STONE COAT

FUSION
Structural Insulated Sheating

INSTALLATION GUIDE

IMPORTANT: The intent of this installation guide is to provide general information for designers and installers. These guidelines will help inform proper installation of StoneCoat FUSION Structural Insulated Sheathing. It is critical for specifiers and installers to review these guidelines in order to minimize safety risks and to prevent voiding applicable warranties. This manual is a general installation guide and does not cover every installation condition. Proper installation shall be deemed to mean the most restrictive requirement specified by StoneCoat, local building code, engineer or architect of record or other authority having jurisdiction. Please acknowledge that it is solely your obligation for all safety requirements and code compliance. For additional information, contact StoneCoat.

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Installation Guide

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PRODUCT OVERVIEW:

StoneCoat FUSION® is a Structural Insulated Sheathing (SIS) system that consists of a thin composite laminate factory bonded to rigid foam insulation. When installed properly with the FUSION® Laminate Tape, FUSION® FlexFelt Tape and FlexFelt Boots, FUSION® SIS can replace four components from a traditional wall assembly; the wall sheathing, exterior insulation/thermal break, weather-resistant barrier and the substrate for various claddings including masonry. FUSION® SIS can also be utilized as part of a structural shear wall in specific conditions.

FUSION® SIS does <u>not</u> contain organic wood materials that are subject to swelling and therefore does not need to be installed with spacer clips like OSB and plywood sheathings. It complies with the prescriptive requirements in the IBC for a water-resistive barrier and is available in thicknesses from 1" to 6" @ R-5/inch.

StoneCoat warrants adhesion of the FUSION® Laminate tape to FUSION® SIS when installed properly and in direct contact with the panel. StoneCoat does not warrant adhesion to other substrates. StoneCoat does not warrant adhesion of other tapes, fluid-applied membranes, adhesives or sealants applied to FUSION® SIS Panels.

LIMITATIONS:

🚫 **- Do not install FUSION® Tapes or Boots in temperatures outside of the following range (40° F - 90° F)**

🚫 **- StoneCoat FUSION® SIS is not approved for manufactured housing applications built under the U.S. Department of Housing and Urban Development (HUD)**

🚫 **- FUSION® is not meant to replace traditional wood structural panels in applications where the wall sheathing is designed to resist combined wind uplift and shear.**

🚫 **- Do not use in fire-rated assemblies in lieu a required "wood structural panel."**

🚫 **- Do not apply any third-party coating to the sheathing with out express written consent from StoneCoat.**

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NOTES:

- The bottom edge of StoneCoat Fusion® SIS shall be a minimum of 6-inches above finished grade for projects governed by the IRC and a minimum 8- inches above grade for those governed by the IBC.

- In cladding systems requiring multiple layers of water-resistive barriers, traditional hard-coat stucco and adhered stone veneers, StoneCoat Fusion® SIS is intended only to replace the first layer.

- Minimum 1/2-inch gypsum wall board must be installed on the interior side of the wood wall studs as a thermal barrier using code-recognized fasteners per International Residential Code (IRC) or International Build Code (IBC) requirements.

- Only use in building of Type V construction for projects falling under the IBC or construction permitted under the IRC.

- FUSION® SIS should be covered with the finished wall cladding within 180-days of installation

- When a cladding is removed from FUSION® SIS, an additional water resistive barrier must be installed prior to installing a new wall cladding.

HANDLING AND STORAGE:

- When transporting and storing FUSION® materials, proper care must be taken to avoid damage.

- Coverboards must be used when shipping to avoid warping panels from tie down straps.

- Place FUSION® SIS on three even supports (stickers) to keep panels from touching the ground.

- Do not stack more than three units high.

- Do not stack heavy materials on FUSION® SIS.

- Cover with a waterproof tarp or heavy grade plastic to keep out of direct weather.

- Wind gusts can blow around loose panels, it is important to secure panels and avoid unsafe working conditions and damage.

- Store FUSION® FlexFelt Tape and FUSION® FlexFelt Boots in a cool dry location in their original box.

PANEL SIZES & SHIPPING NOTES:

FUSION® SIS is available in multiple standard sizes and thicknesses to cover most project needs.

Standard sizes:	Available thicknesses:
- 4'x8'	- 1" (R-5)
- 4'x9'	- 2" (R-10)
	- 4" (R-20)
	- 6" (R-30)

To provide ultimate flexibility, FUSION® SIS is also available in custom sizes up to 8'x24'. Contact StoneCoat for custom size information and availability.

**Standard Flatbed Semi Trucks will hold the following panel quantities:**

- **1" panel = 17,664 sq ft (≈ 550 - 4x8 panels)**
- **2" panel = 8,832 sq ft (≈ 276 - 4x8 panels)**
- **4" panel = 4,416 sq ft (≈ 138 - 4x8 panels)**
- **6" panel = 2,914 sq ft (≈ 91 - 4x8 panels)**

(Large format panels can incur additional shipping costs.)

FUSION® ACCESSORIES:

FUSION® Laminate Corner is a semi-rigid trim piece made from the same laminate as the FUSION® SIS and is used to bond panels together at inside and outside 90° angled corners, as well as caping exposed foam as needed. It is available in Standard 8' lengths. (For custom angles contact StoneCoat)

- 2"x2" – 8' (For 1" & 2" Panels)

- 4"x4" – 8' (For 2" & 4" Panels)

- 8"x8" – 8' (For 4" & 6" Panels)
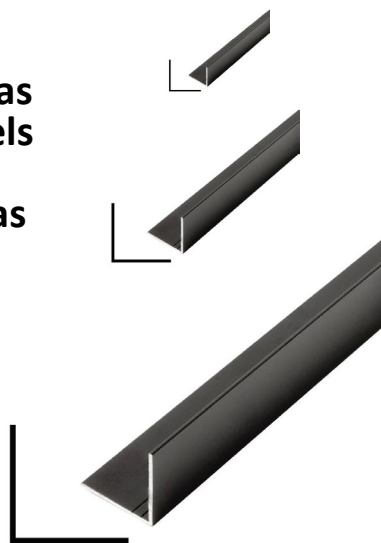
FUSION® Laminate Tape is a semi-rigid flashing tape made from the same laminate as FUSION® SIS, It is used to bond abutting panels together, creating a continuous structural vapor barrier as well as to cap exposed foam when required. This tape comes 4" wide and is sold in 24' rolls.

- 4"x24' Roll

StoneCoat Fusion
FLASHING TAPE

StoneCoat Fusion
FLASH

FUSION® ACCESSORIES:

FUSION® FlexFelt Tape is a self-adhered masonry and concrete compatible tape used to seal non-structural seams, windows, doors and other penetrations, creating an air and vapor barrier. It is available in 4", 6" and 9"widths and is sold in 82' rolls. See data sheets in *APPENDIX 1* on ==Page ##==
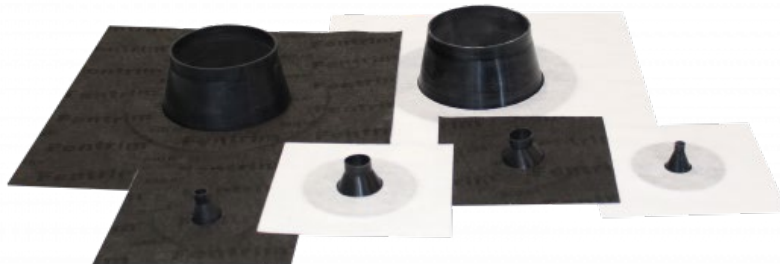
- 4"x82'

- 6"x82'

- 9"x82'

FUSION® FlexFelt Boots are self-adhered masonry compatible grommets that create a quick and reliable way to seal around pipes and cables. Available in opening diameters from 3/8" to 4-3/8". See data sheets in *APPENDIX 2* on ==Page ##==

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GENERAL INFORMATION & PRODUCT COMPATABILITY:

ADHESIVES & FASTENERS:

FUSION® SIS is a structural component of the wall assembly and must be installed with <u>both</u> adhesive and fasteners in accordance with CL 2302-3[1]. LN903 adhesive must be applied to all framing members and screws that meet StoneCoat FUSION® specifications must be installed per Table 1 on PAGE 15 of this installation guide. To check third party compatibility, see the *COMPATABILITY ADDENDUM* at StoneCoat.com/FUSION or contact StoneCoat.

