# Owens Corning™ Foamular® XPS Commercial Roofing Insulation

HELPING YOU ACHIEVE LEED® CERTIFICATION





Owens Corning™ Insulation products help improve thermal performance and control moisture in commercial, institutional and high-rise residential buildings. This document applies to the LEED New Construction and Major Renovations, LEED Commercial Interiors, LEED Core & Shell, LEED for Schools and LEED for Existing Buildings, Operations & Maintenance products. As you pursue LEED Certification, rely on the products and expertise of Owens Corning.

LEED Certification and the awarding of credits, is based on the overall project design, properly designed building systems and construction assemblies, and the performance of the project as a whole. FOAMULAR® XPS Insulation can be a component of many of these systems and assemblies, with all components within those systems and assemblies considered to assess compliance with the LEED Rating System used for certification within a given category. Owens Corning™ FOAMULAR® XPS Commercial Insulation contributes to the categories listed below.

## Owens Corning™ Foamular® XPS Commercial Roofing Insulation Products:

- ThermaPink® 18, 25 Insulation
- FOAMULAR® 400, 600, 1000 Insulation
- FOAMULAR® 404, 604, 404RB, 604RB Insulation

Table 1 **(Chart continued on next page)**

Contribution to LEED Requirement

| LEED Credit Category | LEED Requirement | Owens Corning™ Product Contribution |
|---|---|---|
| **Sustainable Sites (SS)–** | | FOAMULAR® XPS Insulation's high compressive strength and minimal moisture absorption, enables use of highly reflective membranes and Green Roofs, to minimize heat island effect, add vegetated open space and help manage storm water run off. |
| Credit 5:<br>Protect or Restore Open Habitat (1 point) | During the performance period, have in place native or adapted vegetation covering a minimum of 25% of the total site area (excluding the building footprint) or 5% of the total site area (including the building footprint), whichever is greater. | |
| Credit 5.1:<br>Protect or Restore Habitat (1 point) | Restore or protect a minimum of 50% of the site (excluding the building footprint) or 20% of the total site area (including building footprint), whichever is greater, with native or adapted vegetation. | |
| Credit 5.2:<br>Maximize Open Space (1 point) | Reduce the development footprint and/or provide vegetated open space within the project boundary such that the amount of open space exceeds local zoning requirements by 25%. | |
| Credit 6.1:<br>Stormwater Design (1 point) | Implement a stormwater management plan to prevent post-development discharge from exceeding predevelopment rate to minimize erosion. | |
| Credit 6.2:<br>Stormwater Design (1 point | Implement a stormwater management plan to reduce impervious cover, promote infiltration and capture and treat the stormwater runoff from 90% of the average annual rainfall using acceptable best management practices (BMPs). | |
| Credit 7.2:<br>Heat Island Effect (1 point) | Use roofing materials with a solar reflectance index (SRI) per the LEED table for a minimum of 75% of the roof surface; or install a vegetated roof that covers at least 50% of the roof area; or install high-albedo and vegetated roof surfaces, in combination. | |
| **Energy and Atmosphere (EA)–**<br>Prerequisite 2:<br>Minimum Energy Performance | 10% performance improvement for new buildings or 5% better performance for renovated existing buildings, with baseline building performance rating calculated per method in Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2007 for whole building simulation. | FOAMULAR® XPS Building Insulation helps reduce building energy demand while improving thermal comfort for occupants. The project team is responsible for conducting the energy analysis to determine the overall building energy efficiency. |
| Credit 1:<br>Optimize Energy Performance (1-19 points) | Improve building performance rating compared with the baseline building performance rating, calculated per Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2007 a whole project simulation model, with points awarded per energy cost savings in LEED table. | Insulation helps reduce building energy demand. The overall contribution is dependent on the R-value used as well as the regionally appropriate design of the building system or construction assembly for the roof. Project team responsible for conducting energy analysis to determine overall building energy efficiency. |

