

## A Top Down Approach

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The concept of restoration as a cool roof solution is not new. In fact, the energy crisis of the 1970s required facility managers to look for every option possible for reducing energy use within their buildings. Reflective roof restoration became popular not only for extending the roof's life, but for reducing energy consumption and creating a more comfortable work environment.

There are many gains available from the use of roof coatings:

- According to the EPA (Environmental Protection Agency), peak cooling demand can be reduced by 10-15 percent, and reflective roof products can reduce energy bills by up to 50 percent.
- According to the CRRC (Cool Roof Rating Council), average energy savings range from seven to 15 percent of total cooling costs.
- According to the CEC (California Energy Commission), reflective roofs can reduce a building's energy use by 20 percent, with the potential annual energy savings in the U.S. in excess of \$1 billion.

### Down To The Floor

Besides roof coatings, try looking inside for smaller scale green projects—such as environmentally-friendly flooring. According

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to Rockwell Rookey of Dur-A-Flex, manufacturers can see benefits such as:

- Potential tax credits.
- Indoor air quality improvements, leading to added worker productivity.
- Longer lasting material and better life cycle cost.
- No waste during installation, meaning less in the land fill.
- The ability to easily change system profile or color with no waste, if area use is changed.
- Application toward LEED.

Manufacturers should always take a look at their specific applications and determine what texture is necessary, thermal conditions, and how long the area can be shut down. And no matter what, says Rookey, make sure to use an approved installer.

ASHRAE 90.1 describes a reflective roof coating as having a solar reflectance greater than 0.70 and thermal emittance greater than 0.75. Reflective coatings are used not only to extend the life of an existing roof surface, but also to provide energy efficiency. The EPA's ENERGY STAR program said that Americans spend about \$40 billion annually to air condition buildings, using one-sixth of all electricity generated in this country. They also state that ENERGY STAR-qualified roof products can lower roof surface temperature by up to 100 degrees F, decreasing the amount of heat transferred into a building and reducing the amount of air conditioning needed in buildings. Peak cooling demand can be reduced by 10-15 percent.

The EPA says using ENERGY STAR-qualified roof products also decreases pollution in urban areas (reducing the "heat island effect"), increases roof product life, and allows building owners to downsize their cooling equipment.

Using environmentally friendly roof coatings as an alternative to replacing the roof also carries additional benefits, such as the elimination of landfill waste and lowering the roof's life cycle costs. This alternative can be a wise environmental as well as budgetary choice.

### Assessing The Project

The first step in assessing the value of a roof coating project is to get on the roof. Schedule an inspection of the existing roof with a knowledgeable industry professional to determine its current conditions.

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What is the roof's substrate, its condition, and performance requirements?

Determine if the product is intended for short- or long-term

protection, will need to accommodate heavy roof traffic, need drainage, or provide waterproofing or rust proofing protection. Does an Underwriters Laboratories (UL) or Factory Mutual (FM) rating need to be maintained? All of these factors, along with the present condition of the roof and the budget available, play a part in determining the correct restoration solution.

Once these questions are answered, consult a reputable product manufacturer to consider good, better, and best options for coatings, and use an experienced applicator familiar with the products.

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