SEALANTS:

For third party Sealant compatibility with FUSION® SIS and accessories see *COMPATABILITY ADDENDUM* at StoneCoat.com/FUSION or contact StoneCoat.

FLASHINGS:

For third party flashing compatibility with FUSION® SIS and accessories see *COMPATABILITY ADDENDUM* at StoneCoat.com/FUSION or contact StoneCoat.

COMPATABLE SUBSTRATES:

FUSION® SIS can be installed over dimensional wood framing[1] and other substrates found in *the SUBSTRATE ADDENDUM* at StoneCoat.com/FUSION or contact StoneCoat.

1: Follow all installation requirements in Listing CL 2302-3 at StoneCoat.com/FUSION

GENERAL INFORMATION & PRODUCT COMPATABILITY :

FOUNDATION LAYOUT CONSIDERATIONS:

FUSION® SIS comes in several thicknesses and may affect the framing and anchor layouts. Brick ledges for full bed depth brick may need to be made wider to maintain the 1" minimum air space required by building code.

INSULATION, WEATHER & FIRE PERFORMANCE TABLES (2" PANEL):

Table 20. R-Value of the Continuous Insulation Component for SF

SF Continuous Insulation	Resistance to Heat Transfer (ft$^2\cdot$°F·h/btu)
R-Value	10

Table 21. Moisture Vapor Permeance of the Proprietary Exterior Sheathing Panel

Product Description	Exterior Sheathing
Proprietary Exterior Sheathing Panel	1.19 perm

Table 22. Water-Resistive Barrier Performance of the Proprietary Foam Sheathing Panel of the SF

Product Description	Standard	Test Result
SF	ASTM E2556- Type II (60 Minute)	Pass

Table 23. Flame Spread and Smoke Developed Index Performance of the Proprietary Foam Sheathing Panel of the SF

Product Description	Flame Spread	Smoke Developed Index
SF	≤ 25	≤ 450

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GENERAL INSTALLATION GUIDE:

MATERIAL & WEATHER REQUIREMENTS:

To ensure proper installation of FUSION® SIS the bonding surfaces must be clean, dry, and cannot be frozen. Air temperature must be between 40°F to 90°F and the wall assembly must be protected from dropping below 40°F for a minimum of 24 hours. Avoid handling in high winds to prevent injury or material damage.

LAYOUT & INSTALLATION TIPS:

- When calculating stud layout be sure to account for the panel thickness in areas like outside corners. See page 19

- Inspect framing to ensure stud walls are plumb within ¼", level & square. Any framing out of industry tolerance should corrected before sheathing installation begins.

- Pre-fit panels before applying NL903 adhesive to the framing and be sure to install the panels before glue skins over (approximately 20 min. in average conditions)

- All fasteners must penetrate framing a minimum of 1". Adjust screw length to the panel thickness being installed to ensure proper attachment.
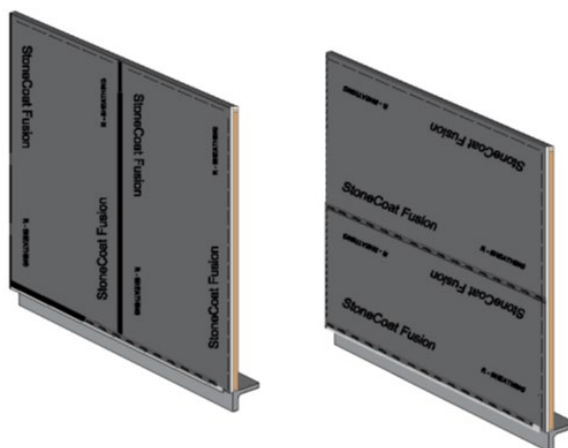
TOOLS NEEDED:

- ❑ PPE
- ❑ Square
- ❑ Tape Measure
- ❑ Tin Snips
- ❑ Chalk Line
- ❑ Level
- ❑ Circular Saw
- ❑ Drill

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GENERAL INSTALLATION GUIDE:

SHEATHING ORIENTATION:

The following instructions are a general outline for the installation of FUSION® Structural Insulated Sheathing. For additional details see the *INSTALL LIBRARY* at StoneCoat.com/FUSION. FUSION® SIS is installed with the weather-resistant laminate facing outward and can be oriented both vertically and horizontally.

## TABLE 1 – EXTERIOR WALL ASSEMBLY AND FASTERN PATTERN

(Based on 2" Panel)	Description	Fastening
Exterior Sheathing	2" XPS foam plastic insulation factory adhered to a proprietary laminate. The laminate faces the exterior and is attached to structural members a maximum of 16" o.c. All panel edges and ends require the exterior sheathing to be glued and fastened to a structural member. When StoneCoat is used as the cladding, StoneCoat is applied directly to the laminate.	The exterior sheathing with the laminate facing the exterior is fastened to wood structural members with #9 x 3" screws at 12" on center spacing around the perimeter and 12" on center in the field. A $\frac{3}{8}$" bead of LIQUID NAILS® Heavy Duty Construction Adhesive is applied each structural member, along the length of the structural member and top/bottom plates/rim boards. The foam sheathing side (i.e. non-laminate side) is adhered to each structural member post adhesive application.
Structural Member	Minimum 2x4 #2 SPF (minimum SG of 0.42) grade marked lumber applied at a maximum of 16" o.c. Other lumber types, grades and sizes can be used if their design values are equal to or better than 2x4 #2 SPF.	(3) Nails 3" x 0.131" per structural member are required at top/bottom plates when used in walls and for rim board attachment when used in floors or roofs.
Cavity Insulation	Any type of cavity insulation can be used.	Per cavity insulation manufacturer instructions.
Interior Sheathing	Minimum ½" gypsum wallboard attached to a structural member.	Fastened to each structural member with #6 1¼" Type W screws at 16" on center spacing around the perimeter and 16" on center in the field. Adhesive can also be applied but is not a requirement.

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GENERAL INSTALLATION GUIDE:

STRAPPING:

Install all specified metal ties, straps or other structural connectors that are designed for shear, uplift resistance or diaphragm loading directly to the framing before installing FUSION® SIS. These components shall be specified by the designer-of-record or local building code.

INSTALLATION TIP: Be sure to complete any nailing or anchor inspections prior to sheathing as these items will be concealed after installing FUSION® SIS.
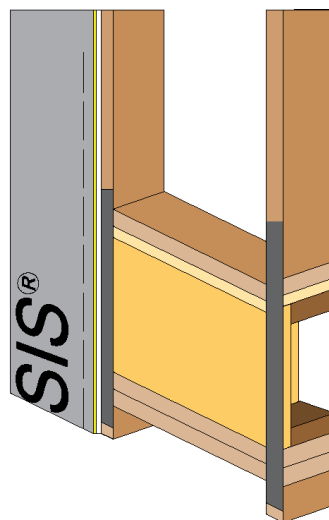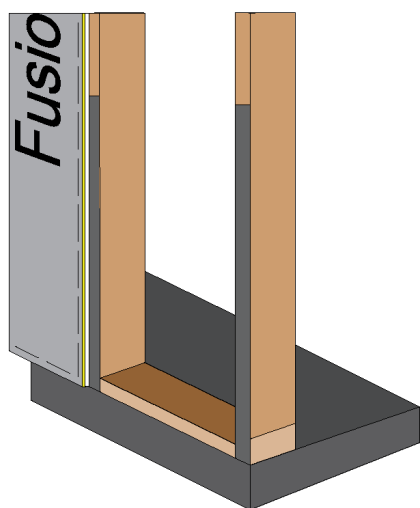
GAPS IN SHEATHING:

FUSION® SIS should be installed with little or no gaping between panel. If gaps larger that ½" occur be sure the panel is properly supported by the framing behind, then fill gap with either a backer rod or compatible minimal-expanding foam before applying any FUSION® Tapes. For third party foam compatibility see *COMPATABILITY ADDENDUM* at StoneCoat.com/FUSION or contact StoneCoat.

