FOAMULAR® & FOAMULAR® NGX™ XPS ROOF INSULATION FOR COMMERCIAL BUILDINGS

TRUSTED PERFORMANCE

Durable. Versatile. Resistant. Owens Corning® FOAMULAR® XPS products are a high-performing insulation, trusted by architects, engineers, builders, and contractors while delivering superior insulating power and moisture-resistance. Our FOAMULAR® NGX™ line of insulation offers the same performance and ease-of-use you expect from Owens Corning® FOAMULAR® XPS insulation with industry-leading sustainability.

EXCEPTIONAL MOISTURE-RESISTANCE

Virtually impervious to moisture. FOAMULAR® XPS has up to 13X more resistance to water than EPS insulation.

DURABILITY

Manufactured to comply with ASTM C5781, FOAMULAR® insulation holds its strength, accepting design loads with little deformation. For example, FOAMULAR® is the ideal choice in Protected Roof Membrane Assemblies (PRMA) for vegetative roofs, withstanding the wet soils and loads, and aiding in run-off management.

EASY INSTALLATION

Lightweight and easy to handle, score, cut, and install. FOAMULAR® products are compatible with common exterior claddings and finishes, as well as other manufacturers' products and hanging systems.

HIGH, STABLE R-VALUES

Retains a minimum of 90% of R-value over 20 years, even when exposed to moisture or in cases of facer delamination.

SUSTAINABILITY

Helps achieve valuable LEED® credits and is certified by the GREENGUARD Environmental Institute under the GREENGUARD Standard for Low Emitting Products.

FOAMULAR® & FOAMULAR® NGX™ XPS ROOF INSULATION FOR COMMERCIAL BUILDINGS

THE RIGHT PRODUCT FOR COMMERCIAL ROOFING PROJECTS

Suited for a wide range of applications, FOAMULAR® & FOAMULAR® NGX™ extruded polystyrene (XPS) insulation is ideal for roofing applications, including single-ply, protected roof membrane assemblies (PRMA), tapered, vegetative roofs, plaza decks, and architectural metal roofing. FOAMULAR® & FOAMULAR® NGX™ insulation comes in a variety of sizes, thicknesses, and compressive strengths to meet the demands of almost every application.

FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® 25 XPS insulation is an excellent insulation choice for single-ply roofing systems or architectural metal roofing. THERMAPINK® 25 insulation, with a variety of compressive strengths, high resistance to water absorption, and a stable, long-term R-value of 5 per inch, is an excellent insulation layer for use below single-ply membrane roofing systems.

FOAMULAR® & FOAMULAR® NGX™ 400/600/1000 XPS insulation products are used in PRMA applications. XPS insulation is the only insulation used in PRMA roof systems due to its excellent resistance to water absorption compared to any other type of rigid board insulation. Since the insulation is installed above the waterproofing membrane and is exposed to water through its service life, resistance to water while maintaining physical properties is critical.

400/600 SQUARE EDGE

FOAMULAR® & FOAMULAR® NGX™ 404/604 XPS insulations have channels cut into the bottom edges on all four sides of the board to enhance drainage at the board/membrane interface.

404/604 CHANNELED BOTTOM

FOAMULAR® & FOAMULAR® NGX™ 404RB/604RB XPS insulations have ribs cut into the top surface of the board in addition to the channels on the bottom. The ribs serve as drainage enhancement and allow for vapor diffusion under pavers when the pavers are laid directly on top of the foam board. This is in lieu of using pedestals to support and create drainage under the pavers.

404RB/604RB RIBBED TOP & CHANNELED BOTTOM

For NGX™ insulation products, please review each product's data sheet available at www.owenscorning.com/foamular .

FOAMULAR® & FOAMULAR® NGX™ XPS INSULATION SYSTEM SOLUTIONS
LOW-SLOPE SINGLE-PLY INSULATED ROOF SYSTEMS

Single-Ply Roofing Systems

Single-ply roofing membranes are flexible sheets of compounded synthetic materials that are manufactured in a factory. Single-ply roof systems provide cost-effectiveness, strength, flexibility, durability, and installation speed. The inherent advantages of single-ply systems are the consistent quality of the plant-manufactured membrane and the versatility of product types, installation, and attachment methods, which all result in broader system appeal. Singleply systems are different than another common category of roofing known as BUR (built-up roofs), which utilize alternating layers of hot asphalt and reinforcing fabrics to construct a roof in place.

