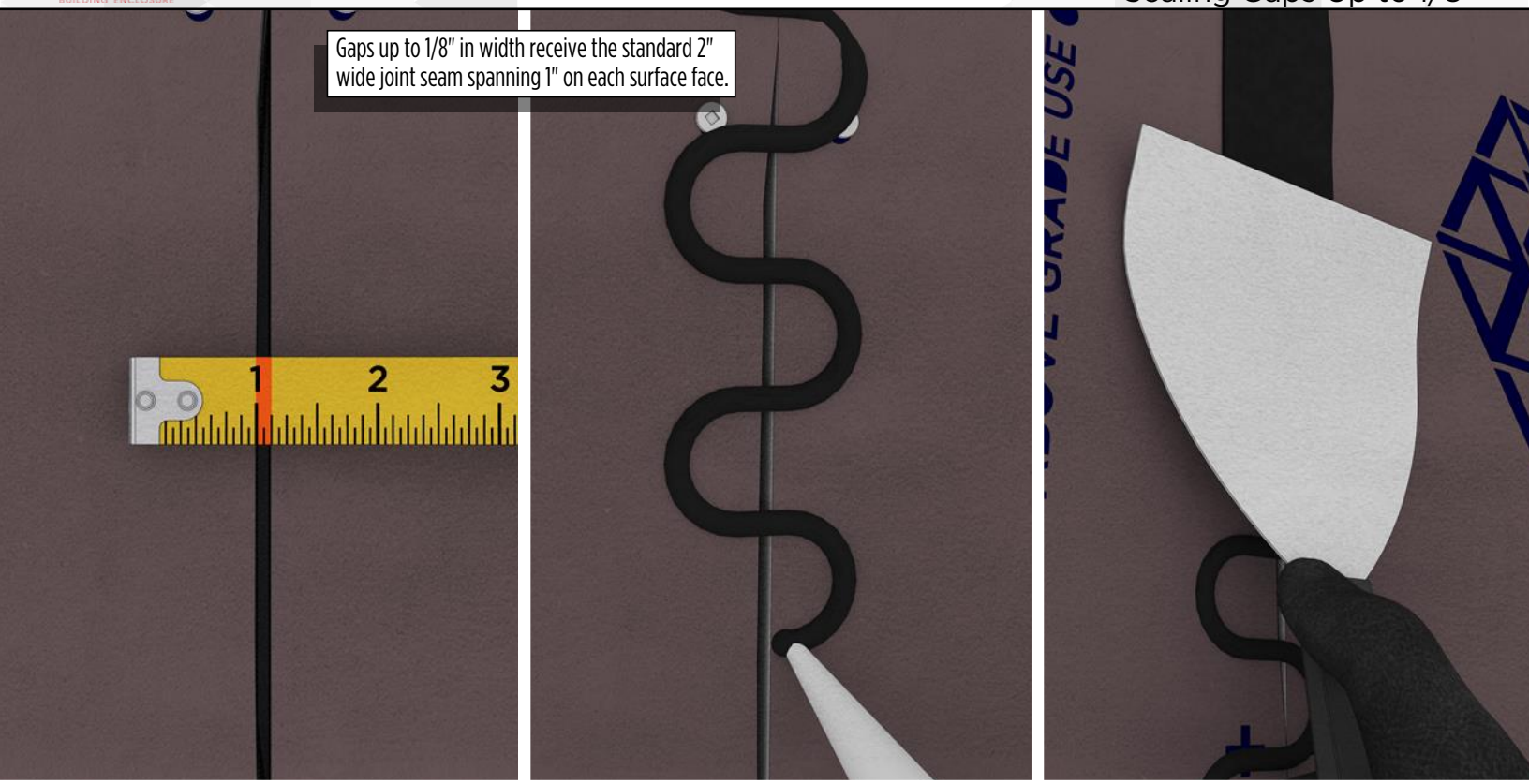


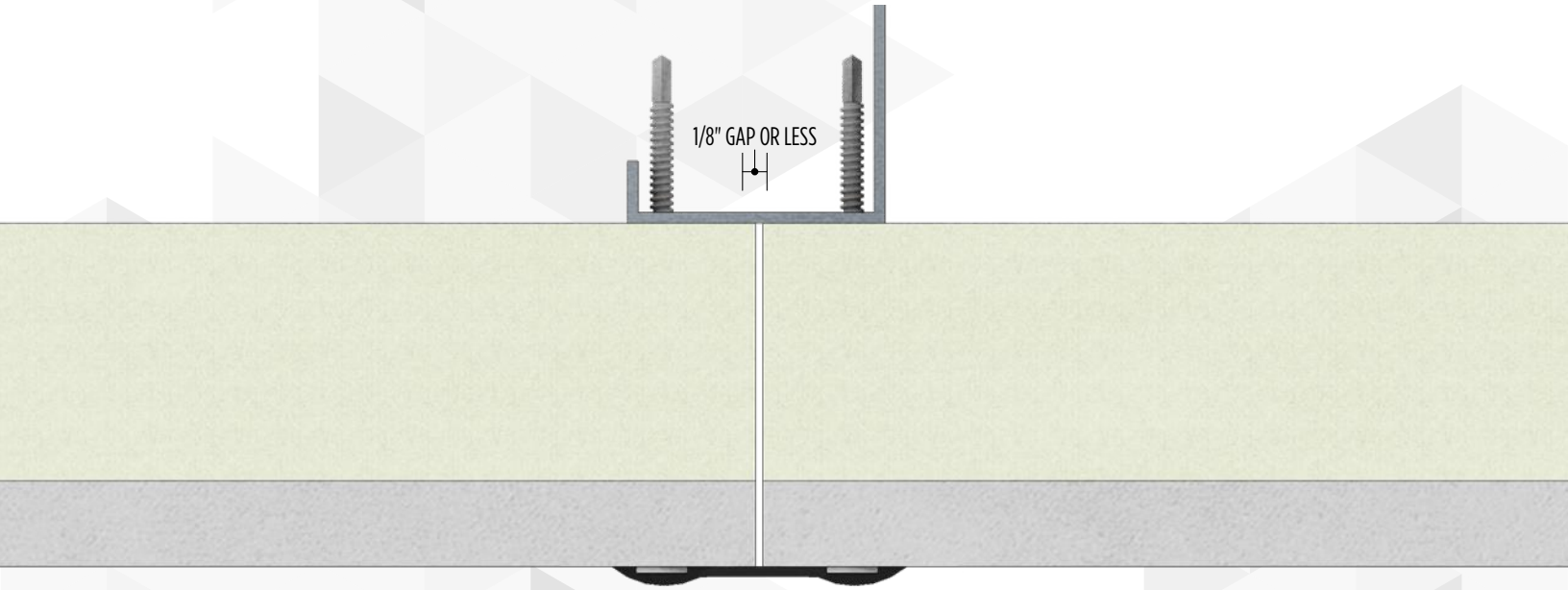
Seal all outside edges of the punched opening.

Seal all inside corners of the punched opening.

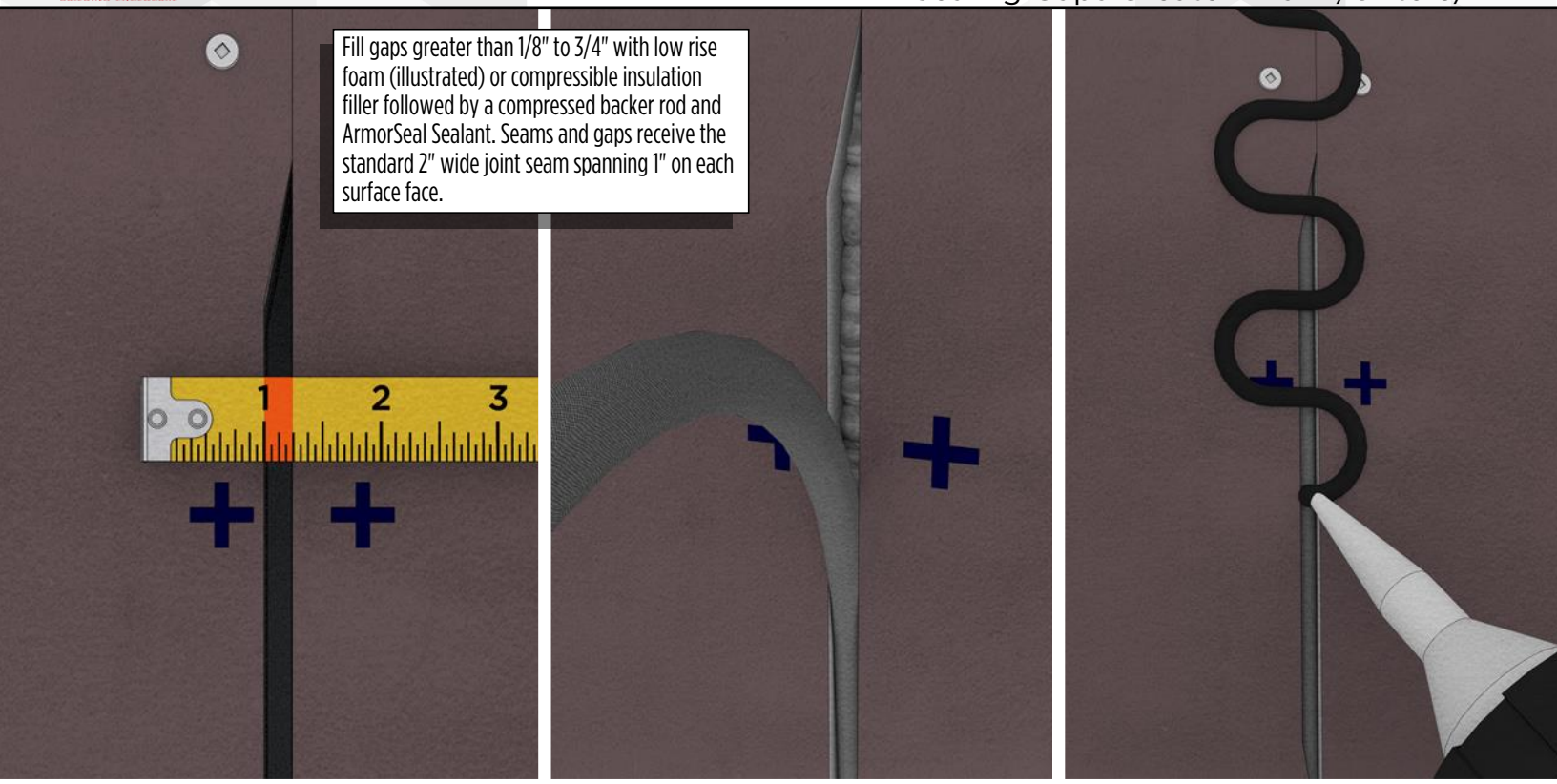
Seal all inside corners of the punched opening.

