OWENS CORNING

Architectural

BUILDING SOLUTIONS

Owens Corning™ Building Solutions

Owens Corning is a world leader in building materials and systems, delivering a broad range of high quality products and services. Our products include multiple types of insulation and roofing for commercial, residential and industrial applications. Owens Corning has an insulation solution for virtually any building situation. From exterior walls to roofing systems to HVAC/mechanical/piping, Owens Corning insulation products can help your project achieve high level thermal performance, air/water resistance, moisture control, acoustical performance, LEED® certification, and energy and building code compliance.

This summary brochure provides a brief overview of the complete Owens Corning portfolio of commercial products. For complete product data and specification tools please visit www.OCBuildingSpec.com, or for direct technical support call 419-248-7894 or toll-free 1-800-GET-PINK®.

CommercialComplete™ Wall Systems

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Roofing & Insulation Solutions

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Metal Building Solutions

Below Grade Applications

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Mechanical/HVAC Systems

- Duct
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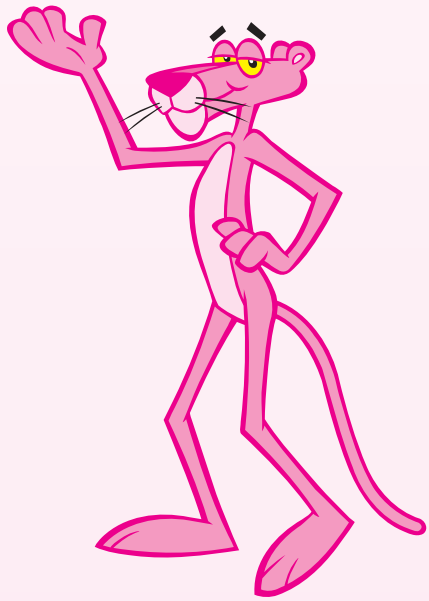
Agricultural Building Solutions

Sustainability



COMMERCIALCOMPLETE™
WALL SYSTEMS

CommercialComplete™ Wall Systems Performance Overview

CommercialComplete™ Wall Systems
Owens Corning™ CommercialComplete™ Wall Systems are a variety of exterior wall system solutions that provide outstanding energy efficiency coupled with complete air and water barrier performance, as well as fire, structural and acoustical performance qualities. They provide complete flexibility to integrate with multiple water/air barrier products and systems to effectively manage both external bulk water, and, internal and external water vapor permeation depending on regional demands. It is the complete commercial wall.

Owens Corning™ CommercialComplete™ Wall Systems insulation product solutions range from FOAMULAR® Extruded Polystyrene (XPS) and EcoTouch® Fiberglas™ for many types of commercial construction, to EcoTouch® Fiberglas™ for metal buildings. CommercialComplete™ Wall Systems can be designed to meet or exceed the ASHRAE 90.1[1] energy efficiency and air infiltration requirements for walls, as well as comply with the International Building Code[2] requirements for fire, structural and water resistance.

The CommercialComplete™ Wall Systems portfolio also includes:

- Steel Stud and Masonry Veneer with FOAMULAR® XPS, EcoTouch® Fiberglas™ Insulation and JointSealR® Foam Joint Tape
- Wood Stud with FOAMULAR® XPS Insulation, EcoTouch® Fiberglas™ Insulation and JointSealR® Foam Joint Tape
- Masonry Cavity Wall with FOAMULAR® XPS Insulation
- Interior Furring with FOAMULAR® XPS Insulation
- Insulated Concrete Sandwich Panel, including tilt-up, precast and cast-in-place, with structural non-composite or composite action wall tie options with FOAMULAR® XPS and EcoTouch® Fiberglas™ Insulation
- Exterior Insulation Finish System (EIFS) with FOAMULAR® XPS Insulation
- Curtainwall with CW 225 Fiberglas™ Insulation
- Metal Building with EcoTouch® Metal Building Fiberglas™ Insulation

CommercialComplete™ Wall Systems with Owens Corning's variety of insulation products in standard wall construction provide critical wall system performance qualities such as:

Continuous Insulation: Whether in wood or steel stud framing, masonry cavity walls, interior furring, or as the core of concrete sandwich panels, FOAMULAR® XPS provides a layer of continuous insulation (ci) to thermally seal the exterior wall and minimize "thermal bridging."

Thermal Efficiency: EcoTouch® Fiberglas™ Batt Insulation provides high R-value inside stud framing cavities utilizing that valuable space to better insulate the building envelope.

Air and Water Intrusion: JointSealR® Foam Joint Tape over FOAMULAR® XPS joints seals the wall system, creating a water and air resistive barrier layer, minimizing air infiltration/exfiltration and water intrusion.

Vapor Intrusion: EcoTouch® Fiberglas™ Batt Insulation is available with a variety of facer materials to suit all types of construction and to manage potential moisture vapor permeation through interior surfaces. It is also available unfaced.

Water Drainage: FOAMULAR® XPS is highly water resistant, maintaining its R-value while shedding cavity water in rain screen systems like brick or CMU veneer that have a drainage cavity.

Fire Resistance Ratings: CommercialComplete™ Wall Systems have ASTM E119/UL 263 hourly fire resistance ratings, and NFPA 285 limited spread of flame ratings suitable use in for Types I, II, III, or IV construction. (Type V is combustible construction, not subject to NFPA 285 testing.)

Notes

1. ASHRAE 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings; American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc, 1791 Tullie Circle NE, Atlanta, GA 30329
2. International Building Code; International Code Council, Inc., 500 New Jersey Ave. NW, 6th Floor, Washington D.C. 20001

CommercialComplete™ Wall System

Owens Corning™ CommercialComplete™ Wall Systems provide insulation solutions for the performance demands of stud wall construction including energy efficiency, moisture management, indoor air quality, sustainability, and energy and building code compliance.

EcoTouch® Fiberglas™ Batt Insulation

Batt insulation products are available in different thicknesses to achieve a variety of R-values in the stud cavity. The products are available in either full widths to fill the hollow voids in C-shaped steel studs, or in widths to fit between wood studs. They are either unfaced or faced with a variety of facers available to address interior vapor resistance requirements. EcoTouch® Flame Spread 25 insulation has a durable facer with a flame spread rating of 25, suitable for use exposed or concealed in non-combustible building types as required by the International Building Code.

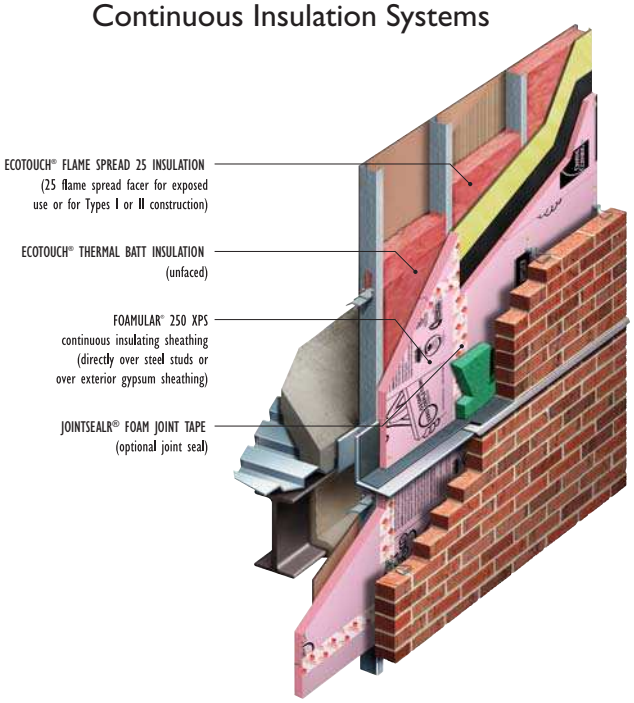
FOAMULAR® Extruded Polystyrene (XPS) Rigid Board Insulation

Rigid FOAMULAR® XPS insulation is perfect for use as "continuous insulation" either directly over steel stud framing or over another sheathing layer such as gypsum board or OSB. FOAMULAR® insulation is available with the standard R 5 per inch of thickness, or, R 5.6 in High-R products, with a variety of edge configurations such as straight, ship-lap or T&G, and unfaced or faced for added strength. FOAMULAR® insulation qualifies as a water resistive and air barrier for code compliance when joints are taped with JointSealR® Foam Joint Tape. Steel stud walls with a variety of masonry or cement based claddings comply with NFPA 285 fire test requirements. ASTM E119/UL 263 hourly fire rated assemblies are also available.

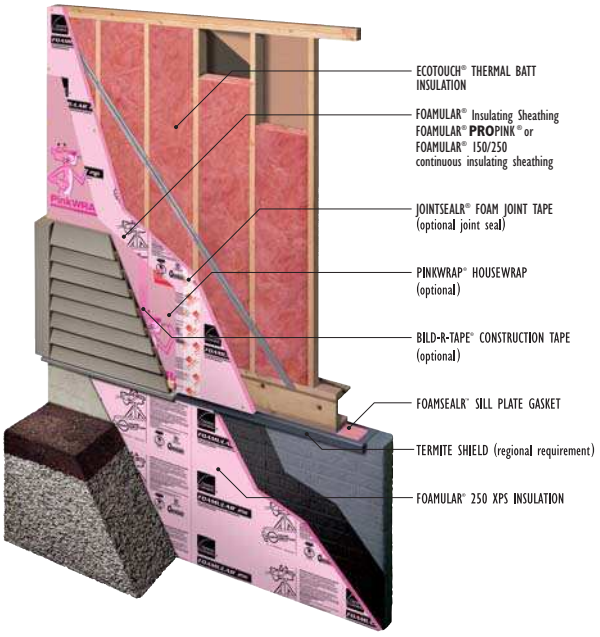
JointSealR® Foam Joint Tape

JointSealR® Foam Joint Tape is a flexible, acrylic backed, tape that adheres well to FOAMULAR® XPS insulation in all temperature conditions. It is roller applied over FOAMULAR® XPS continuous insulation joints to create a code compliant water resistive and air barrier.

Steel and Wood Stud Framed Continuous Insulation Systems



Steel Stud Framing



Wood Stud Framing

Notes

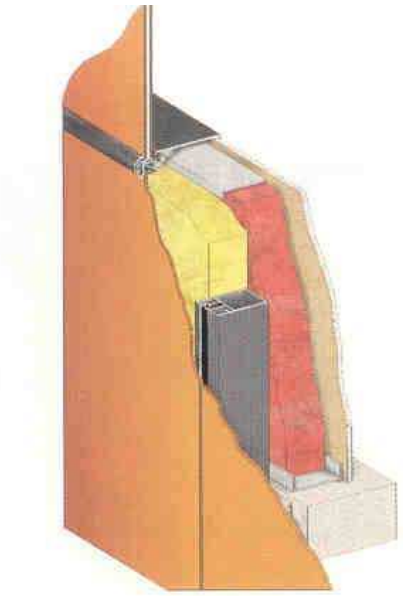
1. Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds.
2. See actual warranty for complete details, limitations and requirements.

