

Fiber Glass & Rock and Slag Wool Insulation and LEED™

The LEED (Leadership in Energy & Environmental Design) Green Building Rating System™ is a voluntary standard that defines high performance green buildings - which are healthier, more environmentally responsible, and more profitable structures. Credits for certification can be earned in six categories, each with a unique focus on sustainable design: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation and design process.

Specifying fiber glass and rock and slag wool insulation can put you on the right track for LEED certification. The charts below list the LEED categories/prerequisites where fiber glass and rock and slag wool insulation can contribute in 1) new commercial buildings (LEED-NC), 2) existing commercial buildings (LEED-EB) and 3) residential (LEED Homes Pilot Program).

LEED COMMERCIAL (NC)/EXISTING BUILDING (EB)

These credits and prerequisites apply to both LEED-NC and LEED-EB unless otherwise noted.

LEED™ PREREQUISITES & CREDITS	CONTRIBUTION	POINTS
<p>Energy & Atmosphere</p> <p>EA Prerequisite 2: Minimum Energy Performance. Mandatory. "Design the building envelope, HVAC, lighting, and other systems to maximize energy performance. The ASHRAE 90.1-2004 User's Manual contains worksheets that can be used to document compliance with this prerequisite."</p> <p>EA Credit 1: Optimize Energy Performance "Achieve increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use."</p>	<p>Fiber glass and rock and slag wool insulation help reduce building energy demand. Facilitates compliance with ASHRAE 90.1-2004 and local energy codes.</p>	<p>10 Possible Points (Points depend on energy saved)</p>
<p>Materials & Resources</p> <p>MR Credit 2.1 (LEED-NC Only): Construction Waste Management: Divert 50% From Disposal. Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation."</p> <p>MR Credit 2.2 (LEED-NC Only): Construction Waste Management: Divert 75% From Disposal.</p> <p>MR Credit 2.1-2.5 (LEED-EB Only): Optimize Use of Alternative Materials. One point (up to a maximum of five) will be awarded for each 10% of total purchases over the performance period (on a dollar basis) that achieve reduced environmental impact.</p> <p>MR Credit 4.1 (LEED-NC Only): Recycled Content: 10%</p> <p>MR Credit 4.2 Recycled Content: 20%</p> <p>MR Credit 5.1 (LEED-NC Only): Regional Materials: 10% Extracted, Processed & Manufactured Regionally. Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% (based on cost) of the total materials value.</p> <p>MR Credit 5.2 (LEED-NC Only): Regional Materials: 20% Extracted, Processed & Manufactured Regionally.</p> <p>MR Credit 6 Rapidly Renewable Materials</p>	<p>Reuse or recycle insulation to help divert 50% of waste from landfills. Fiber glass and rock and slag wool batts can be reused in some circumstances and can be recycled if the infrastructure exists.</p> <p>Most fiber glass and rock and slag wool insulation products can help achieve points in this category for containing at least 10% post-consumer, 20% post-industrial or 70% salvaged material, and if at least 50% of materials are harvested and processed or extracted and processed within 500 miles of the project.</p> <p>Fiber glass contains upwards of 40% recycled glass. Slag wool contains approximately 70-75% recycled content.</p> <p>39 U.S. manufacturing plants and 8 Canadian plants contribute to points. Many areas in the U.S. and Canada are within 500 miles of a fiber glass or rock and slag wool plant. Most fiber glass and rock & slag wool insulation plants are in close proximity to their raw and secondary material sources.</p> <p>LEED defines rapidly renewable materials as only those coming from plant material. However, sand, a key material in the manufacture of fiber glass is found abundantly in nature and replenishes itself constantly. NAIMA will be asking USGBC to expand its definitions to allow sand to be regarded as "rapidly renewable" or "renewable" as it is within the geologic community.</p>	<p>1 Point in addition to MR Credit 2.1</p> <p>1 -5 Points</p> <p>1 Point 1 Point in addition to MR Credit 4.1</p> <p>1 Point</p> <p>1 Point in addition to MR Credit 5.1</p> <p>None at this time</p>
<p>Indoor Environmental Air Quality</p> <p>EQ Credit 3.2 LEED-NC/IEQ Credit 3 LEED-EB: Construction Indoor Air Quality (IAQ) Management Plan: Before Occupancy. The air testing option requires testing for formaldehyde and other toxins.</p> <p>EQ Credit 7.1 LEED-NC/IEQ Credit 7.1 LEED-EB: Thermal Comfort: Design. Design building envelope to ensure occupant comfort.</p>	<p>Fiber glass and rock & slag wool insulation may contribute to IAQ points. A wide range of products contain no formaldehyde or are certified for low emissions by GREENGUARD. Check with your LEED consultant.</p> <p>Building envelope and HVAC distribution insulation are critical components for increased thermal comfort.</p>	<p>1 Point</p> <p>1 Point</p>
<p>Innovation & Design Process</p> <p>ID Credit 1-1.4 LEED-NC/IOUN Credit 1.1 LEED-EB: Innovation in Design Substantially exceed a LEED-NC performance credit such as energy performance or water efficiency. Apply strategies or measures that demonstrate a comprehensive approach and quantifiable environment and/or health benefits.</p>	<p>Fiber glass and rock & slag wool can be used in innovative designs that have both environmental and health benefits. Check with your LEED consultant on innovative ways to save energy and improve sound quality with insulation.</p>	<p>1-4 Points</p>