FOAMULAR® & FOAMULAR® NGX™ XPS Insulation for Single-Ply Roofs

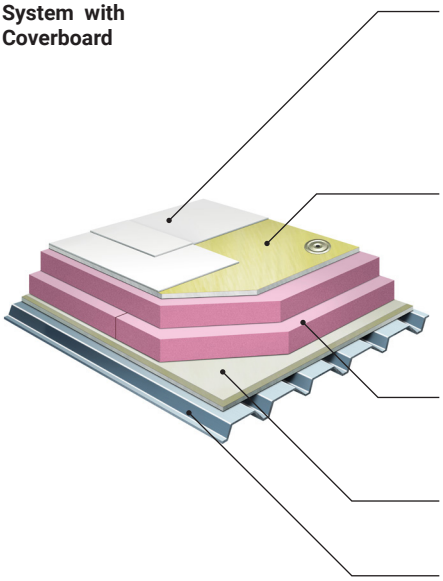
When you need insulation in a single-ply roofing system, FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® 25 XPS insulation offers a variety of compressive strengths, high resistance to water absorption, and a stable long-term R-value of 5 per inch. Membrane systems vary in color and chemical composition and may be mechanically attached, loose laid/ ballasted, or fully adhered. Depending on the type of system specified, coverboards or slip sheets may be required over THERMAPINK® 25 XPS insulation. Single-ply systems with THERMAPINK® 25 XPS insulation have a wide variety of UL and FM performance ratings for fire- and wind-resistance, including ASTM E108, FM 4450 Class I, and 90 psf and higher wind classifications.

For more information on FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® 25 XPS insulation, see Owens Corning publication "FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® 25 Product Data Sheet" (Pub. No. 23546).

For more resources, visit "Owens Corning Roof Enclosure Solutions, featuring FOAMULAR® & FOAMULAR® NGX™ XPS Insulation."

LOW-SLOPE SINGLE-PLY ABOVE-DECK ROOF INSULATION

System with Coverboard



MECHANICALLY ATTACHED OR FULLY ADHERED SINGLE-PLY MEMBRANE (any type or color)

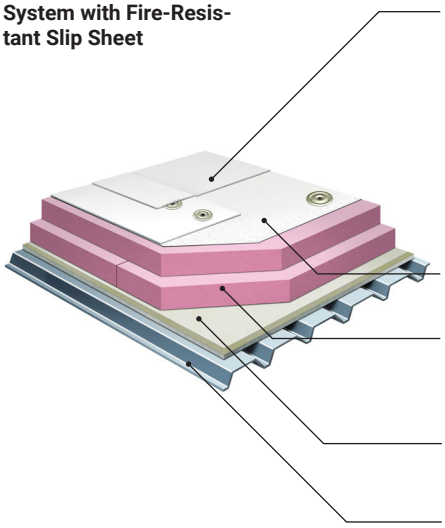
WATER-RESISTANT COVERBOARD (may substitute firerated slip sheet only if using mechanically attached white TPO or PVC membrane)

FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® XPS

VAPOR RETARDER (optional)

NON-COMBUSTIBLE OR COMBUSTIBLE DECK

System with Fire-Resistant Slip Sheet



TPO OR PVC MECHANICALLY ATTACHED WHITE SINGLE-PLY MEMBRANE (must use coverboard if fully adhered or if non-white membrane is used)

SLIP SHEET

FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® XPS

VAPOR RETARDER (optional)

NON-COMBUSTIBLE OR COMBUSTIBLE DECK

FOAMULAR® & FOAMULAR® NGX™ XPS INSULATION SYSTEM SOLUTIONS
PRMA VEGETATIVE AND PLAZA DECK INSULATED ROOF SYSTEMS

PRMA Vegetative and Plaza Deck Waterproofing

Protected roof membrane assemblies (PRMA) place the insulation and overburden over the waterproofing layer, creating long-term durability on long life cycle buildings. PRMA roofs range in function from infrequently accessed stone ballasted systems, to paver/ plaza deck walking surfaces, to fully landscaped vegetated roofs and parking decks. PRMA extends the life of roofing components and reduces building maintenance costs by eliminating UV exposure and minimizing thermal cycling. Vegetative roofs have gained widespread acceptance due to the practical, financial, and environmental benefits they provide. In addition to creating more usable landscaped space in the form of rooftop terraces, walkways, plazas, and gardens, a well-insulated PRMA vegetative roof assembly improves energy efficiency and reduces heating and cooling costs. In some instances, vegetative roofs receive financial funding incentives from government agencies responsible for reducing environmental impact. Vegetative roofs provide a number of important environmental benefits, such as reducing stormwater runoff and sewer fees, helping keep contaminants out of lakes and streams, reducing the urban heat island effect, and improving air quality by converting carbon dioxide to oxygen.