Curtainwall Systems

Curtainwall construction gives design flexibility in a non-structural building skin made of lightweight materials reducing the cost of the supporting structure. Curtainwalls, typically framed with extruded aluminum structural members are designed to be self supporting and to resist air and water infiltration. The aluminum frame is typically in-filled with glass, which provides the advantage of allowing natural light to illuminate interior spaces deep inside large buildings, while also enclosing the conditioned space. Other common in-fill materials are masonry veneer, metal panels, and opaque glass, all providing surfaces in the building skin that can be insulated from behind.

Curtainwall Insulation

Owens Corning™ Curtainwall Insulation/CW 225 is designed to provide excellent thermal properties in glass, metal and masonry curtainwall spandrel systems. The semi-rigid, light-weight boards can be placed between or over framing members, and held in place with friction fit between framing members, pins, clips, or other mechanical fastening systems. Curtainwall Insulation/CW 225 also improves acoustical performance by increasing the Noise Reduction Coefficient (NRC) rating. A 2" thickness provides an NRC of up to 1.00. Manufactured in thicknesses from 1" to 4", CW 225 R-value ranges from 4.3 to 17.4. It is available unfaced, or faced with an FRK (foil-reinforced-kraft) vapor retarder.



Notes

1. Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds.

CommercialComplete™ Wall System

Owens Corning™ CommercialComplete™ Wall Systems provide insulation solutions for the performance demands of masonry cavity wall construction including energy efficiency, moisture management, indoor air quality, sustainability, and energy and building code compliance.

FOAMULAR® Extruded Polystyrene (XPS) Rigid Board Insulation

Masonry veneers are rain screens. The screen "depressurizes" exterior water that penetrates the outer masonry wythe and it is drained away through the cavity. FOAMULAR® XPS insulation is perfect to maintain its R-value as "continuous insulation" in wet masonry cavities because it is closed cell and chemically hydrophobic. As such, FOAMULAR® XPS insulation has excellent resistance to water absorption, meaning long lasting R-value, compared to any other foam insulation choice including expanded polystyrene (EPS), spray polyurethane or foil faced polyisocyanurate.

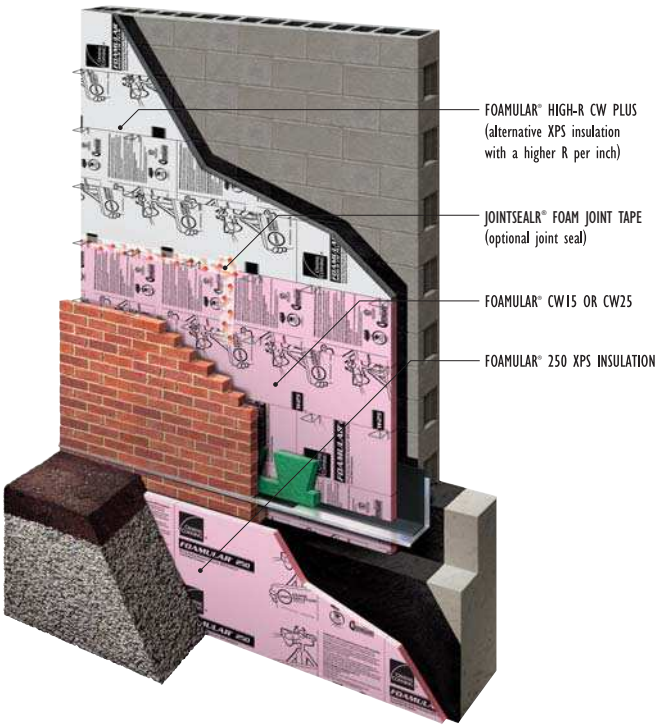
FOAMULAR® XPS cavity insulation products CW15, CW25 and High-R CW Plus are available in convenient 16" widths designed to fit between wall ties spaced 16" o.c. vertically. CW15 and CW25 have the standard XPS thermal resistance of R-5 per inch of thickness when measured at 75°F mean temperature. High-R CW Plus is designed to provide higher R in limited depth cavity spaces with R-10 and R-12 for 1¾" and 2⅛" thick respectively.

CommercialComplete™ masonry cavity walls with a variety of masonry or cement based claddings comply with NFPA 285 fire test requirements. ASTM E119/UL 263 hourly fire rated assemblies are also available.

JointSealR® Foam Joint Tape

JointSealR® Foam Joint Tape is a flexible, acrylic backed, tape that adheres well to FOAMULAR® XPS insulation in all temperature conditions. It is roller applied over FOAMULAR® XPS continuous insulation joints to seal joints in masonry cavity wall construction.

Masonry Cavity Wall
Continuous Insulation Systems



Notes

1. See actual warranty for complete details, limitations and requirements.

CommercialComplete™ Wall System

Owens Corning™ CommercialComplete™ Wall Systems provide insulation solutions for the performance demands of interior furred masonry wall construction including energy efficiency, moisture management, indoor air quality, sustainability, and energy and building code compliance.

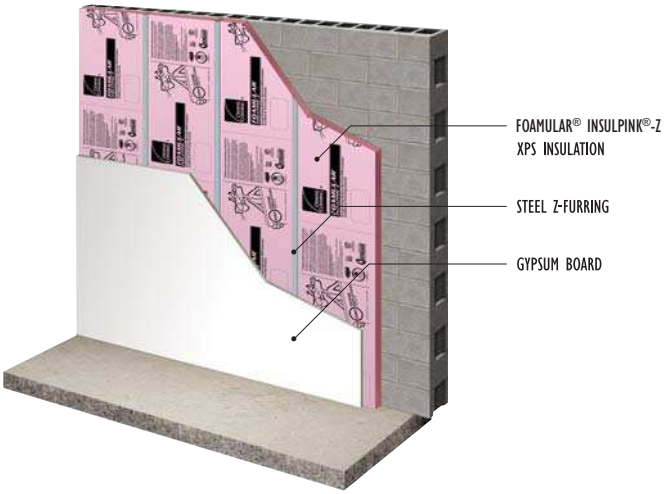
Furred construction is a common method for insulating the interior side of masonry walls, especially single wythe walls, or multi-wythe walls that have an uninsulated cavity. Single wythe masonry walls that have no cavity that can be readily and efficiently insulated using FOAMULAR® extruded polystyrene (XPS) insulation and a gypsum board covering secured to the interior of the wall on wood or metal "furring strips." Single wythe masonry walls, without the drainage cavity of multi-wythe walls, rely on the "barrier concept" to prevent moisture entry through the exterior wall. Therefore it is important to protect the exterior side of the wall against moisture intrusion from the outside. Multi-wythe masonry walls usually called "cavity wall", typically contain XPS insulation in the cavity, between the masonry wythes, along with an air space that serves as a drainage cavity.

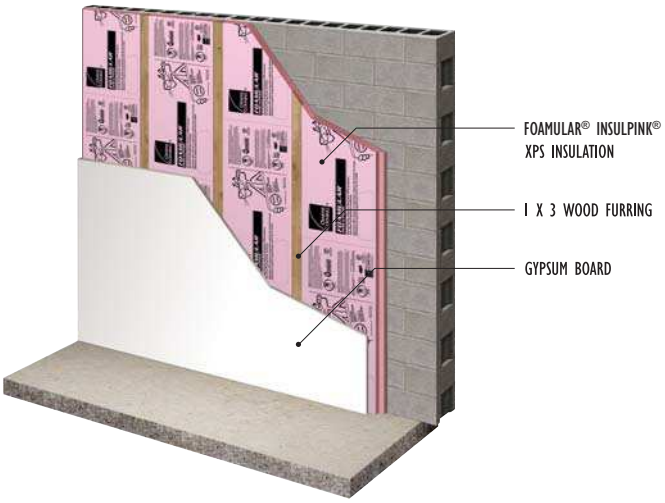
FOAMULAR® XPS Rigid Board Insulation

FOAMULAR® XPS furred wall insulation products include InsulPink® insulation, a product slotted on its long edges to receive a 1x3 (nominal) wood furring strip insert or INSULPINK®-Z insulation, a product cut to width to fit between metal Z-furring strips mounted vertically 24" o.c. FOAMULAR® XPS insulation has a thermal resistance of R-5 per inch of thickness measured at 75°F mean temperature and high resistance to water absorption.

Metal Z-furring strips may create a "thermal short" that extends through the XPS insulation layer. A thermal short is an area of material, such as wood or steel, that has a significantly higher thermal conductivity (lower R-value) than the insulation. An area of thermal shorting conducts heat energy at a faster rate than does the insulation, thereby reducing the effectiveness of the furred wall insulation system. Thermal shorts can be avoided by using INSULPINK® insulation so that the furring does not penetrate the insulation layer but rather it sits in a channeled slot on top of the insulation, maintaining a continuous insulation layer behind the furring strip.

Furred Interior Masonry Continuous Insulation Systems





Notes

1. See actual warranty for complete details, limitations and requirements.

CommercialComplete™ Wall Systems

Owens Corning's CommercialComplete™ Wall Systems provide insulation solutions for the demands of insulated concrete sandwich panel wall construction; such as energy efficiency, moisture management, indoor air quality, sustainability and energy and building code compliance.

Concrete sandwich panels are ideal for all building applications. Panelized concrete construction is an increasingly preferred construction method because it provides design flexibility while producing panels that are structural, fire resistant, highly moisture resistant and durable, all with enhanced speed of erection and enclosure time. Additionally, panels can be cast in one of three ways; precast in a controlled factory environment, site cast tilt-up or vertically cast-in-place.

Also, repetitive building units, such as hotels, dormitories and prisons, can be modularized to make for even greater construction efficiencies.

Concrete sandwich panels consist of two wythes of concrete, an outer and inner, with a layer of durable FOAMULAR® 250 Extruded Polystyrene (XPS) insulation sandwiched in between. Non-corrosive, low-conductivity, fiber composite MC/MS Series connectors from Thermomass are used to bond the wythes of the sandwich panel together. The chemically resistant connectors enable the creation of an uninterrupted FOAMULAR® envelope and effectively minimize the effects of thermal bridging in the building's wall systems, creating the ultimate in energy efficient wall systems.