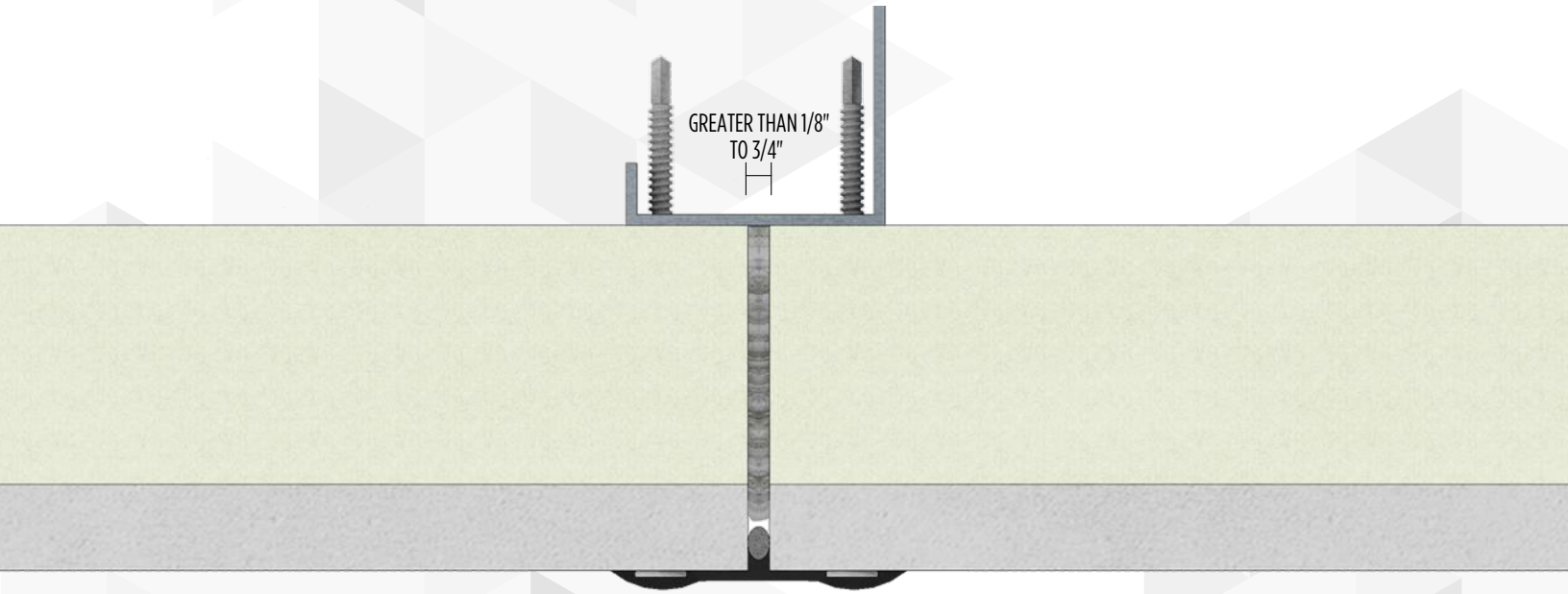
Sealing Gaps Up to 1/8"