FOAMULAR® & FOAMULAR® NGX™ XPS Insulation for PRMA

FOAMULAR® & FOAMULAR® NGX™ XPS insulation products 400/600/1000, 404/604, and 404RB/604RB are used most often in PRMA applications. XPS insulation is the only insulation recommended for use in PRMA roof systems due to its excellent resistance to water absorption compared to any other type of rigid board insulation. Since the insulation is installed above the waterproofing membrane and is exposed to water through its service life, resistance to water while maintaining physical properties is critical. The 404 and 604 insulations have channels cut into the bottom edges on all four sides of the board to enhance drainage at the board/membrane interface. The 404RB and 604RB insulations have ribs cut into the top surface of the board in addition to the channels on the bottom. The ribs serve as drainage enhancement under pavers when the pavers are laid directly on top of the foam board without pedestals.

For more information on FOAMULAR® & FOAMULAR® NGX™ 400/600/1000 XPS insulation, see Owens Corning publication "FOAMULAR® & FOAMULAR® NGX™ 400/600/1000 Product Data Sheet" (Pub. No. 58307).

For more information on FOAMULAR® & FOAMULAR® NGX™ 404/604 XPS insulation, see Owens Corning publication "FOAMULAR® & FOAMULAR® NGX™ 404/604 Product Data Sheet" (Pub. No. 23544).

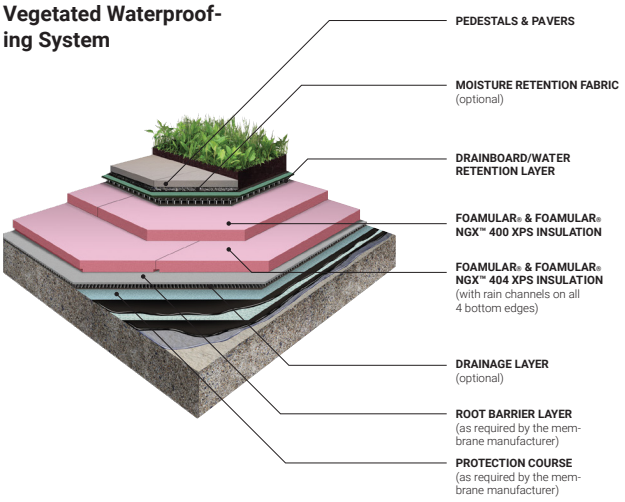
For more information on FOAMULAR® & FOAMULAR® NGX™ 404RB/604RB XPS insulation, see Owens Corning publication "FOAMULAR® & FOAMULAR® NGX™ 404RB/604RB Product Data Sheet" (Pub. No. 10024466).

For more information regarding PRMA roof design with FOAMULAR® & FOAMULAR® NGX™ XPS insulation, see Owens Corning publication "FOAMULAR® & FOAMULAR® NGX™ FS-PRMA-01 Design Guide " (Pub. No. 10021616).

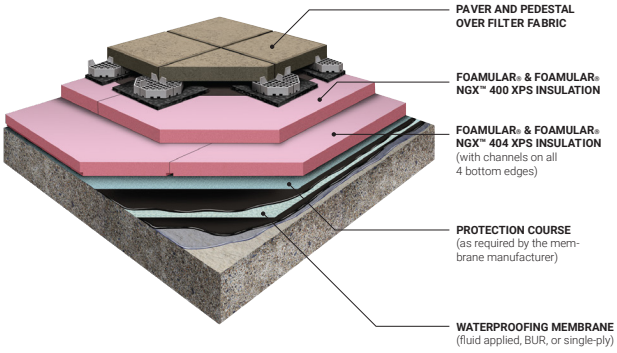
For more resources, visit "Owens Corning Roof Enclosure Solutions, featuring FOAMULAR® & FOAMULAR® NGX™ XPS Insulation."