They lynchpin of the entire wall assembly is the fiber composite connector manufactured by Thermomass. All Thermomass connectors are comprised of individual E-glass strands and are bonded with a vinyl ester resin. This pairing creates a material that is exceptionally strong while possessing low thermal conductivity. The fiber-composite connectors have been engineered to connect and support the two layers of concrete, so their structural integrity is of the utmost importance. Buildings insulated with Thermomass systems are designed to maximize the thermal mass effect of concrete and minimize thermal bridges. These two concepts are key to meeting or exceeding stringent model energy codes and are crucial to creating a building envelope capable of delivering excellent performance in any climate. With R-values ranging from R-10 to R-50 for cast-in-place, tilt-up or precast applications; Thermomass and Owens Corning can provide a solution for just about every situation.

Getting the right Thermomass connector for the type of construction method is key.

- **Thermomass System NC** is the most widely used Thermomass connector and insulation system. Designed to create a non-composite insulated concrete sandwich wall, the system is unique in that it ties the two wythes or layers of concrete together yet allows the layers to work independently of one another. One layer is typically the structural element and the other is an architectural wythe. This independent behavior eliminates the thermal bowing present in structurally composite panels and provides a wall system that is not affected by significant temperature differentials between interior conditioned space and the outdoor environment.
- **Thermomass System SC** is designed to create a structurally-composite concrete sandwich wall in both plant precast and site-cast tilt-up applications. The system is unique in that it forces the two wythes or layers of concrete to act together structurally, creating a thinner panel.
- **Thermomass System CIP** is designed to create an integrally insulated cast-in-place concrete wall. The system is unique in that it allows a concrete contractor to integrate a layer of insulation into a vertically cast concrete wall using their traditional forming equipment and construction practices. System CIP utilized TL series connectors which not only tie the two layers of concrete together, but also act as a positioning device for the insulation. This allows the designer the flexibility to have varying thicknesses of concrete, both inside and out.
- **Thermomass System MP** is a patented insulation system designed for modular precast applications. Modular precast construction is truly unique in that it allows a designer or contractor to build a facility room by room with quality controlled concrete units. System MP is designed to be integrated into the exterior walls of the precast units.

- **Thermomass System RS** incorporates a vented 11mm air cavity into a sandwich wall that becomes pressurized to match the exterior, architectural wythe of concrete. This creates an air tight vapor barrier, allowing any water that entered the joint or through penetrations in the panel to drain out.
- **Thermomass System DW** is designed to create a precast concrete double wall. The main reasons to choose a double wall in lieu of a sandwich wall are weight and structural connection improvements. Precast walls utilizing System DW have been constructed with two wythes of concrete separated by an air void and a layer of rigid insulation. The two wythes of concrete are held together with Thermomass Series AG connectors, allowing the insulation to be secured to one wythe of concrete while also providing an air gap between the insulation and second wythe of concrete.

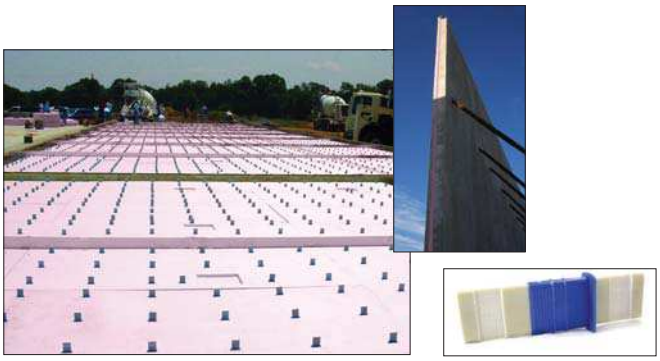
FOAMULAR® XPS Rigid Board Insulation

FOAMULAR® 250 XPS insulated concrete panels are sustainable using minimal raw materials with a highly energy efficient and continuous XPS insulation core. FOAMULAR® XPS is durable with high resistance to water absorption, and as a continuous insulation layer in concrete panels, complies with NFPA 285 fire test and ASTM E119/UL 263 hourly fire resistance requirements.

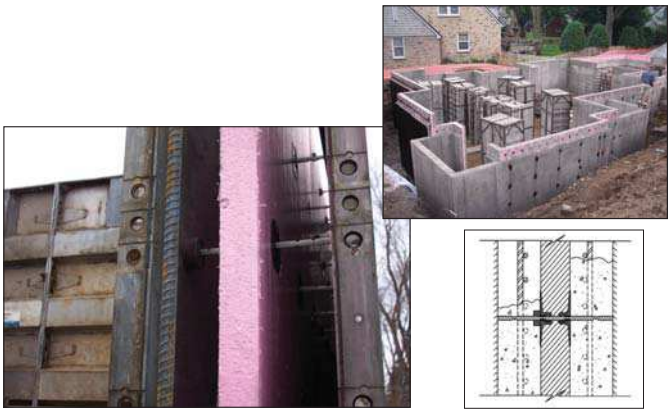
EcoTouch® Fiberglas™ Batt Insulation

If the interior is frames out, EcoTouch® Fiberglas™ batt insulation products are available in different thicknesses to achieve a variety of R-values in the stud cavity. They are available in either full width to fill the voids in steel studs, or between wood studs, unfaced or with a variety of facers to address interior vapor resistance requirements. EcoTouch® Flame Spread 25 has a durable facer with a flame spread rating of 25, suitable for use exposed, or concealed in a non-combustible building types as required by the International Building Code.

Insulated Concrete Sandwich Panels



Thermomass System SC, tilt-up with FOAMULAR® 250



Thermomass System CIP, vertical cast, with FOAMULAR® Insulation

Thermomass System NC, in a precast panel, and FOAMULAR® Insulation

CommercialComplete™ Wall Systems

Owens Corning™ CommercialComplete™ Wall Systems provide insulation solutions for the performance demands of Exterior Insulation Finish Systems (EIFS) including energy efficiency, moisture management, indoor air quality, sustainability, and energy and building code compliance.

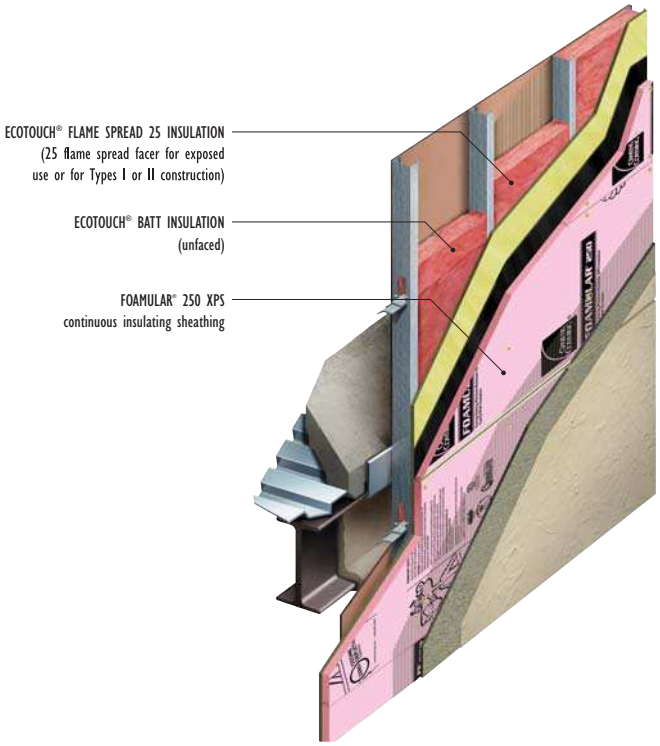
Exterior Insulation Finish Systems (EIFS)

Class PM (polymer modified) EIFS, with water resistant, high strength, FOAMULAR® 250 insulation, is used for exterior walls in new and retrofit commercial and institutional construction where durable continuous insulation and impact resistance are needed, either directly over steel stud framing or over another sheathing layer such as gypsum board or OSB. Traditionally, Class PM EIFS use extruded polystyrene (XPS) insulation, and a thicker, cementitious base coat applied over mechanically attached lath and glass fiber reinforcing mesh. FOAMULAR® XPS insulation is also used in one coat EIFS and traditional stucco systems. Class PB, polymer based, EIFS typically use adhesively fastened lower strength and lower R-value expanded polystyrene (EPS) insulation, and a glass fiber reinforced thin base coat.

FOAMULAR® XPS Rigid Board Insulation

Rigid FOAMULAR® XPS insulation, with high resistance to water absorption is perfect for use as continuous insulation in EIFS. It is available with the standard R 5 per inch of thickness, or, R 5.6 in High-R products, with a variety of edge configurations such as straight, ship-lap or T&G. FOAMULAR® insulation qualifies as a water resistive and air barrier for code compliance when joints are taped with JointSealR® Foam Joint Tape. Steel stud walls with traditional stucco or EIFS cladding comply with NFPA 285 fire test requirements. Consult the EIFS system manufacturer for all system performance details.

Exterior Insulation Finish Systems (EIFS)
Continuous Insulation Systems



EcoTouch® Fiberglas™ Batt Insulation

Batt insulation products are available in different thicknesses to achieve a variety of R-values in the stud cavity. They are available in either full widths to fill the hollow voids in C-shaped steel studs, or in widths to fit between wood studs. They are either unfaced, or faced with a variety of facers available to address interior vapor resistance requirements. EcoTouch® Flame Spread 25 insulation has a durable facer with a flame spread rating of 25, suitable for use exposed, or concealed in non-combustible building types as required by the International Building Code (IBC).

Notes

1. Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds.
2. See actual warranty for complete details, limitations and requirements.

Wall System Fire Performance

To meet energy efficiency standards, commercial buildings often incorporate foam plastic insulation in the building envelope. All foam plastic insulation is combustible including XPS, expanded polystyrene (EPS), polyisocyanurate (iso), and spray polyurethane (SPF). Commercial buildings, because of their area, height, proximity to property lines or the nature of their use, are often required to be constructed in whole or in part of non-combustible materials. Non-combustible construction "Types" are defined in Section 602 of the IBC. Types I and II are defined as essentially all building elements consisting of non-combustible materials. Types III and IV are defined as the exterior walls being constructed of non-combustible materials. Type V is wholly combustible construction.

Limiting Fire Spread, NFPA 285

The IBC requires the exterior walls of most commercial buildings to be constructed of non-combustible materials, as is the case in Types I, II, III and IV construction. The ASHRAE 90.1 energy standard for commercial buildings prescribes the use of continuous insulation (ci) over steel framing to minimize energy inefficient thermal bridging. As explained earlier, ci is typically combustible foam plastic insulation. To address the dual requirements of non-combustible walls containing combustible foam plastics, the IBC requires all wall assemblies of any height, that are required to be Type I, II, III or IV construction, be tested and comply with the acceptance criteria of NFPA 285.[2]
See IBC Section 2603.5.5.

