



FOAMULAR® NGX® XPS INSULATION

COMMERCIAL ROOF INSTALLATION INSTRUCTIONS

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 beneath 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 wall flashing and roof membranes. Verify manufacturer-recommended cure time for roof membrane system before installing continuous insulation board. Best practice includes installation of the insulation from one side to the other or from low point of roof to high point. 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 that apply to both selection and installation include:

The 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, slabs, and/or decks must be designed and reinforced to accommodate design loads.

PREPARATION

1. Verify that roof deck and other framing support members and anchorage have been installed per requirements of the project.
2. Verify adjacent roof 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.

PRMA split slab assembly showing reinforced concrete topping slab over XPS with drainage board installed above XPS to promote vapor diffusion.



PRMA ROOF ASSEMBLIES

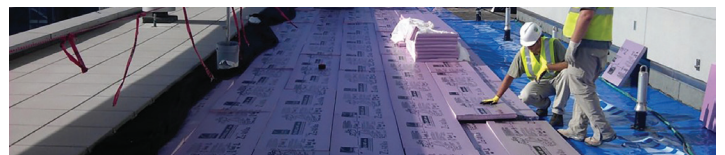
1. Verify all roof membrane testing has been satisfactorily completed prior to beginning insulation installation.
2. Verify root barrier is installed correctly if required prior to installation of extruded polystyrene insulation.
3. Install extruded polystyrene (XPS) insulation boards over the root barrier and roof membrane layer in accordance with manufacturers' written recommendations.
4. Install XPS insulation board in maximum sizes to minimize joints.
5. Locate joints square to structure.
6. Install insulation with long edges of XPS in continuous straight lines with edge joints staggered.
7. Stagger joints in subsequent layers.
8. Insulation board edges shall be butted together tightly and fit around openings and penetrations. Install square edges to fit square and tight.
9. Where channeled boards are used, install as first layer on top of roof membrane assembly to promote drainage.
10. Where ribbed boards are used, install as top layer immediately under vapor diffusion closed overburden, such as pavers.
11. Install in one or more layers to meet 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.]
12. Apply single layer of insulation boards to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.



13. When installing tapered insulation, begin at low point, building insulation away from lowest point.



14. Install overburden immediately after installation of insulation.



Immediately install overburden to protect insulation.

15. For more design recommendations, refer to "FOAMULAR® NGX® PRMA Design Guide -- ES-PRMA-01".

SINGLE-PLY ROOF ASSEMBLIES

1. Verify sheathing, thermal barrier, and/or vapor barriers are installed correctly if required prior to installation of extruded polystyrene insulation.
2. Install XPS insulation board in maximum sizes to minimize joints.
3. Locate joints square to structure.
4. Install insulation with long edges of XPS in continuous straight lines with edge joints staggered.
5. Stagger joints in subsequent layers.
6. Insulation board edges shall be butted together tightly and fit around openings and penetrations. Install square edges to fit square and tight.
7. Install in one or more layers to meet 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.]
8. Apply single layer of insulation boards to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.
9. When installing tapered insulation, begin at low point, building insulation away from lowest point.
10. Install roof coverboard, slip sheets, and/or roof membrane assembly immediately after installation of insulation.

ARCHITECTURAL METAL ROOF

1. Verify sheathing, thermal barrier, and/or vapor barriers are installed correctly if required prior to installation of extruded polystyrene insulation.
2. Install XPS insulation board in maximum sizes to minimize joints.
3. Locate joints square to structure.
4. Install insulation with long edges of XPS in continuous straight lines with edge joints staggered.
5. Stagger joints in subsequent layers.
6. Insulation board edges shall be butted together tightly and fit around openings and penetrations. Install square edges to fit square and tight.
7. Install in one or more layers to meet 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.]
8. Apply single layer of insulation boards to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.
9. Install roof coverboard, roof membrane, and/or architectural metal roof assembly immediately after installation of insulation. Clips for architectural metal roof attachment shall be attached through the insulation into the structure below to create continuous compression against the XPS while allowing an air gap between the XPS and the architectural metal roof panel.

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 buildup 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 overburden 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,

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