

Sika Sarnafil

World Class Roofing and Waterproofing

The following is a brief summary of the Leadership in Energy and Environmental Design program (LEED, Version 3) and the sections Sika Sarnafil's roofing systems can help contribute to obtaining LEED points. This guide can be used in conjunction with Sika Sarnafil's "LEED Products Spreadsheet" to help fill out any forms required by USGBC's LEED program for building certification.

WHAT IS LEED?

LEED is a green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across the following metrics: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Developed by the [U.S. Green Building Council \(USGBC\)](http://www.usgbc.org), LEED provides building owners and operators with a framework for identifying and implementing measurable green building design, construction, operations and maintenance solutions.

WHAT IS LEED VERSION 3?

LEED V3 is the current version of the LEED green building certification system. Launched on April 27, 2009, LEED V3 builds on the fundamental structure and familiarity of the original rating system, but provides a new structure for making sure the rating system incorporates new technology and addresses the most urgent priorities like energy use and CO2 emissions.

HOW DOES A BUILDING GET CERTIFIED?

LEED points are awarded on a 100-point scale, and Credits are weighted to reflect their potential environmental impacts. Additionally, 10 bonus points are available. A project must satisfy all prerequisites and earn a minimum number of points to be certified. Projects are then awarded either a Certified (40+ points required), Silver (50+ points required), Gold (60+ points required) or Platinum (80+ points required) certification depending on the number of points they achieve.

DO SIKA SARNAFIL PRODUCTS AND SYSTEMS CONTRIBUTE TO LEED?

Whether your project is new construction or renovation, energy efficient roofing, water run-off management and renewable energy are all important points to consider - and Sika Sarnafil can help contribute to all three areas...as well as a few others. Below is an explanation of the LEED Credits Sika Sarnafil products can contribute to (up to 41 points possible) as well as an explanation of how that is achieved.



Sika Sarnafil, A Division of Sika Corporation, 100 Dan Road, Canton, MA 02021
Tel. 800-451-2504, Fax: 781-828-5365, www.sikacorp.com

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Sustainable Sites

Sika Sarnafil's EnergySmart Roof® membranes and Green Roof systems can contribute to multiple points in LEED's Sustainable Sites category. This is done by replacing natural landscape removed in the construction process with a green (vegetated) roof, encouraging regionally appropriate landscaping, controlling storm water runoff; and helping reduce the heat island effect. Below are the sections where Sika Sarnafil products can help you obtain points towards LEED certification:

SS Credit 5.1 (Site Development: Protect or Restore Habitat)

1 Point

LEED Intent - To conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity.

“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. Projects earning SS Credit 2: Development Density and Community Connectivity may include vegetated roof surface in this calculation if the plants are native or adapted, provide habitat, and promote biodiversity.”

Sika Sarnafil Solution – Installing a Green “vegetated” Roof contributes to the possible 1 point (*another 1 point is possible under the “Innovation in Design” credit section for Exemplary Performance, totaling 2 possible points).

SS Credit 5.2 (Site Development: Maximize Open Space)

1 Point

LEED Intent - To promote biodiversity by providing a high ratio of open space to development footprint.

“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%. For projects in urban areas that earn SS Credit 2: Development Density and Community Connectivity, vegetated roof areas can contribute to credit compliance.”

Sika Sarnafil Solution - Installing a Green “vegetated” Roof contributes to the possible 1 point (*another 1 point is possible under the “Innovation in Design” credit section for Exemplary Performance, totaling 2 possible points).



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SS Credit 6.1 (Storm water Design: Quantity Control)

1 Point

LEED Intent - To limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from stormwater runoff and eliminating contaminants.

“Design the project site to maintain natural stormwater flows by promoting infiltration. Specify vegetated roofs, pervious paving and other measures to minimize impervious surfaces.”

Sika Sarnafil Solution - Installing a Green “vegetated” Roof helps maintain natural stormwater flows and contributes to the possible 1 point.

SS Credit 6.2 (Storm water Design: Quality Control)

1 Point

LEED Intent - To limit disruption and pollution of natural water flows by managing stormwater runoff.