GENERAL INSTALLATION GUIDE:

SHEAR WALLS – ENGINEERED

FUSION® SIS may be integrated into a shear wall design by engineered methods in accordance with the IRC and IBC as described in TABLE 2. When FUSION® SIS is being used to resist lateral loads the panel edges must be backed by solid wood framing. A minimum ½" thick gypsum wallboard must be installed as a thermal barrier in accordance with Chapter 26 of the IBC or Chapter 3 of the IRC.

TABLE 2: ENGINEERED METHOD: FASTENING REQUIREMENTS AND ALLOWABLE SHEAR CAPACITY FOR ZIP SYSTEM® R-SHEATHING WITH FRAMING OF DOUGLAS FIR-LARCH[2] FOR WIND OR SEISMIC LOADING.

| R-SHEATHING TYPE[4] | FRAMING | | Fasteners | | | ALLOWABLE SHEAR CAPACITY [5,6,7] (plf) |
	Nominal Stud Size (min.)	Maximum Stud Space (inches)	Fastener Specification[3]	Edge/Field Spacing (inches)	Min. Penetration into Framing (inches)	
R-3	2 x 4	24	0.131-inch shank nail	4/12	1.5	245
R-3	2 x 4	24	0.131-inch shank nail	3/12	1.5	280
R-3	2 x 4	16	16 ga Staple 7/16" crown, 2" length	3/6	1.0	210
R-6	2 x 4	24	0.131-inch shank nail	4/12	1.5	230
R-6	2 x 4	24	0.131-inch shank nail	3/12	1.5	255
R-9	2 x 4	24	0.131-inch shank nail	3/12	1.5	240
R-12	2 x 4	24	0.131-inch shank nail	3/12	1.5	215

For SI: 1 inch = 25.4 mm; 1 pound per foot (ppf) = 14.59 N/m.

1. All fasteners must be located a minimum of 3/8 inch from panel edges. 2. For framing of other species, the shear value above must be multiplied by the Specific Gravity Adjustment Factor = [1- (0.50 − SG)], where SG = Specific Gravity of the framing lumber in accordance with the AF&PA NDS. This adjustment factor must not be greater than 1. 3. Fasteners must be common nails or equivalent, or staples, of a type generally used to attach wood sheathing to wood framing. 4. R-12 R-Sheathing panels have a foam plastic insulation thickness of 2.0 inch. R-9 R-Sheathing panels have a foam plastic insulation thickness of 1.5 inch. R-6 R-Sheathing panels have a foam plastic insulation thickness of 1.0 inch. R-3 R-Sheathing panels have a foam plastic insulation thickness of 0.5 inch. 5. The maximum height-to-width aspect ratio of 2:1. 6. The allowable shear capacity may be increased by 40% for wind in Allowable Stress Design in accordance with Section 2306.3 of the 2015, 2012 and 2009 IBC. 7. All panel edges must be backed by framing.

GENERAL INSTALLATION GUIDE:

FLASHING & TAPING:

❑ Prior to installation of FUSION® SIS, a metal starter flashing can be installed to cover the exposed bottom of the panels, if required by local building code. Alternatively, a FUSION® Laminate Tape can be applied later the panels already have been installed.

❑ Prior to taping ensure the panel surface is dry and free from contaminates that can prevent proper adhesion, like dust, dirt and oils.

❑ Apply FUSION® Laminate Tape over all seams and FUSION® Laminate Corner over all inside and outside corners with LN903 adhesive. Use a putty knife to spread adhesive evenly, avoiding excessive buildup.

❑ Using a laminate roller will help ensure proper bonding between the tape and the panel as well as squeeze out any extra adhesive.

❑ Be sure to install all flashing tape centered evenly across the seams.

❑ Tape over any damaged section of the panels if damage is less than 2" in diameter. If damage is larger than 2" the panel may need to be replaced.

❑ Tape over all fasteners using either FUSION® Laminate Tape and NL-903 adhesive or self-adhered FUSION® Felt Tape.

❑ Properly seal all penetrations and fenestrations with FUSION® Felt Tape or FUSION® Felt Penetration Grommets.
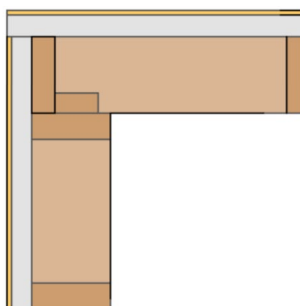
GENERAL INSTALLATION GUIDE:

OUTSIDE CORNER DETAIL:

When installing FUSION® SIS cap one panel with the adjacent panel like the right diagram and tape using FUSION® Laminate Corner adhered with LN-903.
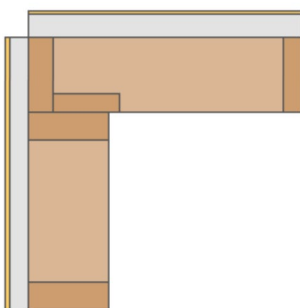
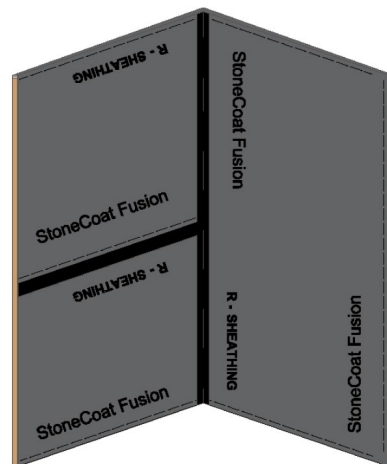**Incorrect**   **Correct**
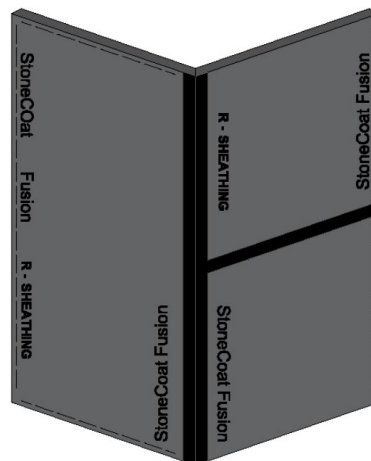
INSIDE CORNER DETAIL:

For inside corners bump one panel against the adjacent panel and join panels with FUSION® Laminate Corner adhered with NL-903.

NOTE:

For non-structural applications FUSION® Felt Tape is adequate to tape these joints.

GENERAL INSTALLATION GUIDE:

PENETRATION DETAILS:

There are four ways to seal pipe and cable penetrations in the FUSION® SIS System.