## Table 1 (Continued)

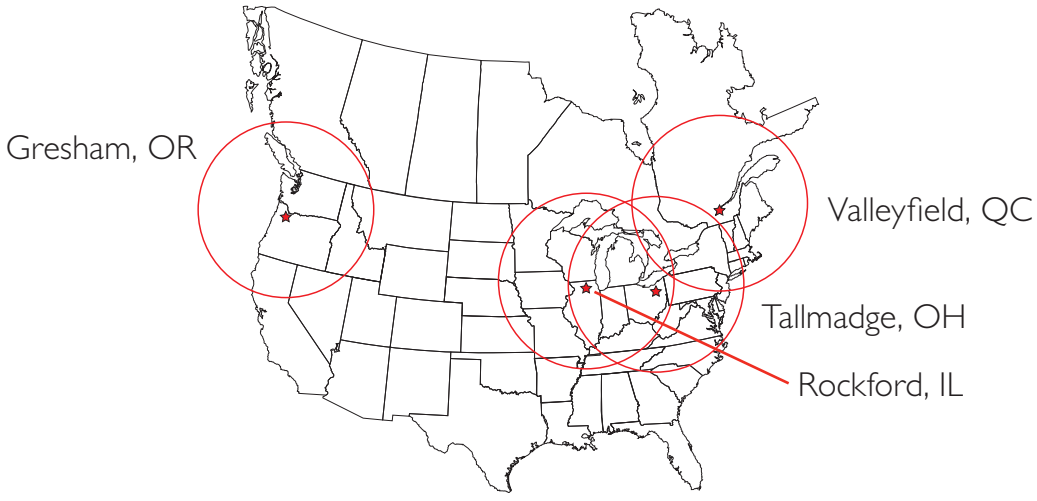
Contribution to LEED Requirement

| LEED Credit Category | LEED Requirement | Owens Corning™ Product Contribution |
|---|---|---|
| **Materials & Resources (MR)–** | | |
| Credit 3: Material Reuse (1-2 points) | Use salvaged, refurbished or reused materials, which constitute at least 5% (1 point) or 10% (2 points), based on cost, of the total value of materials on the project. | FOAMULAR® XPS Building Insulation can be removed and reused. |
| Credit 4: Recycled Content (1-2 points) | Materials with recycled content such that the sum of post-consumer recycled content plus ½ of the pre-consumer content constitutes at least 10% (1 point) or 20% (2 points), based on cost, of the total value of the materials in the project. | FOAMULAR® XPS Building Insulation products contain 20% pre-consumer recycled content. Recycled content certification by Scientific Certifications Systems: www.scscertified.com. |
| Credit 5: Regional Material (1-2 points) | Materials/products extracted and manufactured (or fraction thereof) within 500 miles of project site for a minimum of 10% (1 point) or 20% (2 points), based on cost, of the total materials value (fractional quantities contribute as percentage by weight). | FOAMULAR® XPS Building Insulation, 3 U.S. and 1 Canadian manufacturing plants provide regionally available material manufactured and sourced within a 500 mile radius of project locations in most areas of the country. FOAMULAR® XPS insulation plant locations are shown in Fig. 1 with approximate 500-mile radii for each plant. Contact 1-800-GET PINK® for additional information. |
| **Indoor Environmental Quality (IEQ)–** | | |
| Credit 4.6: Low Emitting Materials (1-4 points) | Meet California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda for all interior products, including insulation. | FOAMULAR® XPS Building Insulation is GREENGUARD Certified for Low Emitting Products: IAQ and Children and Schools. Additional verification can be found at www.greenguard.org. |
| Credit 7 & 7.1: Thermal Comfort (1 point each) | Design HVAC systems and building envelope to meet the requirements of ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy. Demonstrate design compliance in accordance with the Section 6.1.1 documentation. | FOAMULAR® XPS Building Insulations contribute to a comfortable thermal environment. See individual product data sheets for details, and check with local sales representative for product applications. |
| Credit 10: Mold Prevention (1 point) | Added to IEQ Credits 3.1, 7.1, and 7.2, HVAC systems/controls limit RH to 60% and IAQ program based on U.S. EPA document, Building Air Quality: A Guide for Building Owners and Facility Managers, EPA reference number 402-F-91-102, December 1991. | FOAMULAR® XPS Building Insulation contributes an insulation layer that helps manage the dew point location, minimizing moisture condensation in an assembly. FOAMULAR® XPS Insulation has excellent resistance to moisture and does not support mold growth. See individual product data sheets for details. |
| **Innovation in Design (ID)–** (1-4 points) | Credit can be achieved through any combination of the Innovation in Design and Exemplary Performance. | Refer to individual product data sheets or check with the local sales representative for product applications. |

Note: No individual material enables a credit point to be taken within LEED because each category is dependent on the aggregate of all materials and their proportionate relationship to the total dollar cost of all materials.

## Figure 1

Owens Corning™ FOAMULAR® XPS Commercial Roofing Insulation Plant Locations




**To view other Owens Corning™ products that help contribute to LEED certification please visit http://sustainability.owenscorning.com/ and download Pub. No. 10011611-D.**

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