

Energy Star® and LEED Compliant Cool Roofs



Architects, developers, facility owners and operators are becoming increasingly aware of environmental issues. Opportunities exist in both new construction and renovations to provide more energy-efficient results. Often these tactics will translate into improved air quality within the community as well as cost savings for the facility owner.

Energy Star and LEED have emerged as the leading sources for environmental standards. Individual energy solutions, such as cool roof systems, are endorsed by Energy Star while LEED promotes

comprehensive building solutions that consider the sum of the total benefits including the landscape, the roof system, the composition of the material used and the distance it travels to the jobsite, along with many other features.

As with most new programs, interpretations, testing, results and published material may vary from supplier to supplier. The most accurate information regarding compliant products and correlating testing results can be confirmed at the Energy Star and LEED websites.

Ceco continually works with its paint supplier to ensure proper compliance along with continued advancement in cool roof technologies. LEED relies on SRI standards, a calculation involving both emissivity and reflectivity, to determine which meet LEED cool roof standards. Please contact us for complete information concerning energy guidelines as they are subject to frequent change.



Hot Tips for Cool Roofs

What is reflectivity?

Reflectivity is the deflection of solar energy from a surface. Steep slope roofs have proven to perform better than low slope roofs, 2:12 or less. The greater the amount of solar energy reflected from a surface, the less energy will be required to keep it cool.

What is emissivity?

Emissivity is the amount of heat that is radiated from a surface. The greater the emissivity value, the greater the ability of a surface to cool itself through radiative heat loss, which ultimately reduces energy consumption.

How do you measure the actual (aged) emissivity and reflectivity?

There are standard ASTM procedures for measuring both these properties. These procedures include ASTM C1371 and E408 for emissivity and ASTM E903 and E1918 for reflectivity. The Energy Star® program specifically requires aged reflectivity values to be tested for 3 years.

Does the durability of the roof affect the environment?

Yes, to an extent. Metal roof products typically have a longer life cycle than other roof materials. There are many stresses a roof endures such as weather, thermal shock (the quick expansion of a roof system caused by cool rain hitting a hot roof) as well as UV, air pollutants and dirt. Metal roofs have been designed to withstand many of these pressures. They can easily be cleaned and maintained allowing it to preserve the very benefits a cool roof provides.

How can Ceco help achieve LEED points?

Ceco can help in several areas. First, 100% of a metal roof can be recycled. In addition, the composition of our metal roofs is about 33% recycled material. Ceco has 40 manufacturing facilities throughout the U.S. creating greater opportunity for delivery within a 500 mile radius. Lastly, our reflectivity and emissivity performance levels meet LEED criteria for cool roofs.

Can a retrofit roof work with Energy Star and LEED requirements?

Yes. Leaky, flat non-metal roofs can be replaced with sloped metal roofs by adding an engineered light-weight secondary structural system to the existing building. Metal roofing is an excellent choice for steep slope roofs as well. There are a number of retrofit options available to cover existing deteriorated asphalt shingles, modified bitumen or BUR eliminating the need to landfill old roofing materials. Then, you receive all the advantages of the new metal roof.

What are some additional advantages of a cool metal roof?

Other possible advantages after installing a Cool Metal Roof include:

- Reduced air pollutants
- Lowered maintenance expenses
- Decreased energy costs
- Possible tax credits from federal, state and local governments
- Potential insurance breaks for using metal roofs

If I want to do additional research, what are some web sites I can explore?

- Energy Star www.energystar.gov
- LEED www.usgbc.org
- Cool Metal Roofing Coalition www.coolmetalroofing.org
- Cool Roof Rating Council www.coolroofs.org

For the most current information available, visit our web site at www.cecobuildings.com

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