

Cool Roofing: Replacement Roof Uses Soybeans to Save Energy

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Bio-based rooftop makes environmental statement along the magnificent mile.



Located in the heart of Chicago's Magnificent Mile, 669 N. Michigan Ave. needed a replacement for its existing asphalt-covered rooftop. Chicago-based U.S. Equities Realty, the facility's management company, researched the various options highlighting replacement costs, life span, and heating and cooling efficiencies as the primary criteria. After much consideration, U.S. Equities chose to convert the traditional black asphalt to a soybean-derived white sealant. This relatively new product — called Clean and Green Roofing Solution — was developed by Johns Manville, a Berkshire Hathaway company, and Green Products, LLC.

The new roof, installed this past summer, boasts a highly-reflective, soybean-derived white coating that stays cool during the summer months. Additionally, the Clean and Green Roofing Solution is nontoxic, flame resistant, 100 percent waterproof and so reflective that it dramatically lowers both exterior and interior temperature levels.

Cooler temperatures mean decreased demand on air-conditioning systems, resulting in reduced air pollutants and easing the strain on a city's electric grid. The temperature on a traditional black roof is a sweltering 165 degrees on a 90-degree day, scorching the interior with a temperature of 124 degrees. With a soybean roof, however, the exterior temperature is reduced to 104 degrees, and the interior temperature is lowered to 88 degrees.

Equally as important, this product contributes to multiple point opportunities within the Leadership in Energy and Environmental Design (LEED) Green Building Rating System for building owners. It also meets and exceeds the proposed mandates of the 2008 City of Chicago Urban Heat Island Initiative.

This conventional roofing assembly combines the environmental and performance benefits of the Johns Manville JMCleanBond roofing system with the rapidly renewable and solar reflective properties of Green Products' Environmental Liquid Membrane System (ELMS) into a single-source warranted roofing system. The JMCleanBond SBS fire resistant roofing membrane's advanced self-adhering

technology uses no heat or solvent-based adhesives in the installation. The product's no-VOC/no-smell chemistry provides an unobtrusive installation coupled with the proven weather protection of SBS roofing systems. This pairing is ideal for occupied buildings, as well as green building applications, where clean installations and minimal disruptions are especially valued.

The ELMS is a USDA-certified, bio-based soy polymer membrane. It is both ENERGY STAR and Cool Roof Rating Council listed, and specifically designed for use with modified bitumen roofing systems. ELMS is also 100 percent waterproof, not just water resistant, so it is approved for use in applications where pooling water may exist.

Excited about the environmentally friendly decision, Pat Quinn, the lieutenant governor of Illinois, held a press conference commending U.S. Equities choice of the Clean and Green Roofing System prior to the installation.

"Our goal is to make Illinois the soybean-roof capital of the world in order to reduce our dependency on foreign oil," said Quinn. "We have an ocean of asphalt covering our rooftops, and its time to convert those asphalt roofs to energy-saving roofs covered with acres of Illinois soybeans."

The N. Michigan Ave. building is a prominent retail property featuring Niketown, Cole-Haan and Garmin International. The John G. Shedd Aquarium in Chicago recently made a soybean roof out of 36 acres of homegrown Illinois soybeans. And, last year, Quinn also helped the University of Illinois at Chicago convert to a soybean rooftop.

Product + Literature Showcase

Johns Manville GlasKap® CR Cap Sheet

GlasKap® CR, Johns Manville's white acrylic coated fiber glass cap sheet, allowed Enterprise Roofing to meet California's Title 24 energy code requirements and to continue its preference of installing multi-ply roofing systems. "GlasKap CR saved the expense of putting on two layers of coating," said Larry Reardon, president. For more information, visit www.jm.com.



Location: Amador Plaza, Dublin, Calif.

Mule-Hide® Elastomeric Acrylic Coatings

Mule-Hide® Elastomeric Acrylic Coatings are professional grade, premium products contractors trust. Including Metal Roof Primer, Flashing Grade, and both standard and specialty finish coatings such as Skylight Finish. Our standard acrylic Finish is ENERGY STAR® and CRRC® listed. Mule-Hide offers professional grade systems to be used over metal, asphaltic substrates, and areas where ponded water occurs. Masonry Wall Coating comes in four standard colors. Contractors have assurance of superior weatherability, flexibility and reflectivity. For more information, visit www.mulehide.com.