- **Self-Adhered FUSION® FlexFelt Boots (precut with holes from 3/8" to 4-3/8")**
- **Generic boot for use with non-masonry cladding.**
- **Generic boot for use with masonry claddings covered with a FUSION® Laminate Collar and adhered with NL-903.**
- **Generic boot with Masonry Cladding covered with FUSION® FlexFelt Tape or Laminate Patch adhered with NL-903.**

FUSION® FlexFelt Boot method-

❑ **Slide the FUSION® Felt Boot partway over the pipe/cable.**

❑ **Peal off the back of the boot exposing the adhesive layer and push the boot firmly against the face of the panel .**

Generic boot method-

❑ **For non-masonry cladding, install boot per manufacturers spec.**

❑ **For masonry cladding, cover the generic boot flange with either FlexFelt Tape or FUSION Laminate collar to aid bonding to masonry claddings.**
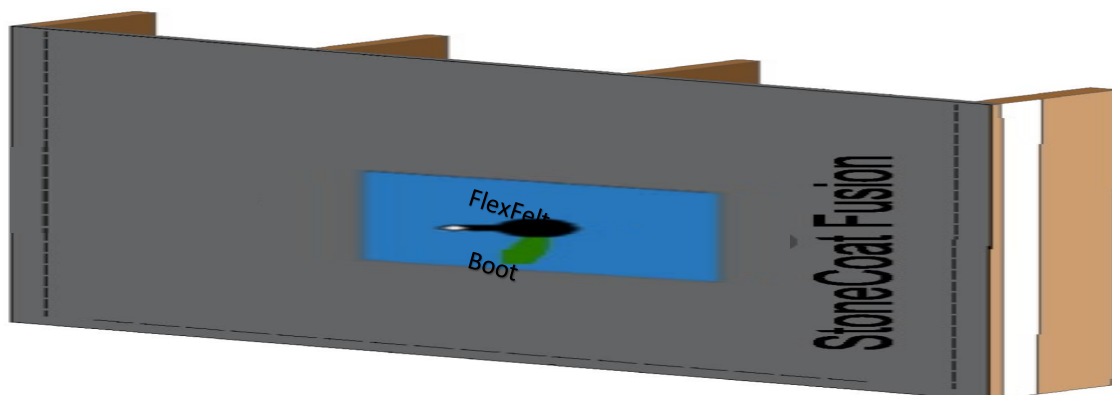
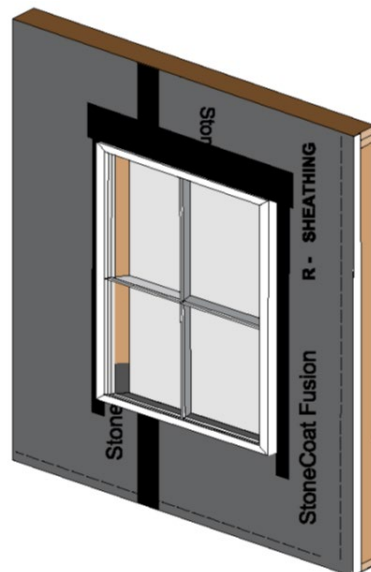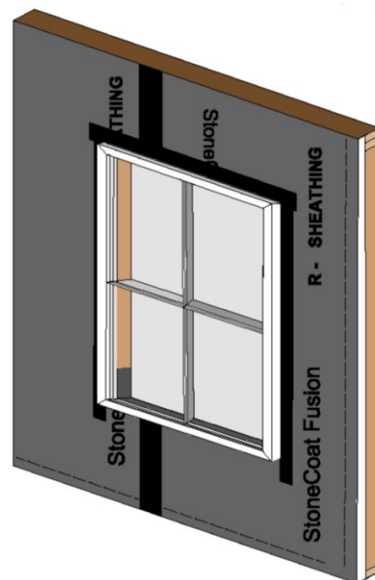## GENERAL INSTALLATION GUIDE:

FLANGED WINDOW DETAIL:

❑ **Insure there is a positive slope toward the outside on the windowsill framing.**

❑ **Install a heavy mill stretch flashing tape 1.5" over the outside face, extend tape 6" up the sides of the opening.**

❑ **Install window per manufacturers recommendations. Be sure to use a screw long enough to account for additional depth of FUSION® SIS. Screw should penetrate wood framing by 1" minimum.**

❑ **Apply FUSION® FlexFelt Tape along the left and ride side of the window, sealing the flange to the panel. Extend the tape 4" above and below the edge of window.**
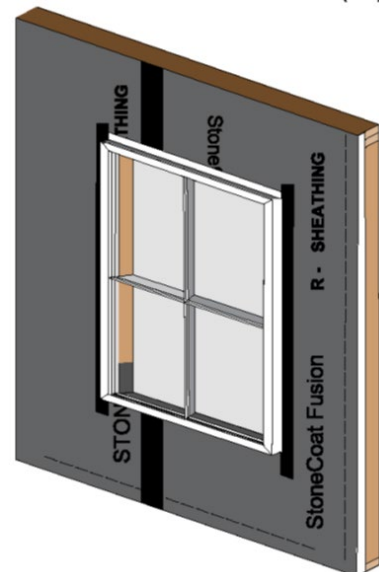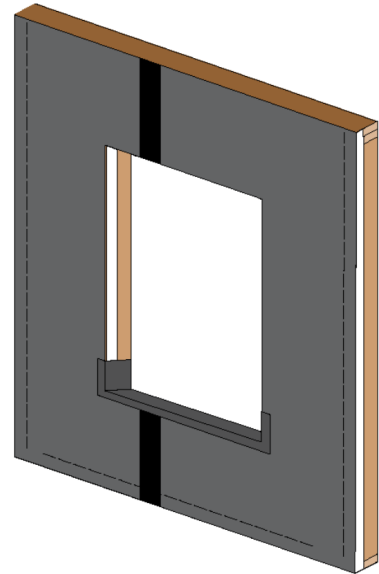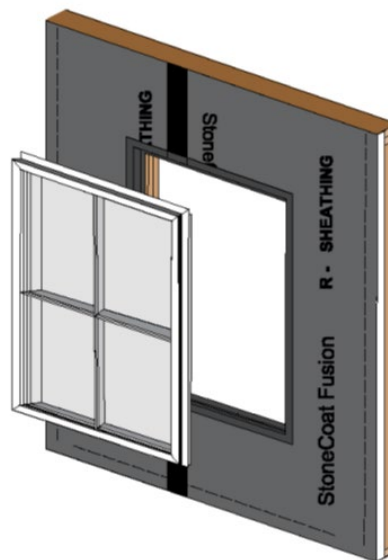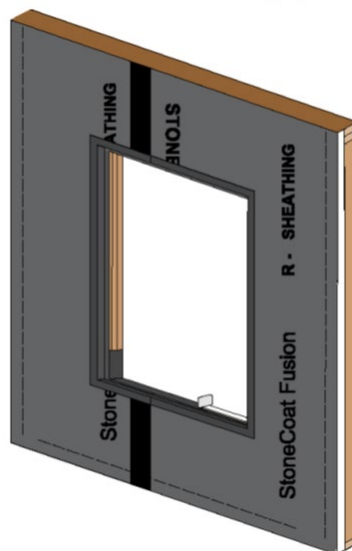
GENERAL INSTALLATION GUIDE:

FLANGED WINDOW DETAIL:

❑ **Install FUSION® FlexFelt Tape over the head of the window extending 1" past the side flashing tape.**

❑ **Install head flashing above window and tape to the panel with FUSION® FlexFelt Tape.**

❑ **Leave the bottom flange untapped to allow for drainage.**

GENERAL INSTALLATION GUIDE:

RECESSED WINDOW DETAIL:

☐ **Cut FUSION® SIS ½" wider than outside diameter of the window flange and centered on rough opening. Insure there is a positive slope toward the outside on both the windowsill framing and panel.**

☐ **Install a heavy mill stretch flashing tape 1.5" over the outside face of the SIS panel, extend tape 6" up the sides of the opening.**

☐ **Install window per manufacturers recommendations.**

☐ **Apply FUSION® FlexFelt Tape along the left and ride side of the window, sealing the flange to the panel. Lastly apply FUSION® FlexFelt Tape to header flange.**

GENERAL INSTALLATION GUIDE:

DOOR DETAIL:

