Helping Make
Buildings Better™

BASF
The Chemical Company

BASF Polyurethane
Foam Enterprises LLC

BASF Polyurethane Foam Enterprises LLC offers sustainable, engineered polyurethane technologies that can help your construction project attain points under Leadership in Energy and Environmental Design (LEED®) rating systems.

- WALLTITE® Insulating Air Barrier System
- COMFORT FOAM® Residential Insulation and Air Barrier
- ZERODRAFT® Insulating Air Sealants
- ELASTOSPRAY® Roofing and Insulation Systems
- ELASTOCOAT™ Protective Coatings

Designed to harmonize ecology and economy, the award-winning[1] BASF Eco-Efficiency Analysis assesses the lifecycle of a product or manufacturing process over its entire lifecycle in five categories:

- Resource utilization
- Energy consumption
- Emissions to air, water and soil
- Toxicity potential
- Misuse and Risk potential

Eco-Efficiency Analysis is applied in order to use as little materials and energy as possible in producing our products and to keep emissions as low as possible. At the same time, our products must help our customers conserve resources. Both the WALLTITE system and ELASTOSPRAY technology outperformed traditional materials in eco-efficiency.

To request detailed Eco-Efficiency Analysis results, visit www.basf-pfe.com

LEED STANDARDS

Developed by the U.S. Green Building Council, LEED standards provide a framework for assessing building performance and meeting sustainability goals. Based on well-founded scientific standards, the LEED program emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

LEED-NC | New Commercial Construction and Major Renovation Projects

SS Credit 7.2: Heat Island Effect: Roof (1 Point)

ELASTOSPRAY spray-applied polyurethane foam roofing systems with ENERGY STAR®-rated ELASTOCOAT protective coatings reduce rooftop temperatures and urban heat island effect.

EA Prerequisite 2: Minimum Energy Performance & EA Credit 1: Optimize Energy Performance (1–10 Points)

The Engineered Building Envelope system – WALLTITE Insulating Air Barrier on the walls, ELASTOSPRAY high performance roofing and ZERODRAFT insulating air sealants – combine superior insulation properties with virtual air impermeability for optimal energy efficiency.

Reflective ELASTOCOAT protective coatings can help decrease the cooling load during critical peak-load times.

MR Credit 1.1: Building Reuse: Maintain 75% of Existing Walls, Floors and Roof (1 Point), MR Credit 1.2: Building Reuse: Maintain 95% of Existing Walls, Floors and Roof (1 Point in addition to MR Credit 1.1)

BASF Polyurethane Foam Enterprises ELASTOSPRAY roofing technologies can be applied to a variety of substrates, including Built Up Roofing (BUR), modified bitumen, concrete, wood, asphalt shingles, clay tile and metal as a recover system over existing roofs without tear-off, greatly reducing the amount of construction debris in landfills. Likewise, the WALLTITE system can provide state-of-the-art insulating and air barrier performance to existing walls.

EQ Credit 3.1: Construction IAQ Management Plan: During Construction and EQ Credit 4.1: Low-Emitting Materials: Adhesives & Sealants (1 Point)

BASF Polyurethane Foam Enterprises engineered systems and ZERODRAFT insulating air sealants do not emit volatile organic compounds (VOCs) and use ZONE3® zero-ozone-depleting blowing-agent technology.

EQ Credit 7.1: Thermal Comfort: Design (1 Point)

Combining superior insulation R-value with an air leakage rate of <0.001 L/s/m^2 @ 75 Pa at 1.5-inch thickness, WALLTITE air barriers, installed with ZERODRAFT air sealants, improve occupant comfort by keeping conditioned air where it belongs.

LEED-EB | Existing Building Operations

SS Credit 6.2: Heat Island Reduction: Roof (1 Point)

ELASTOSPRAY spray-applied polyurethane foam roofing systems with ENERGY STAR-rated ELASTOCOAT protective coatings reduce rooftop temperatures and urban heat island effect.

EA Prerequisite 2: Minimum Energy Performance (Required) & EA Credit 1: Optimize Energy Performance (1–10 Points)

The Engineered Building Envelope system – WALLTITE Insulating Air Barrier on the walls, ELASTOSPRAY high performance roofing and ZERODRAFT insulating air sealants – combine superior insulation properties with virtual air impermeability for optimal energy efficiency.

