



Green Building & ESP Low-E® Insulation

In accordance with new “Green Building” standards, the use of Low-E Reflective Insulation is an invaluable way to maximize thermal efficiency in your home or building. While it has been much publicized and widely regarded that it is beneficial to increase insulation, both for cost and thermal efficiency, we must also remain cognizant of the dynamics of the efficiency of the building envelope. Low-E Reflective Insulation meets current “green” standards in many ways, including but not limited to, increasing the thermal efficiency of the building envelope without occupying increased space.

There is a nonprofit organization, The U.S. Green Building Council or USGBC, at the forefront of the green building industry. In their efforts to standardize the industry, the USGBC is working to determine a precise definition of “green”. The LEED (Leadership in Energy and Environmental Design) Rating System is one of the programs the USGBC has created to serve as a baseline for developing “green” building projects. This LEED system was developed more distinctly to define “green” buildings. Some of the ways they are working towards this definition are by stimulating green competition, raising consumer awareness of green building benefits, establishing a universal standard of measurement, recognizing environmental leadership in the building industry, promoting integrated, whole building design practices and helping to transform the building market to green compliance.



It is vital to realize that there are many different project-specific LEED Rating Systems. These include the most recent addition of Leed for Retail as well as Commercial, LEED-CL; new construction and major renovation, LEED 2.1 and finally LEED-EB for existing building operations. There is also a devised proposal for a LEED Residential Rating System. Within these LEED Rating Systems there are numerous primary fields of opportunity for Low-E Reflective Insulation.

There are “Categories of Concern” within each individual LEED Rating System. The five major categories consist of: Indoor environmental quality, Energy and atmosphere, Materials and resources, Water efficiency and Sustainable site. Ordinarily there are both Prerequisites and Credits for each category. There are also credits specific to each category that are accorded by it’s rating system. Here are some examples, depending on application, of how Low-E Reflective Insulation could qualify for LEED credits:

*Up to 5 times more square footage can be shipped per truck which saves fuel and cuts back on environmental concerns.

*Core material can be made from post and pre-consumer recycled goods.

*Air infiltration Barrier reduces gaps and leaks. According to The United States Environmental Protection Agency’s Energy Star document #EPA 430-F-97-028 December 2000, “Air leakage accounts for between 25 and 40 percent of the energy used for heating and cooling in a typical residence”.

*The product does not off gas, or add any detriment to the air as it ages. Any residue emanations from Low-E Components are reclaimed and cured before the manufacturing process.

*The product also does not promote mold or fungus growth which contributes to safety and peace of mind. From the Environmental Protection Agency's A Brief Guide to Mold, Moisture and Your Home, "Molds can gradually destroy the things they grow on. You can prevent damage to your home and furnishings, save money, and avoid potential health problems by controlling moisture and eliminating mold growth".

*Easily can add energy savings to new or existing buildings. More beneficial than a second layer of mass insulation. From the PA Energy Handbook, "6" of mass insulation stops only 80% of conductive and convective heat losses. A second layer of R-19 only stops an additional 12% of the heat flow passed by the first layer".

*When used with a radon mitigation system, Low-E may replace the poly, not only aiding the system, but adding an energy upgrade to it.

*When installed properly ensures duct tightness.

*Minimizes ozone depletion due to less load placed upon HVAC system.



*Innovative design, wind barrier, vapor barrier, sound deadener, thermal control all in one.

*Waste management, no need to throw any away.

*No airborne fibers or particulates that will degrade your air quality making it safe for installer and occupants.

*Easily installed to raise thermal performance above code requirements.

The LEED criteria for certification continues to evolve as ongoing testing and evaluations produce new and more consistent results. Environmental responsibility will remain a major issue in the construction industry.

Products within the LEED framework that can produce a measurable positive impact on the environment along with cost justification such as the Low-E line of reflective insulation, will continue to grow in popularity as more and more of their benefits are realized.



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