

Frequently Asked Questions About ENERGY STAR®

What is ENERGY STAR?

The Environmental Protection Agency's ENERGY STAR program, created in 1992, is a voluntary labeling program designed to identify and promote energy-efficient products, including roofing products.

What does the ENERGY STAR label signify?

Products bearing the ENERGY STAR label have been tested and can be more energy efficient than other similar products, thereby saving energy and money.

What does it take for a roofing product to earn the ENERGY STAR label?

ENERGY STAR standards are currently being revised to incorporate other measures such as the emissivity requirement listed in California's Title 24. When updated, the new requirement will include the same standards as Title 24, both reflectivity (0.65) and emissivity (0.75). Until it is officially updated the current ENERGY STAR requirement is as follows:

- Low slope roofs must have an initial reflectivity ≥ 0.65 . After three years, the reflectivity must be ≥ 0.50 .

What is Solar Reflectivity?

Solar reflectivity (or reflectance) is the fraction of the solar energy that is reflected by a surface (i.e., roofing membrane) back to the sky. White membranes have the highest solar reflectivity, black have the lowest.

What is emissivity and why is it important to the roof?

Infrared emissivity (or emittance) is a measure of the ability of a surface to shed some of its heat (in the form of infrared radiation) away from the surface (i.e., roofing membrane). High infrared emissivity helps keep surfaces cool. Metallic surfaces have a low infrared emissivity.

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

ENERGY STAR roof specifications are not restricted to any particular type of roof product. The most common roofing products currently rated for ENERGY STAR include: single ply membranes, some BUR membranes and roof coatings. JM PVC with Elvaloy® and JM TPO white, single ply membranes, GlasKap® CR white mineral surfaced, white acrylic coated, fiber glass cap sheet and TopGard® 4000 and TopGard® 5000 roof coatings also have the ENERGY STAR label.

What about roof insulation? Does it qualify for the ENERGY STAR label?

ENERGY STAR does not include a specification for roof insulation. However, roof insulation plays an important role in reducing building energy consumption for heating and cooling. The higher the R-value, the less heat or conditioned air is lost from the building envelope.

Why did the EPA create the ENERGY STAR program?

Ninety percent of the energy in the United States is generated by burning fossil fuels, which creates smog, acid rain and global climate change. By reducing the amount of energy needed to cool buildings, roofing products bearing the ENERGY STAR label help reduce these effects on the environment. Additionally, they can help reduce the "urban heat island effect." Heat islands occur where many buildings and paved surfaces in close proximity are designed with dark materials that absorb heat from the sun. This can cause cities to actually become 2° to 8°F warmer than the surrounding countryside.

What are some other benefits of roofing products with the ENERGY STAR label?

Save money and energy. According to the EPA, approximately \$40 billion is spent annually in the U.S. to air condition buildings – one-sixth of all electricity generated in a year. ENERGY STAR roofing products reduce the amount of air conditioning needed and can reduce energy bills.

- *Increase roof product life.* Roofing products that qualify for ENERGY STAR maintain a more constant temperature and help prevent thermal shock that occurs when cool rain hits a hot roof. With such sudden temperature changes, roofing materials can expand and contract, causing stress and degradation of the roof.

How much can businesses save by installing ENERGY STAR required roofing products?

Savings will depend on the geographic location and climate. Buildings located in hot, sunny climates will realize the greatest reduction in cooling cost. Savings also depend on 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.

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. Low-slope roofs may accumulate more dirt and debris because they're not as easily washed by rain. Good maintenance procedures can minimize degradation and maximize energy savings.

How do products with the ENERGY STAR label compare in terms of durability?

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

How do I find roof products that have qualified for ENERGY STAR?

The ENERGY STAR label will appear on the packaging and in the advertising of all products that have qualified. If you are installing a new roof or replacing an old one on a commercial building, be sure to ask your roofing contractor or manufacturer about ENERGY STAR.



Johns Manville

Roofing Systems Group
717 17th Street
Denver, CO 80202
1-800-654-3103
www.jm.com