



FOAMULAR® NGX® AIR & WEATHER BARRIER ASSEMBLY WITH LIQUID FLASHING

RESIDENTIAL AND COMMERCIAL INSTALLATION GUIDE

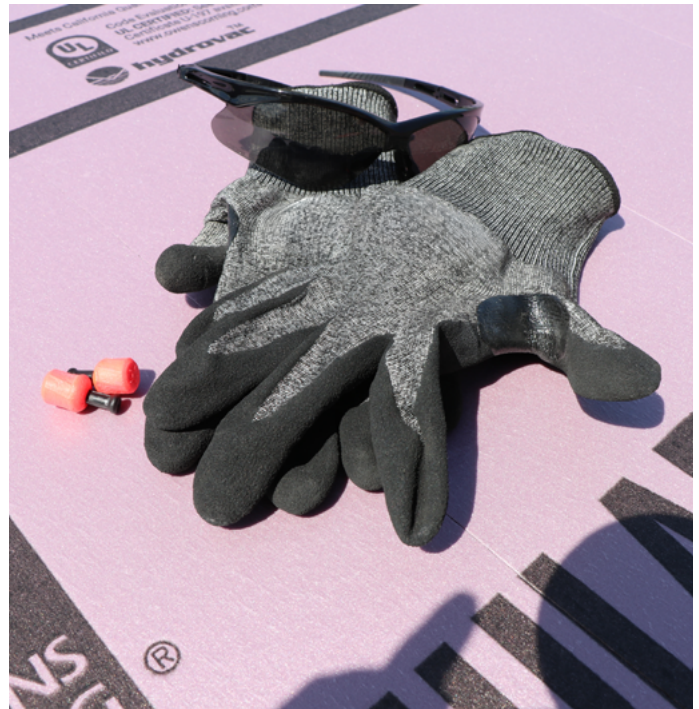
General

Optimum performance of Owens Corning® FOAMULAR® NGX® air and weather barrier system with FluidSealR™ liquid flashing is dependent on 1) selection of the correct product for the assembly or application into/on which it is to be placed and 2) following these installation instructions. General rules which apply to both selection and installation include: The framed assembly or masonry surface onto which the insulation is to be applied must be even. FOAMULAR® NGX® Insulation is a rigid product and not intended for uneven surfaces. Any deformation of the application surface can result in a weakening of the attachment points and/or cracking of the insulation. There should be no voids or gaps in the insulation itself, around any objects that penetrate the insulation, or at the interface of the insulation and framing members. FOAMULAR® NGX® Insulation is not structural. Structural sheathing or proper bracing must be used when applying to wood or metal framing.



Safety

Before beginning, read and follow all safety recommendations of the jobsite including wearing personal protective equipment (PPE) and safe use of all tools and equipment.



Site Preparation and Inspection

Read all installation instructions and data sheets prior to installation. Application of the air and water barrier system should occur only after the roof and back of the wall are made water-tight to help prevent water becoming trapped behind the air and water barrier assembly. Prior to installation, ensure that the substrate and FOAMULAR® NGX® are clean, dry, sound, and free of any ice, dirt, oils, release agents or debris that would prevent adhesion.

FOAMULAR® NGX® should be dry and free from UV degradation to ensure adhesion. It is recommended that when the FOAMULAR® NGX® is considered the air and weather barrier (AWB), all flashings should be installed at the time of FOAMULAR® NGX® installation. Do not install system if ice or frost exists on surface or rain, snow, wind or other adverse weather would prevent or threaten correct installation. Ensure studs are at least minimal width to receive fasteners. If not part of the air barrier installer's responsibility, bring any deficiencies to the attention of the General Contractor in writing for remedy and do not proceed until corrected. Prior to installation, verify compatibility of adjacent products such as below grade waterproofing, through wall flashing, and roof membranes. FOAMULAR® NGX® Air Barrier System is only approved for 16" on-center framing. FOAMULAR® NGX® should not be cut with a chainsaw when creating smooth edges for the air and weather barrier system.