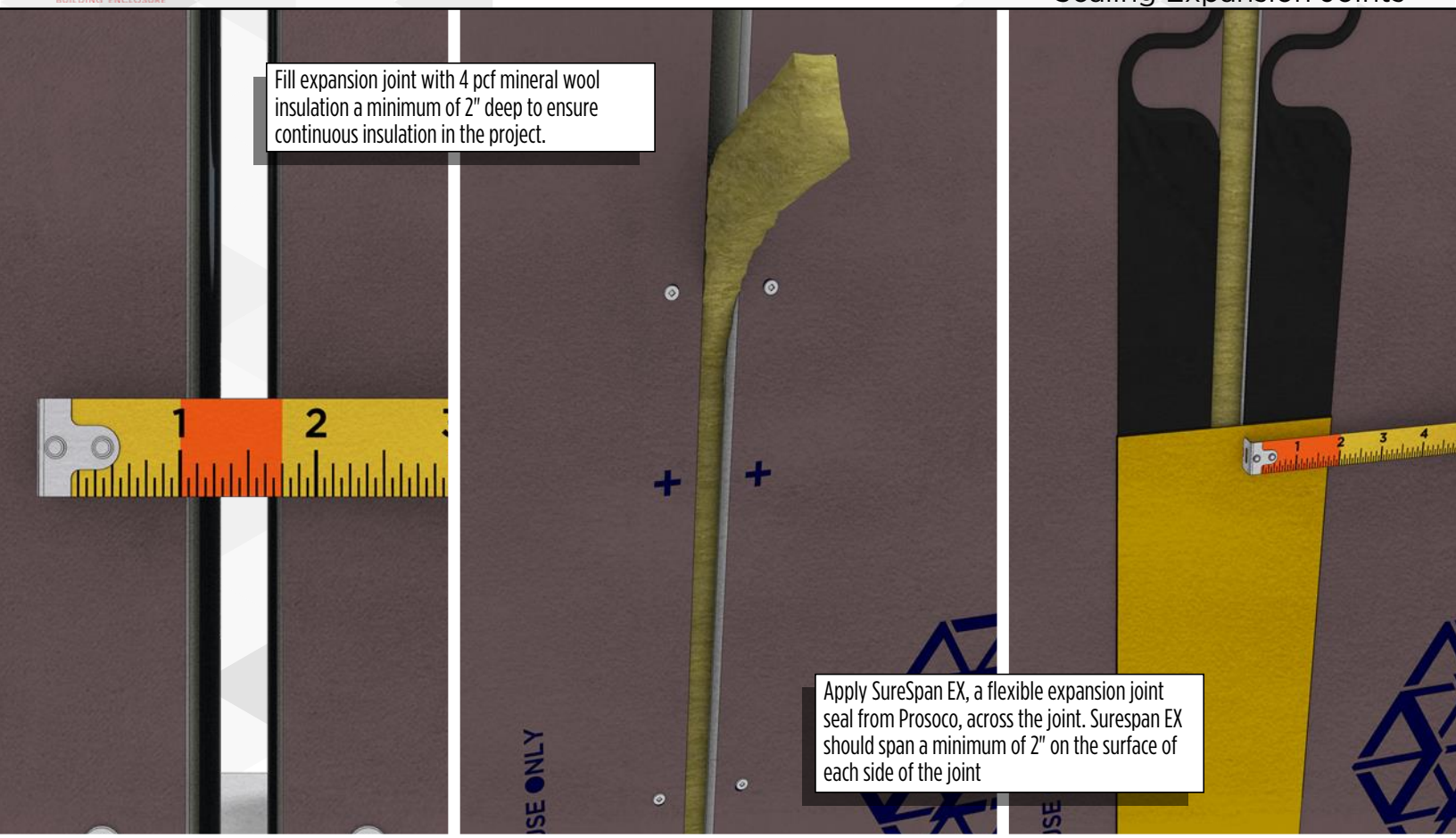


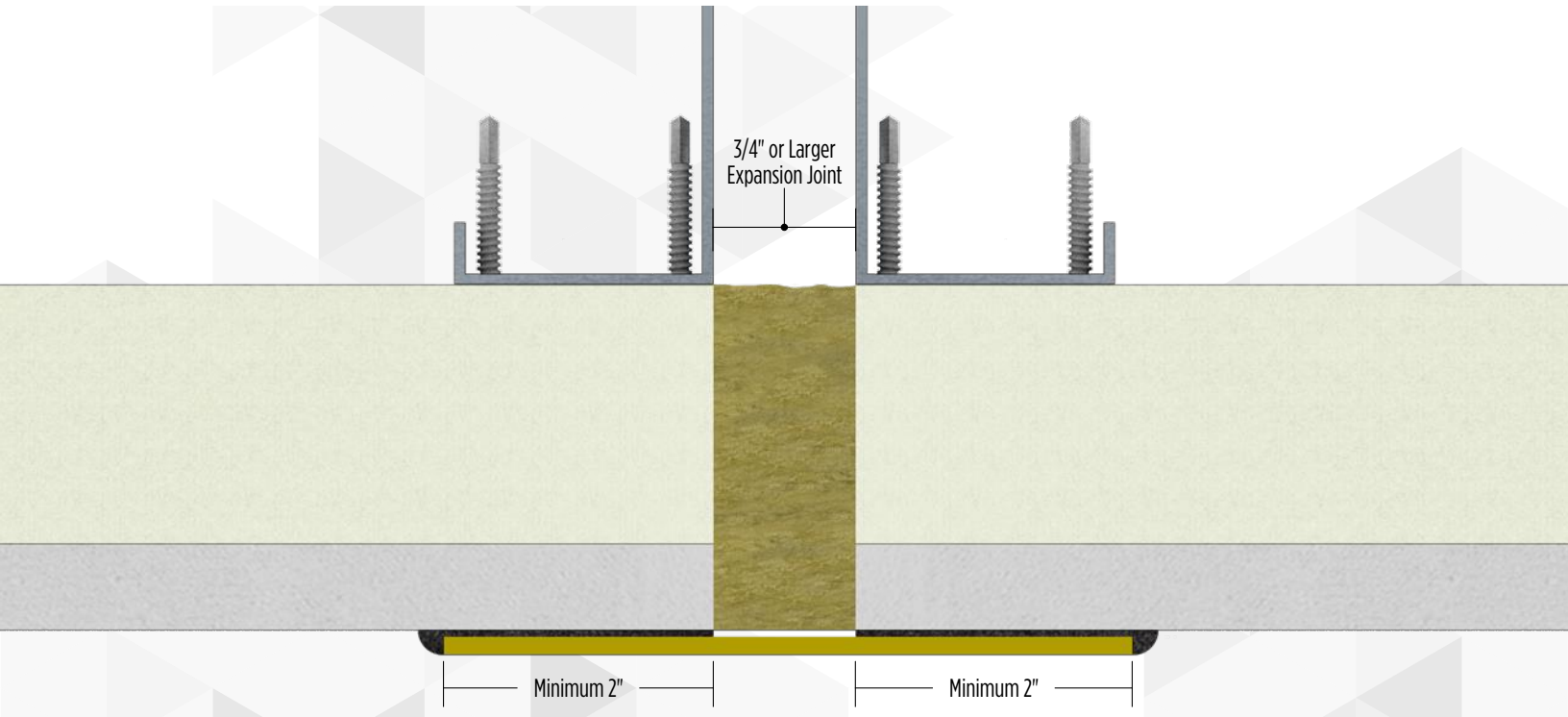


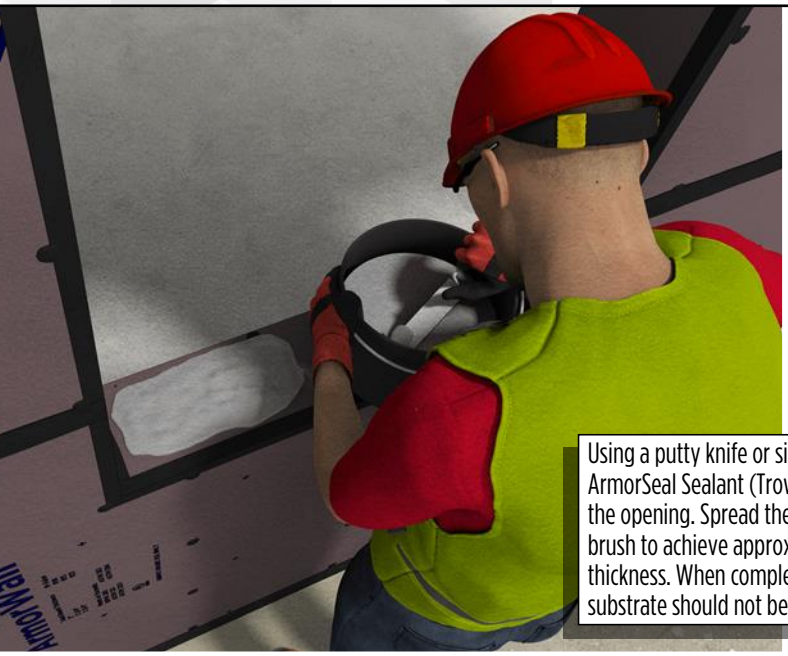
Sealing Gaps Greater Than 1/8" to 3/4"



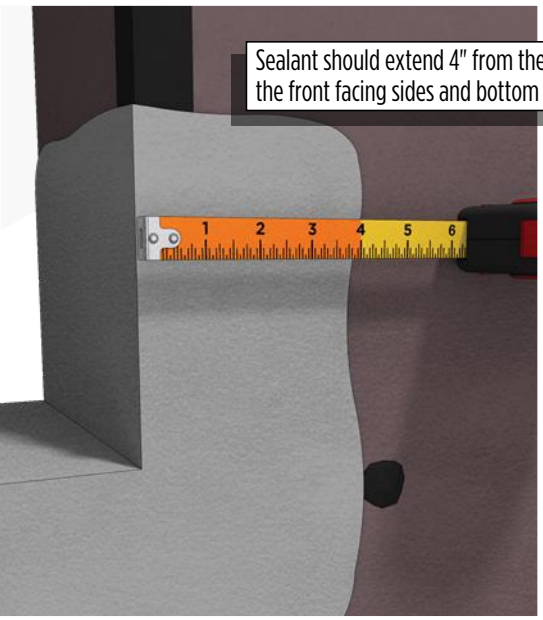



Fill expansion joint with 4 pcf mineral wool insulation a minimum of 2" deep to ensure continuous insulation in the project.
Apply SureSpan EX, a flexible expansion joint seal from Prosoco, across the joint. Surespan EX should span a minimum of 2" on the surface of each side of the joint

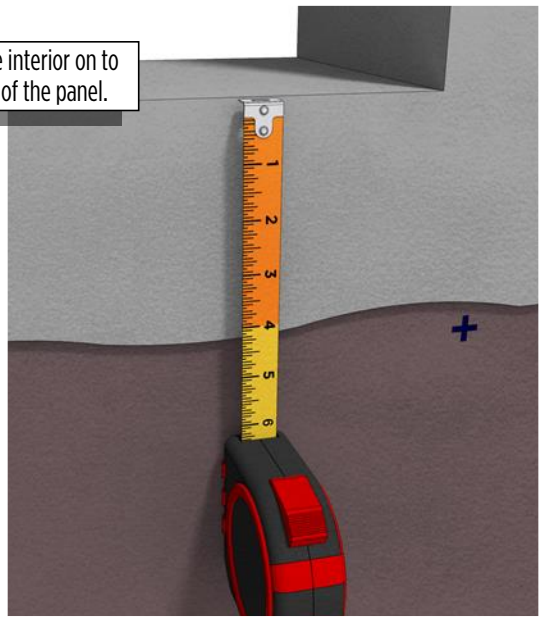

3/4" or Larger
Expansion Joint
Minimum 2"
Minimum 2"

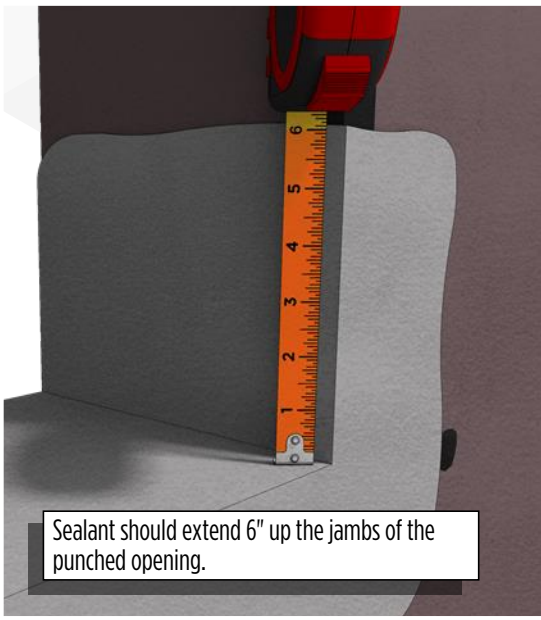


Using a putty knife or similar tools apply ArmorSeal Sealant (Trowel Grade) to the sill of the opening. Spread the sealant with a roller brush to achieve approximately a 40 wet mil thickness. When complete the underlaying substrate should not be visible.

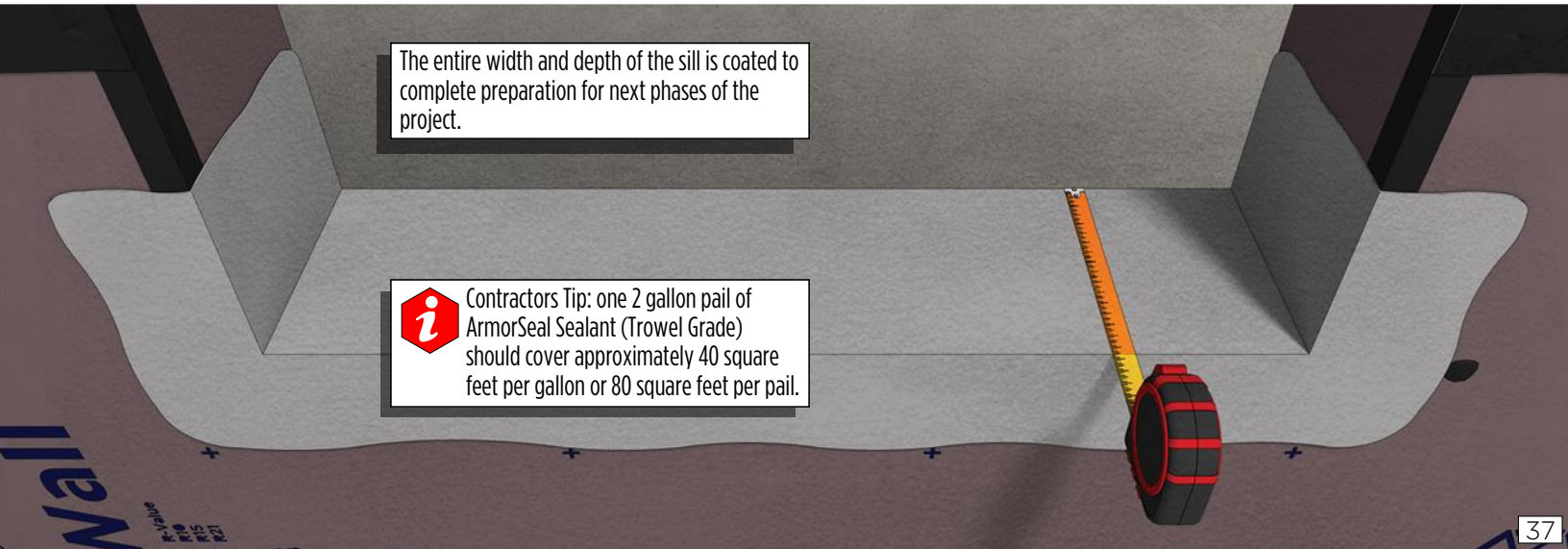


Sealant should extend 4" from the interior on to the front facing sides and bottom of the panel.



