

MAT RELEASES

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More than a Black and White Issue

No matter what we read today, there is a reference or association to the “green” movement. There is no doubt that the national spot light on the environment will be good for the plant and the nation, but like any complicated issue there is no quick fix. Many people may not think of their roof as playing an important role in the green movement, but there is a lot of buzz these days about reflective roofing. Understanding the facts can help people make educated decisions about products used on their homes and businesses and like any detailed issue, it isn't as easy as black and white.

The basic science of “cool” reflective roofs is simple: light colors reflect heat and dark colors absorb heat. To be effective, however, the building envelope and context, and not just the color of the roof, should be taken into consideration. When deciding whether a cool, or reflective, roof is an appropriate solution, it is helpful to think about the following questions: Where is the building located? How much insulation is there? Is maintenance of the system being factored in to the overall cost? What effect will a white surface have on the existing roof? Do you want a white roof on *your* house? Responsible advocates of any progressive technology need to address key considerations of this nature.

Design and use of a building are perhaps the foremost consideration for determining the value and effectiveness of a cool roof. In California for example,

Did You Know?

- Reflective roofs may reduce the cooling costs associated with commercial buildings and residences by reflecting the heat generated by the sun back into the environment.
- Reflecting heat lessens the load on AC units and helps equipment last longer and lowers energy bills.
- Many states are instituting building code changes to require energy efficient roof systems.

cool roofs are only prescribed in the warmest, driest climate zones in the state, and unconditioned spaces are exempted because there is no energy savings to be had. Also exempted are residences without attic ducts and tile roofs with an air barrier between the roof deck and the tile.

In warmer climates there have been reports of below-deck condensation forming under cool roof surfaces in humid areas – creating the potential for mold growth or even possibly compromising the roof deck.

As demonstrated by cool roof calculators, white roofs in the northern climates actually waste heat in the winter. A heating penalty is paid because the roofs become colder in the winter due to reflected sunlight. In fact, owners of these buildings would be better off in some cases with dark-colored roofs to improve heat retention and reduce heating costs.

A recent initiative by Florida Light & Power provided

incentives to homeowners to “coat” their steep-sloped roofs. Unfortunately, in doing so without any guidance as to coating product choice or application, many of those homeowners found themselves with leaky roofs: the result of another basic scientific fact – that different materials expand and contract at different rates, and many of the paints and coatings used caused the roofing shingles to curl, exposing nail penetrations to the elements, and leaking water into their homes. Next is a financial burden – on the homeowner or their insurer – to replace what was a perfectly good roof.

The suggestion that energy demand and carbon dioxide emissions can simply be painted over is a gross oversimplification. Available solutions go well beyond roof color. While a cool roof could save energy, other approaches such as increasing insulation values are just as effective in reducing energy usage.

The Asphalt Roofing Manufacturers Association (ARMA) is the North American trade association representing the manufacturers and suppliers of bituminous-based residential and commercial fiberglass and organic asphalt shingle roofing products, roll roofing, built-up (BUR) roofing systems, and modified bitumen roofing systems. Additional resources for California's Title 24 Part 6 regulation can be found at www.asphaltroofing.org.



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