



CONTRIBUTION TO LEED CREDITS FROM DOW BUILDING SOLUTIONS PRODUCTS

As a solutions provider, Dow Building Solutions' attention is focused on the wide range of issues our customers – and theirs – face every day, including energy efficiency, moisture management, rising energy costs and environmental responsibility. Dow offers a wide range of energy-saving product solutions for residential, commercial, industrial and agricultural building applications from foundation to roof. Whether

it's improving a building's energy efficiency, helping architects meet USGBC (U.S. Green Building Council) LEED targets or reducing a structure's carbon footprint, Dow Building Solutions seeks to solve its customers' challenges in a wide range of applications.

This piece provides an overview of the categories of credits Dow Building Solutions products can contribute to the LEED rating system based on LEED Building

Design and Construction (BD&C) 2009 rating system. The 2009 version of LEED BD&C rating system contains New Construction and Major Renovation, Schools and Core and Shell. Please note that LEED certification is for the overall performance of integrated design and construction of buildings. The requirement for a particular credit category is for all materials used in the building project.

CONTRIBUTION TO LEED POINTS FOR LEED GREEN BUILDING DESIGN AND CONSTRUCTION 2009:

CREDIT NAME	# OF CREDITS	DOW BUILDING PRODUCTS CONTRIBUTION
SS Credit 5.1: Site Development, protect or restore habitat	1	Projects earning SS Credit 2 and using vegetated roof system consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions may apply the vegetated roof surface to the calculation (if the plants meet the definitions of native/adapted) in which case the requirement is 20% of the site area (including building footprint). This option is intended for urban sites with little or no building setback.
SS Credit 5.2: Site Development, maximize open space	1	For all compliance options, when projects located in the urban area earning SS Credit 2, vegetated roof areas consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions can contribute to credit compliance.
SS Credit 6.1: Stormwater Design, quantity control	1	Vegetated roof consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions can promote infiltration, reduce imperviousness and reduce storm water runoff, which contribute to achieving the credit requirements.
SS Credit 6.2: Stormwater Design, quality control	1	Vegetated roof consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions can promote infiltration, reduce imperviousness and solids loading and reduce storm water runoff, which contribute to achieving the credit requirements.
SS Credit 7.2: Heat Island Effect, roof	1	Install 50% of the roof area with Vegetated roof consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions to reduce urban heat island effect.
WE Credit 1.1: Water Efficient Landscaping	2-4	Vegetated roof consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions with native or adaptive vegetation has high level of rainwater retention to satisfy the irrigation needs. This credit is more applicable to urban areas where green space around the building perimeter is limited.
EA Prereq 2: Required Minimum Energy Performance	Required	Insulation products such as STYROFOAM™ extruded polystyrene foam insulation, THERMAX™ polyisocyanurate insulation and STYROFOAM™ spray polyurethane foam insulation from Dow Building Solutions help satisfy the insulation requirements for the walls, roofs, foundations and reduce air infiltration around the building envelope based on ASHRAE 90.1 2007 requirements. Vegetated roof consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions helps increase energy efficiency to meet the Minimum Energy Performance prerequisite.
EA Credit 1: Optimize Energy Performance	1-19 or 3-21 (CS)	Insulation products such as STYROFOAM™ extruded polystyrene foam insulation, THERMAX™ polyisocyanurate insulation and STYROFOAM™ spray polyurethane foam insulation from Dow Building Solutions help satisfy or exceed the insulation requirements for the walls, roofs, foundations and reduce air infiltration around the building envelope based on ASHRAE 90.1 2007 building envelope requirements. Vegetated roof consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions can help achieve higher energy efficiency levels for a building by providing better insulation and little heat island effect.

