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LEED for New Construction V 2.2

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 LEED[2] 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 will also meet LEED emittance criteria 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

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.

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[1] Energy Star is a U.S. Environmental Protection Agency. Visit www.energystar.gov for more details.
[2] The LEED (Leadership in Energy and Environmental Design) Green Building Rating System is a U.S. Green Building Council program. Visit www.usgbc.org for more details.
[3] Exact solar reflectance and emittance values of Valspar coatings are available.

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LEED-NC

Version 2.2

SUSTAINABLE SITES (SS)

Credit 7.2 1 Point

Landscape and Exterior Design to Reduce Heat Islands

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:(Area of SRI Roof / 0.75) + (Area of vegetated roof / 0.5) >= 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.

[4] The 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.

For more information, contact:

KENTUCKY
347 Central Avenue
Bowling Green, KY USA 42101
Telephone: 270.843.4831
Facsimile: 270.746.6815

TEXAS
701 South Shiloh Road
Garland TX USA 75042
Telephone: 972.276.5181
Facsimile: 972.487.7245

ILLINOIS
901 North Greenwood Avenue
Kankakee, IL USA 60901
Telephone: 815.933.5561
Facsimile: 815.936.7811

C O I L C O A T I N G S

MEXICO
Avenue Central 223
Los Lermas
Guadalupe, N.L. Mexico 67190
Telephone: 52.81.8360.2020
Facsimile: 52.81.8360.5350

CHINA
No. 838 Jia Xin Road
Jiading District
Shanghai 201818
People's Republic of China
Telephone: 86.21.5990.1345

CANADA
645 Coronation Drive
West Hill, Ontario
Canada, M1E 4R6
Telephone: 416.284.1681
Facsimile: 416.284.7217

BRAZIL
Estrada dos Casa, 5050 – Portco B
09840-900 Sco Bernardo do Campo
Sao Bernardo do Campo
Telephone: 55.11.4358.9244
Facsimile: 55.11.4358.9228

Val#331
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