❑ **Install FUSION® FlexFelt Tape on the left and right jamb.**

❑ **Install prefabricated sill plate, or, three sperate parallel beads of sealant running 6" up the jambs.**
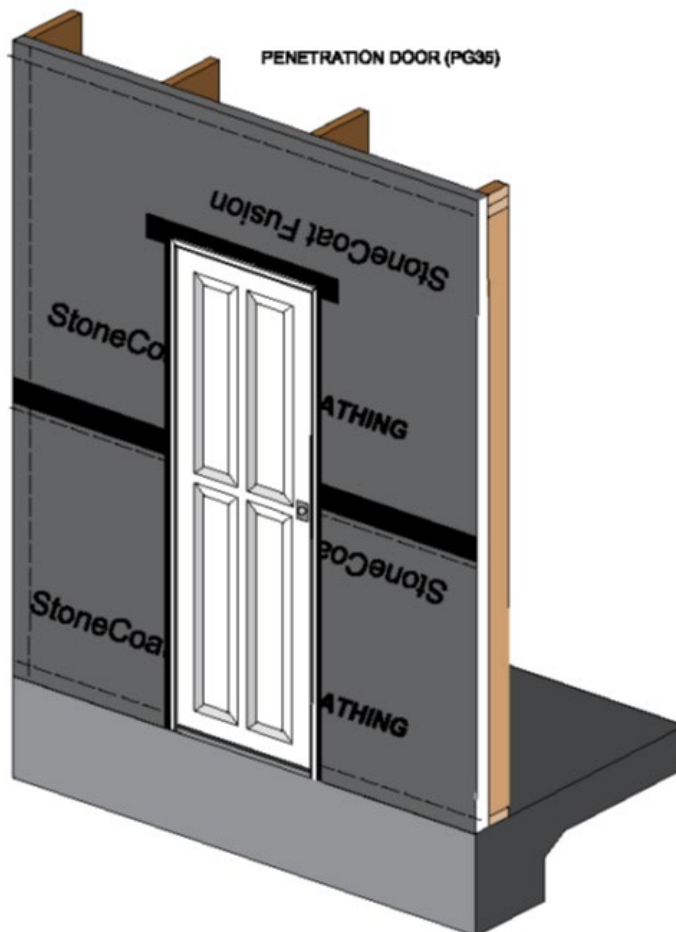
PENETRATION DOOR (PG34)
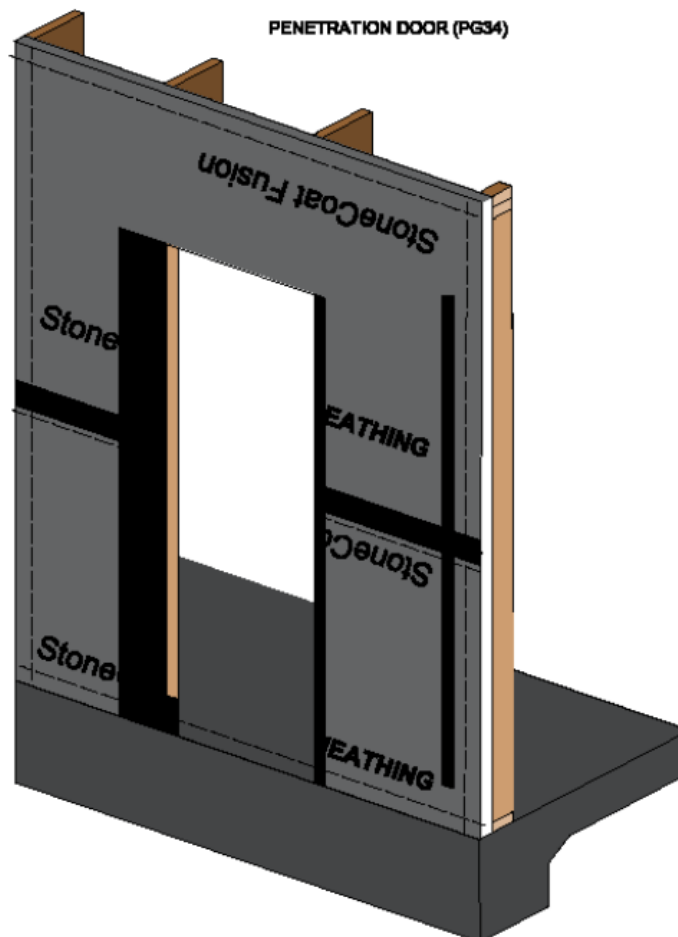
GENERAL INSTALLATION GUIDE:

DOOR DETAIL:

❑ **Install door in accordance with manufacturers guidance.**

❑ **Install header flashing and tape with FUSION® FlexFelt Tape. NOTE: Consider location of header trim when determining placement of metal flashing as it may be best installed above door trim.**
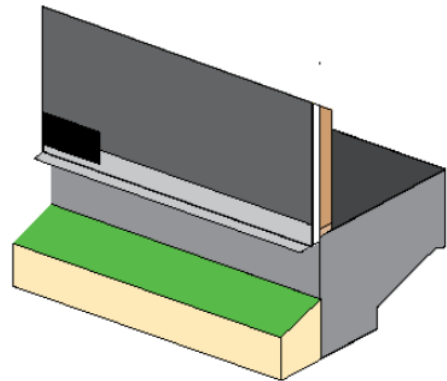

PENETRATION DOOR (PG35)

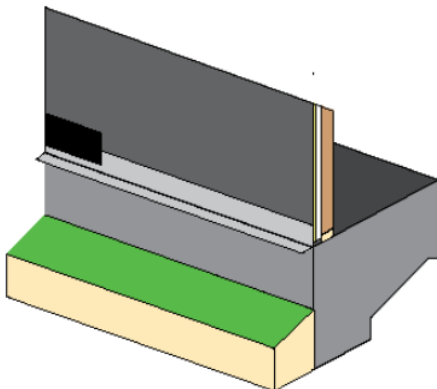## GENERAL INSTALLATION GUIDE:

FOUNDATION TO PANEL SPACING DETAIL:

FUSION® SIS can be interact with the foundation is several locations. Follow IRC and UBC separation requirements for separation from finished grate.
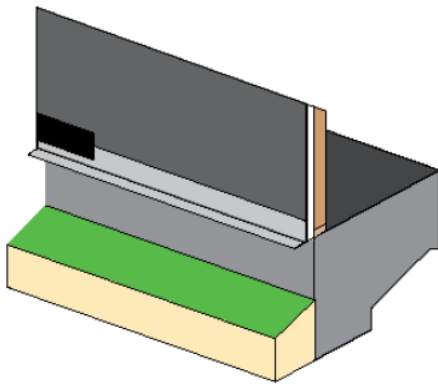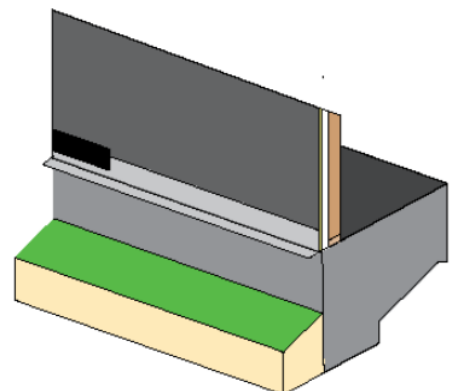
Option 1- Back of foam starts flush with foundation

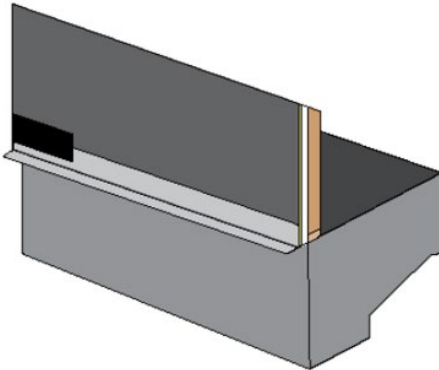**Option 2- Foam hangs past the foundation.**

Option 3- OSB face is flush with foundation face. Maintain ½" min separation between OSB and foundation.
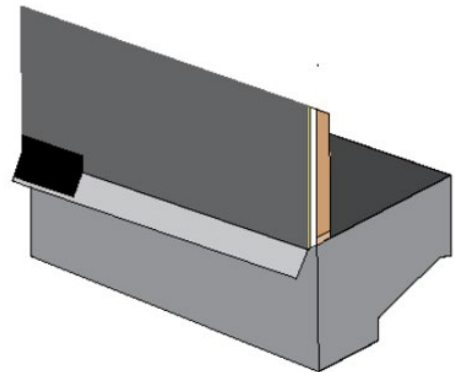
Option 4- Back of OSB Flush with foundation face. Maintain ½" min gap between OSB and foundation.