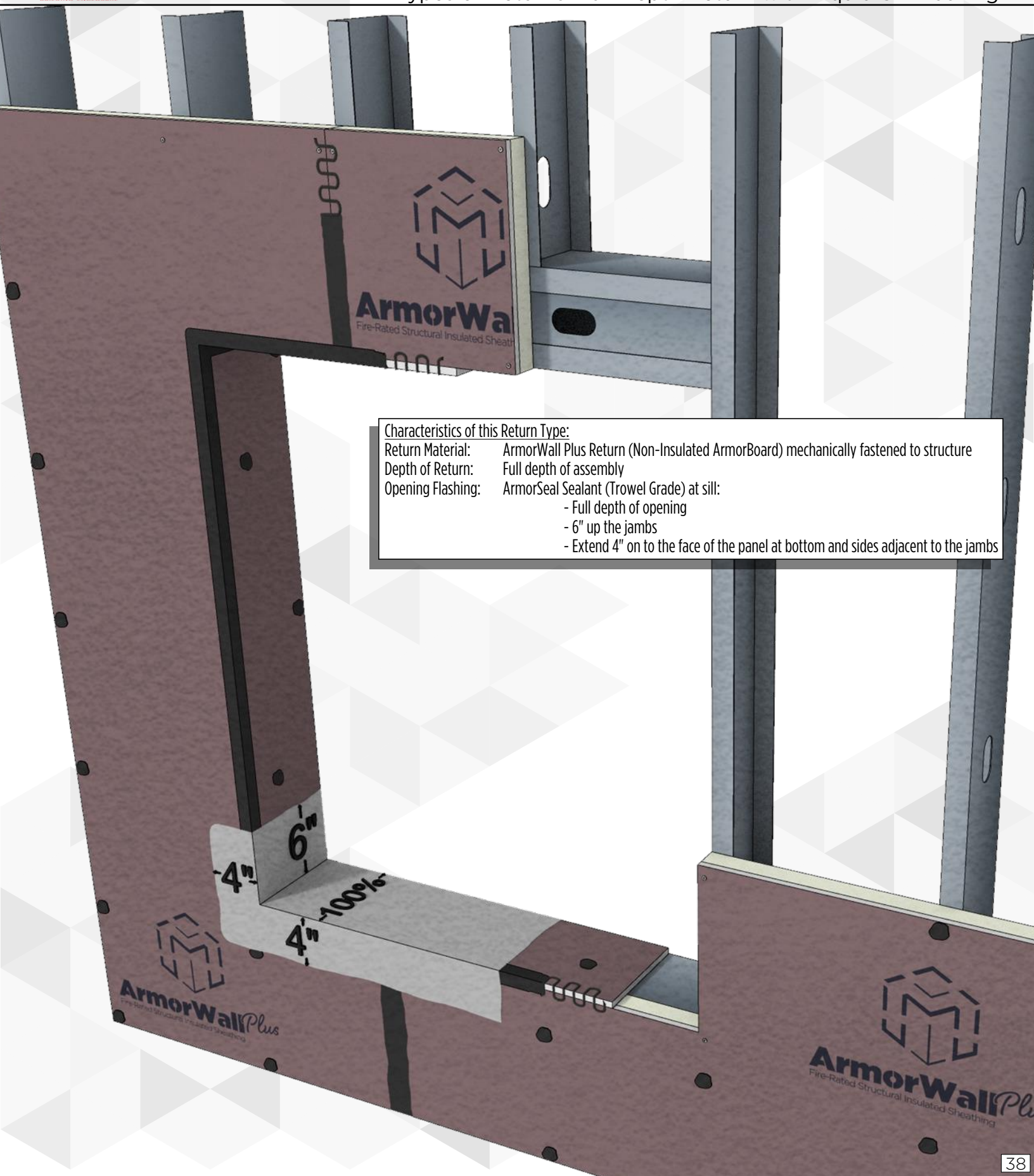


Sealant should extend 6" up the jambs of the punched opening.



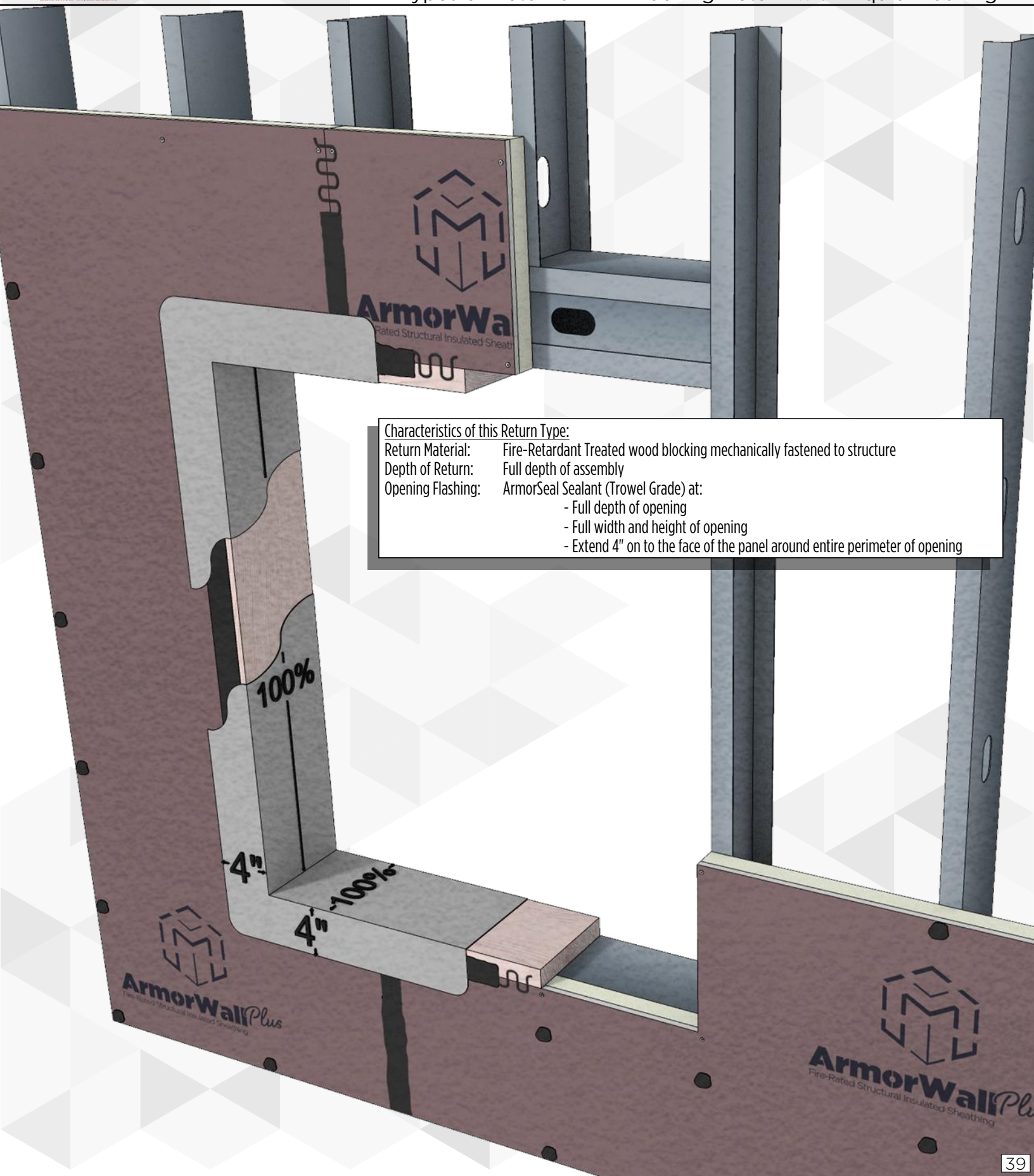
The entire width and depth of the sill is coated to complete preparation for next phases of the project.

Contractors Tip: one 2 gallon pail of ArmorSeal Sealant (Trowel Grade) should cover approximately 40 square feet per gallon or 80 square feet per pail.



Characteristics of this Return Type:

Return Material:	ArmorWall Plus Return (Non-Insulated ArmorBoard) mechanically fastened to structure
Depth of Return:	Full depth of assembly
Opening Flashing:	ArmorSeal Sealant (Trowel Grade) at sill: - Full depth of opening - 6" up the jambs - Extend 4" on to the face of the panel at bottom and sides adjacent to the jambs

