



CONSTRUCTION MATERIALS



TECHNOLOGIES



Laboratory Test Report

Report for: JA Cesare and Associates, Inc.
106 Cassia Way
Henderson, NV 89014

Date: April 2, 2010

Attention: Scott Heiny

Product Name: Sample "P", Sample "H", and Sample "Unlabeled"	Manufacturer: N/A
Project No.: JAC-001-02-01	Source: JA Cesare and Associates
Date Received: March 16, 2010	Dates Tested: March 27-April 2, 2010

Purpose: Determine the solar reflective index in accordance with ASTM E 1980: *Standard Practice for Calculating Solar Reflective Index of Horizontal and Low-Sloped Opaque Surfaces* and the abrasion resistance in accordance with ASTM C 241: *Standard Test Method for Abrasion Resistance of Stone Subjected to Foot Traffic*.

Results:

Table 1. Solar Reflectance per ASTM C 1549 (Monte Carlo Method)

Specimen ID	Test Method	File Number	Monte Carlo Result, Solar Reflectance, (r) Air Mass = 1.5
Sample "P"	ASTM C 1549MC	JAC-001-02-01 Sample P	0.280
Sample "H"	ASTM C 1549MC	JAC-001-02-01 Sample H	0.292
Sample "Unlabeled"	ASTM C 1549MC	JAC-001-02-01 Sample Unlabeled	0.404

Table 2. Emittance per ASTM C 1371

Specimen ID	Test Method	Emittance, ε			
		1	2	3	Avg.
Sample "P"	ASTM C 1371	0.85	0.86	0.87	0.86
Sample "H"	ASTM C 1371	0.87	0.89	0.88	0.88
Sample "Unlabeled"	ASTM C 1371	0.89	0.91	0.90	0.90

JAC-001-02-01 PRI-CMT Accreditations: IAS TL-189; State of Florida TST5878; Miami-Dade 06-1116.02; CRRC
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ASTM E 1980:

Solar Reflective Index (SRI) Calculation for Sample "P"

Reflectance (ρ) 0.28
 Emittance (ϵ) 0.86
 Absorptance (α) 0.72

<u>Low-Wind Condition</u>	
$h_c =$	5 W/m ² ·K
$C_{low-wind}$	0.727
SRI_{low-wind}	26

<u>Medium-Wind Condition</u>	
$h_c =$	12 W/m ² ·K
$C_{medium-wind}$	0.716
SRI_{medium-wind}	28

<u>High-Wind Condition</u>	
$h_c =$	30 W/m ² ·K
$C_{high-wind}$	0.706
SRI_{high-wind}	29

Solar Reflective Index (SRI) Calculation for Sample "H"

Reflectance (ρ) 0.29
 Emittance (ϵ) 0.88
 Absorptance (α) 0.71

<u>Low-Wind Condition</u>	
$h_c =$	5 W/m ² ·K
$C_{low-wind}$	0.704
SRI_{low-wind}	29

<u>Medium-Wind Condition</u>	
$h_c =$	12 W/m ² ·K
$C_{medium-wind}$	0.697
SRI_{medium-wind}	30

<u>High-Wind Condition</u>	
$h_c =$	30 W/m ² ·K
$C_{high-wind}$	0.690
SRI_{high-wind}	31

Solar Reflective Index (SRI) Calculation for Sample "Unlabeled"

Reflectance (ρ) 0.40
 Emittance (ϵ) 0.90
 Absorptance (α) 0.60

<u>Low-Wind Condition</u>	
$h_c =$	5 W/m ² ·K
$C_{low-wind}$	0.579
SRI_{low-wind}	45

<u>Medium-Wind Condition</u>	
$h_c =$	12 W/m ² ·K
$C_{medium-wind}$	0.576
SRI_{medium-wind}	46

<u>High-Wind Condition</u>	
$h_c =$	30 W/m ² ·K
$C_{high-wind}$	0.573
SRI_{high-wind}	46

ASTM C 241:

Table 2. Abrasion Resistance per ASTM C 241

Specimen ID	Test Method	Abrasion Resistance, H_a			
		1	2	3	Avg.
Sample "P"	ASTM C 241	7.8	11.8	7.1	8.9
Sample "H"	ASTM C 241	14.0	16.4	8.1	12.8

Statement of Attestation:

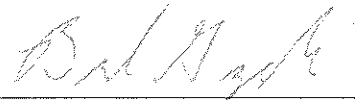
The results of testing were determined in accordance with standard methods as described herein. The laboratory test results presented in this report are representative of the material supplied.

Signed: _____



**Zach Priest
Manager**

Signed: _____



**Brad Grzybowski
Director**

Date: _____

April 2, 2010

Date: _____

April 2, 2010