To pass the NFPA 285 test, a wall assembly must demonstrate limited fire spread vertically and horizontally away from the area of fire exposure. The IBC imposes two additional criteria for NFPA 285 tested wall assemblies:

- **Potential Heat:** The potential heat of foam plastic in walls, expressed in Btu per square foot, is limited to the amount that has been successfully tested in the required NFPA 285 full scale wall test. (IBC Section 2603.5.3)
- **Ignition:** Exterior walls shall not exhibit sustained flaming when tested in accordance with NFPA 268.[3] Walls that are protected on the outside with a minimum of 1" thick masonry, concrete, or a minimum of ⅞" thick stucco, are not required to be tested for ignition. (IBC Section 2603.5.7)

NFPA 285 Tested CommercialComplete™ Wall Systems

Owens Corning™ CommercialComplete™ Wall Systems with FOAMULAR® XPS ci sheathing, and, with or without EcoTouch® FIBERGLAS™ Insulation, using steel stud frame or masonry back-up walls, with a variety of masonry veneer exterior finishes, have successfully passed NFPA 285. For complete wall system specification details see the Owens Corning publication entitled "NFPA 285 Tested Wall Assemblies."

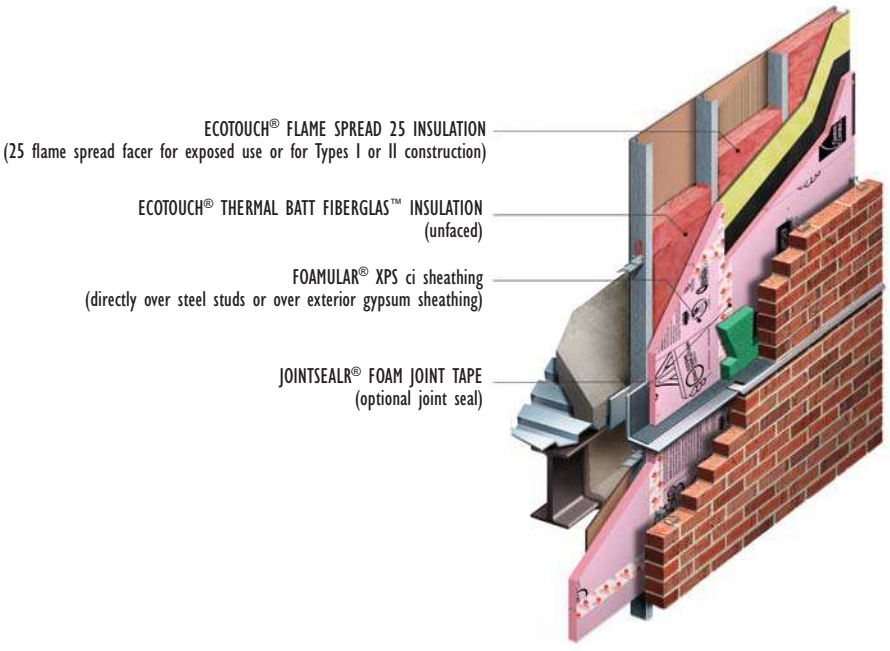
CommercialComplete™ Wall Systems Fire Performance

NFPA 285 test wall under construction.

Fire emitting from the NFPA 285 test window.

FOAMULAR® XPS with brick veneer stripped away above the test window showing limited damage and minimal fire spread after the NFPA 285 fire test.

CommercialComplete™ Wall Systems for Steel Stud and Masonry Veneer



ACOUSTIC INSULATION &
SOUND CONTROL SYSTEMS

ACOUSTIC INSULATION & SOUND CONTROL SYSTEMS

Acoustical Insulation and Interior Finishes

Owens Corning complete line of acoustical insulation products and interior finish systems offer a wide range of acoustic solutions. Standard concealed insulation products are used to reduce sound transmission through typical interior partitions and shaftwalls. Acoustic finish products address room acoustic performance criteria such as acoustic absorption, sound control, optimal audio balance, durability and impact-resistance, and economics, all with aesthetic flexibility for all architectural styles, shapes and surfaces.

Sound Attenuation Batt Insulation

Sound Attenuation Batts (SAB) provides excellent acoustical performance for metal framed interior partitions. Depending on the construction method and components used, SAB can improve sound transmission classification rating by 4 to 10 points over an empty cavity.

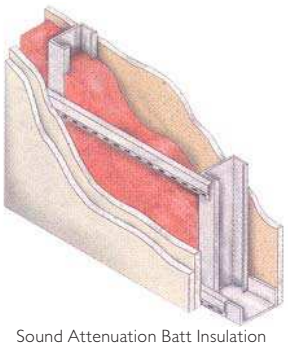
Sonobatts® Insulation

Sonobatts® Insulation is used over suspended ceiling panels to economically improve both noise control and thermal performance of new or existing ceiling systems. The glass fiber batts are sized to fit over standard ceiling tiles.

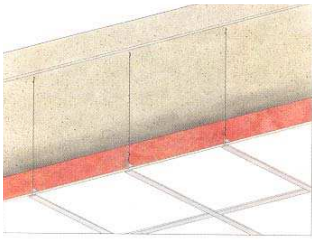
SelectSound® Black Acoustic Board Insulation

SelectSound® Black Acoustic Board provides excellent acoustical performance for multiplex theaters, sound studios and performing arts centers. SelectSound® board helps to provide the highest quality audio reproduction by reducing sound reverberation within spaces. Depending on thickness SelectSound® board absorbs up to 100 percent of the sound striking its surface. Sound transfer from space to space through construction assemblies is also noticeably reduced.

Acoustic Insulation and Sound Control Systems



Sound Attenuation Batt Insulation



Sonobatts® Insulation

Conwed Designscape®, Eurospan®, and Wall Technology

SelectSound® Black Acoustic Blanket Insulation

SelectSound® Black acoustic blanket provides excellent acoustical performance for walls in multiplex theaters, sound studios and performing arts centers. It is also ideal for use above suspended metal ceiling systems. SelectSound® blanket helps to provide the highest quality audio reproduction by reducing sound reverberation within spaces. Depending on thickness SelectSound® blanket absorbs up to 80 percent of the sound striking its surface. Sound transfer from space to space through construction assemblies is also noticeably reduced.

Acoustical Surfaces

Conwed Designscape®, Eurospan®, and Wall Technology

Conwed Designscape®, Eurospan® and Wall Technology are among the industry leading brands of custom acoustical walls, ceilings and related products. All are designed for a wide range of commercial, institutional, retail and other building types. The systems offer a range of acoustic solutions to accomplish any project priority including durability and impact-resistance, optimal audio balance, sound control, acoustic absorption, economics, or a combination.

Many finish systems and accessories, such as diffusers and baffles, are available from seamless systems to clouds to flat appearances, for convex or concave walls, and for nearly any type of construction, brick, concrete, gypsum board or wood. The system variations fuse aesthetics with function and ease of installation, providing great flexibility in how to control or direct sound. Many systems also have recycled content to contribute to LEED® projects.

Notes

1. Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds.

ROOFING & INSULATION
SYSTEMS

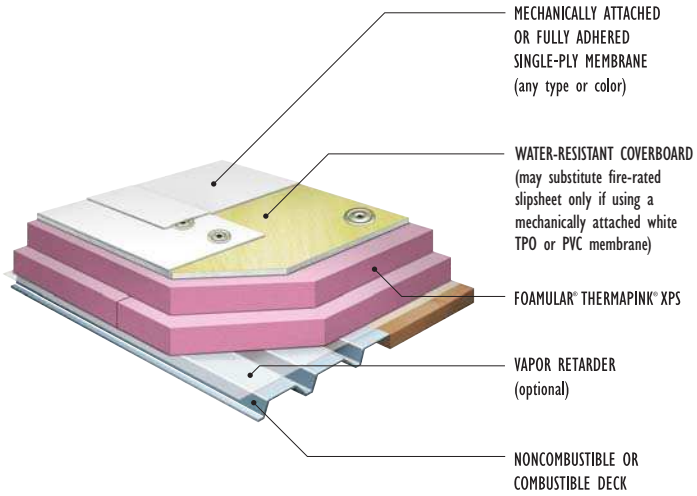
Single-Ply Roofing Systems

Single-ply roofing membranes are flexible sheets of compounded synthetic materials that are manufactured in a factory. Single ply roof systems provide strength, flexibility, durability and installation speed. The inherent advantages of single-ply systems is the consistency of the quality of the plant manufactured membrane, and the versatility of product types, installation and attachment methods, all resulting in broader system appeal. Single-ply 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.

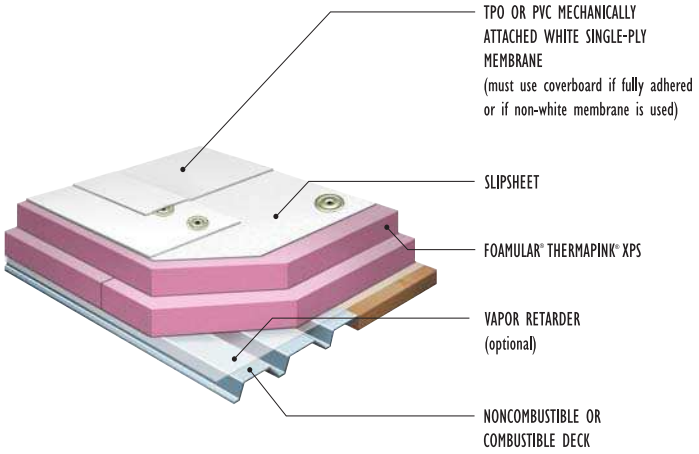
FOAMULAR® THERMAPINK® Extruded Polystyrene (XPS) Rigid Insulation

FOAMULAR® THERMAPINK® XPS is a perfect insulation choice for single-ply roofing systems. THERMAPINK® XPS insulation, with a variety of compressive strengths, high resistance to water absorption, and a stable long term R value of 5 per inch, is a perfect insulation layer for use below single-ply membrane roofing systems. Membrane systems vary in color and chemical composition, and, they may be mechanically attached, loose laid/ballasted or fully adhered. Depending on the type of system specified, cover boards, or slip sheets may be required over FOAMULAR® THERMAPINK® XPS insulation. Single-ply systems with THERMAPINK® XPS insulation have a wide variety of Underwriters Laboratories (UL) and Factory Mutual (FM) performance ratings for fire and wind resistance including ASTM E108 Class A, FM 4450 Class I, UL 1256 direct to steel deck with no thermal barrier layer, and, 90 psf and higher wind classifications.