Note: These instructions apply to installation of FOAMULAR® NGX® when used as an air barrier assembly with taped joints. If FOAMULAR® NGX® is only needed as an insulation, please see FOAMULAR® NGX® commercial/residential wall installation instructions.

Attachment of XPS

Best practice includes installation of the Owens Corning® Air Barrier System with FluidSealR™ from top to bottom to ensure no water is trapped in the installation. Regardless of starting point, FOAMULAR® NGX® should be installed continuously moving from one location to ensure continuity, adhesion, and accurate fit without damaging the system. Locate butt joints square to framing members. Center joints over framing. **See Figure 1.**

Provide additional framing as necessary. Stagger vertical joints a minimum of one stud space from adjacent joints. Insulation board edges shall be butted together tightly and fit around openings and penetrations. Cut and fit tightly around obstructions and fill voids with insulation. **See Figure 2.**

Extend insulation in thickness indicated to envelop entire area to be insulated. The FOAMULAR® NGX® Air Barrier system should only be a single layer of XPS. Install XPS insulation board in maximum sizes to minimize joints.

Frame Construction

Fasteners should be attached through the FOAMULAR® NGX® into structural framing at maximum 18" o.c. spacing for both field and perimeter. Vertical joints should be supported by or on framing. Fasteners should be self-drilling screw type with a minimum 2" washer. Two-inch diameter pronged washers can bridge adjoining board edges. **See Figure 3.**

FIGURE 1



FIGURE 2



FIGURE 3



Locate and mark stud locations. **See Figure 4.**

Install self-drilling screws through XPS insulation into framing using a standard drill or auto-feed fastening system. **See Figure 5.**

Do not attach with impact driver as fastener holes may strip and/or overdriven fasteners may create air and water leaks. Drive fasteners so the washer is tight and flush with insulation surface but do not countersink. Fastener screw should be sized to penetrate framing a minimum 1 ½" in wood stud and 1" in steel stud. Fastener and washer can be centered to span up to three intersecting boards. **See Figure 6.**

CMU Construction

When installing over CMU walls, foam is held in place using FluidSealR™ as an adhesive and compression fit between masonry wire ties. Cut boards to fit flush against the CMU wall without bowing or cupping to ensure complete adhesion. Apply minimum 3" diameter dollops of FluidSealR™ as adhesive at maximum 9" o.c. to back of boards. Board edges may also be "buttered" with a bead of sealant at installation. Immediately press adhesive side of the board in place and apply firm pressure to allow for contact adhesion. Wiggle slightly to ensure adhesive is spread. Continue installing subsequent courses as described staggering boards in a running bond pattern.

FIGURE 4



FIGURE 5



Air and Weather Barrier Detailing

Before installing liquid flashing, ensure XPS insulation surface is clean, dry, sound, and free of any ice, dirt, oils, release agents or debris that would prevent adhesion. Remove any debris that would damage the board or FluidSealR™ and ensure that fasteners are driven flush. It is recommended that when the FOAMULAR® NGX® Air barrier system with FluidSealR™ is considered the air and weather barrier (AWB), all flashings should be installed at the time of FOAMULAR® NGX® insulation installation. Owens Corning FluidSealR™ is the only acceptable liquid flashing for the FOAMULAR® NGX® liquid flashing Air & Weather Barrier Assembly. Do not install system if ice or frost exists on surface or rain, snow, wind or other adverse weather would prevent or threaten correct installation. Regularly verify minimum thickness applied using mil gauge.

FIGURE 6



Joints

Install all joint flashing at the time of the XPS insulation. Fill any annular space larger than $\frac{3}{8}$ " with backer rod. Load sausage gun according to manufacturer's written instructions by placing the sausage in the tube and either removing the sealing clasp or puncturing the sausage then attaching the sausage gun tip cut to desired size. Spread one or more beads of the FluidSealR™ Flashing along the joint. **See Figure 7.**

Using a clean, dry, compatible squeegee, spread the liquid to the minimum 30 mil required thickness extending a minimum of 2" from both sides of the joint to create a continuously sealed joint. **See Figure 8.**

Complete joint installation at the end of each work day or work stoppage to prevent water from being trapped inside a joint above the liquid flashing.

