Frequently Asked Questions About SPiRiT

What is SPiRiT?

SPiRiT is the Sustainable Project Rating Tool developed by the U.S. Department of Defense and derived from the USGBC's LEED (Leadership in Energy and Environmental Design) program. Like the USGBC's LEED program, SPiRiT awards points for building design features and products that are environmentally preferable.

What is the purpose of SPiRiT?

The rating system was developed to encourage building design and construction practices that will decrease energy consumption and reduce the negative impact of buildings on the environment and occupants.

How does SPiRiT work?

The SPiRiT system grants points for incorporating design features and building products that meet high standards for energy and environmental responsibility. Points toward SPiRiT compliance may be earned in five key categories. Roofing systems and materials can help gain points in three of those categories: Sustainable Site; Energy and Atmosphere; and Materials and Resources.

What are the SPiRiT requirements?

SPiRiT contains standards and requirements for every component of the building envelope. For roofing in particular, in order to earn SPiRiT points, the roof must meet ENERGY STAR® standards for reflectivity (0.65 for initial reflectivity and 0.50 for reflectivity after thee years) and it must have an emissivity rating of 0.90 or better. Other roofing products that enhance a building's energy performance, like roof insulation, can also help meet SPiRiT requirements.

What is solar reflectivity and why is it important?

Solar reflectivity (or reflectance) is the fraction of the solar energy that is reflected by the surface (i.e., roofing membrane) back to the sky. White membranes have the highest solar reflectivity, while black have the lowest. It's important because, when the sun's rays are reflected, less heat is transmitted into the building, and less energy is required for cooling.

What is emissivity and why is it important?

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. This property can make a significant difference in controlling the "urban heat island effect."

What is 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^{o} to 8^{o}F warmer than the surrounding countryside.

Who will implement and drive SPiRiT?

- The Assistant Chief of Staff for Installation Management (ACSIM) has mandated Sustainable Design and Development (SDD) for all new Army facilities.
- The U.S. Army Corps of Engineers districts will implement SDD in their projects.
- Installations will program and budget for SDD on Department of Defense form 1931.
- Architects, engineers and contractors will implement SDD using SPiRiT.

What products already meet the SPiRiT standards?

JM's UltraGard® white single ply systems, including PVC and TPO roofing membranes, as well as bituminous BUR systems with JM's white TopGard® coatings, can meet the standards if the coating is installed to a minimum thickness of 20 mils (0.02").

Are SPiRiT requirements the same as Title 24, LEED or ENERGY STAR?

SPiRiT and LEED requirements are essentially the same. The ENERGY STAR standard for reflectivity is the standard used for SPiRiT. But SPiRiT also has an emissivity requirement. ENERGY STAR has no standard for emissivity.

How much can businesses save by installing SPiRiT 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.

What energy savings may be achieved with compliance to SPiRiT?

"Cool" roof products can decrease the amount of heat transferred into a building and reduce peak cooling demand, resulting in lower air conditioning bills. As always, actual savings will depend on the whole building design (i.e., windows, insulation, etc.).

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