Low Slope Single-Ply Above Deck Roof Insulation



System with Cover Board



System with Fire Resistant Slipsheet

Notes

1. See actual warranty for complete details, limitations and requirements.

Recover Single-Ply Roofing Systems

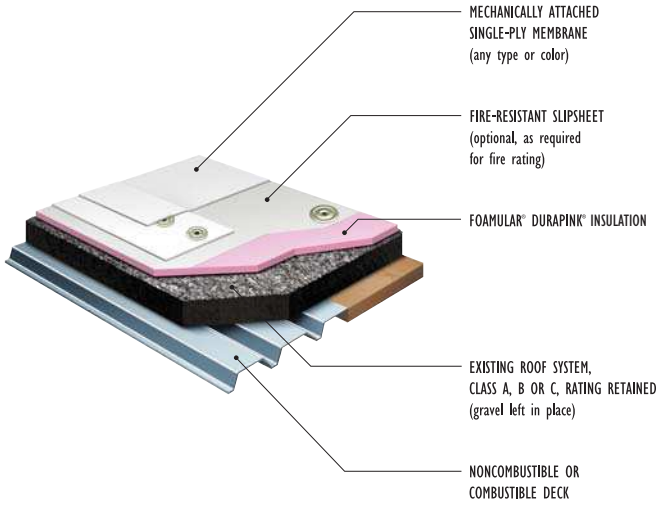
When an existing BUR reaches the end of its service life and it must be replaced, a decision must be made to either: 1) completely remove the existing BUR/insulation and replace it with another system or 2) "recover" the existing BUR with a new FOAMULAR® DURAPINK® extruded polystyrene (XPS) insulation layer and single-ply membrane roofing system.

The first option, total tear off, requires the cost of time and labor to remove the old system, haul and dispose of the waste in a landfill, and completely replace the system with new insulation/membrane from the deck up. The second option, "recover," salvages the existing system and its insulation layers by placing a new layer of insulation and membrane on top of the existing BUR, avoiding the time, labor and landfill costs required to dispose of a torn off system.

Recover systems save time and money by avoiding tear off and landfill costs, while salvaging the useful R-value of existing insulation layers by keeping them on the roof. However, not every roof is a candidate for recover. Before choosing recover, it must be verified that the existing roof deck is structurally sound, and that the existing insulation layers are dry, or capable of drying after recover roofing is complete.

Recover roofing systems are typically factory produced single-ply roofing membranes that provide strength, flexibility, durability and installation speed. They are usually mechanically attached to avoid additional weight on the existing structure from ballast or cover boards in fully adhered systems.

Recover Roof Insulation



FOAMULAR® DURAPINK® XPS Rigid Insulation

FOAMULAR® DURAPINK® XPS is a perfect insulation choice for recover single-ply roofing systems. Unlike wood fiberboard often used for recover, DURAPINK® XPS insulation has high resistance to water absorption, maintaining all of its insulation and strength properties while any latent water that may be in the old system dissipates. DURAPINK® recover insulation systems have a wide variety of Underwriters Laboratories (UL) and Factory Mutual (FM) performance ratings for fire and wind resistance including ASTM E108 Class A, and wind uplift resistance classifications.

Notes

1. See actual warranty for complete details, limitations and requirements.

PRMA, Vegetative and Plaza Deck Waterproofing

Protected roof membrane assemblies (PRMA) provide high value and 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 vegetative roof gardens. PRMA extends the life of roofing components and reduces building maintenance costs by eliminating UV exposure and minimizing thermal cycling.

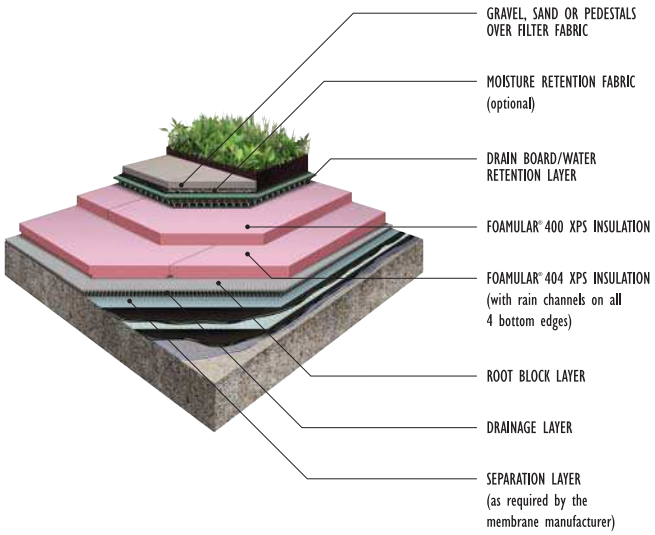
Vegetative roofs are gaining widespread acceptance due to the practical, financial, and environmental benefits they provide. In addition to creating more usable landscaped space in the form of rooftop terraces, walkways, plazas and gardens, a well insulated PRMA vegetative roof assembly improves energy 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 reduced storm water runoff and sewer fees, they help keep contaminants out of lakes and streams, they reduce the urban heat island effect, and they improve air quality by converting carbon dioxide to oxygen.

FOAMULAR® Extruded Polystyrene (XPS) Insulation for PRMA

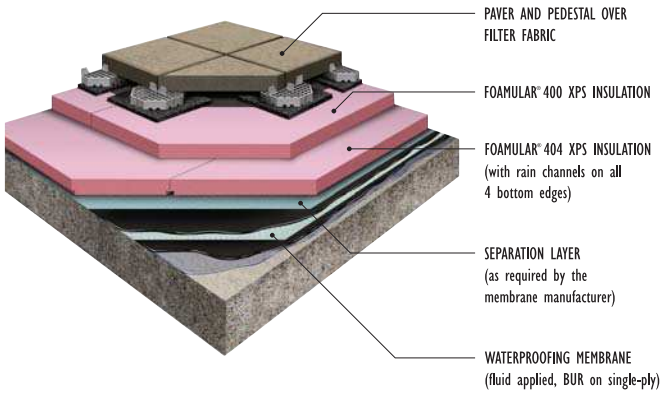
FOAMULAR® XPS insulation products 404, 604, 404RB and 604RB are used in PRMA applications. Extruded polystyrene is the only insulation used in PRMA roof systems due to its excellent resistance to water absorption compared to any other type of rigid board insulation. Because the insulation is installed above the waterproofing membrane and is exposed to water through its service life, resistance to water while maintaining physical properties is critical.

FOAMULAR® 404 and 604 have channels cut into the bottom edges on all four sides of the board to enhance drainage at the board/membrane interface. FOAMULAR® 404RB and 604RB 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.

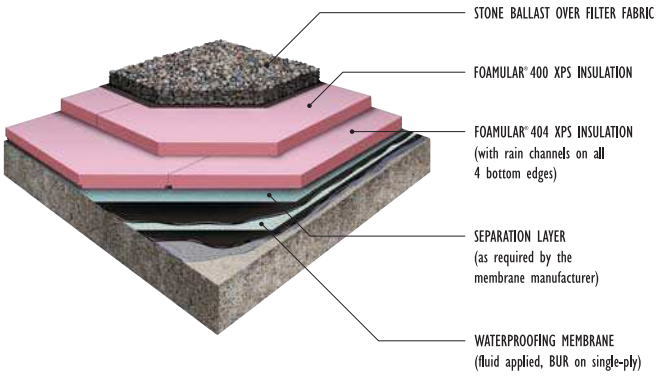
PRMA, Vegetative and Plaza Deck Above Deck Roof Insulation



Vegetated Waterproofing System



Plaza Deck/Paver Waterproofing System



Stone Ballasted Waterproofing System

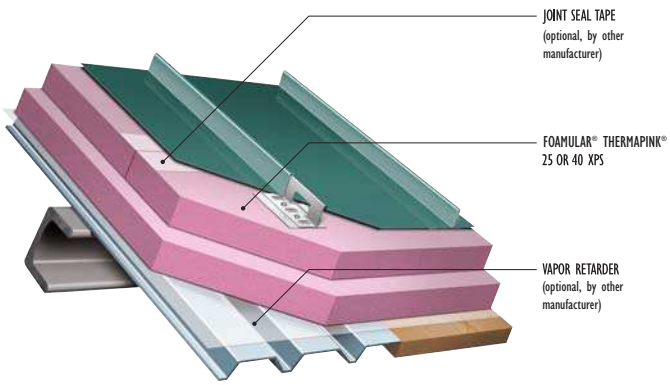
Notes

1. See actual warranty for complete details, limitations and requirements.

Architectural Metal Roofing Systems

The exceptional performance of architectural metal roofing makes it one of the most specified products in commercial roofing. Architectural metal roofing systems are energy efficient 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 offer long lasting durability, all of which equals sustainability. 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, concealed fastener, suitable for many applications including new and retrofit projects, and any type of commercial or residential projects

Architectural Metal Roofing System



FOAMULAR® THERMAPINK® Extruded Polystyrene (XPS) Rigid Insulation

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

THERMAPINK® XPS insulation has high resistance to water absorption, and a stable long-term R value of 5 per inch. Since FOAMULAR® THERMAPINK® 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® insulation layers with sealed joints help limit the formation of condensation under metal roofing and help drain it away when it does form. Sealed joints and high water resistance also makes THERMAPINK® XPS insulation a temporary water shed while the job is awaiting final installation of the metal roof covering.

XPS Direct-to-Deck Installation

FOAMULAR® THERMAPINK® XPS insulation in architectural metal roofing systems is approved for direct to deck installation, meaning no gypsum board thermal barrier layer is required between the structural steel roof deck and the insulation. See UL Roof Deck Construction No. 457, tested in accordance with ANSI/UL Standard 1256. (Not applicable when hourly ratings, ASTM E119, are needed for the roof assembly) Also, in architectural metal roofing THERMAPINK® XPS insulation is Class A fire rated, tested in accordance with ASTM E108.

Notes

1. See actual warranty for complete details, limitations and requirements.

Steep Slope Roofing Systems

A steep slope, high-performance roof takes more than just shingles. The performance of any roof depends on an entire system of Roofing Essentials® accessory products working and performing together, including ventilation, hip and ridge shingles, underlayment, and attic insulation.

Roofing Essentials® Accessories

The Owens Corning™ Roofing System (steep slope) is a lineup of essential products that provides maximum durability and protection for high slope commercial or residential building projects. Products include:

- WeatherLock® Self-Sealing Ice & Water Barrier
- Deck Defense® High Performance Underlayment or Fiberglas® Reinforced Felt Underlayment
- Starter Shingle
- Shingles (seven distinct product lines)
- VentSure® Ridge and Roof Ventilation products
- Hip & Ridge Shingles
- RapidFlow® Gutter Drainage Protection
- raft-R-mate® Attic Rafter Undereave Ventilation
- AttiCat® Expanding Blown-In PINK® Fiberglas™ Insulation

Built-Up Roofing (BUR) System Asphalt

There's nothing quite like asphalt when it comes to making a roof water resistant. Hot-mopped asphalt used to fuse together multiple plies of glass fiber reinforcement creates a monolithic, multi-layer, fully adhered water barrier to help prevent leaks. Single-ply membranes only offer one chance at preventing a leak compared to the multi-layer protection provided by BUR.

