



Measurement Test Report

P.O.#:	CC		Job Number:	5055 M58
Customer:	Soil Retention		Measurement date:	7/7/10
Contact:	Jim Blankenship		Report date:	7/8/10

Optical Properties Full scale = 1.000

Sample	Solar Reflectance air mass 1.5		Thermal Emittance 300K	
		Average		Average
Grey	0.385	0.394	0.900	0.897
	0.395		0.895	
	0.402		0.895	
Terra Cotta	0.353	0.353	0.926	0.907
	0.347		0.908	
	0.358		0.888	
Buff Tan	0.392	0.390	0.916	0.900
	0.381		0.895	
	0.396		0.890	

Solar Reflectance Index (SRI)

Sample	Convection Coefficient		
	Low, 5 W/m ² K	Medium, 12 W/m ² K	High, 30 W/m ² K
Grey	43.8	44.3	44.7
Terra Cotta	39.0	39.3	39.6
Buff Tan	43.4	43.8	44.2

SRI Calculation per ASTM E1980, Approach II

Levi P. Leeper

Levi P. Leeper

Bryan C. Kiep

Bryan C. Kiep

Solar Absorptance

These measurements were made in accordance with ASTM standard test method E903, Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres.

Measurement statistics

Uncertainty: ± 0.03 of a full-scale value of 1.0
Repeatability: ± 0.005 of a full-scale value of 1.0

Instrument Identification

Model: LPSR 200IR (S/N 108)
Sphere geometry: "Absolute" integrating sphere, 15°/h
Manufacturer: AZ Technology, Inc.

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 E903.

Emittance

These measurements were made in accordance with AZ Technology test methods for near-normal emittance and total hemispherical emittance at 300K. Near normal emittance measurements are traceable to E408 through round robin testing with the Gier Dunkel DB-100.

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: ± 0.005 of a full-scale value of 1.0

Instrument Identification

Model: TESA 2000 (S/N 1106-115)
Collector geometry: "Absolute" ellipsoidal cavity, 15°/h
Manufacturer: AZ Technology, Inc.

Calibration Puck Identification

Model: Hemispheric Emittance Calibration Puck
(S/N 099928-001)
Manufacturer: AZ Technology, Inc.