MR Credit 3.1 & 3.2: Optimize Use of IAQ Compliant Products (2 Points)

By restoring air barrier continuity and virtually eliminating uncontrolled air leakage, ZERODRAFT insulating air sealants help prevent mold growth and the movement of dust, allergens, smoke and other pollutants. BASF Polyurethane Foam Enterprises engineered systems do not emit volatile organic compounds (VOCs) and use ZONE3 zero-ozone-depleting blowing-agent technology.

IEQ Credit 7.1: Thermal Comfort: Compliance (1 Point)

Combining superior insulation R-value with an air leakage rate of <0.001 L/s/m^2 @ 75 Pa at 1.5-inch thickness, WALLTITE air barriers, installed with ZERODRAFT air sealants, improve occupant comfort by keeping conditioned air where it belongs.

LEED-CS | Core and Shell Projects

SS Credit 7.2: Heat Islands Effect – Roof (1 Point)

ELASTOSPRAY spray-applied polyurethane foam roofing systems with ENERGY STAR-rated ELASTOCOAT protective coatings reduce rooftop temperatures and urban heat island effect.

EA Prerequisite 2: Minimum Energy Performance (Required) & Credit 1: Optimize Energy Performance (1-10 Points)

The Engineered Building Envelope system – WALLTITE Insulating Air Barrier on the walls, ELASTOSPRAY high performance roofing and ZERODRAFT insulating air sealants – combine superior insulation properties with virtual air impermeability for optimal energy efficiency.

MR Credit 1.1: Building Reuse: Maintain 25%, of Existing Walls, Floors & Roof (1 Point), MR Credit 1.2: Building Reuse: Maintain 50%, of Existing Walls, Floors & Roof (1 Point) and MR Credit 1.3: Building Reuse: Maintain 75%, of Existing Walls, Floors & Roof (1 Point)

BASF Polyurethane Foam Enterprises ELASTOSPRAY roofing technologies can be applied to a variety of substrates, including Built Up Roofing (BUR), modified bitumen, concrete, wood, asphalt shingles, clay tile and metal as a recover system over existing roofs without tear-off, greatly reducing the amount of construction debris in landfills. Likewise, the WALLTITE system can provide state-of-the-art insulating and air barrier performance to existing walls.

MR Credit 2.1: Construction Waste Management: Divert 50% From Landfill (1 Point) & Credit 2.2: Construction Waste Management: Divert 75% From Landfill (1 Point in addition to MR 2.1)

On-site manufacture and application of SPF generates very little debris and waste. A typical 10,000 square-foot roofing project produces less than 1⁄2 cubic yard of scrap, tape and plastic, and from one pint to three gallons of waste solvent.

EQ Minimum IAQ Performance: (Required)

By virtually eliminating uncontrolled air leakage, WALLTITE air barriers and ZERODRAFT air sealants help prevent mold growth and the movement of dust, allergens, smoke and other pollutants. BASF Polyurethane Foam Enterprises engineered systems do not emit volatile organic compounds (VOCs) and use ZONE3 zero-ozone-depleting blowing-agent technology.

EQ Credit 7.1: Thermal Comfort (1 Point)

Combining superior insulation R-value with an air leakage rate of <0.001 L/s/m^2 @ 75 Pa at 1.5-inch thickness, WALLTITE air barriers, installed with ZERODRAFT air sealants, improve occupant comfort by keeping conditioned air where it belongs.

LEED-H* | Homes

IEQ Credit 1: ENERGY STAR with Indoor Air Package

By combining superior insulation performance with virtual air impermeability, COMFORT FOAM residential insulation and air barrier, along with ZERODRAFT insulating air sealants, help improve energy efficiency while preventing mold growth and the movement of dust, allergens, smoke and other pollutants. BASF Polyurethane Foam Enterprises engineered systems do not emit volatile organic compounds (VOCs) and use ZONE3® zero-ozone-depleting blowing-agent technology.

