



AZ TECHNOLOGY

Measurement Test Report

Customer: Meza Commodities U.S.A
Contact: Moe Elkateb
Job No: M-51

Date: 25-Jun-13

Optical Properties

Full scale = 1.000

Sample	Solar Reflectance at Air Mass 1.5		Thermal Emittance $\epsilon(\text{Rel})$	
Plaste Sample	0.776	0.790	0.872	0.869
	0.804		0.864	
	0.789		0.870	

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
Plaste Sample	97	97	98


Bryan C. Kiep
Instruments and Testing

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.

Instrument Calibration:

LPSR: January, 2013

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.

Instrument Calibration

Spectrafire: Prior to each usage.

Temperature: 73°

This report reflects the objective results of the named tests as recorded on the day of testing for the listed surfaces.

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