

Elastizell

Insulating Concrete Roof Decks Your Choice for “Green”!



Elastizell Insulating Roof Deck System

Elastizell Insulating Concrete Roof Decks are accepted as a “Green” Product by BuildingGreen Inc , publishers of *Environmental Building News*, *Green Building Advisor*, and *GreenSpec*. This is because Elastizell Roof Decks reduce energy load requirements and renovation impacts. Elastizell Roof Decks are a durable, sustainable, and low-maintenance system. Elastizell Insulating Concrete Roof Decks are listed in the GreenSpec Directory. LEED = Leadership in Energy and Environmental Design.

Sustainable Roof Decks

Elastizell Insulating Concrete Roof Decks help reduce overall energy consumption by providing permanent insulation that does not suffer from the thermal drift characteristics associated with rigid board insulation. Elastizell Insulating Concrete combined with EPS insulation board provides a heat sink beneath the roofing membrane. This reduces thermal shock from heat from the sun and cooling at nighttime or by rain. The reduction of thermal shock lengthens the life of the roofing membrane.

Deck penetrations do not weaken the Elastizell Roof Deck system. When re-roofing over rigid insulation board, the insulation must be replaced. This is not the case with Elastizell and encapsulated EPS insulation, since only the roofing membrane is replaced.



An Elastizell Roof Deck - cast in place, provides a slope-to-drain system, and provides a strong, permanent roofing base.



Shown here is a damaged rigid insulation roof deck system. All of the insulation must be replaced when re-roofing.

Elastizell: A Clean Alternative



Elastizell Insulating Concrete components are batched on-site and placed without excess material produced. Typical rigid insulation board installations require “special cut” boards to provide a slope-to-drain system, with considerable job waste. Elastizell is cast slope-to-drain, eliminating the need for special dimensional board stock. Any excess EPS board in the system is used on other jobs eliminating waste.

Elastizell insulating concrete roof decks are an alternate solution to rigid insulation boards, some of which - result in subsequent off-gassing that significantly reduces their insulation value. EPS insulation board does not contain any ozone-depleting chemicals, because it is expanded without blowing agents. Elastizell insulating concrete (encapsulating the EPS insulation board) does not produce or emit any ozone-depleting substances or Volatile Organic Compounds.

Elastizell insulating concrete roof decks consist of portland cement, water and Elastizell expansion material in the form of a preformed foam. **The Elastizell material does not contain asbestos.**

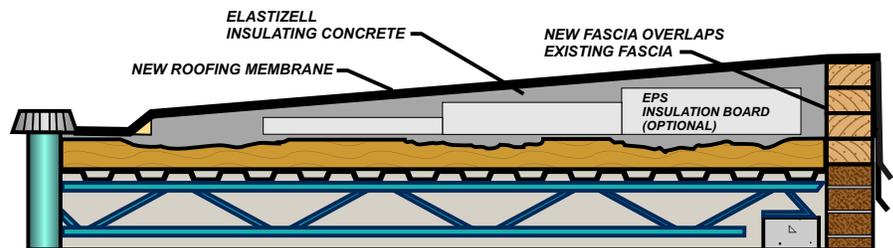
From the pages of Toxic Mold - What a roofing contractor should know: “Mold is a common organism found in virtually every home and building. Moisture **and a food source, such as cellulose building materials**, are necessary for mold to grow.”

November, 2004 Technical Bulletin - EPS Molders Association (www.epsmolders.com):
 “EPS Insulation Mold Resistance” states “Expanded Polystyrene (EPS) rigid foam insulation was tested in accordance with ASTM C1338 “Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facings” - this evaluates the ability of new insulation materials to support five types of fungal growth.

Third party testing conducted by SGS US Testing Company, Inc. Demonstrates that under laboratory controlled conditions favorable for the growth of mold that EPS scored no traces of growth over a 28-day incubation period. The EPS insulation board encapsulated within Elastizell Insulating Concrete Roof Decks is mold resistant.