LEED™ HOMES PILOT PROGRAM

Pilot Program specifications are likely to change in the near future; this chart lists current credits available with insulation.

LEED™ PREREQUISITES & CREDITS	CONTRIBUTION	POINTS
Energy & Atmosphere EA Credit 1: ENERGY STAR labeled home. EA Credit 2: Insulation Must comply with Grade 2 insulation installation. Receive 1 point for having >5% efficiency in insulation or Grade 1. AE 7: Water Heating Pipes and distribution must have insulation for credit.	Insulation is a key part of making a home energy efficient. All insulation applies. Fiber glass and rock and slag wool insulation are designed to be easy to install. Proper installation is key to achieving the full R-value. R-4 insulation (such as fiber glass and rock and slag wool) must be used to qualify.	16 Possible Points 1 Point R-4 insulation required to qualify for all points in this category.
Materials & Resources MR Credit 3: Local Sources 90% of all materials on a checklist must come from within 500 miles of the home. MR Credit 5: Environmentally Preferable Products a) Must comply with State of California, DHS, "Practice for Testing of VOCs from Building Materials Using Small Chambers." b) Recycled Content. 100% of insulation in the house must have a minimum of 35% recycled content. c) Recycled content of 70%+.	39 U.S. manufacturing plants and 8 Canadian plants contribute to points. Many areas in the US and Canada are within 500 miles of a fiber glass or rock and slag wool plant. Most fiber glass and rock & slag wool insulation plants are in close proximity to their raw material sources. Fiber glass contains upwards of 40% recycled glass. Slag wool contains approximately 70-75% recycled content.	0.5 Points 0.5 Points 0.5 Points Add. 0.5 Points
Indoor Environmental Air Quality IEQ Credit 8: Contaminant Control .	Fiber glass and rock & slag wool insulation may contribute to IEQ points. A wide range of products contain no formaldehyde or are certified for low emissions by GREEN-GUARD. Check with your LEED consultant. (There is a parallel path given for ENERGY STAR IAQ package.)	1 Point
Innovation & Design Process ID 1: Innovation and Design.	Fiber glass and rock & slag wool can be used in innovative operation and upgrades that have both environmental and health benefits. Check with your LEED consultant on innovative ways to save energy and improve sound quality with insulation.	1-4 Points

DISCLAIMER: NAIMA can not and does not guarantee compliance with LEED through the use of its products. For advice on qualifying for LEED, work with a LEED consultant.

Fiber Glass & Rock and Slag Wool Insulation *Integral Components of Sustainable Design*

- Low Embodied Energy**
 Fiber glass and rock and slag wool insulation products save more than 400 trillion BTUs annually - a twelve-fold savings over the energy needed to produce these products.
- Environmental Impact of Raw Material Acquisition**
 Fiber glass is made from an abundant and rapidly renewable resource (sand) and recycled post-consumer glass. Slag wool insulation is made from recycled blast furnace slag - a by-product of other industries.
- Packaging and Transportation**
 Due to the compact nature of fiber glass and slag wool insulation as well as its compressed packaging, the actual amount of packaging material has been reduced, resulting in less waste at the job site and consequently, in the waste stream. In addition, more insulation can be shipped in each truck, reducing the energy required for transportation.
- No Additional Fire Retardant Chemicals**
 Fiber glass and slag wool insulations are naturally non-combustible and remain so for the life of the product. Fiber glass and slag wool require no additional fire retardant chemical treatments.
- Recycled Content**
 Many fiber glass insulation products now contain up to 40% recycled materials, depending on the plant at which they are produced. On average, slag wool insulation contains 70-75% recycled content.

About NAIMA

NAIMA is the association for North American manufacturers of fiber glass, rock wool, and slag wool insulation products. Its role is to promote energy efficiency and environmental preservation through the use of fiber glass, rock wool, and slag wool insulation, and to encourage the safe production and use of these materials.

For more information, contact:

