# BERRIDGE COMPLIANCE WITH LEED 2.2: Heat Island Effect: Roof

The information below was taken from the LEED "Green Building Rating System for New Construction and Major Renovations" document dated October 2005, Page 23. Regarding the ASTM test methods described in "Potential Technologies & Strategies" below, Berridge's paint finish supplier utilizes the testing methods shown to determine the Solar Reflectance Index (SRI), Reflectivity and Emissivity.

LEED-NC

**Green Building Rating System For New Construction & Major Renovations Version 2.2**

## sS Credit 7.2: Heat Island Effect: Roof -- 1 Point

**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)[3] equal to or greater than the values in the table below for a minimum of 75% of the roof surface.

| Roof Type | Slope | SRI |
|---|---|---|
| Low-Sloped Roof | = or < 2:12 | 78 |
| Steep-Sloped Roof | > 2:12 | 29 |

**Potential Technologies & Strategies**
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.

[3] 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.