“ Use alternative surfaces (e.g., vegetated roofs, pervious pavement, grid pavers) and nonstructural techniques (e.g., rain gardens, vegetated swales, disconnection of imperviousness, rainwater recycling) to reduce imperviousness and promote infiltration and thereby reduce pollutant loadings.”

Sika Sarnafil Solution - Installing a Green “vegetated” Roof helps contribute to the possible 1 point by reducing imperviousness and promote infiltration...thereby reducing pollutant loadings.

SS Credit 7.2 (Heat Island Effect: Roof)

1 Point

LEED Intent - To reduce heat islands to minimize impacts on microclimates and human and wildlife habitats.

“Consider installing high-albedo (high reflectance/ emittance) and/or vegetated roofs to reduce heat absorption.”



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Sika Sarnafil Solution -

Option 1 - Installing an EnergySmart roof over a minimum of 75% of the roof surface can obtain 1 point.

Option 2 - Installing a Green “vegetated” Roof over a minimum of 50% of the roof surface can obtain 1 point (*another 1 point is possible under the “Innovation in Design” credit section for Exemplary Performance, totaling 2 possible points).

Option 3 - Installing both an EnergySmart roof and a Green “vegetated” Roof can obtain 1 point.

Energy and Atmosphere

Sika Sarnafil’s EnergySmart Roof membranes, Sarnatherm Insulation and Solar Roof systems can contribute to multiple points in LEED’s Energy & Atmosphere category. This is accomplished by helping optimize energy performance and the use of renewable and clean sources of energy, generated on-site. Below are the sections where Sika Sarnafil products can help you achieve points towards LEED certification:

EA Credit 1: Optimize Energy Performance 1-19 Points

LEED Intent - To achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

“Use a computer simulation model to assess the energy performance and identify the most cost-effective energy efficiency measures. Quantify energy performance compared with a baseline building. Regulated (non-process) energy includes lighting (e.g., for the interior, parking garage, surface parking, façade, or building grounds, etc. except as noted above), heating, ventilating, and air conditioning (HVAC) (e.g., for space heating, space cooling, fans, pumps, toilet exhaust, parking garage ventilation, kitchen hood exhaust, etc.), and service water heating for domestic or space heating purposes.”

Sika Sarnafil Solution – Installing an EnergySmart roof and/or Sarnatherm Insulation can help decrease a buildings overall energy consumption contributing to the possible 19 points available (percentage decrease of 12%-48% determines points awarded).*



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* For the "Core & Shell" system, an EnergySmart roof and/or Sarnatherm Insulation can contribute to the possible 21 points (not 19), available under "Energy and Atmosphere" Credit 1.

EA Credit 2: On-Site Renewable Energy 1-7 Points

LEED Intent - To encourage and recognize increasing levels of on-site renewable energy self-supply to reduce environmental and economic impacts associated with fossil fuel energy use.

“Assess the project for nonpolluting and renewable energy potential including solar, wind, geothermal, low-impact hydro, biomass and bio-gas strategies. When applying these strategies, take advantage of net metering with the local utility.”

Sika Sarnafil Solution – Installing a Solar Roof can reduce the need for fossil fuel energy use contributing to the possible 7 points (1% to 13% renewable energy contribution determines points awarded). Another 1 point is possible under the Innovation in Design credit section for Exemplary Performance.**

** For the "Core & Shell" system, a Solar Roof contributes to the possible 5 points available under "Energy and Atmosphere" Credit 2 (one point is for Exemplary Performance under the Innovation in Design Credits Section).

Materials and Resources

Sika Sarnafil's EnergySmart Roof membranes and Roof Recycling Program can be used to obtain multiple points in LEED's Materials and Resources category. A mechanically attached vinyl roof at the end of its useful life can be recycled by Sika Sarnafil into new roofing membrane products and replaced with a roof membrane that is made with pre and post consumer recycled waste. Below are the sections where Sika Sarnafil can help with points towards LEED certification:

MR Credit 2: Construction Waste Management 1-2 Points

LEED Intent - To divert construction and demolition debris from disposal in landfills and incineration facilities. Redirect recyclable recovered resources back to the manufacturing process and reusable materials to appropriate sites.



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“Recycle and/or salvage nonhazardous construction and demolition debris.”