Trumbull® TruLo® BUR Asphalts

Owens Corning™ Trumbull® asphalt products, TruLo® Lo Odor, TruLo® Max and PermaMop® asphalts deliver top roofing performance in low-odor, low fuming formulations. PermaMop® asphalt is a versatile asphalt specially formulated for use on any slope of roof. It has the softening point of a Type IV asphalt but with a lower equiviscous temperature (EVT) than any standard Type IV. It stays where it's mopped, even on steep-sloped roofing in intense heat.

Steep Slope Shingle and BUR Asphalt Roofing Systems

Roofing Essentials® Accessories

Trumbull® TruLo® and PermaMop® BUR Asphalt

Trumbull® roofing asphalts exceed ASTM minimum softening points to minimize the risk of slippage and reduce "fallback." High flashpoint raw materials are used to provide added safety. We also widen the spread between equiviscous temperature (EVT) and flashpoint to support application, adhesion and waterproofing.

METAL BUILDING
SOLUTIONS

METAL BUILDING SOLUTIONS

Metal Building Insulation

Owens Corning provides many insulation solutions for metal buildings that provide excellent thermal performance as well as a variety of faced or unfaced and interior finish options and installation systems.

Owens Corning's new EcoTouch® Insulation with PureFiber® Technology for Metal Buildings provides exceptional thermal and acoustical performance and is energy efficient, formaldehyde-free* and made with natural** materials. It's not only an improved product with new advantages but also continues to comply with all industry standards and provides equivalent thermal performance.

EcoTouch® Insulation with PureFiber® Technology for Certified R Metal Building

Owens Corning™ EcoTouch® Insulation with PureFiber® Technology for Certified R Metal Building, used as part of the insulation system in the roofs and side walls of metal buildings, is designed to be laminated with a variety of facings to provide attractive interior finishes, abuse resistance, and assistance in control of moisture. It is a light density fibrous glass blanket designed to be laminated with a variety of appropriate facings and is typically installed over the structural members (purlins and girts) and inside the exterior panels. This method generally accommodates single layer installations. Methods are also available to apply insulation between purlins so as to accommodate greater insulation thickness.

EcoTouch® Insulation with PureFiber® Technology for MBI Plus

EcoTouch® Insulation with PureFiber® Technology for MBI Plus insulation is a light density fibrous glass blanket designed for use in metal building roofs and walls, applied between or over the purlins or girts when unfaced insulation is required. The product is intended for installation at the job-site and is not designed for lamination. In a typical double layer roof system, EcoTouch® Insulation with PureFiber® Technology for MBI Plus insulation will be applied as the second layer of material, between the purlins, after installing a laminated layer of EcoTouch® Insulation with PureFiber® Technology for Certified R Metal Building over the purlins.

* Applies to insulation component only.

** Unfaced insulation made with a minimum of 96% by weight natural materials consisting of minerals and plant-based compounds.

ELAMINATOR® Insulation System

The Owens Corning™ ELAMINATOR® Insulation System is used to insulate metal building roof assemblies both standing seam and screw-down type with Owens Corning™ Certified R Metal Building EcoTouch® Insulation with PureFiber® Technology or EcoTouch® Insulation with PureFiber® Technology for MBI Plus insulations. The system utilizes two series of machines designed to travel along the purlins dispensing faced insulation or facing from rolls. The machines control the tension applied to the rolls as they are dispensed and correctly position the facing with respect to the purlins so that installed insulation is consistent and fully expanded. The System uses the Certified ELAMINATOR® Operator Program (CEOP) to provide qualified machine operators for installation.

The system offers excellent interior appearance with a faced surface, uniform in appearance, without noticeable exposed seams. No unsightly suspension clips, wires, or bands are required. The system places the insulation over and/or between the purlins. With facing tabs overlapped across purlins, ELAMINATOR® contributes to good condensation control. Single layer and two layer installation options are available with less compression at the purlins, for enhanced thermal performance.

OptiLiner® Banded Liner System

The OptiLiner® Banded Liner System is designed to maximize the thermal performance of Owens Corning™ EcoTouch® Insulation with PureFiber® Technology for MBI Plus insulation in metal building roof and wall applications. The OptiLiner® roof system uses a series of 1.0 inch galvanized steel straps to support a bright white or black polyethylene fabric with thermally welded seams that serves as the low permeance vapor retarder for the system. Fabric sections are custom fit for each bay in order to ensure a swift installation and a clean interior finished appearance. The installed banding and fabric support system allows roof cavities to be completely filled using two layers of MBI Plus metal building insulation. Completely filling the cavity results in minimal insulation compression and maximum system thermal performance. In addition, the OptiLiner® roof and wall system provides excellent acoustic benefits with multiple STC, STL and NRC tested assemblies for metal buildings.

EcoTouch® Insulation with PureFiber® Technology for Metal Building Utility Blanket

Owens Corning™ EcoTouch® Insulation with PureFiber® Technology for Metal Building Utility Blanket is an unfaced light density fibrous glass blanket. The product is designed to be laminated with a variety of facings and is used for condensation and noise control in metal buildings. After the product is laminated with an appropriate facing, the insulation is typically installed in a single layer between the structural members (purlins for roofs and girts for walls) and the exterior panels. In most cases, the product is installed over and perpendicular to the structural members with the facing towards the interior of the structure.

Notes

1. Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds.

BELOW GRADE APPLICATIONS

BELOW GRADE APPLICATIONS

CommercialComplete™ Below Grade Wall System

Owens Corning™ CommercialComplete™ below grade wall insulation systems provide a variety of products for any combination of foundation wall insulation, waterproofing protection, drainage enhancement, slab edge and under slab insulation solutions. The products below can all be used in both commercial and residential below grade applications.

FOAMULAR® 250/400/600 Below Grade Insulation

Below grade walls need insulation to serve multiple functions. Whether used over waterproofed walls enclosing below grade space, or over a stem wall foundation, FOAMULAR® extruded polystyrene (XPS) insulation is perfect for below grade environments. Available in a variety of compressive strengths, it is closed cell, chemically hydrophobic, homogenous in structure (unlike EPS, bead board), and maintains its R-value while providing durable protection against backfill in wet below grade applications. Owens Corning also provides two products that insulate, protect, and enhance drainage from vertical foundation walls.

PINK-DRAIN® XPS Board

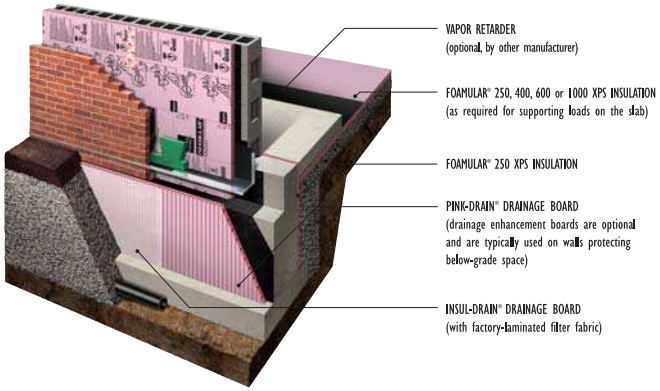
PINK-DRAIN® board is a FOAMULAR® XPS product that incorporates the features of insulation, drainage, and protection board in a single, closed cell product for the exterior foundation wall. PINK-DRAIN® board with one way vertical drainage channels is highly resistant to moisture, retaining its high R-value year after year even after exposure to water, soil, condensation, and freeze/thaw cycling.

INSUL-DRAIN® XPS Board

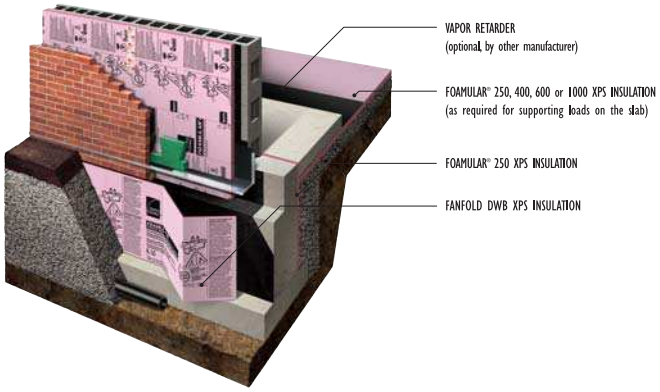
INSUL-DRAIN® is a FOAMULAR® XPS product that incorporates the features of insulation, drainage and protection board in a single product. This board has the additional features of two way precision-cut channels covered with a durable, factory laminated filtration fabric that filters soil as water drains in the channel.

Whereas PINK-DRAIN® XPS board is 24" x 96", INSUL-DRAIN® XPS board is 48" x 96" but the size of both products covers more square footage faster and minimizes joints between boards. The ship-lap edge on PINK-DRAIN® or the tongue and groove edge on INSUL-DRAIN® helps provide proper board alignment and seal joints.

Below Grade Continuous Insulation Systems



Foundation Insulation, Waterproofing Protection, Drainage Enhancement, Slab Edge Insulation



Foundation Insulation, Waterproofing Protection, Slab Edge Insulation

Fanfold DWB

Fanfold DWB damproofing-waterproofing board is an XPS foam layer sandwiched between two tough, non-perforated, impact resistant plastic facers. Fanfold DWB, 4' x 50' pieces folded in 2' panels, installs quickly and is used to protect and cushion the below grade wall waterproofing membranes during backfilling. The product can be used in both commercial and residential below grade applications.

Notes

1. See actual warranty for complete details, limitations and requirements.

Under Concrete Slab Insulation

Industrial and low temperature concrete slab floors are insulated to save energy and reduce the cost of building operation. Well insulated floor slabs are particularly important in the operation of low temperature and cold storage buildings. In addition to the energy cost savings associated with well insulated slabs, insulation and under floor heating systems provide protection for floors against damaging frost heave. The insulation also must be structurally capable of supporting the high rack storage and/or forklift traffic loads that are common on industrial and low temperature floor slabs.

FOAMULAR® 400/600/1000 Under Slab Insulation

FOAMULAR® extruded polystyrene (XPS) insulation is perfect for under slab environments. It is closed cell, chemically hydrophobic, and homogenous in structure (unlike EPS, bead board). Those characteristics give FOAMULAR® XPS insulation superior water resistance, enabling it to maintain its R-value of 5 per inch of thickness and structural properties even in a moist or wet under slab environment.