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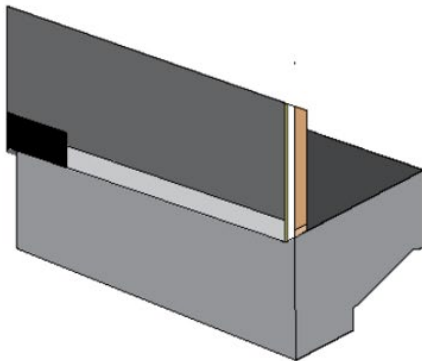## FOUNDATION FLASHING DETAILS:

Option 1- Drip edge or weep screed for masonry

Option 2- Termite shield

Option 1- Reversed metal drip edge returned back to cap panel.
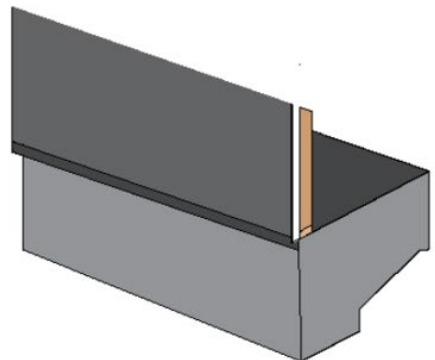
Option 1- FUSION® Laminate Corner returned back to cap panel.

GENERAL INSTALLATION GUIDE:

LAP SIDING DETAIL:

- ❑ **Locate bottom wall flashing in accordance with designer of record or local building code. Tape top of flashing to the face of the FUSION® SIS with FUSION® FlexFelt Tape.**

- ❑ **Install ¾" x2" min weather resistant battens at each stud min 16" o.c. with an adequate fastener length to penetrate framing by 1" min.**

GENERAL INSTALLATION GUIDE:

LAP SIDING DETAIL:

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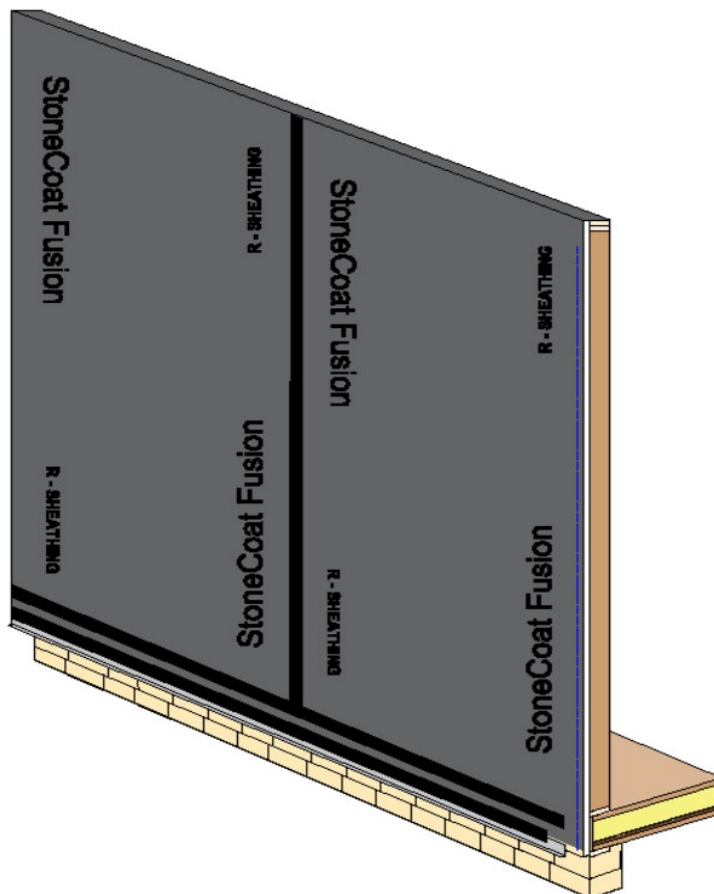
GENERAL INSTALLATION GUIDE:
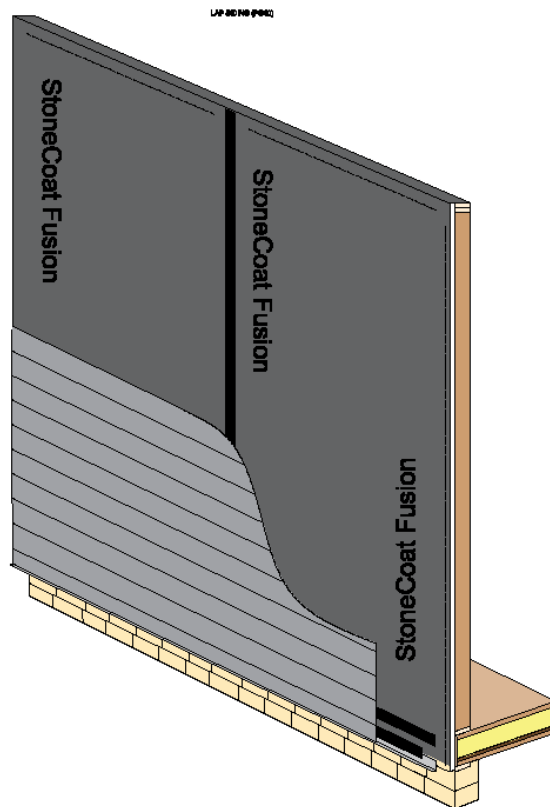
BRICK & FULL BED VENNER CLADING:

❑ **Locate bottom wall flashing in accordance with designer of record or local building code. Tape top of flashing to the face of the FUSION® SIS with FUSION® FlexFelt Tape**

BRICK VENEER (PG42)

GENERAL INSTALLATION GUIDE:

STUCCO:

❑ **Locate weep screed flashing in accordance with stucco manufacturer and local building code. Tape top of flashing to the face of the FUSION® SIS with FUSION® FlexFelt Tape**

STUCCO (PG44)

STONE COAT

(972)426-8619   StoneCoat.com
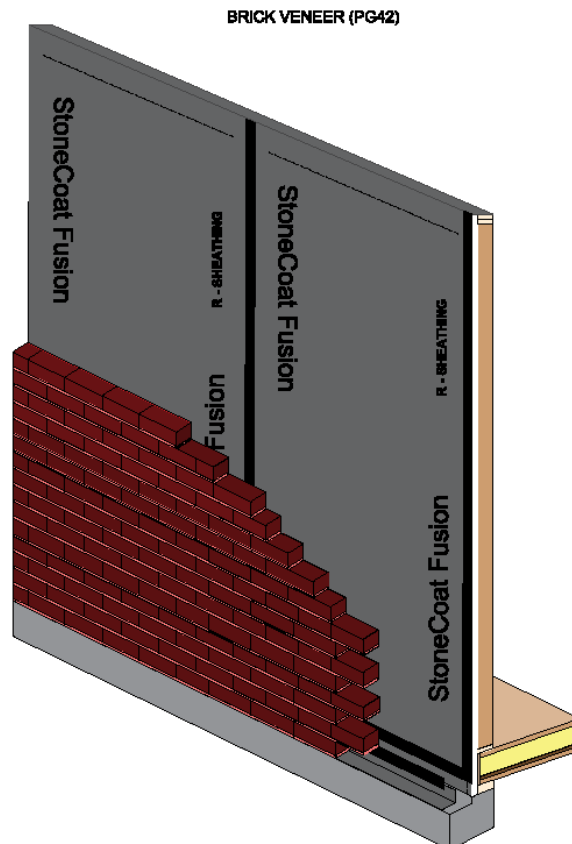
GENERAL INSTALLATION GUIDE:

STONE VENEER:

☐ **Locate bottom wall flashing in accordance with designer of record or local building code. Tape top of flashing to the face of the FUSION® SIS with FUSION® FlexFelt Tape**