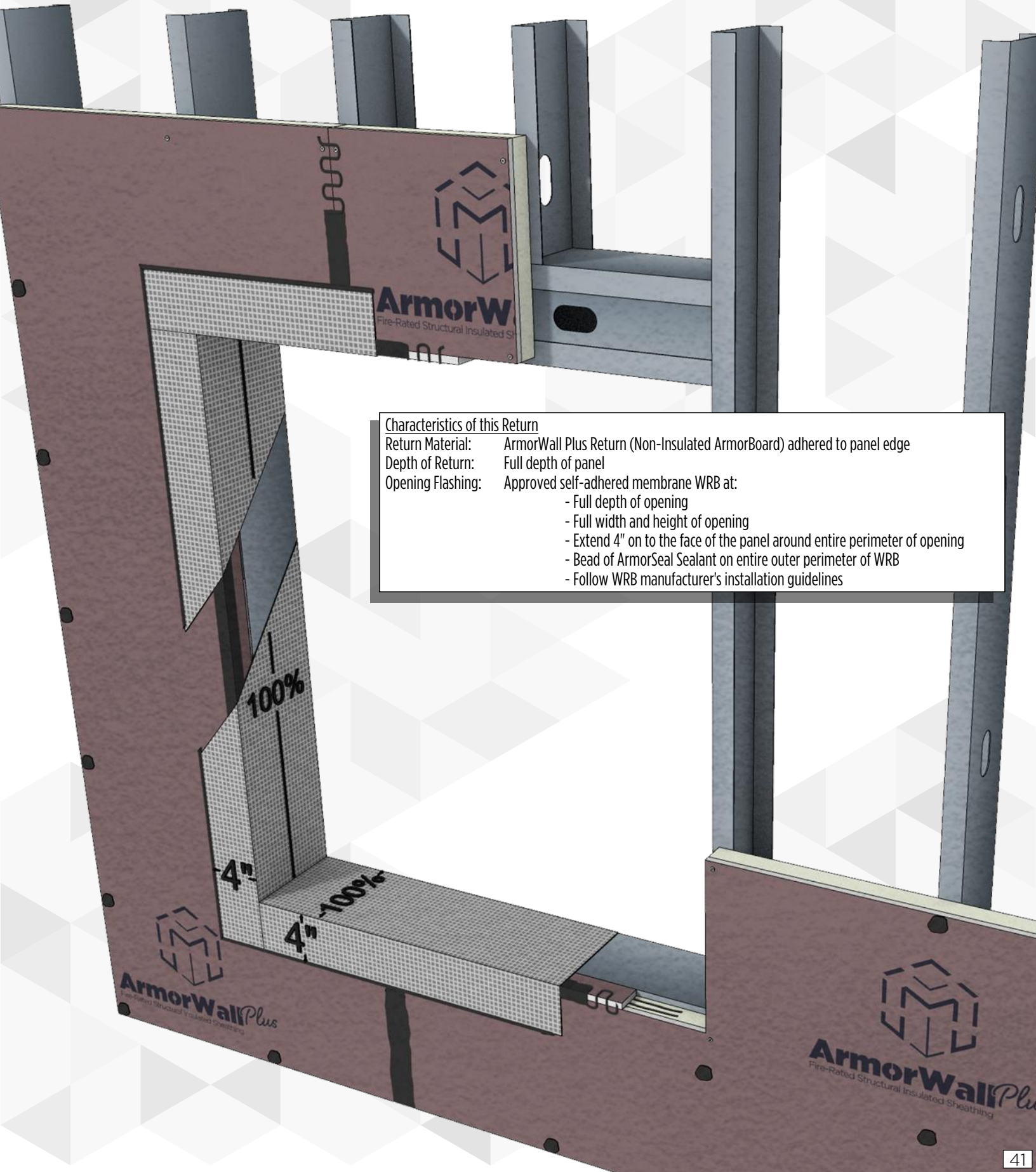


Characteristics of this Return Type:

Return Material:	Fire-Retardant Treated wood blocking mechanically fastened to structure
Depth of Return:	Full depth of assembly
Opening Flashing:	ArmorSeal Sealant (Trowel Grade) at: - Full depth of opening - Full width and height of opening - Extend 4" on to the face of the panel around entire perimeter of opening

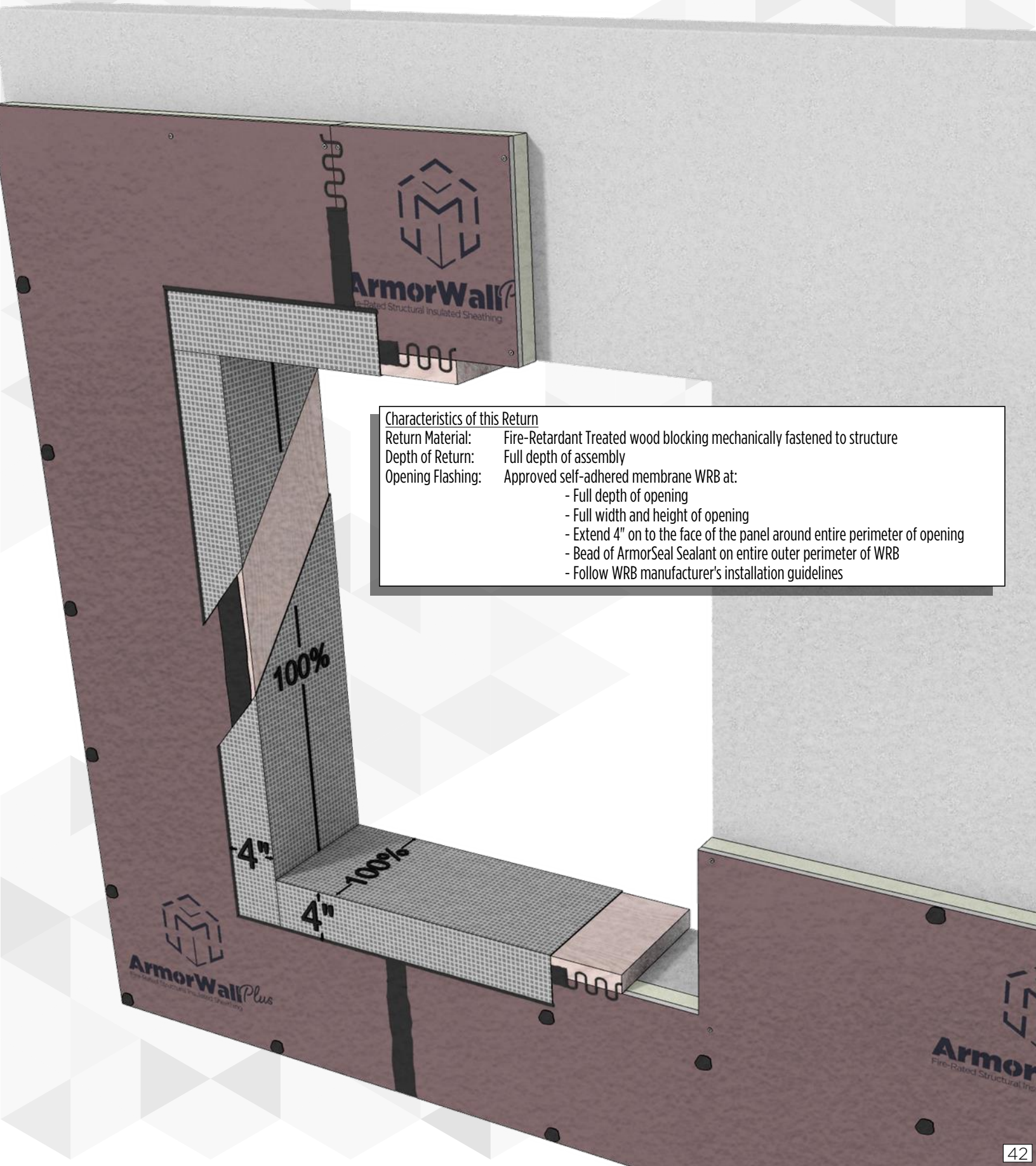
Characteristics of this Return

Return Material:	ArmorWall Plus Return (Non-Insulated ArmorBoard) adhered to panel edge
Depth of Return:	Full depth of panel
Opening Flashing:	ArmorSeal Sealant (Trowel Grade) at:
	- Full depth of opening
	- Full width and height of opening
	- Extend 4" on to the face of the panel around entire perimeter of opening



Characteristics of this Return

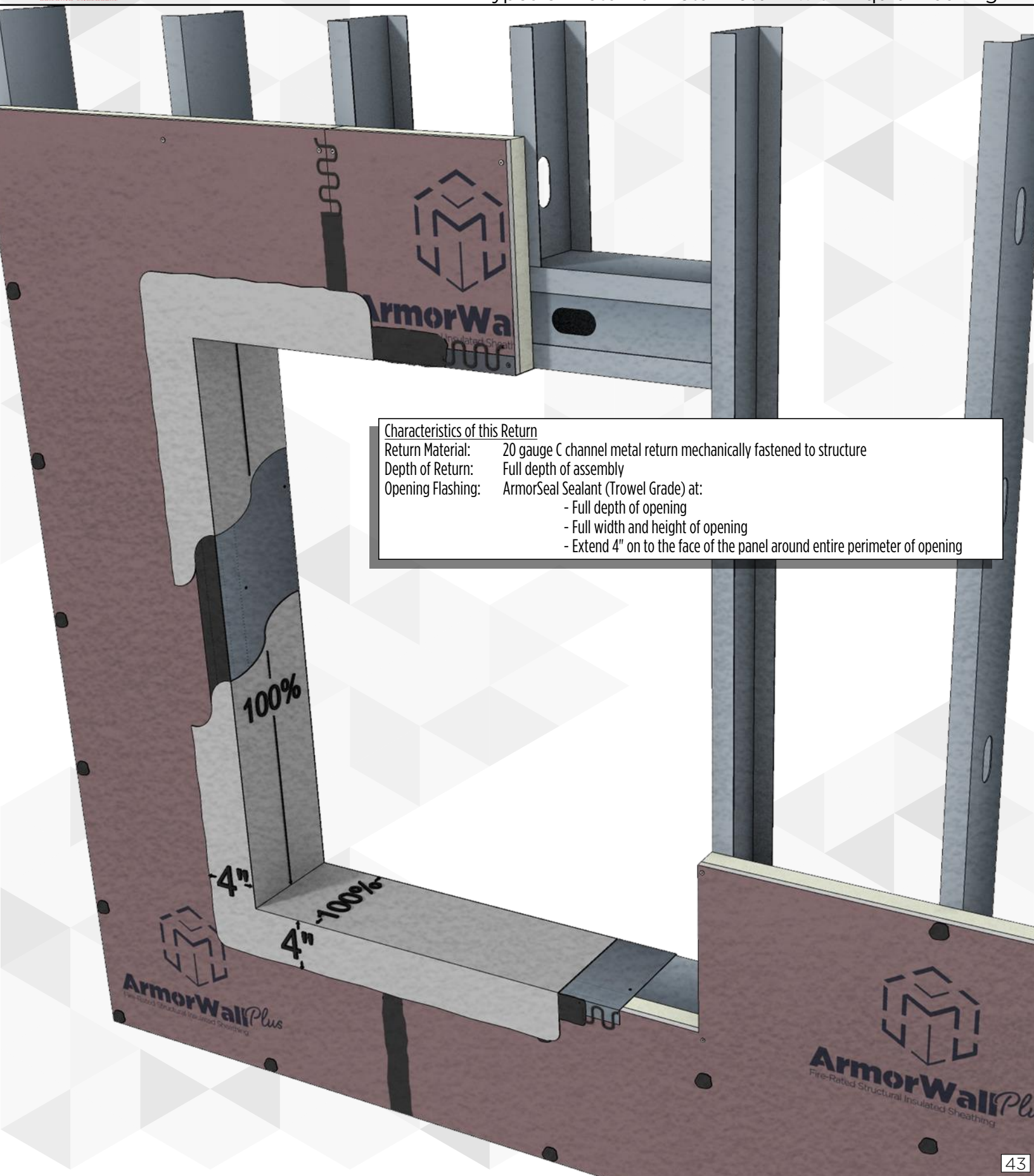
Return Material:	ArmorWall Plus Return (Non-Insulated ArmorBoard) adhered to panel edge
Depth of Return:	Full depth of panel
Opening Flashing:	Approved self-adhered membrane WRB at: - Full depth of opening - Full width and height of opening - Extend 4" on to the face of the panel around entire perimeter of opening - Bead of ArmorSeal Sealant on entire outer perimeter of WRB - Follow WRB manufacturer's installation guidelines