Continue from top to bottom ensuring all joints are sealed.

See Figure 9.

Fasteners at joints should be fully covered with FluidSealR™.

See Figure 10.

Fasteners in field do not need to be flashed unless compromised.

Verify minimum mil thickness applied using a mil gauge and allow liquid flashing to cure.

FIGURE 7

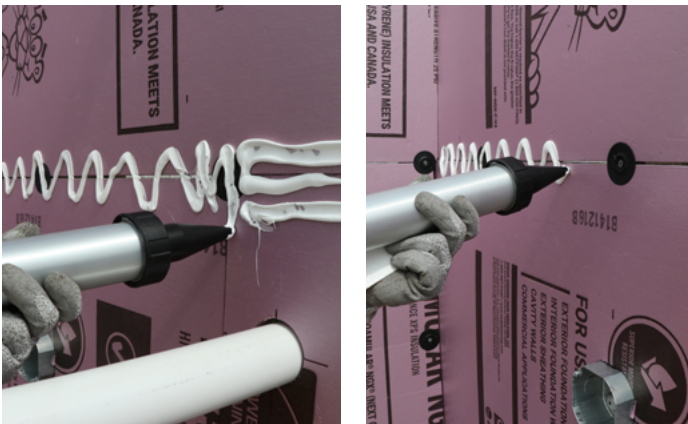


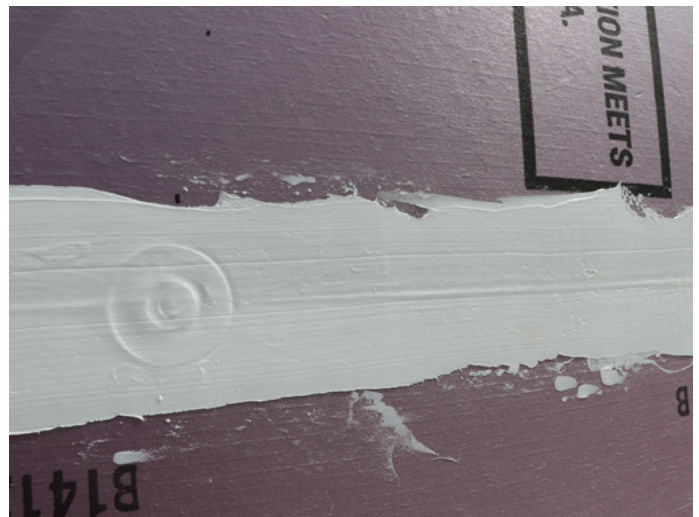
FIGURE 9



FIGURE 8



FIGURE 10



Transitions

Outside/Inside Corners

Corners must be flashed with Owens Corning FluidSealR™. Other fluid applied flashings or other tapes cannot be used. Ensure insulation corners meet flush with adjacent insulation. Install corner flashing by applying one or more beads of liquid flashing on both sides of the corner. **See Figure 11.**

Using a clean, dry, compatible squeegee, short bristle brush, or spatula, spread the liquid to the minimum 30 mil required thickness, extending a minimum of 3" from both sides of the joint. **See Figure 12.**

As insulation thickness may vary, more material may be required to ensure the face of every edge of insulation is covered by a minimum 3" FluidSealR™. Continue from top to bottom ensuring all corners are sealed. Fasteners at joints should be fully covered with FluidSealR™. Fasteners in field do not need to be flashed unless compromised. Verify minimum mil thickness applied using a mil gauge and allow liquid flashing to cure. **See Figure 13.**

FIGURE 11



FIGURE 12



FIGURE 13



Penetration Flashing

General

Fill any annular space larger than 3/8" with backer rod.

See Figure 14.

Best practices include cutting openings with hole saws, oscillating tools, jigsaws, or other tools that leave controlled, even edges.