SGS U.S. Testing Company, Inc. Report No. 110170 (July 2004)

Common Indoor Mold Strains	Expanded Polystyrene Specimens Tested In Accordance With ASTM C1338-00
Aspergillus Niger	No traces of Growth
Aspergillus Versicolor	No traces of Growth
Penicillium Funiculosum	No traces of Growth
Chaetomium Globosum	No traces of Growth
Aspergillus Flavus	No traces of Growth



Elastizell and LEED

Elastizell Insulating Concrete Roof Decks have been used on many LEED approved projects. Elastizell Insulating Concrete Roof Decks may assist with the following LEED points (LEED-NC Green Building Rating System for New Construction and Major Renovation Version 2.2 - October 2005):

Materials & Resources:

MR Credits 1.1 and 1.2: Consider Reuse of existing, previously occupied buildings, including structure, envelope, and elements. Maintain 75% of Existing Walls, Floors & Roof (Maintain 95% for MR Credit 1.2). **(1 or 2 points possible)**

MR Credits 3.1 and 3.2: Use salvaged, refurbished, or reused material, products, and furnishings for at least 5% (10% for Credit 3.2) of building materials. **(1 or 2 points possible)**

MR Credits 4.1 and 4.2: Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the pre-consumer content constitutes at least 10% (for MR Credit 4.1, 20% for MR Credit 4.2) of the total value of materials on the project (based on cost). **(1 or 2 points possible)**

MR Credits 5.1 and 5.2: Use building materials or products that have been extracted, harvested, or recovered, as well as manufactured within 500 miles of the project site for a minimum of 10% (for MR Credit 5.1, 20% for MR Credit 5.2) of the total materials value (based on cost). **(1 or 2 points possible)**

Energy & Atmosphere:

EA Prerequisite 2: Design the building to comply with ASHRAE/IESNA Standard 90.1-1999 (without amendments) or the local energy code, whichever is more stringent. **(Required)**

EA Credit 1: Reduce design energy cost compared to the energy cost budget for energy systems regulated by ASHRAE/IESNA Standard 90.1-1999 (without amendment), as demonstrated by a whole building simulation using the Energy Cost Budget Method. **(1-10 points possible, depending on improvement in proposed building performance rating over baseline building performance rating).**

Reduced Impact of Renovation

In re-roofing applications, Elastizell can be cast over an acceptable, existing membrane still on the roof. Wet insulation material must be removed. When a roofing membrane fails over rigid insulation board, the entire system must be torn off and replaced, since rigid insulation board is damaged by water. The Elastizell Composite System is not damaged by water. **The encapsulated EPS board is completely protected - only the roofing membrane need be replaced.** This significantly reduces the amount of material taken to the landfill, since only a new membrane is installed on the roof.

For re-roofing existing roof decks that originally used polyisocyanurate insulation board, only the insulation that is wet and damaged needs to be removed. If the old roof remains in place, the mess and expense of tear-off are avoided and the threat of damage to the building's interior is minimized.



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Elastizell Insulating Roof Deck System

The Elastizell Roof Deck System consists of lightweight foamed cement slurry with optional embedded sheets of EPS insulation up to 12" thick. The slurry is air-entrained on-site using a foaming machine and proprietary protein-stabilized surfactants. The use of other additives and aggregates may be specified; densities from 30-110 pcf may be achieved, with R-values ranging from 0.86 to 1.8 per inch. Elastizell can be applied over metal, concrete, or wood decking, filling depressions and flutes on the roof's surface to eliminate potential air and water channels. The product is positively sloped during installation to achieve proper drainage and eliminate ponding. Then a built-up or single-ply roofing membrane is applied directly on the finished installation. The optional embedded EPS insulation is protected during future roofing tear-offs. The Elastizell system must be installed by certified applicators.



Contact information

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What makes this product green:

- [Reduces energy loads](#)
- [Reduces renovation impacts](#)
- [Durable or low-maintenance product](#)

LEED Credits:

- [EA Prerequisite 2 - Minimum Energy Performance](#)
- [EA Credit 1 - Optimize Energy Performance](#)

Links to manufacturer Web site

- [General Information](#)
- [Technical Data](#)
- [Specification Language](#)

This product is classified under the following categories:

- [Builder Categories : Roofing : Lightweight Concrete Roof Insulation](#)
- [Builder Categories : Insulation : Lightweight Concrete Roof Insulation](#)
- [CSI Divisions : Concrete : CSI# 03520: Lightweight Concrete Roof Insulation](#)

This information was last verified on 9/14/04.

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