Characteristics of this Return

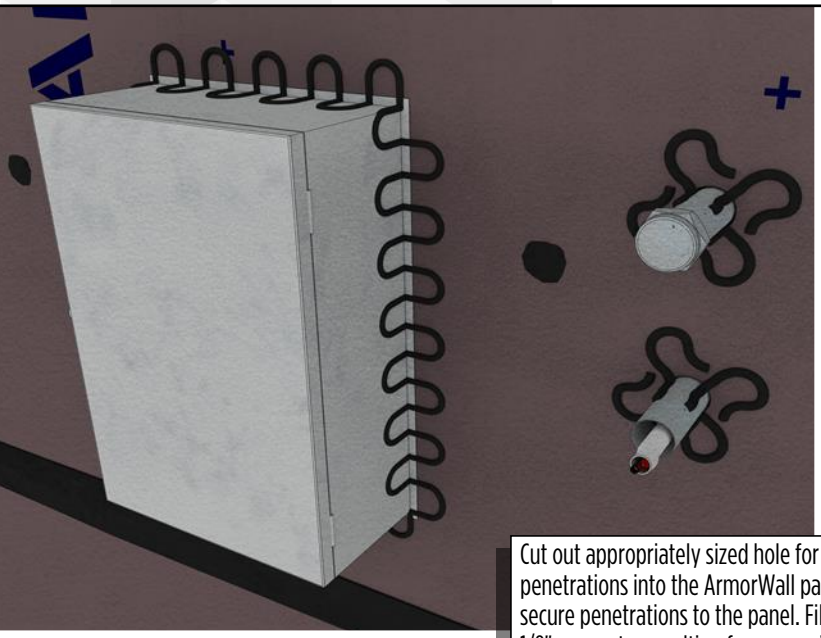
Return Material:	Fire-Retardant Treated wood blocking mechanically fastened to structure
Depth of Return:	Full depth of assembly
Opening Flashing:	Approved self-adhered membrane WRB at:

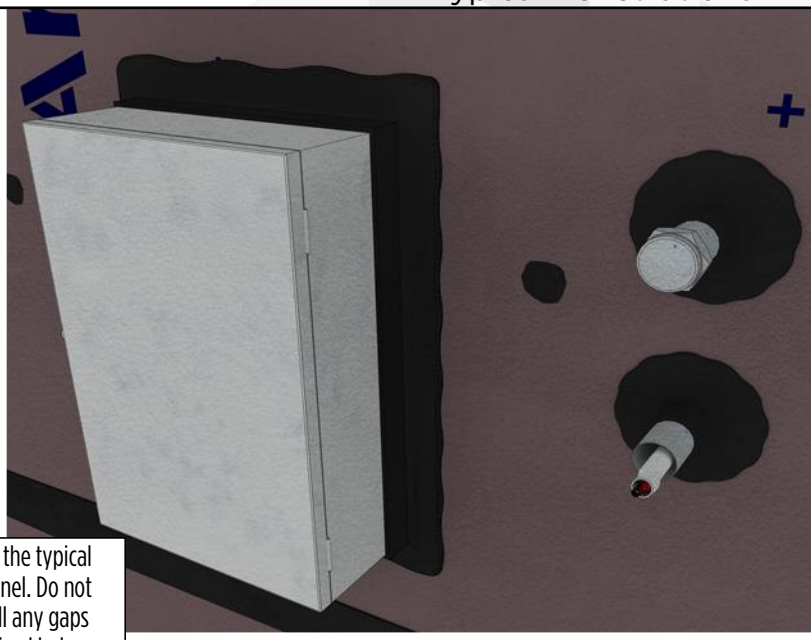
- Full depth of opening
- Full width and height of opening
- Extend 4" on to the face of the panel around entire perimeter of opening
- Bead of ArmorSeal Sealant on entire outer perimeter of WRB
- Follow WRB manufacturer's installation guidelines



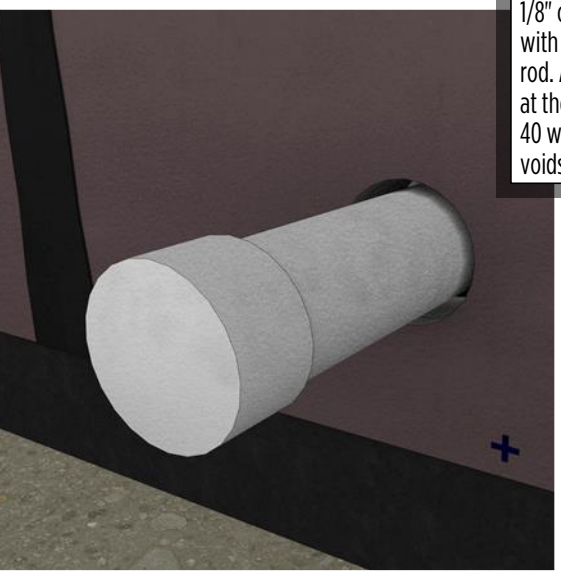
Characteristics of this Return

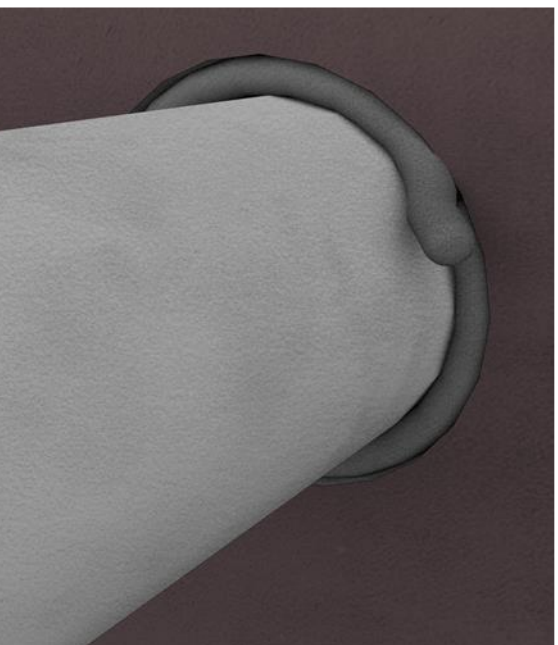
Return Material:	20 gauge C channel metal return mechanically fastened to structure
Depth of Return:	Full depth of assembly
Opening Flashing:	ArmorSeal Sealant (Trowel Grade) at: - Full depth of opening - Full width and height of opening - Extend 4" on to the face of the panel around entire perimeter of opening





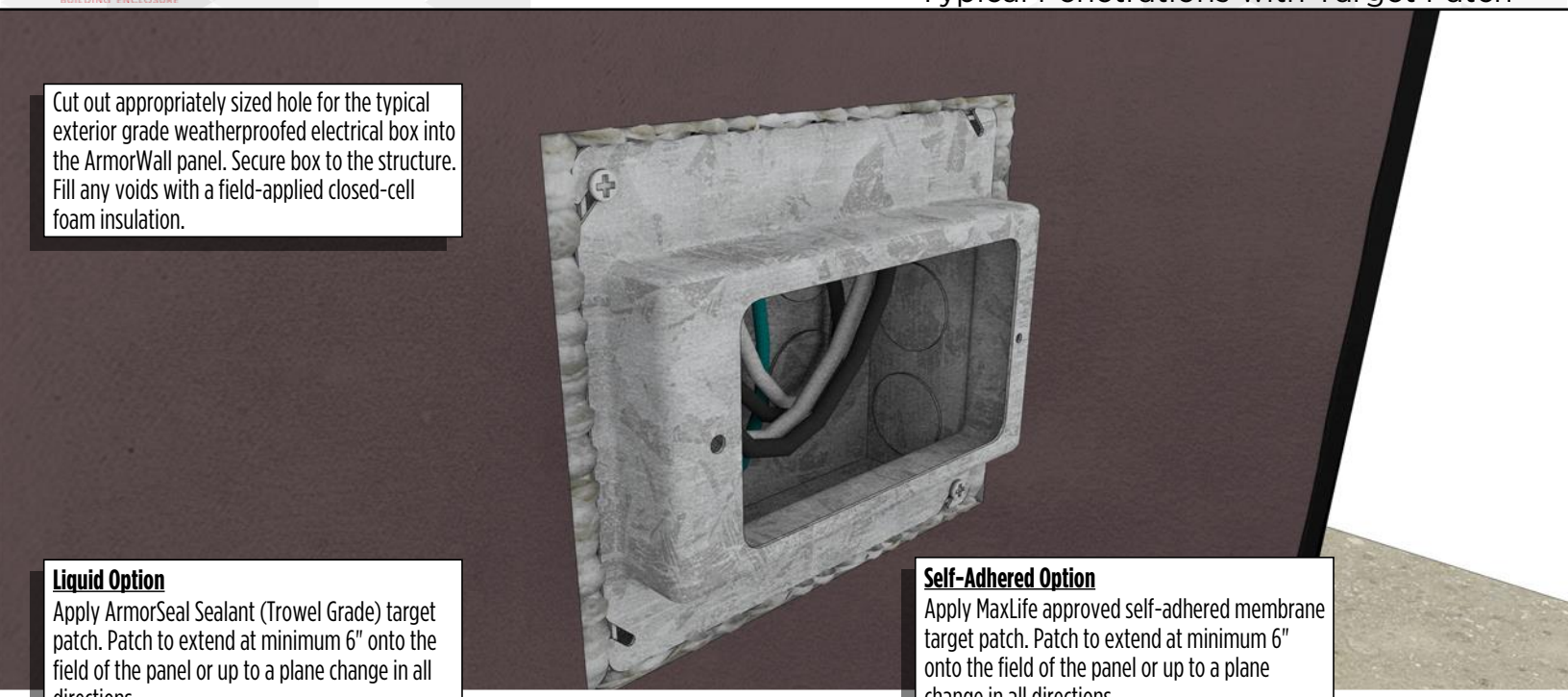
Cut out appropriately sized hole for the typical penetrations into the ArmorWall panel. Do not secure penetrations to the panel. Fill any gaps 1/8" or greater resulting from oversized holes with appropriately sized compressible backer rod. Apply ArmorSeal Sealant to the penetration at the hole and strike to achieve approximately a 40 wet mil thickness and to ensure free from voids or holidays.





