



# FOAMULAR® NGX® XPS INSULATION

## COMMERCIAL WALL INSTALLATION INSTRUCTIONS

The intent of this document is to provide guidance on the installation of Owens Corning® FOAMULAR® NGX® extruded polystyrene (XPS) continuous insulation and sheathing products in above grade commercial wall construction. This document, the reference documents cited herein and any / all information found on product packaging, literature, and guide specifications collectively constitute the “manufacturer’s installation instructions” referenced in the ICC family of model codes – specifically the Intl. Energy Conservation Code (IECC), International Residential Code (IRC), and International Building Code (IBC).

### BEFORE INSTALLATION

Read all installation instructions, guide specifications, and data sheets prior to installation. It is recommended that application of the exterior continuous insulation occur after the roof and back of the wall are made water-tight to prevent water becoming trapped behind the 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. Do not install system if ice or frost exists on surface of substrate or rain, snow, wind or other adverse weather would prevent or threaten correct installation. Remove any mortar fins that interrupt the application surface. If not part of the installer’s responsibility, bring any deficiencies to the attention of the 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. Verify manufacturer recommended cure time for air and water barrier system before installing continuous insulation board. Best practice includes installation of the insulation from one side to the other or from bottom to top. However, regardless of starting point, insulation should be installed continuously moving from one location to ensure continuity, adhesion, and accurate fit without damaging the system.

### GENERAL

Optimum performance of Owens Corning® FOAMULAR® NGX® Insulation products 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 bracing must be used when applying to wood or metal framing.

### PREPARATION

1. Verify that wall, opening framing, bridging and structural bracing, and other framing support members and anchorage system have been installed per requirements of the project.

2. Verify adjacent materials are dry and ready to receive insulation.
3. Clean surfaces thoroughly prior to installation.
4. Prepare surfaces using methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### FRAME WALLS

Install extruded polystyrene (XPS) insulation boards over the exterior sheathing and air & water resistive barrier layer in accordance with manufacturers’ written recommendations. Install XPS insulation board in maximum sizes to minimize joints. Locate joints square to framing members. Center joints over framing. Provide additional framing as necessary. Stagger joints a minimum of one stud space from adjacent joints. Insulation board edges shall be butted together tightly and fit around openings and penetrations. Fill voids with insulation.

Extend insulation in thickness indicated to envelop entire area to be insulated.

[Owens Corning does not require a particular method of securing FOAMULAR® NGX® Insulation, nor does Owens Corning require joint sealing.]

Apply single layer of insulation boards to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

Fasten XPS insulation to exterior face of wall framing and exterior sheathing using screw and air & water sealing washer and/or compatible adhesive per manufacturer’s written instructions.

### SCREW WITH AIR & WATER SEALING WASHER

1. Locate and mark stud locations.
2. Install through XPS insulation into sheathing and stud with self-drilling screws using a standard drill with a variable clutch adjustment and appropriate adapter or auto-feed fastening system. Do not attach with impact driver.



3. Drive fasteners so the washer is tight and flush with insulation surface but do not countersink.



4. Fastener spacing shall be evenly distributed and the minimum necessary per job site conditions as required by Insulation & Fastener Manufacturers to hold the continuous insulation in place until cladding attachment system can be installed to permanently secure the insulation board.

- Two-inch diameter pronged fasteners can bridge between adjoining board edges.
- Install exterior cladding as soon as possible, best within 60 days.

### COMPATIBLE ADHESIVE

- Apply compatible adhesive to sheathing & air barrier, per adhesive manufacturer, air barrier manufacturer, and insulation manufacturer recommendations.
- Install XPS insulation in adhesive while wet.



- Hold insulation securely in place until adhesion is satisfactory.
- Application rate and spacing shall be evenly distributed and minimum necessary per jobsite conditions as required by Insulation & Adhesive Manufacturers to hold the continuous insulation in place until cladding attachment system can be installed to permanently secure the insulation board.
- Install exterior cladding as soon as possible, best within 60 days.

### CMU OR CONCRETE WALLS

Install XPS insulation board in maximum sizes to minimize joints. Stagger joints. Insulation board edges shall be butted together tightly and fit around openings and penetrations. Fill voids with insulation. Extend insulation in thickness indicated to envelop entire area to be insulated.

[Owens Corning does not require a particular method of securing FOAMULAR® NGX® Insulation, nor does Owens Corning require joint sealing.] Apply single layer of insulation boards to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

Fasten XPS insulation to exterior face of cmu or concrete wall using mechanical fasteners, compatible adhesive, and/or compression fit per manufacturer's written instructions.

### PLASTIC FASTENER WITH AIR & WATER SEALING WASHER

- Install through XPS insulation into CMU or concrete substrate below by pre-drilling with drill bit sized per fastener manufacturer recommendations using a standard drill with a variable clutch adjustment. Do not attach with impact driver.
- Drive fasteners into pre-drilled hole so the washer is tight and flush with insulation surface but do not countersink.
- Fastener spacing shall be evenly distributed and the minimum necessary per job site conditions as required by Insulation & Fastener Manufacturers to hold the continuous insulation in place until cladding attachment system can be installed to permanently secure the insulation board in accordance with cladding attachment requirements.



### COMPATIBLE ADHESIVE

- Apply compatible adhesive to substrate & air barrier, per adhesive manufacturer, air barrier manufacturer, and insulation manufacturer recommendations.
- Place pads of construction adhesive spaced approximately 24 inches (610 mm) o.c. along the edges of the inside face of the insulation board, or as recommended by the adhesive manufacturer. OR Apply adhesive to entire surface with a serrated trowel complying with the adhesive manufacturer's written instructions.
- Install XPS insulation in adhesive prior to adhesive curing per adhesive manufacturer's instructions.
- Hold insulation securely in place until adhesion is satisfactory.
- Application rate and spacing shall be evenly distributed and minimum necessary per jobsite conditions as required by Insulation & Adhesive Manufacturers to hold the continuous insulation in place until cladding attachment system can be installed to permanently secure the insulation board in accordance with cladding attachment requirements.

### COMPRESSION FIT

- Secure insulation boards with two-piece wall ties designed for this purpose.
- Fit courses of 16 inches wide insulation boards horizontally between 16 inches o.c. horizontal continuous joint reinforcing/ adjustable wall tie eyes.



- Snugly friction fit insulation in place, between the wire tie eyes.



- Push the insulation back tightly against the back-up wall surface, with edges butted tightly in both directions.
- Secure insulation in place by inserting the adjustable brick tie pintel into the wall tie eye(s).

Joints and openings may be sealed with Owens Corning® JointSealR® Foam Joint Tape or Owens Corning® Gun Foam Sealant.

## PROTECTION:

1. Protect insulation from damage due to weather and vandalism until protected by permanent constructions.
2. Cover dark surfaces as soon as possible to avoid damage due to potential solar heat build-up on the dark surface.
3. Do not permit extruded polystyrene insulation board to come into contact with surfaces or temperatures in excess of 165 °F.
4. Refer to: "FOAMULAR® NGX® Extruded Polystyrene (XPS) Insulation Heat Buildup Due to Solar Exposure Technical Bulletin"

## HINTS, TIPS, TRICKS, AND AREAS OF CAUTION

1. Foam Board can be easily cut to size by scoring with a long-blade knife and a straight-edge and "snapping" the board by applying pressure on both sides of the scored area.



2. Round openings can be more smoothly created with hole saws to create a smooth tightly butted edge.
3. Plan installation such that cladding or protection can be installed at the same time as insulation.

Follow all jobsite and personal safety precautions as noted in individual product safety data sheets and in accordance with local, state, and federal safety requirements.

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