See Figure 15. See Tips & Tricks at the end of this document.

Pipes

Pipe Penetrations may be flashed with FluidSealR™ liquid applied flashing only. Ensure insulation is butted tightly to pipe around entire circumference. Apply one or more beads of liquid applied flashing at the junction of the pipe and the insulation.

See Figure 16.

Using a clean, dry, compatible squeegee, short bristle brush, and or spatula tool, spread the liquid to the minimum 30 mil required thickness, extending a minimum of 2" from both sides of the joint onto both the pipe and the face of the insulation. **See Figure 17.**

Verify minimum mil thickness applied using a mil gauge and allow liquid flashing to cure.

FIGURE 14



FIGURE 16

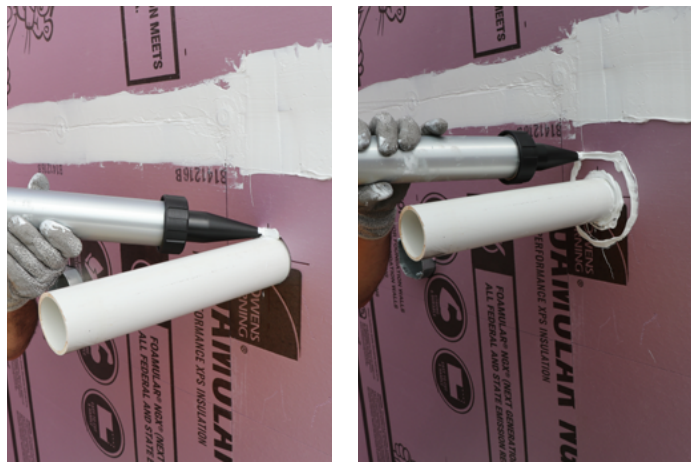


FIGURE 15



FIGURE 17



Ducts and Junction Boxes

Duct and Junction Box Penetrations may be flashed with FluidSealR™ liquid applied flashing only. Ensure insulation is butted tightly to duct or box perimeter. Beginning on upper surface, apply one or more beads of liquid applied flashing at junction of box and face of insulation around the entire perimeter.

See Figure 18.

Using a clean, dry, compatible squeegee, short bristle brush, or spatula tool, spread the liquid to the minimum 30 mil required thickness, extending a minimum of 2" from both sides of the joint onto both the box and the face of the insulation. **See Figure 19.** Verify minimum mil thickness applied using a mil gauge and allow liquid flashing to cure. **See Figure 20.**

Windows

Ensure insulation is tightly butted and flush to window or opening. All Window and Door Openings must be flashed with Owens Corning® FluidSealR™. Other liquid flashings or other tapes cannot be used.

Flangeless/Punched Windows

Best practice includes beginning installation with an extra reinforcing bead of sealant at the transition of both jambs and sill- this is not required but highly recommended. Install head, jamb, and sill flashing continuously by applying one or more beads of FluidSealR™ on both the interior framing and exterior face of the foam insulation. **See Figure 21.**

Using a clean, dry, compatible squeegee, spread the liquid to the minimum 30 mil required thickness, extending a minimum of 3" from both sides of the opening onto both the face of the insulation and framing. If bucks are installed around windows, completely and continuously flash buck with minimum 30 mil required thickness as described in this section. Verify minimum mil thickness applied using a mil gauge and allow liquid flashing to cure. **See Figure 22.**

Any subsequent through wall flashing at header should flash a minimum 3" onto the insulation face and the drip cap at header.