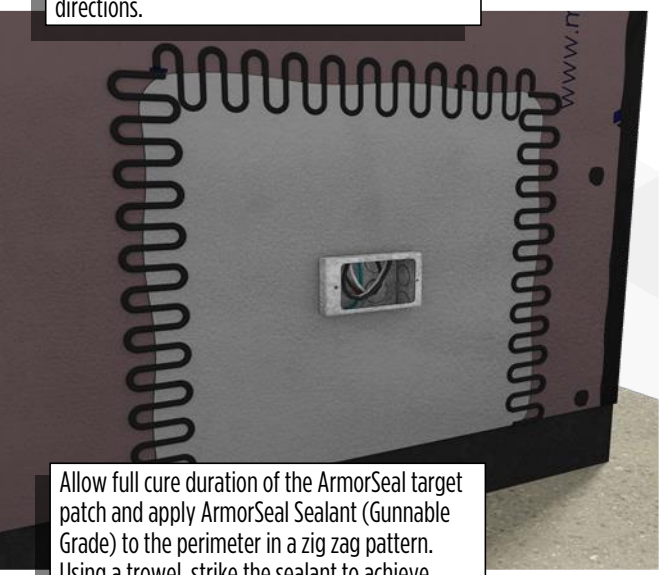
Sealant should extend 1" on both the penetration surface and the face of the panel.

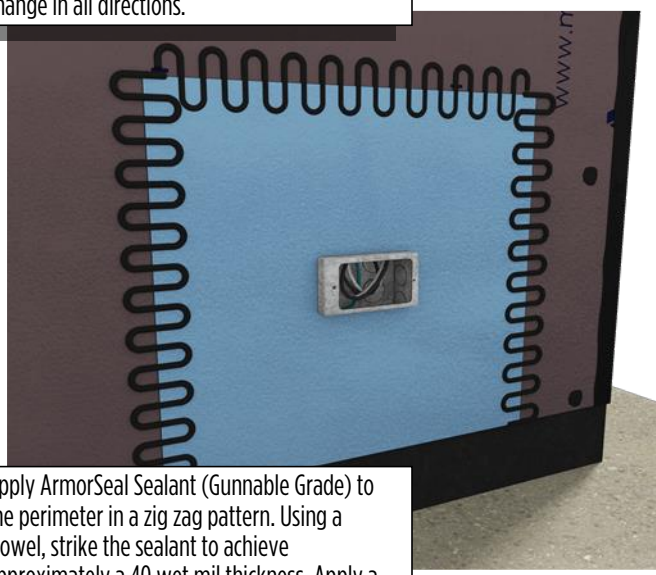
Cut out appropriately sized hole for the typical exterior grade weatherproofed electrical box into the ArmorWall panel. Secure box to the structure. Fill any voids with a field-applied closed-cell foam insulation.



Liquid Option
Apply ArmorSeal Sealant (Trowel Grade) target patch. Patch to extend at minimum 6" onto the field of the panel or up to a plane change in all directions.

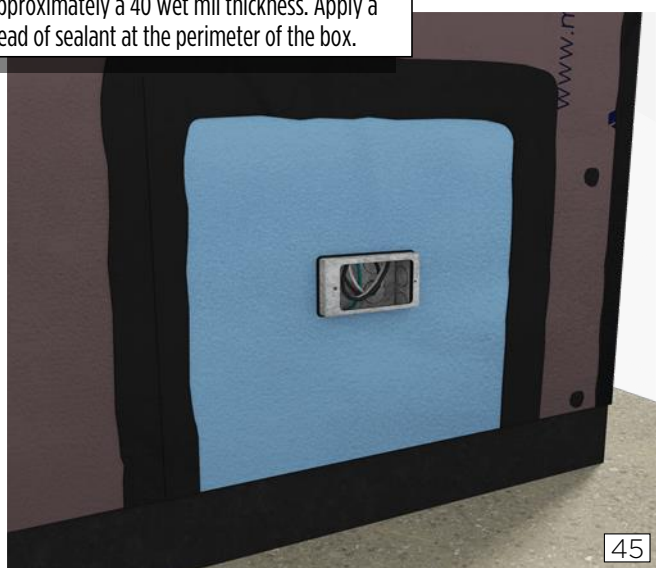
Self-Adhered Option
Apply MaxLife approved self-adhered membrane target patch. Patch to extend at minimum 6" onto the field of the panel or up to a plane change in all directions.



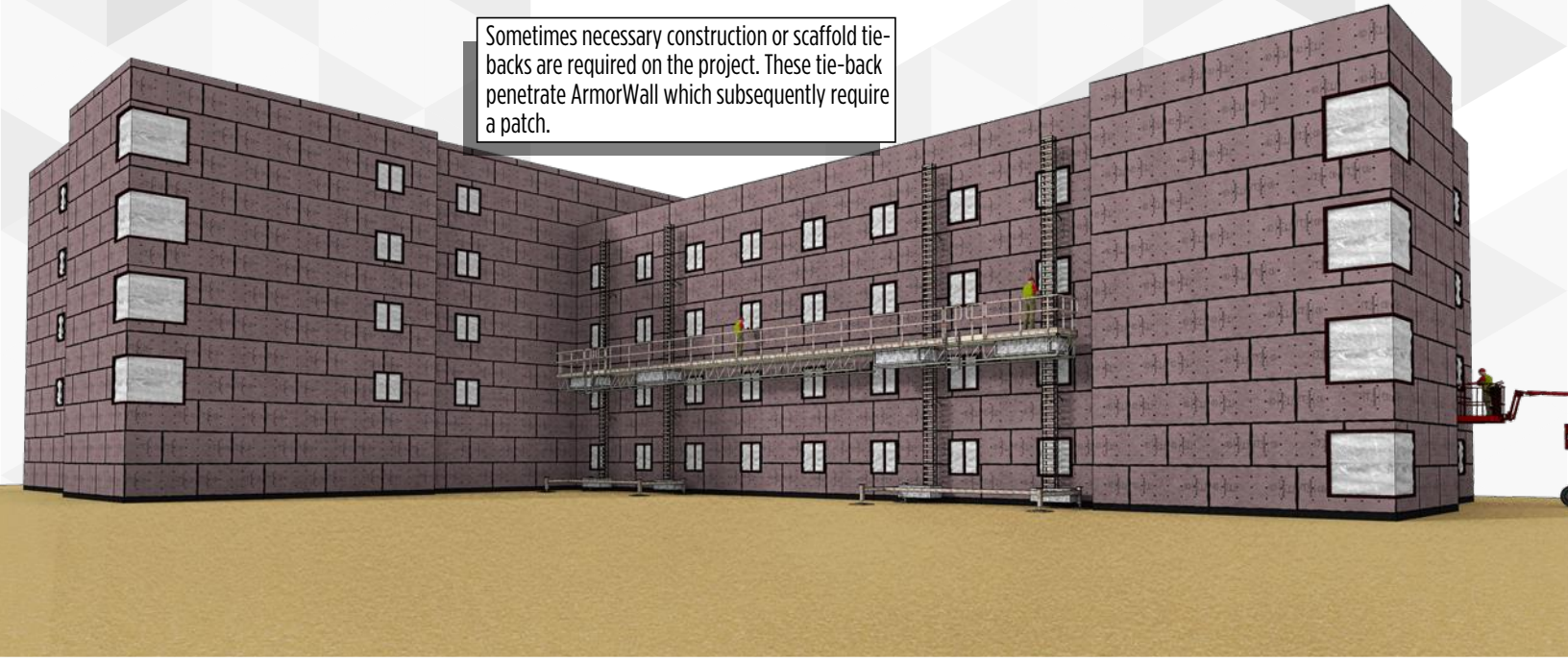


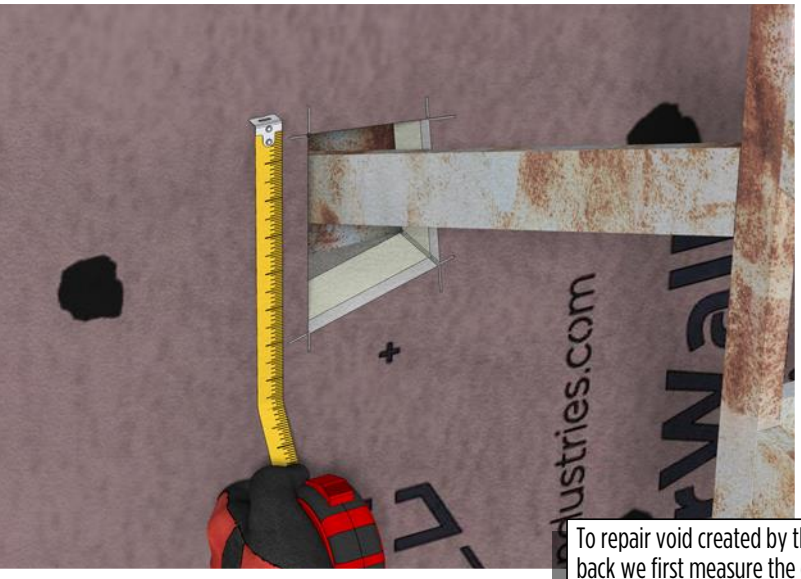
Allow full cure duration of the ArmorSeal target patch and apply ArmorSeal Sealant (Gunnable Grade) to the perimeter in a zig zag pattern. Using a trowel, strike the sealant to achieve approximately a 40 wet mil thickness.

Apply ArmorSeal Sealant (Gunnable Grade) to the perimeter in a zig zag pattern. Using a trowel, strike the sealant to achieve approximately a 40 wet mil thickness. Apply a bead of sealant at the perimeter of the box.

