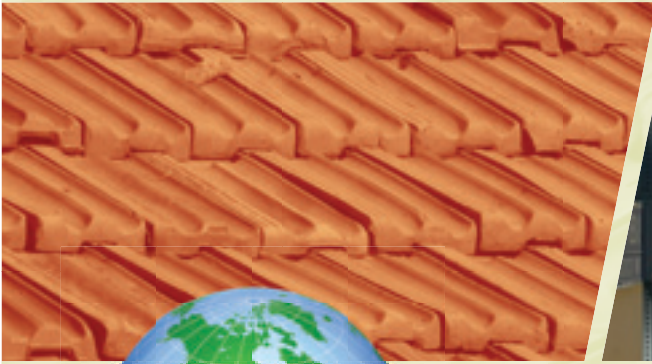


ECOSEET



Eco-Friendly Tile Roofing System



POLYFOAM PRODUCTS, INC.



Introduction

Ecoset is a three-part roof system that features a waterproofing underlayment, a layer of insulation and an innovative polyurethane adhesive. All three components work together to offer superior energy efficiency, environmental friendliness, long-term performance and increased roof strength.

Developed specifically to reduce your home's energy consumption and its impact on the environment, Ecoset significantly reduces the amount of air that flows through your home's roof system, which regulates interior temperatures.



Environmentally Friendly

Ecoset has been tested under the most rigorous conditions and every time the results are the same – superior energy efficiency that exceeds its competitors. Exceeding California's Title 24 mandate requirements, Ecoset reduces energy consumption. The Ecoset system has been proven to reduce peak heat flows through the roof deck by approximately 80% versus a dark, heat-absorbing shingle in the summer and limit nighttime heat loss in the winter by nearly 70% compared to the direct-nailed shingle roof.

The R-value of an Ecoset system is 10.68, while a traditional, mechanically attached system offers an R-value of only 2.59. What gives Ecoset its excellent R-value is its unique construction that utilizes a one-and-one-quarter-inch scalloped, expanded polystyrene insulation. Besides the excellent R-value of the insulation itself, the three-eighth-inch scallops on the underside of the EPS create an air gap that allows air to flow through the system. The air gap also adds additional R-value that further reduces the amount of airflow in and out of a building.

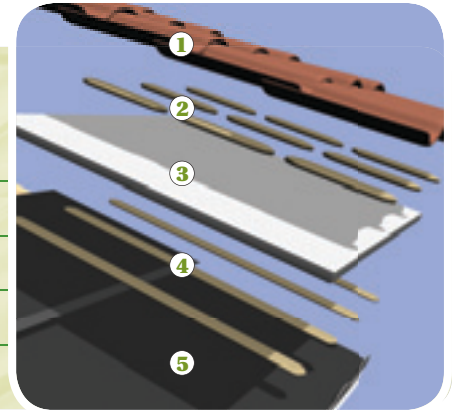
California Title 24 Climate Zones





Ecoset System Components

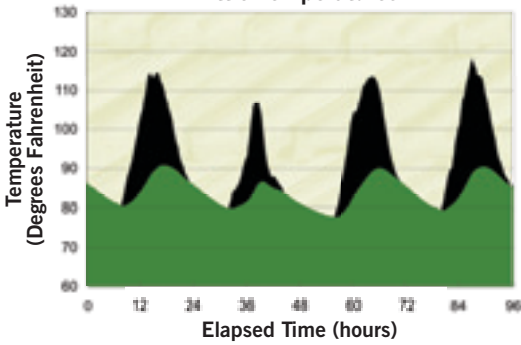
- ① Approved Roofing Tile - clay or concrete
- ② Large Paddy of Polypro® AH-160 adhesive
- ③ 1-1/4-inch Expanded Polystyrene (EPS) Insulation
- ④ Ribbon of Polypro® AH-160 adhesive
- ⑤ Approved Self-Adhesive Underlayment



Ecoset Utility Savings

The average attic temperatures in adjacent houses in the Houston area were monitored over a 4 day time period. One house was outfitted with a Polyfoam Ecoset roof system and the other house had a conventional asphalt shingle roof. The residence with the Ecoset roof maintained a much cooler attic space and as a result, a reduction in the air conditioning load. In fact, the attic in the house with the Ecoset roof installed never rose above the ambient temperature.