Materials and Resources Credit 2: Material-Efficient Framing (0.5-2 Points)

Results from testing conducted by the National Research Council (NRC) of the Canadian Construction Materials Centre (CCMC) show spray-applied polyurethane foam air barriers offer long-term durability greater than or equal to the building's expected life span[2]. They also show that 16-inch centered studs incorporating closed-cell polyurethane foam may be moved out to 48 inches and still maintain racking and structural loads according to Code.

Materials and Resources Credit 4: Durability Plan (Mandatory 3 Points for Full Inspection)

COMFORT FOAM insulation stops the uncontrolled air leakage that can lead to premature structural deterioration and ice damming. In cathedral ceiling applications, COMFORT FOAM does not promote deterioration of the existing roof sheathing because it does not allow condensation at the foam/deck interface. COMFORT FOAM can be applied without roof ventilation because it is fully adhered and air impermeable. Moisture does not condense between the insulation and the sheathing.

Energy and Atmosphere Credit 1: ENERGY STAR Labeled Home (1-16 Points)

The U.S. Department of Energy (DOE) reports that up to 40 percent of the energy cost of heating and cooling a building is wasted by uncontrolled air leakage. With an insulation R-value of 6.0 per inch and air leakage rates of <0.001 L/s/m^2 @ 75 Pa at 1.5-inch thickness, COMFORT FOAM technology makes a substantial contribution to energy efficiency. ZERODRAFT insulating air sealants provide complete air barrier continuity at all construction joints. High R values and superior air tightness help contribute to a better HERS rating and more points on this credit.

Energy and Atmosphere Credit 2: Insulation (1 Point)

The U.S. Department of Energy has shown that 15 percent of a traditional insulation material's effectiveness is lost due to convection loops through and behind board and within batt systems. COMFORT FOAM eliminates this by forming a fully adhered, seamless insulation and air barrier system in one product. ZERODRAFT insulating air sealants are installed in hard-to-build areas, including doors, windows and penetrations of both new and retrofit projects, to create or restore air barrier continuity.

Energy and Atmosphere Credit 3: Air Infiltration (1-2 Points)

COMFORT FOAM has been tested and is certified to be an air barrier at an application of 1.5-inch thickness. It is fully adhered and does not allow air to flow around, behind or through the insulation system. A residential study by Advanced Certified Thermography shows that COMFORT FOAM installations can help reduce energy costs by as much as 60 percent each year compared to traditional insulation systems.

Credit #5: Environmentally Preferable Products (Maximum 4 Points)

BASF Polyurethane Foam Enterprises engineered systems including the COMFORT FOAM insulation and air barrier system and ZERODRAFT insulating air sealants do not emit volatile organic compounds (VOCs) and use ZONE3 zero-ozone-depleting blowing-agent technology.

* Note: The information prepared for this brochure is based on the LEED-H Pilot Standard. Please consult your LEED AP for updated information.

1 2005 awards include: the Design for Sustainability Award (Society of Plastics Engineers), the Presidential Green Chemistry Challenge Award (U.S. Environmental Protection Agency) and the Best Sustainable Practice Award in the Sustainable Research, Development, Construction Process and Demonstration (Sustainable Buildings Industry Council)

2 Canadian Construction Materials Centre (CCMC), Evaluation Report 12932-R, National Research Council (NRC) of Canada.

The role of the world's leading chemical company

Sustainability is a core strategy for BASF. The company has been ranked as the number one chemical company in Fortune magazine's 'Global Most Admired Companies' survey. BASF placed first in all attributes evaluated by more than 10,000 senior managers at 345 companies. These attributes included quality of products and services, innovation and responsibility to the environment.

BASF Polyurethane Foam Enterprises is the only manufacturer to offer a complete engineered building envelope system, including spray-applied polyurethane foam for all types of buildings, Eco-Efficiency Analysis, a full system warranty and a single source supply of silicone, urethane, polyurea and acrylic coating solutions for the commercial roofing market.

As demand for sustainable construction materials and applications continues to grow, BASF Polyurethane Foam Enterprises offers new cost-effective solutions, developed at extensive R&D facilities around the world.

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The information contained in this brochure is believed to be true, however, we strongly recommend that you consult a LEED-accredited professional.