FOAMULAR® XPS insulation is available in high compressive strengths of 40, 60 and 100 psi for use under high load and high traffic concrete slabs in industrial and low temperature storage buildings. Other engineering properties such as recommended load limits and foundation modulus are available to help select the correct strength of product for the situation.

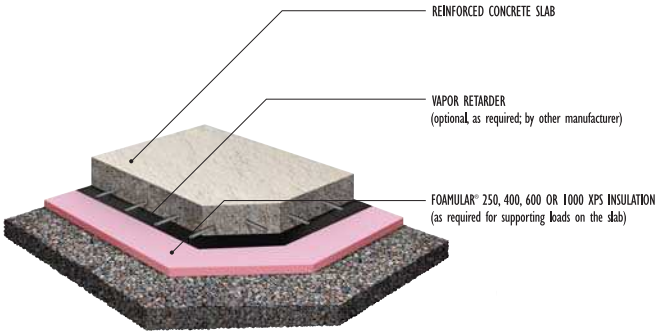
FOAMULAR® LT30/LT40 Under Slab Insulation

Particularly well suited for the typical load carrying demands for insulation under low temperature floor slabs, FOAMULAR® LT30 and LT40 insulation have compressive strengths of 30 and 40 psi respectively. Both also have the same thermal resistance of R-5 per inch of thickness as other FOAMULAR® products.

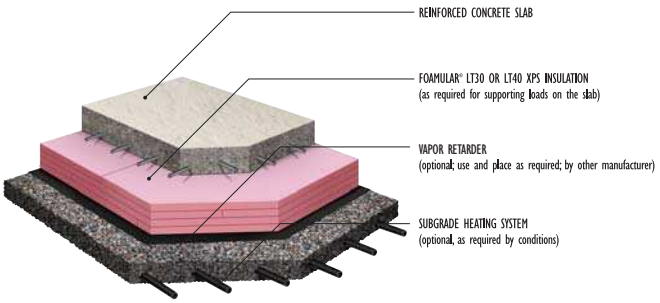
Notes

1. See actual warranty for complete details, limitations and requirements.

Under Concrete Slab Insulated Floor Systems



Industrial Under Slab Insulation



Low Temperature and Cold Storage Under Slab Insulation

MECHANICAL/HVAC
SYSTEMS

MECHANICAL/ HVAC SYSTEMS

Duct Insulation

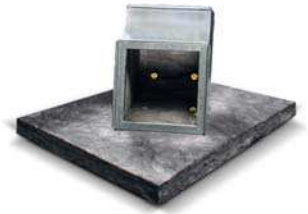
Owens Corning High Performance HVAC System Solutions offer many advantages including a commitment to sustainability. Many of our products are not only GREENGUARD Indoor Air Quality Certified®, they are also certified for the more stringent GREENGUARD Gold Certification emission standard.* Many of our HVAC products also contribute to LEED® building projects and have a minimum 57% recycled content certified by Scientific Certification Systems. Look to Owens Corning for products that provide performance with excellent acoustic properties and air seal performance as well.

QuietR® Duct Board

QuietR® Duct Board helps to reduce noise transmission through the duct system and energy leakage by creating an airtight seal. It features a durable airstream surface that helps prevent fungus growth and enables easy cleaning.

- Virtually leak free
- Condensation control
- Outstanding thermal & acoustical performance
- Easy to fabricate &install
- Bacterial & fungal growth resistant

QuietR® Rotary Duct Liner



QuietR® Rotary Duct Liner is new and improved with the addition of a darker veil. The strong, consistent quality of the product absorbs noise within sheet metal ducts. It also contributes to indoor comfort by lowering heat loss or gain through duct walls.

- Outstanding thermal & acoustical performance
- Contributes to indoor comfort
- Bacterial & fungal growth resistant

QuietZone® Spiral Duct Liner

QuietZone® Spiral Duct Liner is an acoustical and thermal insulation for round sheet metal ductwork and plenums. The air stream surface is protected with a black, high-density, durable glass-mat facing and inhibits the penetration of the insulation by dirt, dust and pollutants.

- Lowers heat loss or gain through duct walls
- Outstanding thermal & acoustical performance
- Cleanable surface
- Bacterial & fungal growth resistant

QuietR® Duct Liner Board

QuietR® Duct Liner Board is a bonded board of glass fibers designed to be installed inside sheet metal ductwork or plenums with metal fasteners and adhesives. The air stream surface is protected with a black, high-density, durable glass-mat facing.

- Tough, abuse-resistant & cleanable surface
- Outstanding thermal & acoustical performance
- Bacterial & fungal growth resistant

SoftR® Duct Wrap

SoftR® Duct Wrap is used for external insulation of commercial and residential heating, air conditioning and dual-temperature ducts and is designed to meet existing performance standards.

- Condensation control
- Outstanding thermal performance
- Easy to clean surface
- Bacterial & fungal growth resistant
- Available with FRK or PSK

Flexible Duct with Owens Corning™ EcoTouch® Insulation

Introducing the newest insulation innovation from Owens Corning – EcoTouch® insulation for flexible duct. It provides the exceptional performance customers have come to rely on from Owens Corning™ products, plus it's designed with the environment in mind.

- Easy, high-quality installations
- Soft to the touch with less irritation
- GREENGUARD Gold Certified
- Excellent recovery provides outstanding thermal & acoustical performance
- High recycled content of 57%
- Consistently meets or exceed s UL-181 test requirements
- Made with natural** materials and formaldehyde-free***

Additionally, EcoTouch® is the only fiberglass insulation product listed in the USDA BioPreferred Catalog.

* Duct board and duct liner products up to and including 1" along with duct wrap and flex duct insulation are GREENGUARD Gold Certified (formerly GREENGUARD Children & Schools Certified℠)

** Unfaced insulation made with a minimum of 99% by weight natural materials and consisting of minerals and plant-based compounds (not including packaging)

*** Applies to the insulation component only.

Pipe and Equipment Insulation

Owens Corning™ Pipe and Equipment Insulation Products combine productivity and energy-saving performance for commercial and industrial systems, delivering energy saving products that lower building operating costs while providing precise control of processing temperatures. In addition, many of our products are GREENGUARD Gold Certified and have 57% recycled content.

Owens Corning is continually looking for ways to take our insulation to the next level which has led to recent pipe enhancements that have touched the entire Fiberglas™ product line through an investment in new capital equipment as well as process improvements on existing equipment. These advancements, along with Owen Corning proven SSL II® Positive Closure System, deliver consistent pipe insulation sections that are easier to install and have a smooth, finished appearance. Additionally, we have updated our pipe cartons to make them sturdier to withstand the rigors of rugged jobsites.

Evolution™

Fiberglas™ Pipe Insulation with Evolution™ Paper-Free ASJ is jacketed with a durable, paper free all-service vapor retarder, molded of inorganic glass fibers that does not support mold growth. The one-piece hinged sections are opened, placed over the pipe, closed and secured with a double adhesive closure system to provide positive mechanical and vapor sealing. Used for insulation of hot, cold, concealed and exposed piping in commercial buildings, industrial facilities and process or power plants.

Vaporwick®

VaporWick® Pipe Insulation contains a wick material that transports condensed water to the outside of the system for evaporation to the atmosphere. The wick keeps the fiberglass insulation dry, preventing dripping and allowing the insulation to perform effectively over the life of the project. It is designed for below-ambient temperature applications in severe hot/humid operating environments.

No-Wrap

Fiberglas™ Pipe Insulation is also available without a jacket. "No Wrap" pipe insulation is designed for field installation of jacketing that is appropriate to the vapor control, damage or corrosion resistance requirements of the application. It is used for insulation of hot, cold, concealed and exposed piping operating at temperatures to 850°F in commercial buildings, industrial facilities or power plants.

SoftR® Duct Wrap FRK

SoftR® Duct Wrap FRK is a blanket of glass fiber insulation factory-laminated to FRK vapor retarder facing. A 2" stapling and taping flange is provided on one edge. It is used for external insulation of commercial and residential heating, air conditioning and dual temperature ducts operating at temperatures from 40° F to 250° F. When applied in accordance with installation instructions, it will provide the "installed R-value" as published for the product and printed on the facing, assuring specfied in-place thermal performance and condensation control.

Fiberglas™ Flex Wrap®

Fiberglas™ FlexWrap® Pipe and Tank Wrap is a flexible insulation product made from fiberglass blanket bonded together with a thermosetting resin. The fibers are oriented to provide good compressive strength while providing flexibility during installation. FlexWrap® Pipe and Tank Wrap is suitable for operating temperatures up to 850° F and is available with either PSK (Poly-Scrim-Kraft) or FRK (Foil-Reinforced Kraft) facings. It is used to insulate hot or cold surfaces of pipes, tanks, storage vessels, ducts and similar round or irregular shaped surfaces. Joints and facing penetrations must be sealed with appropriate pressure sensitive tape or vapor retarder mastic when the application requires a vapor seal. The product is intended for indoor use and should be weather protected for use outdoors.

Fiberglas™ Pipe and Tank Insulation

Fiberglas™ Pipe and Tank Insulation is semi-rigid fibrous glass board, factory-jacketed with a laminated kraft-aluminum foil ASJ facing. The insulation is adhered with the end grain perpendicular to the jacket. It is used to insulate pipes, tanks and vessels 10" NPS and larger. It can also be used to insulate pipe, flanges, valves, groups of parallel pipes, and pipes with heat tracing lines. It may be applied over existing insulation to increase thickness and satisfy demands for increased energy conservation in already operating systems.

Fiberglas™ 700 Series

These insulations are made of inorganic glass fibers with a thermosetting resin binder and formed into flexible, semi-rigid or rigid rectangular boards of varying densities. They are available in plain and faced form in multiple densities and thicknesses.

701, 711 – Lightweight, resilient, flexible insulation in sheet form, used on vessels with irregular surfaces where an exterior finish will be supported mechanically.

703, 704 – Semi-rigid boards for use on equipment vessels and air conditioning duct work.

705 – A high strength, rigid board for use on hot and cold equipment, heating and air conditioning duct work where high abuse resistance and good appearance are required.

707 – For use in acoustical wall panels and specialized ceiling applications.

Fiberglas™ TIW Types I & II

Fiberglas™ TIW Types I and II Insulations are off-white to light tan, noncombustible wool with resilient, inorganic glass fibers bonded with a thermosetting resin. TIW Type I Insulation is available in rolls. TIW Type II Insulation comes in batts. Type I Insulation is used in applications requiring up to 1000° F at maximum recommended thickness, and a light weight insulation such as that used in panel systems, flexible wrap, industrial ovens, or surfaces having irregularities. Due to its low compressive strength it is not suitable for use as a base wool for metal mesh blankets. Type II Insulation is used in panel systems where more compressive resistance than Type I is needed. It is especially suited for use in metal mesh blankets and for use on boilers, vessels and other equipment operating at temperatures up to 1,000° F at maximum recommended thickness.