PRMA VEGETATIVE & PLAZA DECK ABOVE-DECK ROOF INSULATION

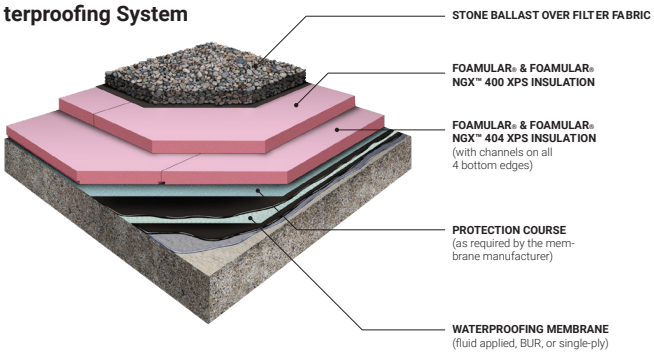
Vegetated Waterproofing System



Plaza Deck/Paver Waterproofing System



Stone Ballasted Waterproofing System



FOAMULAR® & FOAMULAR® NGX™ XPS INSULATION SYSTEM SOLUTIONS
ARCHITECTURAL METAL INSULATED ROOF SYSTEMS

Architectural Metal Roofing System

The exceptional performance of architectural metal roofing makes it one of the most specified products in commercial roofing. Architectural metal roofing systems are energyeffi-cient with various levels of solar reflectance and emittance, depending on the heating or cooling needs of a given climate. Metal roofs are recyclable, lightweight, and easy to install. They provide protection against extreme weather conditions. With strong corrosion-resistance, they also offer long-lasting durability. Metal roofs are aesthetically pleasing, versatile, and cost-efficient throughout their life cycle. They come in many colors and seam profiles, including standing seam, curved, exposed fastener, and concealed fastener. They are suitable for many applications, including new and retrofit projects and any type of commercial or residential projects.

FOAMULAR® & FOAMULAR® NGX™ XPS Insulation for Architectural Metal Roofing

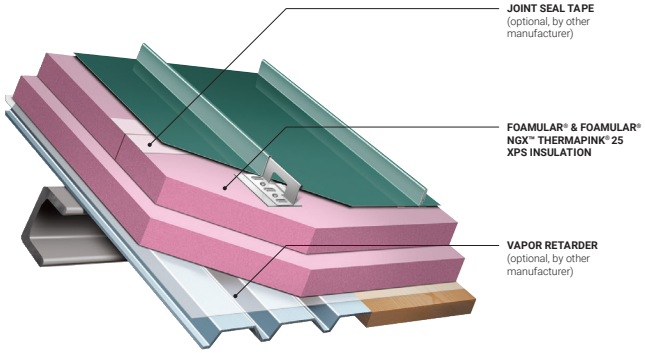
THERMAPINK® 25 XPS insulation is strong, lightweight, and easily cut, which makes it the perfect insulation choice for architectural metal roofing systems. THERMAPINK® 25 insulation has a 25-psi compressive strength capable of resisting the retention clips used to secure the metal roofing system. Bearing plates under the clips sit into the surface of the insulation as they are tightened. No adhered facer means no extra labor needed to trim the surface to achieve proper seating.

THERMAPINK® 25 XPS insulation has high resistance to water absorption and a stable long-term R-value of 5 per inch. Since THERMAPINK® 25 XPS insulation is highly water-resistant, it is easier to stage on job sites than products like polyisocyanurate and EPS that are more moisture-sensitive and subject to restrictive storage and warranty rules. Also, with moderate perm ratings and high, long-lasting R-value, THERMAPINK® 25 insulation limits the formation of condensation under metal roofing.

For more information on FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® 25 XPS insulation, see Owens Corning, "FOAMULAR® & FOAMULAR® NGX™ THERMAPINK® 25 Product Data Sheet" (Pub. No. 23546).

For more resources, visit "Owens Corning Roof Enclosure Solutions, featuring FOAMULAR® & FOAMULAR® NGX™ XPS Insulation."