Attic Temperatures

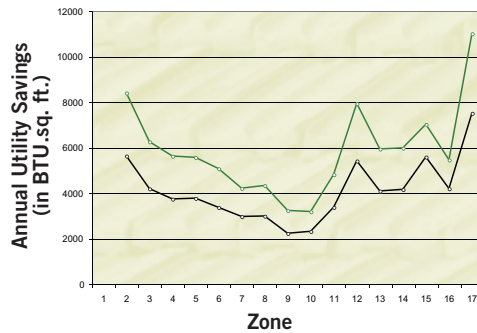
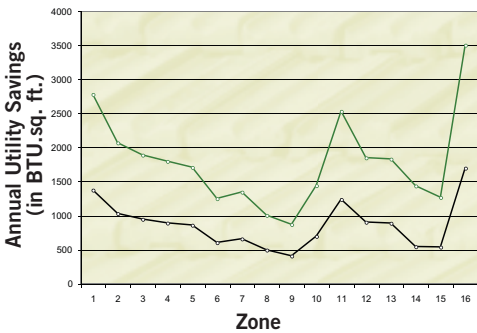
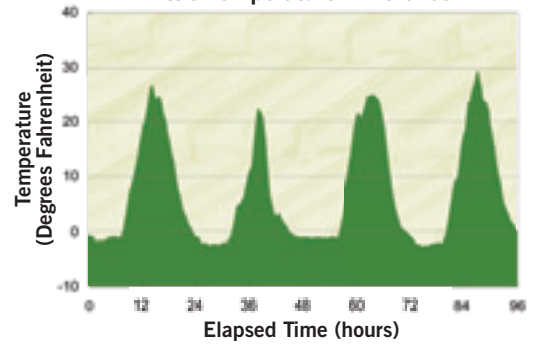


Ecoset Keeps Houses Cooler

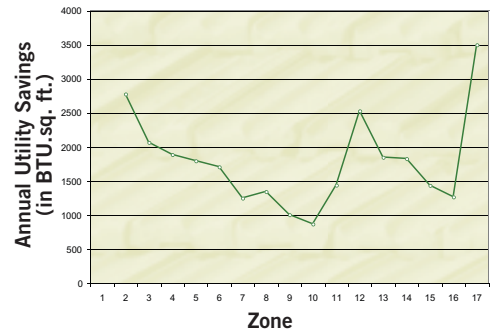
The duration of the time period illustrated in these charts is from 12:00 PM on August 18 to 12:00 PM on August 22.



Attic Temperature Difference



Efficiency 80% and COP 2.5 combined utility load BTU/ft. for 2 years.



Savings relative to base case (mechanically fastened tile roof) with 80% COP 2.5.

This chart illustrates annual utility savings per square foot of floor area for an Ecoset roof relative to a roof with no thermal resistance added to the roof with solar reflectance 0.4 and thermal emittance 0.9.

In both cases the attic contains R 19 insulation. The equipment efficiencies were COP 2.5 for the air conditioning and 0.80 for the heating system.

"Ecoset Roof" is a roof with thermal resistance 9.5., solar reflectance 0.13, and thermal emittance 0.9. "Regular Roof" is a roof with thermal resistance R 5, solar reflectance 0.26, and thermal emittance 0.86.



ECOSSET

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Increased Performance



Ecoset is more than energy efficiency. In fact, the three-part construction of an Ecoset Roof System helps extend the life of your roof. In traditional tile roof applications, underlayment becomes brittle and experiences premature failure because of its exposure to extreme heat and weather conditions. By placing a layer of scalloped EPS insulation on top of the self-adhesive underlayment, the Ecoset system not only increases the roof's energy efficiency, but it also shields the underlayment from harsh weather conditions and significantly extends its service life.



Strength and Durability



While most roofing tiles are attached to the roof with nails or screws that offer minimal protection against wind and rain, the Ecoset Tile Roof System utilizes Polyfoam's AH-160 adhesive to attach the roofing tiles. The two-part, low-rise polyurethane AH-160 adhesive offers superior staying power and protection against winds exceeding 100 mph and provides added walkability. Offering two to three times more staying power than traditional tile attachment methods, Ecoset and its AH-160 adhesive ensure a durable roof system that will stand up to the harshest weather conditions. In addition, utilizing the Ecoset Tile Roof System eliminates penetrations that can compromise the integrity of the roof.



World-Class Warranty



The Ecoset Tile Roofing System is the industry's first and only total system warranty for tile roof applications. Polyfoam is so confident in the long-term performance of its Ecoset system that it is willing to back the performance of its AH-160 polyurethane adhesive, underlayment, insulation and the approved roofing tiles. With Polyfoam and Ecoset, you get more than a quality tile roof system, you get a promise of long-term performance and protection.



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