Fiberglas™ Insul-Quick®

Fiberglas™ Insul-Quick® Insulation is a lightweight insulation composed of glass fibers bonded together in a semi-rigid, board-like form with a special high temperature binder. Insul-Quick® Insulation is used in applications where an outside facing of metal or metal mesh with a finishing cement is required.

Fiberglas™ SCR Insulation Board

Fiberglas™ SCR Insulation Board is a lightweight insulation board composed of resilient, inorganic glass fibers bonded with a thermosetting resin. SCR Board is designed specifically for use on selective catalytic reduction units (SCR) in power plants.

AGRICULTURAL
BUILDING SOLUTIONS

AGRICULTURAL BUILDING SOLUTIONS

Agricultural Building Insulation

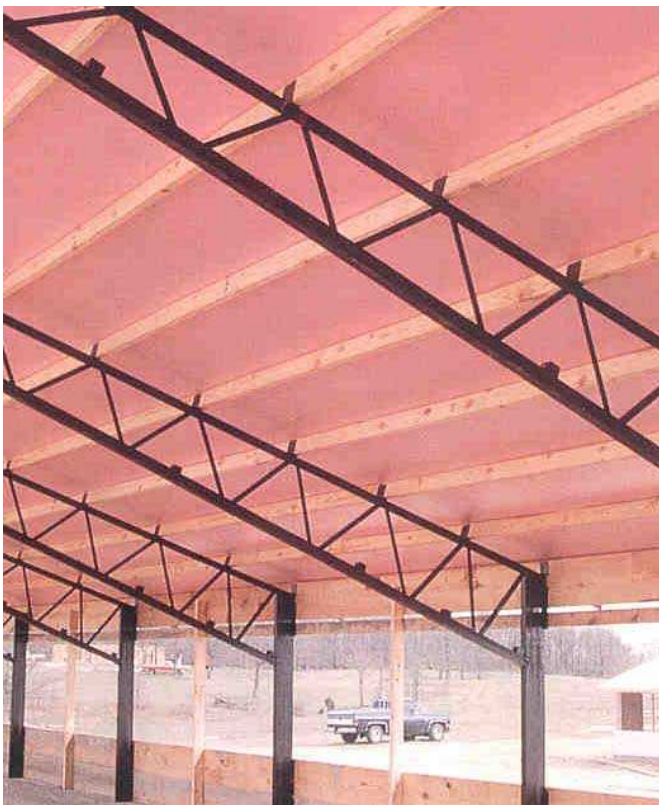
Well insulated livestock buildings have lower heating costs, while yielding increased production of meat, milk or eggs. Well regulated environmental conditions inside animal confinement buildings yields more comfortable working conditions with the benefits of insulating as important in the summer as in the winter. Well insulated livestock structures reduce wasted heat in winter and minimize heat build-up in summer.

The most effective productivity measures are the right amount of insulation that is durable, easy to install, versatile for use in roofs or walls, water resistant for long term exposure and wash down, and cost effective. Choosing the right type and amount of insulation can increase building life and raise profitability.

FOAMULAR® AgTek Insulation

FOAMULAR® AgTek Extruded Polystyrene (XPS) is a cost-efficient insulation for use in animal confinement, crop containment and machinery storage facilities. AgTek XPS insulation is economical, easy to install and assists in saving energy and increasing productivity. It is perfect for agricultural applications because of its high R-value of 5 per inch of thickness, excellent moisture resistance yielding durability for high pressure wash down and long-term insulating performance. AgTek has shiplap edges that help align boards and ensure a tight fit. It is available in extended lengths for long runs over roof purlins to minimize joints. It is lightweight, has a 25 psi compressive strength to enhance damage resistance, and is resistant to decay, mildew and fungus growth. AgTek can be applied to girts in sidewall construction or purlins in roof construction, and, on the interior of either wood or steel-framed buildings. It also works well in a drop ceiling configuration. Installed on the underside of the bottom cord of roof trusses, it is more durable than plastic films and is capable of protecting and supporting the weight of blown insulation.

AgTek XPS insulation provides stable thermal properties that are of great value throughout the year. In warm months, when good ventilation is needed to provide fresh air and control excess heat, humidity and odor, the material's insulating effectiveness helps reduce heat gain from solar loading. In the winter, AgTek helps keep a stable building temperature while reducing heating requirements and lowering operating expense.



In most situations, AgTek can be left exposed to the interior of agricultural buildings. Check local code or insurance requirements to confirm.

Notes

1. See actual warranty for complete details, limitations and requirements.

SUSTAINABILITY

SUSTAINABILITY

Committed to Sustainability

A Fortune 500 company for 57 consecutive years, Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. Our products range from insulation and roofing used in residential, commercial and industrial applications, to glass fiber for reinforced composite materials used in transportation, electronics, marine, wind energy and other high-performance markets.

Owens Corning's new EcoTouch® Insulation with PureFiber® Technology for Metal Buildings provides exceptional thermal and acoustical performance and is energy efficient, formaldehyde-free* and made with natural** materials. It's not only an improved product with new advantages but also continues to comply with all industry standards and provides equivalent thermal performance.

Owens Corning is committed to safeguarding, sustaining and improving the environment for the benefit of current and future generations. Our sustainability strategy focuses on three key areas:

- Greening our operations;
- Greening our products, and
- Accelerating energy efficiency and renewable penetration in the built environment.

Goals and Achievements

Our first-generation environmental footprint goals, from a 2002 baseline, were focused on the most critical resources (energy and water) and largest emissions (greenhouse gases, nitrogen oxides, particulate matter and volatile organic compounds) and waste. Since then, we have significantly reduced our footprint and learned much along the way about the challenges of gathering global data, assuring its accuracy and driving improvements through employee engagement, innovation and targeted investments.

Three of the seven goals have already been met. And, we believe that six of the seven will be achieved on time. Based on this strong performance towards our 2012 goals, we set 2020 goals that raise the bar on our commitment to sustainability and reflect our desire to affect change across the supply chain. In addition to our footprint reduction goals, we have expanded our 2020 goals to drive and track the sustainability of our products and their applications, and to accelerate our supplier sustainability initiatives.


Owens Corning World Headquarters, Toledo, Ohio-Cesar Pelli, Design Architect

The new footprint goals stretch forward to 2020 using 2010 as the baseline. Achieving zero waste-to-landfill is a new long-term goal and underscores our commitment to this area of our footprint reduction. As before, energy use, greenhouse gas emissions and water consumption remain priorities. We're making a shift from particulate matter to fine particulate matter and toxic air emissions will replace the prior focus areas of Nitrogen Oxide (NOx) and Volatile Organic Compound (VOC) emissions. This shift in focus for air emissions acknowledges our past successes and our concern for pollutants that carry greater air quality concerns.

In 2010, Owens Corning was added to the Dow Jones Sustainability World Index, the only U.S. based construction materials company listed. Inclusion in this elite listing means that the company ranks among the top 10 percent of the biggest 2,500 companies worldwide based on long-term economic, environmental and social criteria.

Owens Corning was also listed in Newsweek's Green Ranking of the top 500 US companies and was named to Corporate Responsibility magazine's List of 100 Best Corporate Citizens.

Sustainable Building Products

All of the Owens Corning efforts to reduce the size of our manufacturing footprint brings focus to our true capabilities to help create a more sustainable world by delivering product innovations in our composites and building materials businesses.

* Applies to insulation component only.
** Unfaced insulation made with a minimum of 96% by weight natural materials consisting of minerals and plant-based compounds.

Perhaps most notable is EcoTouch® insulation with PureFiber® Technology. This total platform conversion is a prime example of what we call GREEN WITHOUT COMPROMISE™ – that is, a solution that delivers industry-leading green attributes while improving upon the performance characteristics expected of its primary functionality.

Owens Corning™ EcoTouch® Fiberglas™ insulation produced with PureFiber® Technology, and FOAMULAR® XPS products, are GREENGUARD Indoor Air Quality Certifed® and GREENGUARD Gold Certified. EcoTouch® Fiberglas™ products are made with 99 percent natural[1] ingredients and are verified to be formaldehyde free. They are also third party certified to have a minimum of 50 percent recycle glass content.

FOAMULAR® XPS insulation is also third party certified to contain a minimum 20 percent recycled polystyrene content and is produced with a zero ozone depletion blowing agent formulation.

All Fiberglas™ and FOAMULAR® insulation products contribute to achieving credits in multiple LEED® categories including energy efficiency and recycled material content. Every pound of glass fiber thermal insulation annually saves 12 times more energy than was originally used to produce it. FOAMULAR® XPS insulation products carry a lifetime limited warranty[2] on all physical properties for true long lasting value.

Owens Corning offers several color choices of steep slope shingle roofing products which are ENERGY STAR® rated for their ability to reflect solar energy and keep roofs cooler. In addition, Owens Corning has collaborated with companies such as Heritage Environmental to initiate an end-of-life shingle recycling program across the country.

Owens Corning offers Trumbull® asphalt products which are specially formulated to reduce fumes on the job-site, and control vapor and emissions during manufacturing. Trumbull® has developed products and procedures for use in asphalt cutback operations that reduce emissions by as much as 85 percent.

Delivering Energy Solutions

Owens Corning global operations are developing solutions to seal, insulate and protect virtually any building envelope for improved energy efficiency. These are particularly meaningful pursuits as approximately 40 percent of global energy consumption and associated greenhouse gas emissions emanate from the world's homes and buildings.

We made improvements to our Toledo, Ohio world headquarters in 2010 prior to earning the U.S. Green Building Council's prestigious LEED-EB gold certification and advancing from the silver certification awarded in 2007. This is the second Owens Corning facility to earn the LEED® gold certification.

We are proud of our progress and most importantly, what this progress means to the customers who use our products.

Our commitment to progress never stops. Owens Corning thanks you for specifying the use of our products that can make a substantial impact in effectively advancing economic growth along with social progress and environmental stewardship.

Please refer to www.sustainability.owenscorning.com for more information.

Notes

1. Unfaced insulation made with a minimum of 99% by weight natural materials consisting of minerals and plant-based compounds.

2. See actual warranty for complete details, limitations and requirements.

FOR MORE INFORMATION ON THE OWENS CORNING FAMILY OF BUILDING PRODUCTS, CONTACT YOUR OWENS CORNING DEALER, CALL DIRECT TECHNICAL SUPPORT AT 419-248-7894 AND TOLL-FREE 1-800-GET-PINK® OR ACCESS OUR WEB SITE: WWW.OCBUILDINGSPEC.COM.

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.

LEED is a registered trademark of the U.S. Green Building Council.

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