

High-Performance Sustainable Building Solutions in Government Facilities and Projects

SKYTITE[®] Spray Polyurethane Foam Roofing System WALLTITE[®] Insulation and Air Barrier

Division 7 Thermal and Moisture Protection Products

BASF Spray Polyurethane Foam (SPF) Performance Characteristics

- Highest insulating R-value per inch (R 6.3-7.1)
- · Air Barrier meets Code of Federal Requirements
- Environmental Product Declarations (EPDs) detail sustainability vs. traditional insulation
- LEED[®] maximum potential for points
- · FEMA approved as a flood-damage resistant material
- ABAA-certified Weather Resistant Barrier



SPF Documented Performance

Washington Post, April 13 2009

"... A \$95 million program to spray-foam tents in Iraq has dramatically reduced the amount of fuel needed for heating and cooling, saving \$2 million in energy costs per day, Anderson said. It is also reducing the Army's logistical footprint, which includes roughly 900 trucks per day moving in and out of Iraq, he said."

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We create chemistry

Government Project Design Considerations Addressed with Spray Foam Specifications

- Thermal efficiency
- Envelope penetrations
- Indoor air quality (IAQ)
- Roof Reflectivity
- Material efficiency
- Energy efficiency
- Air and vapor transmission
- · Climate Hot/Dry, Hot/Moist, Temperate, Cold
- · Moisture buildup within the envelope
- · Codes and Standards insulation requirements
- Thermal bridging
- Life Cycle Analysis (LCA)

Government Project Examples Using SPF

- Federal Reserve Bank of Baltimore
- Army Corp of Engineers LRS Warehouse
- Dept of Navy Buildings 6033 & 1052
- NASA Buildings 1170, 1171, 1172
- Department of Defense US Army Military Tents & Hospitals
- PAE Gov. Service NIMA Bldg
- Department of Transportation Tibb Substation
- Veterans Affairs Project 07A36
- US Post Office Taylor
- Dept of Energy Building 9831
- Naval Weapons Station Charleston, SC
- Milan Army Ammunition Plant Milan, TN
- US Coast Guard Aquadilla, PR
- National Archive & Records Administration George H.W. Bush Presidential Library and Museum

Government and Professional Organizations Referencing the Performance of SPF

- U.S. Department of Energy (DOE)
- Hospital Energy Alliance
- EnergySmart Hospitals
- Improving Design and Construction
- Energy Efficiency and Your Hospital's Bottom Line
- Creating Energy Efficient, High Performance Hospitals
- U.S. Environmental Protection Agency (EPA)
 Energy Star for Healthcare
- U.S. Department of Veterans Affairs (VA)
 - Sustainable Design and Energy Reduction Manual
 - Report of the Task Group for Innovative 21st Century Building Environments for VA Healthcare Delivery
- The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
 - Healthcare Facility Design Professional (HFDP) certification
 - 30% Advanced Energy Design Guide (AEDG) for Small Healthcare Facilities
- The American Institute of Architects Academy of Architecture for Health (AAH)
 - Healthcare 101
 - Guidelines for Design and Construction of Health Care Facilities
- American Society of Healthcare Engineering (ASHE) of The American Hospital Association (AHA)
 - Energy Efficiency Committee
 - Healthcare Energy Guidebook
 - Green Healthcare Construction Guidance Statement
 - The Environmental and Economic Benefits of Cool Roofs, Inside ASHE, vol. 16, no. 6
- The Center for Health Design Evidence Based Building Design of Healthcare
- Green Guide for Healthcare Best Practices for Creating High Performance Healing Environments

Government and Professional Reports on Spray Polyurethane Foam Products

Oak Ridge National Laboratories (ORNL) - Durability

ORNL reports: "The principal causes of premature roof failure are moisture intrusion and lack of wind resistance. SPF roofing limits moisture intrusion because of its 90% closed-cell properties. Damage to the system typically does not cause leaks into the building, and moisture intrusion is isolated to areas of damaged foam cells."

"SPF roofing systems have exceptional wind uplift resistance. Field observations of SPF performance during hurricanes Allen, Hugo, and Andrew led the industry to conduct laboratory testing of SPF systems at Underwriters Laboratories (UL) and FM Global. Imagine UL's surprise when SPF's wind uplift resistance actually exceeded the capacity of their equipment. UL also observed SPF roofs applied over a built-up roof (BUR) and metal increased the wind uplift resistance of those roof coverings."

Arizona State University Del E. Web School of Construction and National Roofing Foundation – Long-Term Performance

In the most comprehensive roof survey ever performed by the National Roofing Foundation, 160 SPF roofing systems in California, Texas, Wisconsin, Illinois, New Jersey, and New York were evaluated. The findings concluded that SPF roofing systems appear to have a very high degree of sustainability with an indefinite life expectancy when properly maintained with periodic recoating. The physical properties of SPF did not diminish over time, and more than 70% of the roofs were applied over existing roofing systems.

Learn More

On-Line Continuing Education Programs

Learning opportunities provided for a variety of design professional organizations, code compliance groups and more at <u>AECDaily</u>.

On-Site AIA/CES Programs

- Air Barrier Basics
- · Disaster Durable Solutions for Wind and Water
- Spray Polyurethane Insulation and Membrane Roofing Systems
- Spray Polyurethane Foam (SPF): Continuous Insulation and High Performance Envelopes
- SPF 101: Taking Construction to the Next Level
- Spray Polyurethane Closed-cell Foam Understanding the Fundamentals



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This fact Sheet complies with the Federal Trade Commission labeling and advertising of home insulation rules and regulations, Federal Register, 16 CFR Part 460 Labeling and Advertising of Home Insulation: Trade Regulation Rule; Final Rule, Tuesday, October 2018.

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