

AIR

An Efficient Roof that Pays You Back

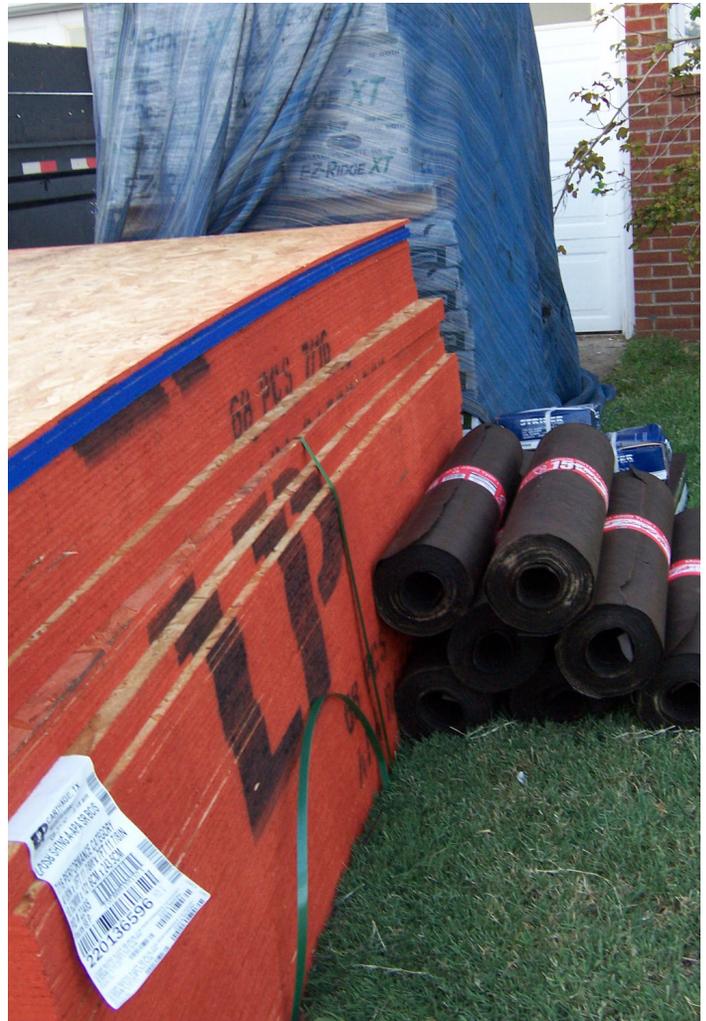
Did you know that your roof can be up to 50 degrees hotter than the outside air? That means if it is 100 degrees outside, the surface of your roof can easily reach 150 degrees. That heat is not isolated; it transfers into your attic and your home, translating to more work for your air conditioner and higher utility bills.

Replacing worn-out shingles with cool roofing material can save big bucks on your annual energy bill (up to a 15% reduction), and can help keep the air clean in your community by reducing the demand at neighboring power plants.

Modern cool roofs come in every type and color. Many of them have the benefit of being aesthetically indistinguishable from traditional roofing – such as asphalt shingles that look like typical shingles, but incorporate engineered granules that reflect light. Expansion in available product choices has allowed more homeowners the opportunity to install cool roofs in their neighborhoods.

Energy Ratings

These rating systems have already done the work on figuring out which materials are more energy-efficient so you don't have to! Look for products that bear these labels and you can feel confident that you are purchasing an energy-efficient cool roof.



Rules of Thumb

Although these are not hard and fast rules, you can use the following guidelines to help steer you towards cooler roofing. Cooler, more energy-efficient roofs are usually:

- Lighter in color
- More reflective (shiny) surfaces

In general, painted metal and tile roofing are more energy-efficient than asphalt shingles.

continued on reverse side...

Compare Apples to Apples

There are important measurements to help you compare the energy efficiency of any roofing materials you are considering. Even if you can't find the following values on the package or brochure for the product, you can usually get them by contacting the manufacturer.

- Solar reflectance, or reflectivity, is the material's ability to reflect radiation.
- Aged solar reflectance is how well the material reflects radiation after three years of use.
- Thermal emittance, or emissivity, is the material's ability to release absorbed heat.

The above three values are usually depicted either as a percent, or as a value ranging from zero to one. In both cases, higher values indicate cooler, more reflective, more energy-efficient roofs.

- Solar Reflective Index, or SRI, is calculated based upon both solar reflectance and thermal emittance, on a scale from 0 to 100, with higher values being cooler, more reflective, more energy-efficient roofs.



Icing on the Cake

If you want to make a bigger impact on your roof's efficiency than simply selecting cool roofing materials, you may also want to consider:

- Radiant barriers
- Reflective coatings
- Improved insulation
- Improved ventilation



This publication is issued by the Oklahoma Department of Environmental Quality authorized by Scott A. Thompson, Executive Director. Copies have been prepared at a cost of \$0.1035 each. Copies have been deposited with the Publications Clearinghouse of the Oklahoma Department of Libraries. (factsheets\air\EfficientRoof) 1/2014