ARCHITECTURAL METAL ROOFING SYSTEM



FOAMULAR® & FOAMULAR® NGX™ XPS INSULATION SYSTEM SOLUTIONS
TAPERED INSULATED ROOF SYSTEMS

Key Features

Whether in a single-ply or PRMA assembly, Owens Corning® FOAMULAR® & FOAMULAR® NGX™ XPS tapered roofing insulation products provide performance and value in low-slope roofing systems and are designed to be used over structural roof decks. FOAMULAR® & FOAMULAR® NGX™ Extruded Polystyrene (XPS) tapered roofing insulation products are available in three standard types:

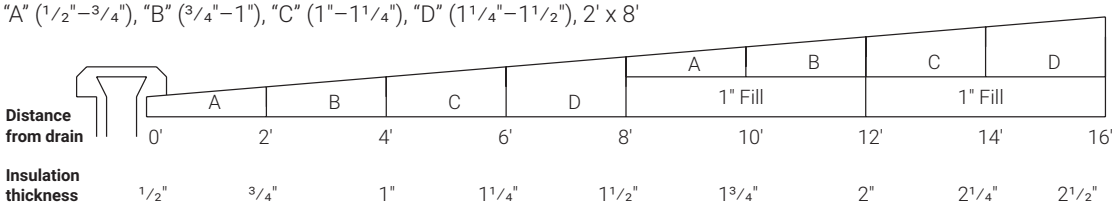
- THERMAPINK® 25 (25 psi, ASTM C578 Type IV)
- 400 (40 psi, ASTM C578 Type VI)
- 600 (60 psi, ASTM 578 Type VII)

Owens Corning provides tapered roofing estimating services with detailed tapered layouts and material quantities to describe how the insulation is to be installed. See your commercial area sales representative to request tapered roofing services or call 1-800-GET-TECH.

TYPICAL TAPERED ROOFING LAYOUTS AND R-VALUES

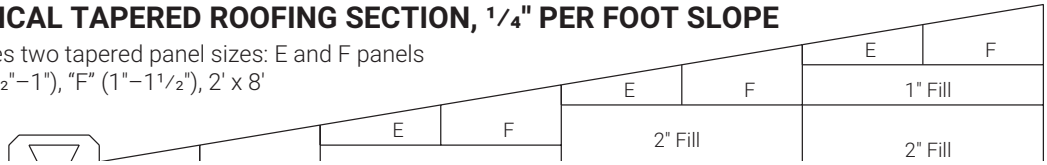
TYPICAL TAPERED ROOFING SECTION, 1/8" PER FOOT SLOPE

Utilizes four tapered panel sizes: A, B, C, and D panels
"A" (1/2"–3/4"), "B" (3/4"–1"), "C" (1"–1 1/4"), "D" (1 1/4"–1 1/2"), 2' x 8'



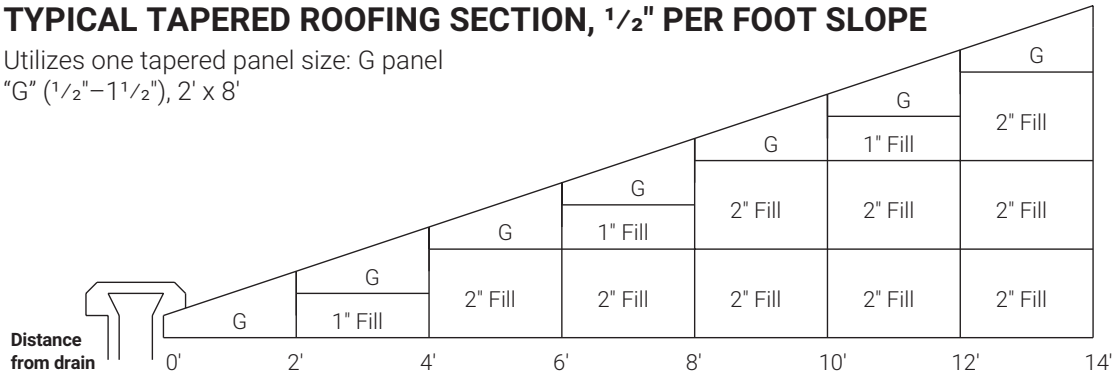
TYPICAL TAPERED ROOFING SECTION, 1/4" PER FOOT SLOPE

Utilizes two tapered panel sizes: E and F panels
"E" (1/2"–1"), "F" (1"–1 1/2"), 2' x 8'



TYPICAL TAPERED ROOFING SECTION, 1/2" PER FOOT SLOPE

Utilizes one tapered panel size: G panel
"G" (1/2"–1 1/2"), 2' x 8'



(Dimensions are not to scale)

For more information on the Owens Corning family of building products, contact your Owens Corning dealer, call 1-800-GET-PINK®, or access our website www.owenscorning.com/commercial.

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GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg.

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RECYCLED CONTENT MATTERS

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