CREDIT NAME	# OF CREDITS	DOW BUILDING PRODUCTS CONTRIBUTION
MR Credit 3.1 and 3.2: Material Reuse, 5% or 10%	1-2	STYROFOAM™ extruded polystyrene foam insulation is recyclable and reusable. Walls, roofs and foundations consisting of STYROFOAM™ extruded polystyrene foam insulation products from Dow Building Solutions is long lasting and can often be reused when designed and installed properly.
MR Credit 4.1 and 4.2: Recycled Content, 10% /20% (post consumer+1/2 preconsumer)	1-2	Polyisocyanurate rigid insulation such as THERMAX™ polyisocyanurate insulation, TUFF-R™ and Super TUFF-R™ polyisocyanurate insulation contain pre-consumer recycle content which can contribute to the overall project recycle content requirement.
MR Credit 5.1/5.2: Regional Materials, 10% /20% extracted and manufactured locally	1-2	There are many manufacturing locations throughout North America for products from Dow Building Solutions. Depending on the location of the project, products from Dow may satisfy the requirement of locally manufactured products within 500 miles.
Indoor Environmental Quality (IEQ) Credit 2: Increased Ventilation	1	Indoor air quality is directly related to managing air flow and removing uncontrolled air leakage, which optimizes HVAC systems. STYROFOAM™ extruded polystyrene insulation from Dow may provide support in the overall building design to help reduce the uncontrolled air infiltration by providing insulation and air barrier performance to meet ASHRAE 62.1-2007 requirements.
IEQ Credit 4.1: Low-Emitting materials	1	INSTA-STIK™ Quik Set Commercial Roofing Adhesive has a zero VOC content.
IEQ Credit 7.1/7: Thermal Comfort, Design	1	Insulation products such as STYROFOAM™ extruded polystyrene foam insulation, THERMAX™ polyisocyanurate insulation and STYROFOAM™ brand spray polyurethane foam insulation from Dow Building Solutions help satisfy the insulation requirements for the walls, roofs, foundations and reduce air infiltration around the building envelope. The well insulated and sealed building envelope can help achieve better energy efficiency to meet the ASHRAE 55.2 Thermal Environmental Design standards to provide comfort for building occupants.
IEQ Credit 10: Mold Prevention (School only)	1	STYROFOAM™ extruded polystyrene foam insulation, THERMAX™ polyisocyanurate insulation and STYROFOAM™ brand spray polyurethane foam insulation products from Dow Building Solutions can be used as continuous/cavity insulation and water resistive barrier with joints sealed to meet ASHRAE 90.1 2007 building envelope insulation requirements and manage the dew point potential in the wall and roof assembly to minimize the potential for mold indoors and within the building assembly. The insulation products from Dow Building Solutions are not known nutrient sources to support mold growth.
ID Credit 1.1-1.3:	3	Double the existing credit requirements to provide exemplary performance: 100% vegetated roof for exemplary performance of SS Credit 7.2; Vegetated roof accounts for 40% of the project site area for SS Credit 5.1; Vegetated Roof area doubles the requirements of SS Credit 5.2 depending on local zoning open space requirements.
ID Credit 1.4: Life Cycle Analysis	1	Cradle to Cradle Life Cycle Analysis has been performed for STYROFOAM™ insulation, THERMAX™ polyisocyanurate insulation and STYROFOAM™ brand spray polyurethane foam insulation from Dow Building Solutions. The total products with Life Cycle Analysis performed for a particular project have the potential to earn 1 Innovation in Design credit.

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CAUTION: When cured, these products are combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult MSDS, call Dow at 1-866-583-BLUE (2583) or contact your local building inspector. In an emergency, call 1-989-636-4400 in the U.S. or 1-519-339-3711 in Canada.

NSTA STIK™ Quik Set adhesive products contain isocyanate and a hydrofluorocarbon blowing agent. Read the label and Material Safety Data Sheet carefully before use. Wear long sleeves, gloves, and goggles or safety glasses. Provide adequate ventilation or wear proper respiratory protection. Contents under pressure.

STYROFOAM™ Brand Spray Polyurethane Foam contains isocyanate, hydrofluorocarbon blowing agent and polyol. Read the instructions and Material Safety Data Sheets carefully before use. Wear protective clothing (including long sleeves), gloves, goggles and proper respiratory protection. Supplied air or an approved air-purifying respirator equipped with an organic vapor sorbent and a P100 particulate filter is required to maintain exposure levels below ACGIH, OSHA, WEEL or other applicable limits. Provide adequate ventilation. Contents under pressure. STYROFOAM™ Brand SPF should be installed by a trained SPF applicator.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including Dow can give assurance that mold will not develop in any specific system.

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