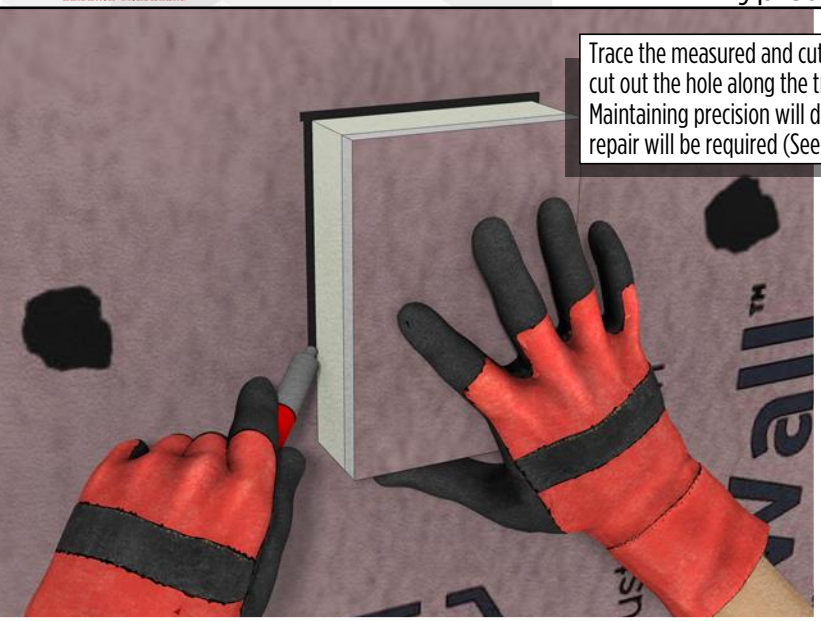


Sometimes necessary construction or scaffold tie-backs are required on the project. These tie-back penetrate ArmorWall which subsequently require a patch.

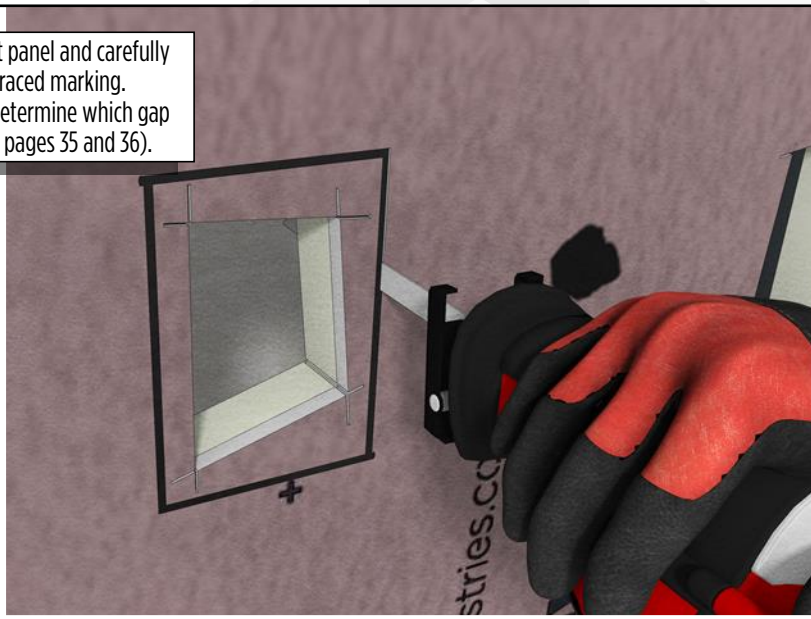


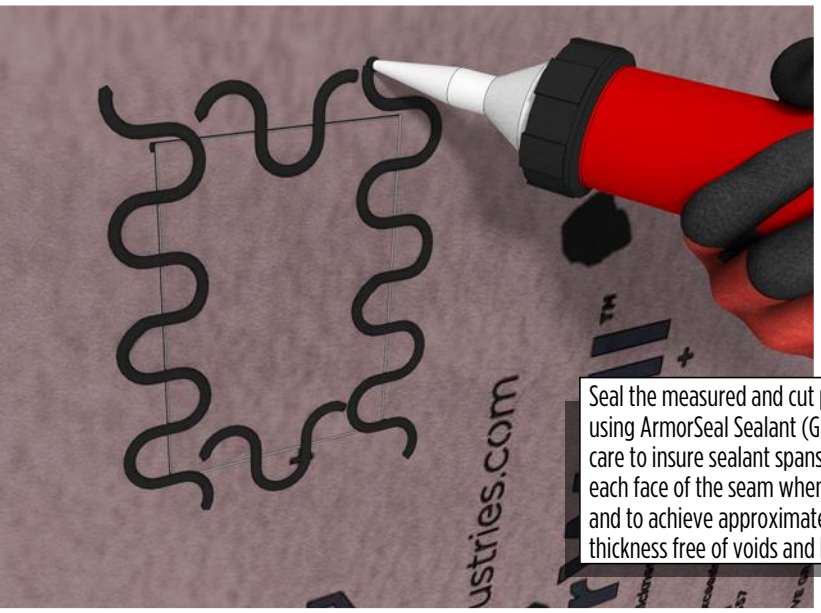


To repair void created by the penetrating tie-back we first measure the overall dimensions vertically and horizontally. Measure off and cut any available, undamaged, and clean ArmorWall material and cut it to size.

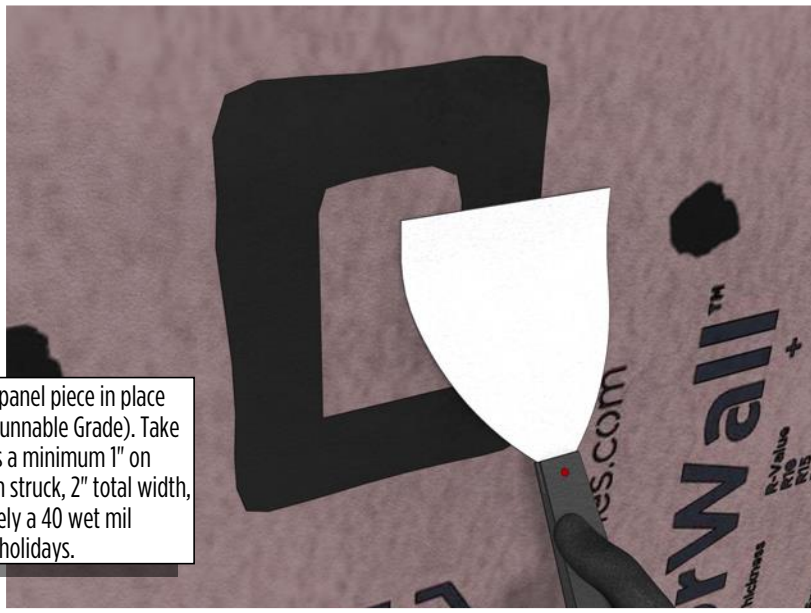


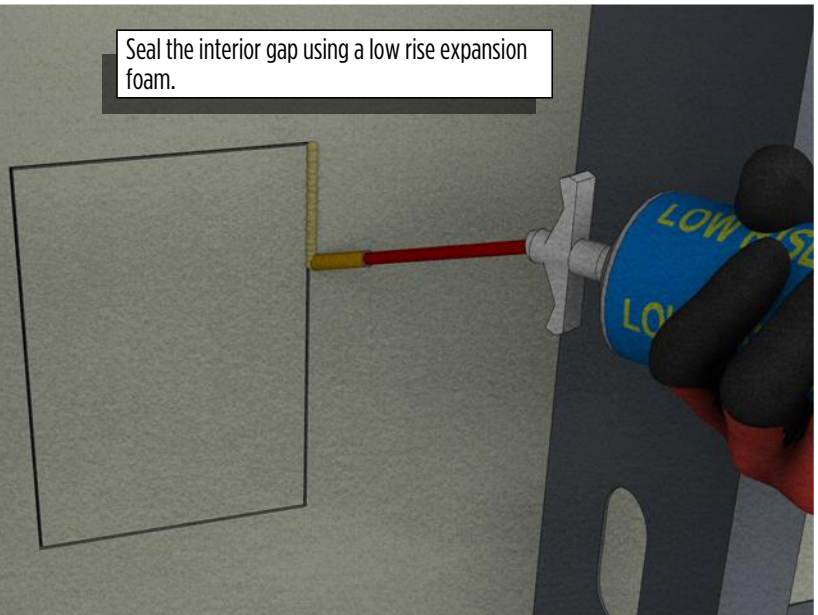
Trace the measured and cut panel and carefully cut out the hole along the traced marking. Maintaining precision will determine which gap repair will be required (See pages 35 and 36).





Seal the measured and cut panel piece in place using ArmorSeal Sealant (Gunnable Grade). Take care to insure sealant spans a minimum 1" on each face of the seam when struck, 2" total width, and to achieve approximately a 40 wet mil thickness free of voids and holidays.





Seal the interior gap using a low rise expansion foam.

This patch cannot be used for structural connection.

Always follow cladding manufacturer installation instructions.

Cladding designation:

#10-9 pancake head low profile or and/or #10-9 ultra low profile head fasteners are approved for cladding attachment to ArmorWall.

Do not use nails to attach cladding to ArmorWall.

Do not use drywall screws to attach cladding to ArmorWall.

Do not use self tapping screws to attach cladding to ArmorWall.

Each attachment screw must penetrate the ArmorWall panel a minimum of 1" after securing claddings, clips, standoffs, and all other attachments. Read the ArmorWall panel data sheets for pullout tolerances.

Reminder: Use a 2,000 RPM screw-gun with torque control. Do not use impact tools to attach to ArmorWall.

For specific inquiries regarding installation of ArmorWall Fire-Rated Structural Insulated Sheathing™ please contact MaxLife Industries Customer Service.

Company Address	4995 South Main Street, Salisbury, North Carolina 28147
Website Address	www.maxlifeindustries.com
Toll Free Number	1-844-MAX4YOU (1-844-629-4968)
Customer Service Email	cs@maxlifeindustries.com