FIGURE 18

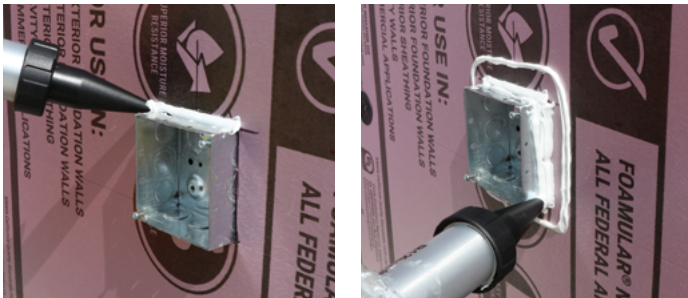


FIGURE 19



FIGURE 20



FIGURE 21



FIGURE 22



Flanged Windows

Best practice includes beginning installation with an extra reinforcing bead of sealant at the transition of both jambs and sill—this is not required but highly recommended. Install sill pan by applying one or more beads of FluidSealR™ on both the interior framing and exterior face of the foam insulation completely across sill and a minimum 6" up the jamb. Using a clean, dry, compatible squeegee, spread the liquid to the minimum 30 mil required thickness, extending a minimum of 3" from both sides of the opening onto both the face of the insulation and framing. Allow liquid flashing to cure.

Once window has been installed per manufacturer's written instructions, flash jambs of window extending liquid flashing 3" on either side of transition of flange to wall, minimum 3" over sill flashing at bottom of window and minimum 3" across window head surface to create a continuously sealed head, jamb, and seal at the window transition. Verify minimum mil thickness applied using a mil gauge and allow liquid flashing to cure.

Doors

Doors should be flashed as flangeless windows described above with through wall flashing or other material tied into threshold at jambs in a shingle fashion.

Outside Elements

Install exterior cladding as soon as possible, best within 60 days. Protect insulation from damage due to weather and physical abuse until protected by permanent constructions. Cover dark surfaces as soon as possible to avoid damage due to potential solar heat build-up on the dark surface. Do not permit extruded polystyrene insulation board to come into contact with surfaces or temperatures in excess of 165°F. Refer to Owens Corning Technical Bulletin: Heat Build Up Due to Solar Exposure.

Liquid flashing may be exposed up to 12 months, but substrate beneath may limit this exposure significantly.

Repairs

Cover penetrations such as missed studs with FluidSealR™ a minimum of 2" on all sides of penetration.

Tips & Tricks

Cutting Panels

FOAMULAR® NGX® can be easily cut by "scoring and snapping." When working with large boards, an elevated surface and T square helps to ensure accuracy and reduce strain. **See Figure 23.**

FOAMULAR® NGX® should not be cut with a chainsaw when creating smooth edges for the air and weather barrier system.

Cutting Pipe Penetrations

When cutting pipe penetrations, hole saws with increased number or teeth can help in creating more precise openings with smooth annular space. Some saws may create less damage when drilled in reverse with slower pressure. It is recommended to practice cutting until satisfactory on site prior to cutting actual insulation board.

Cutting Junction Box/Ductwork/Windows/Other Penetrations

When cutting openings, various hand saws may help in creating precisely butting cuts including oscillating saws, jigsaws, small circular saws. Finer toothed blades help to create smoother edges.

Windows and other openings flush with foam and framing may be cut after foam is attached with an oscillating tool. **See Figure 24.**

Fastener washers overlapping openings may be trimmed to opening as long as the integrity of the washer is not compromised. **See Figure 25.**

FIGURE 23



FIGURE 24



FIGURE 25



Low Humidity

FluidSealR™ cures using humidity in the air. While this generally speeds installation and ensures rain does not affect curing process after installation, low humidity environments can cause slower curing. Contact Owens Corning GETTECH at

GETTECH@OwensCorning.com or **1-800-GET-PINK** for additional information.

Hot Weather

When air or surface temperature exceeds 95°F, apply product to shady side of the structure or in the morning before daytime air and surface temperatures reach peaks. Contact Owens Corning GETTECH at **GETTECH@OwensCorning.com** or **1-800-GET-PINK** for additional information.

Installation Tools

Some tools may be altered to your preference to achieve the best application. Some prefer to cut bristles of chip brushes shorter to create more stiff bristles and increase control. **See Figure 26.**

Squeegees may be cut to shape or smaller size to increase control.

The texture of some squeegees or spatulas may allow for easy cleanup by allowing the liquid flashing to cure and then peeling the cured film off the tool.

FIGURE 26

