



SETTING THE STANDARD FOR CONCRETE COLORS

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Solar Reflectance Index (SRI) values for colored concrete

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An independent laboratory has measured the SRI values on samples of colored concrete made with Davis Colors (www.daviscolors.com). Colored concrete can contribute to LEED points, Sustainable Sites category: 7.1 Heat Island Effect, Non-Roof for New Construction, Existing Buildings, School and Core & Shell. These points can be earned by specifying materials with a Solar Reflective Index (SRI) of at least 29 when measured according to ASTM E903 or ASTM C1549.

The actual SRI value of the concrete or structure made with Davis Colors can vary significantly from these values. The SRI value depends on the lightness or darkness of the surface as well as its reflectivity and light scattering properties. This can be influenced by the base color of concrete, differences in local materials and the method of finishing. If SRI value is critical, the actual value should be measured on a job site mock-up made with materials and methods consistent with the project specification.

Solar reflectance measurements were made with a portable reflectometer in accordance with ASTM C1549-02, "Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer." Initial Thermal Emittance was determined in accordance with ASTM C1371-04 "Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using a Portable Emittance Meter." Solar Reflectance Index (SRI) Values were calculated assuming standard solar and ambient conditions in accordance with ASTM E1980-01.

Color	Solar Refl.	SRI
Uncolored Concrete	0.44	47
Willow Green	0.46	52
Palomino	0.44	47
Sangria	0.43	47
Sunset Rose	0.43	46
Sequoia Sand	0.42	45
Terra Cotta	0.41	44
Salmon	0.42	44
San Diego Buff	0.41	44
Mesa Buff	0.41	43
Sandstone	0.41	43
Southern Blush	0.41	43
Spanish Gold	0.41	43
Omaha Tan	0.40	42
Baja Red	0.40	42
Santa Fe	0.40	41
Tile Red	0.40	41
Brick Red	0.38	40
Pebble	0.38	39
Harvest Gold	0.36	37
Canyon	0.36	37
Mocha	0.36	36
Dune	0.35	36
Outback	0.35	36
Cocoa	0.35	35
Rustic Brown	0.35	35
Yosemite Brown	0.33	33
Bayou	0.33	32
Mesquite	0.32	32

Color	Solar Refl.	SRI
Flagstone Brown	0.32	31
Sierra	0.30	27
Pewter	0.29	27
Green Slate	0.28	26
Adobe	0.24	21
Taupe	0.23	20
Silversmoke	0.23	20
Cobblestone	0.21	18
Kailua	0.19	14
Light Gray	0.15	9
Dark Gray	0.12	6
Graphite	0.08	1