



AZ TECHNOLOGY

Measurement Test Report

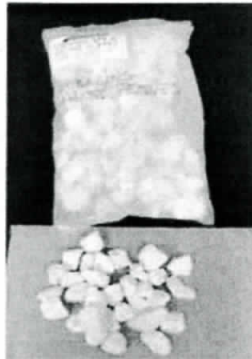
Customer: Northwest Landscape Supply
 Contact: Bob Tiller
 Job No: M-100

Date: 20-Jul-17
 P.O.: CC

Optical Properties

Full scale = 1.000


Sample	Solar Reflectance at Air Mass 1.5		Thermal Emittance at 300K	
Dazzling White Pebbles	0.525	0.633	0.903	0.827
	0.584		0.799	
	0.645		0.824	
	0.689		0.817	
	0.689		0.809	
	0.669		0.812	



SRI Calculation per ASTM E1980, Approach II

Solar Reflectance Index (SRI) ASTM E1980			
Sample	Convection Coefficient		
	Low, 5 W/m ² K	Medium, 12 W/m ² K	High, 30 W/m ² K
Dazzling White Pebbles	73	75	76

All samples that are equal to or above 29 meet the requirements that are stated for Solar Reflectance Index of a material in the LEED 2009 for Construction and Major Renovation SS Credit 7.1: Heat Island Effect-Non Roof page 16.


 Tracy L. Brooks
 Instruments and Testing

Solar Absorptance

These measurements were made in accordance with ASTM standard test method E 903-12, Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.

Measurement statistics

Uncertainty: ± 0.01 of a full-scale value of 1.0 (gray bodies)
 ± 0.03 of a full-scale value of 1.0 (nongray bodies)
Repeatability: ± 0.007 of a full-scale value of 1.0

Model: LPSR 300 (S/N 119H)
Sphere geometry: Absolute integrating sphere, 15°/h
Manufacturer: AZ Technology, Inc.

Instrument Calibration:

LPSR: April, 2017

Solar Absorptance NIST Traceable Calibration Samples (MCAA01-0316-3694 & 99AA10-0116-3892)

Computation of Solar Properties

The solar spectral irradiance distribution and the weighting method used for the computation of the solar optical property are in compliance with the standard as called out in paragraphs of section 8.3 of ASTM E 903-12

Emittance

These measurements were made in accordance with AZ Technology test methods for near-normal emittance and total hemispherical emittance at 300K.

Near normal and total hemispherical emittance measurements are in accordance with ASTM E 408-13.

Measurement statistics

Uncertainty: ± 0.01 of a full-scale value of 1.0 (gray bodies)
 ± 0.03 of a full-scale value of 1.0 (nongray bodies)
Repeatability: ± 0.007 of a full-scale value of 1.0

Instrument Identification

Model: SRI 1000 (S/N 20001) ASTM E408-13 Method A
Model: SpectraFIRE (S/N 20508) ASTM E408-13 Method C
Collector geometry: Absolute ellipsoidal cavity, 15°/h
Manufacturer: AZ Technology, Inc.

Calibration Puck Identification

Model: Hemispheric Emittance NIST Traceable Calibration Samples
(S/N 099928-001) (S/N 39633/54)
Manufacturer: AZ Technology, Inc.

Instrument Calibration

SRI 1000: Prior to each usage.
Spectrafire: Prior to each usage.
Temperature: 73°

All testing is performed by qualified AZ Technology technicians in accordance with the Measurements, Procedures, and Instruments Manual.