STONE VENEER (PG46)
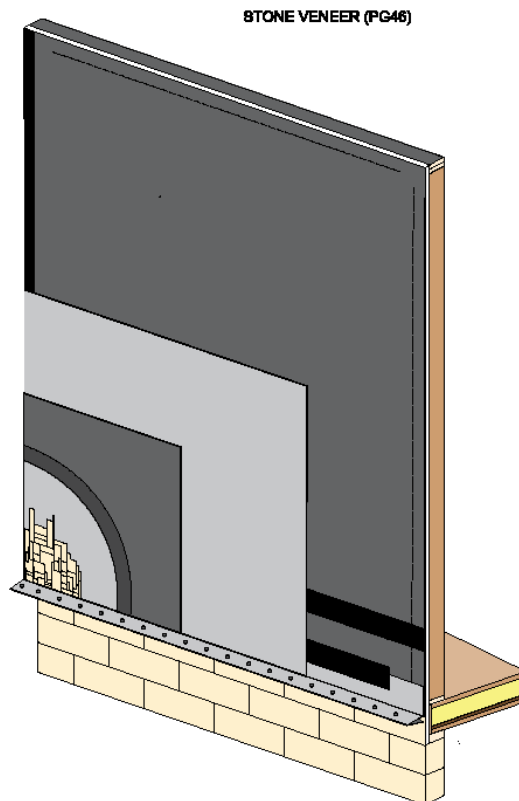
GENERAL INSTALLATION GUIDE:

DECK LEDGER PREP:

❑ **Locate bottom wall flashing in accordance with designer of record or local building code. Tape top of flashing to the face of the FUSION® SIS with FUSION® FlexFelt Tape**

DECK LEDGER (PG47)
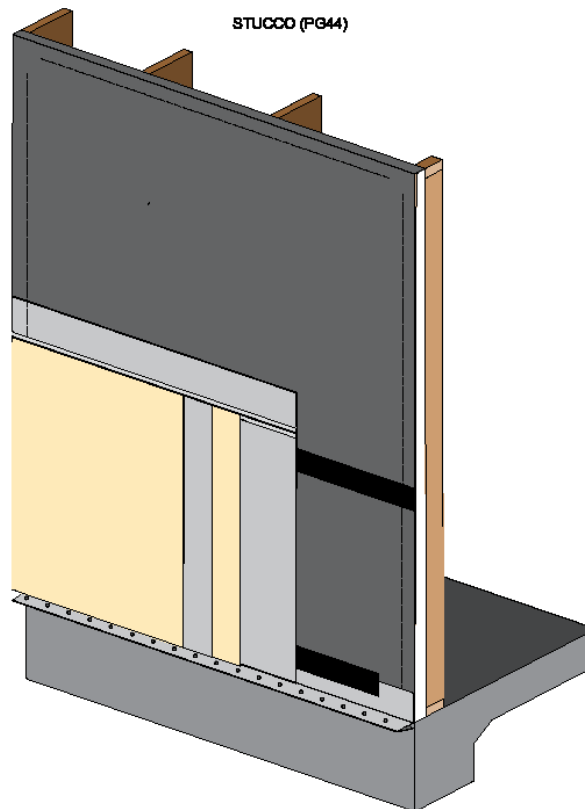
GENERAL INSTALLATION GUIDE:

DECK LEDGER DETAIL:

☐ **Locate bottom wall flashing in accordance with designer of record or local building code. Tape top of flashing to the face of the FUSION® SIS with FUSION® FlexFelt Tape**
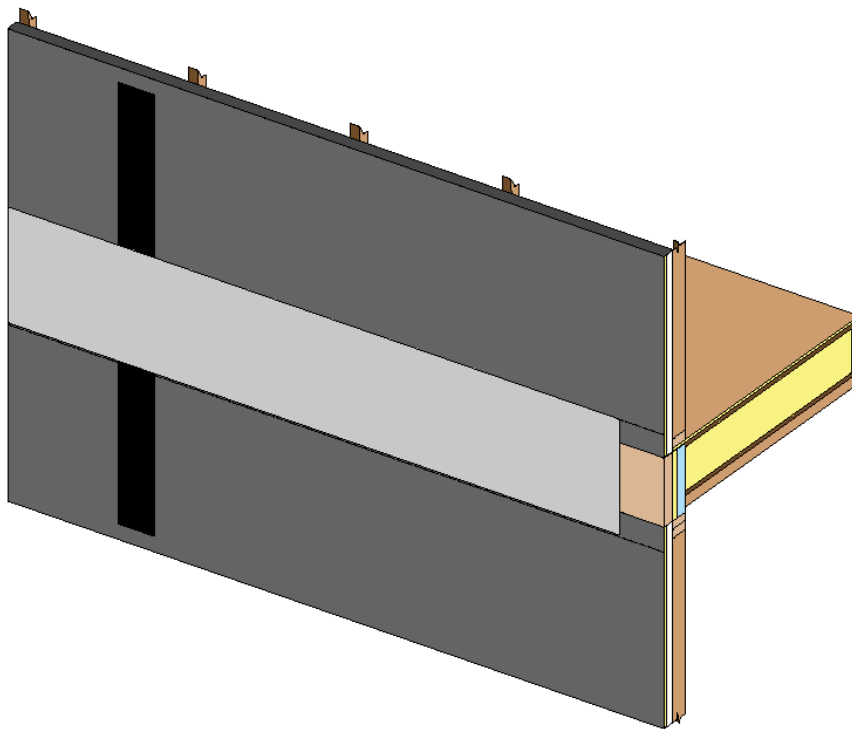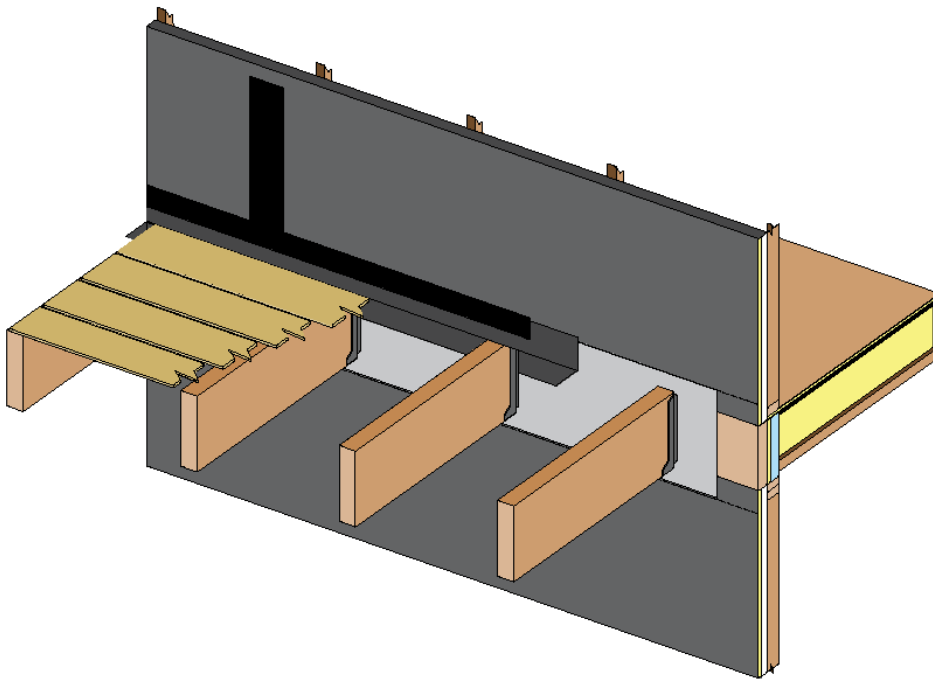
DECK LEDGER (PG48)

STON≡COAT

(972)426-8619   StoneCoat.com

Technical data sheet
SIGA-*Fentrim® 430 grey*

SIGA

Updated on:	March 03, 2020
Distributor:	SIGA Cover, Inc
Instructions:	See manual
Packaging unit:	Fentrim 430 grey 4'' 6 rolls / box Fentrim 430 grey 6'' 4 rolls / box Fentrim 430 grey 9'' 2 rolls / box
Composition:	semi-permeable special film/fleece combination made of PO with SIGA high-performance adhesive

Characteristics:

Property		Standards	Units	Values
Dimensions	length / width	Fentrim 430 grey 4''	feet / inch m / m	82 / 3.9 25 / 0.1
		Fentrim 430 grey 6''		82 / 5.9 25 / 0.15
		Fentrim 430 grey 9''		82 / 9.0 25 / 0.23
Thickness*			mil / mm	26 / 0.7
Temperature resistance			°F °C	-40 °F to +212 °F -40 °C to +100 °C
Processing temperature			°F °C	from +14 °F from -10 °C
Atmospheric exposure		IECC zones 3-8	months	max. 4
		IECC zones 1-2	months	max. 3
Air Permeance		ASTM E2178	< 0.004 cfm/ft²@1.57 psf (< 0.02 L/s·m²@ 75 Pa)	Pass
Water vapor transmission	Method A (dry cup method)	ASTM E96	US Perms	1.72

Stick with us.

siga.swiss

Property		Standards	Units	Values
Specification for self-adhered flashing used for exterior wall fenestration installation		AAMA 711-13		Type A (no primer)
				Level 3 thermal exposure (80 °C/176 °F for 7 days)
Tensile strength		ASTM D5034 per AAMA 711-13		Pass
Water penetration resistance around nails	initial	modified ASTM D1970 per AAMA 711-13		Dry / Pass
	after thermal cycling			
90⁰ Peel adhesion	OSB	ASTM D3330 per AAMA 711-13		Pass
	anodized aluminum			Pass
	extruded PVC			Pass
	plywood			Pass
	accelerated aging with UV-A	conditioning per AAMA 711-13		Pass
	elevated temperature exposure			Pass
	thermal cycling			Pass
	adhesion after water immersion			Pass
Cold temperature pliability	cracking	conditioning per AAMA 711-13		None / Pass
	adhesion loss			None / Pass
Resistance to peeling from itself		conditioning per AAMA 711-13		Pass
Chemical compatibility with tested sealants		AAMA 713-08		Pass / Level 3 thermal exposure (80 °C/176 °F for 14 days)
Ageing resistance	high permanent adhesive strength, non-drying and non-embrittling since without caoutchouc, resin or solvent, can reliably and durably absorb structural movements			
Suitability for storage	unlimited store in a cool, dry place in its original box			

*average

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LIQUID NAILS

HEAVY DUTY — LN-903

Architectural Coatings

Liquid Nails Heavy Duty Interior/Exterior Construction Adhesive

GENERAL DESCRIPTION

Liquid Nails Heavy Duty Construction Adhesive, LN-903/LNP-903, is a multipurpose, low-solvent, high-strength construction adhesive specially formulated to provide the professional and do-it-yourselfer excellent adhesion and extended working time. Qualifies for points as a low emitting material under LEED v4.

RECOMMENDED SUBSTRATES

Bonds To: Wood, Treated Wood, Plywood, OSB, Waferboard, Particleboard, Drywall, Concrete, Cementboard, Brick Veneers, Tileboard, and Exterior Foamboard.

FEATURES / BENEFITS

Strong bond will outlast project
Water-Resistant & Weather-Resistant
Bonds a wide range of construction materials
Interior & Exterior
Strong, durable and flexible
Instant holding power
20 minute working time
Bridges gaps

CONFORMANCE STANDARDS

VOC compliant in all regulated areas

GREENGUARD — UL — PRODUCT CERTIFIED FOR LOW CHEMICAL EMISSIONS UL.COM/GG UL 2818 — GOLD

PRODUCT DATA

BASE: Latex

COLOR: Tan

APPEARANCE: Smooth paste

APPLICATION TEMPERATURE: 40°F to 100°F (4°C to 38°C)

SERVICE TEMPERATURE: 0°F to 140°F (-18°C to 60°C)

SAG (ASTM D2202): <0.10"

SHEAR STRENGTH:
24 hours – 150 psi
48 hours – 180 psi
7 days – 240 psi

WEIGHT PER GALLON: 12.7 lbs. (5.76 kg)

VISCOSITY: 500,000 cps

OPEN TIME: 20 minutes at room temperature

MINIMUM CURE TIME: 24 hours at room temperature

FREEZE/THAW STABILITY: No effect after 5 cycles

FLAMMABILITY: Non-flammable

PERCENT VOLATILE: 28%

PERCENT SOLIDS: 72%

COVERAGE: Approximately 30 linear ft. (9 linear meters) using a ¼" (6 mm) bead, for 10.0 FL OZ tube. Approximately 85 linear ft. (26 linear meters), for 28 FL OZ tube.

SHELF LIFE: One year from date of purchase

ODOR: Slight Latex

SPECIFICATIONS: Exceeds ASTM C557

MAX VOC: < 7% by weight

PRODUCT INFORMATION / PACKAGING

LN-903 10.0 FL OZ (295 mL) Tube (12 or 24 Tubes/Carton)
LNP-903 28 FL OZ (828 mL) Tube (12 Tubes/Carton)
LN-903 1 Quart
LN-903 1 Gallon
LN-903 5-Gallon Pail

LIMITATIONS OF USE

Not recommended for plastics, vinyl, ceramics, mirrors, granite, marble, ceiling tile, flooring, and subfloors.

Not recommended for use on wood stair treads, underlayment, or installing tileboard directly to studding.

FREEZE/THAW STABLE. Store product at 40°F (4°C) to 100°F (38°C). USE PRODUCT WITHIN ONE YEAR OF PURCHASE.

Read Label and Safety Data Sheet Prior to Use. See other cautions on last page.

LN-903

Heavy Duty	LN-903
Architectural Coatings	*Liquid Nails* Heavy Duty Interior/Exterior Construction Adhesive

GENERAL SURFACE PREPARATION/APPLICATION

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted, NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

DIRECTIONS: Surfaces must be clean, structurally sound, and free of loose particles. For smooth surfaces, adhesion can be improved by lightly sanding bond area. Cut cartridge tip to desired bead size, puncture foil seal inside the tip of the cartridge, and place cartridge into caulk gun. **Cabinets & Countertops:** Apply ¼" (6 mm) bead to contact areas. Press into place. Mechanical fasteners must be used for wall cabinets. **Furring Strips or Studs:** Apply ¼" (6 mm) zigzag bead to each strip or stud. Press into place. Use nails at both ends. **Drywall:** Apply ¼" (6 mm) zigzag bead to each stud. Press drywall into place. Position drywall panels so that edges meet at stud center. Nail as required.

CLEANUP: Water for wet adhesive; mineral spirits when dry.

DISPOSAL: Contact your local environmental regulatory agency for guidance on disposal of unused product.

PERMISSIBLE TEMPERATURES DURING APPLICATION:

Material:	40 to 100ºF	4 to 38ºC
Ambient:	40 to 100ºF	4 to 38ºC
Substrate:	40 to 100ºF	4 to 38ºC

PRECAUTIONS

WARNING! HARMFUL IF INHALED. Sanding and grinding dusts may be harmful if inhaled. This product contains crystalline silica which can cause lung cancer or silicosis. The risk of cancer depends on the duration and level of exposure to dust from sanding surfaces. Do not breathe vapor. Do not swallow. Do not get on skin or clothing. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Provide fresh air ventilation during and after application and drying. Avoid the inhalation of dust or particulates arising from the application of this preparation. Use personal protective equipment as required. **FIRST AID:** If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting unless directed to do so by medical personnel. If in eyes, rinse with water for 15 minutes. Check for and remove any contact lenses. If on skin, rinse well with water. Wash with soap and water. Get medical attention if irritation develops. If inhaled, remove to fresh air. Call physician immediately. Contains isothiazolinones. May cause allergic reaction. Keep out of the reach of children. For workplace use, an SDS is available from your retailer or by calling (412) 492-5555. EMERGENCY SPILL INFORMATION: (412) 434-4515.

PPG Architectural Finishes, Inc. believes the technical data presented is currently accurate; however, no guarantee of accuracy, comprehensiveness, or performance is given or implied. Improvements in coatings technology may cause future technical data to vary from what is in this bulletin. For complete, up-to-date technical information, call 1-800-441-9695.