

What is an ENERGY STAR qualified roof product?

It is a reflective roof product that lowers roof surface temperature by up to 100°F, thereby decreasing the amount of heat transferred into a building's interior. ENERGY STAR qualified roof products save money and energy by reducing the amount of air conditioning needed to keep a building comfortable.

What does the ENERGY STAR label signify?

Products bearing the ENERGY STAR labels are more energy efficient than standard products, thereby saving energy and money. In general, ENERGY STAR qualified products including: appliances, HVAC equipment, office equipment, residential lighting, and even homes, reduce energy costs by at least 30 percent.

How does a roof product qualify for the ENERGY STAR label?

Roof products that meet or exceed solar reflectance, without compromising product quality and performance, qualify for the ENERGY STAR label. Manufacturers voluntarily sign an agreement with ENERGY STAR called a Partnership Agreement (PA) allowing them to place the ENERGY STAR label on the packaging of qualifying roof products. They can also use the label in product promotions and advertising for qualified products.

What types of roof products will carry the ENERGY STAR label?

ENERGY STAR roof specifications are not restricted to any particular type of roof product. However, ENERGY STAR expects that, at least initially, metal, single-ply membrane, and roof coating products will be most widely represented.

Why is ENERGY STAR interested in increasing the reflective roofing market?

Ninety percent of the energy in the United States is generated by burning fossil fuels, which creates the air pollution associated with smog, acid rain, and global climate change. By reducing the amount of energy needed to cool buildings, ENERGY STAR qualified roof products help to reduce the production of these air pollutants. Additionally, reflective roof products can help reduce the “heat island effect,” a phenomenon in which cities can be 2 to 8°F warmer than the surrounding countryside. Such heat islands occur, in large part, because many buildings and paved surfaces are designed with dark materials that absorb heat from the sun. This heat is released at night, causing the air temperature to remain high. The resulting elevated temperature leads to an increased demand for air conditioning in buildings, increased fuel use for vehicle air conditioning, increased levels of smog, and associated increased levels of heat-related and smog-related health problems. Installing reflective roofs helps reduce the heat island effect, decreasing the amount of smog in the air and benefiting the entire community.

What are the benefits of ENERGY STAR qualified roof products?

Benefits of ENERGY STAR qualified roof products include:

- *Saves Money and Energy.* According to EPA, about \$40 billion is spent annually in the US to air condition buildings — one-sixth of all electricity generated in a year! ENERGY STAR qualified roof products reduce the amount of air conditioning needed in buildings, and can reduce energy bills by up to 50 percent.
- *Downsizes Cooling Equipment.* A reflective roof can reduce peak cooling demand by 10-15%. As a result, the home or building owner may be able to purchase a smaller, more efficient, and less expensive cooling system.
- *Decreases Pollution in Urban Areas.* Reduced energy demand means less burning of fossil fuels, which results in less pollution from power plants. Also, ENERGY STAR qualified roof products help to reduce the “heat island effect,” in which dark, heat-absorbing buildings and paved areas make the air in urban areas hotter, and more smoggy.
- *Increases Roof Product Life.* ENERGY STAR qualified roof products maintain a more constant temperature and reduce thermal shock, which occurs when cool rain hits a hot roof, causing a sharp drop in temperature. During temperature changes, a roof expands and contracts, causing stress and degrading the roof.

How much can businesses expect to save by installing ENERGY STAR qualified roof products?

Energy savings from installing ENERGY STAR qualified roof products will depend on the geographic location and climate where it is installed, existing insulation levels in the building, the type of roof it replaces, the type of roof installed, and how well it is kept clean and maintained. In general, cooling energy savings can be as high as 50 percent. Additionally, a reflective roof can reduce peak cooling demand by 10 to 15 percent. As a result, building owners may be able to purchase smaller, less expensive HVAC systems.

Will installing an ENERGY STAR qualified roof product save me money no matter where I live?

Homes and buildings located in hot and sunny climates will realize the greatest energy and cost savings. So, people living in southern geographic areas that use more air conditioning will see greater reductions in their energy bills than people living elsewhere in the country.

Under which circumstances will ENERGY STAR qualified roof products generate the greatest savings?

In general, building owners will save the most money on energy bills by installing an ENERGY STAR qualified roof product if their building has the following characteristics: high air-conditioning bills, a large roof surface as compared to the building's overall size, lower levels of insulation, and/or a location in a hot, sunny climate. The most cost-effective time to install an ENERGY STAR qualified roof product is when re-roofing, constructing new buildings, or maintaining a roof by applying a coating.

Will I save money by using reflective roof products if my home or building already has a high level of insulation?

An energy-efficient home or building has both reflective roof surfaces and adequate insulation. But, you will notice greater savings on your cooling bills if you install ENERGY STAR qualified roof products on a building with a lower level of roof insulation. However, when installing a reflective roof while constructing a new building, doing a major renovation, or replacing

your whole roof system, you should consult with your contractor to maximize savings by making sure an optimum level of insulation is installed.

Can I expect the same level of savings over the entire lifetime of my roof?

Due to normal wear and tear, some degradation of roof reflectivity can be expected, particularly within the first few years after installation. Flat roofs may accumulate more dirt and debris because their slope is not great enough to allow washing by rain. Following maintenance procedures minimizes degradation and maximizes energy savings. Consult your roofing contractor or [product manufacturer](#) to learn more about recommended maintenance procedures and schedules.

How do ENERGY STAR qualified roof products compare with standard roof products in terms of durability?

ENERGY STAR understands that the water tightness, durability, and longevity of a roof are the primary concerns of building and homeowners. These participating manufacturers must back their compliant roof products with warranties that are comparable to their other roof products.