

FOAMULAR® XPS Commercial Roofing Insulation

Helping you achieve LEED® Certifications



FOAMULAR®
Energy-Saving, Moisture-Resistant XPS Insulation



Owens Corning® offers a number of products to help improve thermal performance, moisture control, durability and sound quality in commercial buildings. This document applies to the LEED 2009 and LEED v4 for Building Design and Construction (BD+C), including New Construction, Core and Shell, Schools, Retail, Data Centers, Warehouses and Distribution Centers, Hospitality, and Healthcare. 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 assemblies, and the performance of the project as a whole. Owens Corning® products can be a component of many of these systems and assemblies. All components within those systems and assemblies should be considered to assess compliance with the LEED® Rating System within a given category.

Owens Corning® FOAMULAR® XPS Commercial Roofing Insulation Products contribute to the categories listed below.

Owens Corning® FOAMULAR® XPS Commercial Roofing Products:

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

Table 1

Credit Category	LEED® v4 Requirement	LEED® 2009 Requirement	Owens Corning® Product Contribution
Sustainable Sites (SS)			
Site Development-Protect or Restore Habitat (SS)	Preserve 40% of the greenfield area on the site from all development and construction activity. Using native or adapted vegetation, restore 30% of all portions of the site identified. Projects that achieve a density of 1.5 floor-area ratio may include vegetated roof surfaces in calculation if the plants are native or adapted, and promote biodiversity.	Have in place native or adapted vegetation covering a minimum of 25% of the total site area (excluding the building footprint) or 5% not including the building footprint, whichever is greater. Restore or protect a minimum of 50% of the site (excluding the building footprint) or 20% of the total site area (including building footprint), with native or adapted vegetation.	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.
Open Space (SS)	Provide outdoor space ≥ 30% of the total site area. A minimum of 25% of that outdoor space must be vegetated or have overhead vegetated canopy.	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%.	
Rainwater Management (SS)	Manage on site the runoff from the developed site for the 95th percentile (Path 1) or 98th percentile (Path 2), or 85th percentile (Path 3- Zero Line) of regional or local rainfall events using low-impact development (LID) and green infrastructure.	Implement a stormwater management plan to prevent post-development discharge from exceeding predevelopment rate to minimize erosion, or to reduce impervious cover, promote infiltration and capture and treat the stormwater runoff from 90% of the average annual rainfall.	
Heat Island Reduction (SS)	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 75% of the roof area; or use a combination of the above.	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.	

Continued next page

Table 1 (continued)

Credit Category	LEED® v4 Requirement	LEED® 2009 Requirement	Owens Corning® Product Contribution
Energy and Atmosphere (EA)			
Minimum Energy Performance-Prerequisite 2	Whole Building Energy Simulation Performance improvement or Prescriptive Compliance in accordance with ANSI/ASHRAE/IESNA Standard 90.1-2010, Appendix G	Whole Building Energy Simulation Performance improvement dependent on building type, baseline performance according to ANSI/ASHRAE/IESNA Standard 90.1-2007, Appendix G	Insulation helps reduce building energy demand. The overall contribution is dependent on the R-value of insulation used and the regionally appropriate design of the building enclosure. Project team is responsible for conducting energy analysis to determine the overall building energy efficiency.
Optimize Energy Performance	Whole Building Energy Simulation improvement beyond prerequisite or Prescriptive Compliance using ASHRAE 50% Advanced Energy Design.	Improved performance rating compared with baseline building performance rating per ANSI/ASHRAE/IESNA Standard 90.1-2007, Appendix G	
Materials & Resources (MR)			
Building Product Disclosure & Optimization-Environmental Product Declaration	Use at least 20 different permanently installed products sourced from at least five different manufacturers that have third-party certified EPD.	NA	Owens Corning® FOAMULAR® XPS Building Insulations carry third-party certified EPDs. See UL.com/EPD for certifications.
Raw Material Source and Extraction Reporting	Sum of postconsumer recycled content plus ½ the preconsumer recycled content, constitutes 25%, by cost, of the total value of the project. Products sourced within 100 miles of project site valued at 200% of cost.	Sum of postconsumer recycled content plus ½ the preconsumer content by cost, of the total value of the project. Products sourced within 500 miles of project site by cost, of the total materials value.	Owens Corning® FOAMULAR® XPS Insulations are made in 3 U.S. plants and 1 Canadian plant (Figure 1) to provide regionally available material which contains a minimum 20% pre-consumer recycled content.
Building Product Disclosure and Optimization - Material Ingredients	Products with chemical inventory to at least 0.1% (1000 ppm); have Declare, Cradle to Cradle (at least Bronze), or Cradle to Cradle Material Health Certification (Bronze or higher) and 90% of materials assessed by weight.	NA	Owens Corning® FOAMULAR® XPS Insulation products have Cradle to Cradle Material Health Certification (Silver level).
Construction and Demolition Waste Management	Recycle and/or salvage nonhazardous construction and demolition materials. Diversion of at least 50% of the total construction and demolition material; diverted materials include at least three material streams.	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 Insulation products can be removed and reused.
Indoor Environmental Quality (EQ)			
Low Emitting Materials (EQ)	Achieve 100% threshold level of compliance with emissions and content standards for Ceilings, walls, thermal, and acoustic insulation per LEED Table 2.	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	Certified for Low Emitting Products: IAQ and GREENGUARD Gold Certified. Additional verification can be found at http://productguide.ulenvironment.com
Thermal Comfort (EQ)	Design heating, ventilating, and air-conditioning (HVAC) systems and the building envelope to meet the requirements of ASHRAE Standard 55-2010, Thermal Comfort Conditions for Human Occupancy with errata or a local equivalent.	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 Insulation products contribute to a comfortable thermal environment. See individual product data sheets for details, and check with local sales representative for product applications.
Mold Prevention (EQ)	Credit requirements moved to "Thermal Comfort" credit.	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 Insulation products do not support mold growth. While contributing to the overall thermal resistance of assemblies, FOAMULAR® XPS insulation layers can also help manage the dew point location, minimizing moisture condensation in an assembly.

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.

To view other Owens Corning® products that help contribute to LEED® certification please visit sustainability.owenscorning.com



OWENS CORNING INSULATING SYSTEMS, LLC
 ONE OWENS CORNING PARKWAY
 TOLEDO, OHIO, 43659
 1-800-GET-PINK®
www.owenscorning.com

Figure 1 - Owens Corning® FOAMULAR® XPS Insulation Plant Locations