Sika Sarnafil Solution - Sika Sarnafil’s Roof Recycling Program takes old PVC membranes (ours and any of our competitors), and any new material jobsite PVC scrap and recycles them back into new roofing and waterproofing membrane. This program can contribute to the possible 2 points (50% recycled/salvaged = 1 point / 75% recycled/salvaged = 2 points). Another 1 point is possible under the Innovation in Design credit section for Exemplary Performance.

The roof recycle program is possible for any PVC roof that was part of a ballasted or mechanically-attached roof system. No adhered roofs can be recycled at this time.

MR Credit 4: Recycled Content

1-2 Points

LEED Intent - To increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

“Use materials with recycled content¹ such that the sum of postconsumer recycled content plus 1/2 of the preconsumer content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project. The recycled content value of a material assembly is determined by weight.”

Sika Sarnafil Solution - Any Sika Sarnafil product containing recycled content contributes to the possible 2 points (10% recycled content = 1 point / 20% recycled content = 2 points) Another 1 point is possible under the Innovation in Design credit section for Exemplary Performance.

Please refer to Sika Sarnafil's LEED Product Spreadsheet for products with recycled content.

MR Credit 5: Regional Materials

1-2 Points

LEED Intent - To increase demand for building materials and products that are extracted and manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.



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Sika Sarnafil Solution - As is the case for many product manufactures, Sika Sarnafil products do not meet the requirements for this credit. Credit 5 is named “Regional Materials” and mentions “extracting and manufacturing”, which confuses many consumers into thinking the credit is just encouraging manufacturers to use local materials to create their product OR that a project just needs to be within 500 miles of the manufacturer. In fact, the credit is about reducing fossil fuels used to transport non-local materials to the production plant and reducing the fossil fuels used to ship that finished product to the job site.

Sika Sarnafil’s roofing and waterproofing membranes are produced with some ingredients that are not produced locally. This is why none of our membranes meet this requirement. Other products that we sell which are not produced by Sika Sarnafil are shipped from the manufacturer to one of our distribution warehouses before it is then shipped to the job site. This is why none of our “private labeled” products meet this requirement. A small portion of those products do in fact ship direct from the manufacturer to the jobsite, but these manufacturers have multiple production and storage warehouses that they will be shipping the products from and Sika Sarnafil does not have any way of guaranteeing that the product that is ordered will be shipped from the “private label’s” closest production plant and/or warehouse to the job site.

Because “transportation fuel reduction” is really how a LEED building gets points for Credit 5, finding out what manufactures really meet this requirement can be tricky. Sika Sarnafil advises our customers to ask the below questions of all of the manufacturers BEFORE filling out the LEED paperwork. Hopefully having these questions answered will save our customers from any problems later on down the road in the certification process.

1. Do all of the ingredients used to produce your product come from within 500 miles of the production plant?
2. Does the product get stored at the same location as it is produced? If so, is this location 500 miles of the job site? If not, where is the product stored? Is the distance from the production plant, to the warehouse and then from the warehouse to the job site within 500 miles?
3. Are we purchasing any products from you that you do not manufacture? If yes, ask question 1 and 2 from above.

For the reasons stated above, Sika Sarnafil’s LEED product spreadsheet does not list extracted, processed, manufactured, harvested, reclaimed, stored and salvaged locations of any of the products we sell. LEED forms asking for this information pertain directly to obtaining points for Credit 5 and therefore can be skipped since we do not



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meet the credit requirements. If anyone inquires as to why Sika Sarnafil's spreadsheet does not list the information, please forward them a copy of this document for explanation.

Indoor Environmental Quality

Sika Sarnafil's Low or No VOC emitting roof membrane adhesives can be used to obtain a point in LEED's Indoor Environmental Quality category. This is accomplished by not contributing to possible fumes and/or odors during building construction. Below is the section where Sika Sarnafil products can help you achieve LEED points:

IEQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants 1 Point

LEED Intent - To reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

"All adhesives and sealants used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site) must comply with the following requirements as applicable to the project scope"

Sika Sarnafil Solution - Sika Sarnafil has a number of low and No VOC emitting roofing adhesives that can be used to obtain a point by not contributing to possible fumes and/or odors during building construction.

