



 Up-to-the-minute Green
Metal Roofing Resource!

PAC Green Info: Valspar LEED Fluropon

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Valspar's Solar Reflective (SR™) coatings feature enhanced solar reflectance and emittance properties to help reduce urban heat island effects and your energy bill. Solar reflectance and emittance values are key factors that affect a roof's temperature and consequently the amount of energy needed to cool that building. The closer the values are to 1.0, the more efficiently heat is reflected and emitted.

All Valspar SR coatings have an initial SR value of 0.25 or greater. They meet the ENERGY STAR®¹ and LEED² initial and 3-year solar reflectance value criteria for steep slope roofs. Shades of white and off-white will also meet low slope roof requirements of 0.65 or greater. Most Valspar SR coatings have emittance values of 0.9. Coatings with metallic effects are the general exception to this rule of thumb.³ Exposure data collected from Valspar's ISO 17025 certified test fence in Ft. Myers, Florida, concludes that aging will have little to no effect on the coatings future solar reflectance and emittance values.

Valspar offers SR coatings in a variety of formulations including Kynar 500® or Hylar 5000® PVDF fluoropolymers, silicone polyesters, and polyesters. These coatings have the same long life characteristics as the original formulations.

Fluropon® SR = fluoropolymer coatings

Flurothane® SR = thick-film fluoropolymer coatings

WeatherX™ SR = silicone polyester coatings

Dynapon® SR = polyester coatings

Valspar SR coatings are available in a wide range of colors including blacks, browns, gray, greens, reds and blues. For a sample color palette, contact Valspar and ask for a Cool Roof color fan deck.

LEED-NC v2.2 –Sustainable Sites Credit 7.2, Heat Island Effect - Roof

Intent

Reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat.

Requirements

OPTION 1 - Use roofing materials having a Solar Reflectance Index (SRI)⁴ equal to or greater than the values in the table below for a minimum of 75% of the roof surface.

OR

OPTION 2 - Install a vegetated roof for at least 50% of the roof area.

OR

OPTION 3 - Install high albedo and vegetated roof surfaces that, in combination, meet the following criteria: $(\text{Area of SRI Roof} / 0.75) + (\text{Area of vegetated roof} / 0.5) \geq \text{Total Roof Area}$

Roof Type Slope SRI

Low-Sloped Roof 2:12 78 Steep-Sloped Roof >2:12 29 **Potential Technologies & Strategies**

Consider installing high-albedo and vegetated roofs to reduce heat absorption. SRI is calculated according to ASTM E 1980. Reflectance is measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance is measured according to ASTM E 408 or ASTM C 1371. Default values will be available in the LEED-NC v2.2 Reference Guide. Product information is available from the Cool Roof Rating Council website, at www.coolroofs.org.

¹ Energy Star is a program from U.S. Environmental Protection Agency. Visit www.energystar.gov for more details.

² LEED (Leadership in Energy and Environmental Design) is a Green Building Rating System from the U.S. Green Building Council . Visit www.usgbc.org for more details.

³ Exact solar reflectance and emittance values of Valspar coatings are available.

⁴The Solar Reflectance Index (SRI) is a measure of the constructed surface's ability to reflect solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is 0 and a standard white (reflectance 0.80, emittance 0.90) is 100. To calculate the SRI for a given material, obtain the reflectance value and emittance value for the material. SRI is calculated according to ASTM E 1980. Reflectance is measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance is measured according to ASTM E 408 or ASTM C 1371.