



# CONSTRUCTION MATERIALS TECHNOLOGIES

## LABORATORY TEST RESULTS

**Report for:** Artistic Paver Manufacturing  
120 NE 179<sup>th</sup> Street  
North Miami Beach, FL 33162

**Date:** October 27, 2008

**Attention:** Ana Tamayo

<b>Product Name:</b>	Shellock Paver	<b>Manufacturer:</b>	Artistic Paver Manufacturing
<b>Date Received:</b>	October 16, 2008	<b>Source:</b>	Artistic Paver Manufacturing
<b>PRI Report No.:</b>	ARTP-001-02-01	<b>Test Dates:</b>	October 27, 2008

**Purpose:** The purpose of this testing was to determine the solar reflectance, thermal emittance, solar reflectance index value of Artistic Paver Shellock pavers.

**Materials:** The samples for testing were received from Artistic Paver Manufacturing on October 16, 2008. The samples were labeled as indicated in the data table in the results section of this report.

**Test Methods:** The test methods used included ASTM C 1549: *Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Reflectometer* and ASTM C 1371: *Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers*. Both of these methods are Cool Roof Rating Council (CRRG) approved methods for determining radiative properties.

The solar reflectance index (SRI) was calculated in compliance with ASTM E 1980: *Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces*.

**Results of Testing:** All measurements were conducted at controlled laboratory conditions of  $72 \pm 3$  °F and  $50 \pm 5$  %RH. The testing was conducted on October 27, 2008.

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### Reflectance

Material ID	ASTM Test Method	Result, Solar Reflectance, Air Mass = 1.5			
Specimen No.		1	2	3	Avg.
Shellock Beach	C 1549	0.458	0.420	0.445	0.44
Shellock Ivory	C 1549	0.610	0.591	0.579	0.59

Note: Reflectance measurements were conducted using a Devices and Services SSR-ER Version 5.0 reflectometer calibrated with Devices and Services Reference Standard: 0.807.

### Emittance

Material ID	ASTM Test Method	Emittance, $\epsilon$			
Specimen No.		1	2	3	Avg.
Shellock Beach	C 1371	0.89	0.87	0.89	0.88
Shellock Ivory	C 1371	0.89	0.90	0.89	0.89

Note: Emittance measurements were conducted using a Devices and Services Emittance Model AE calibrated with Devices and Services Reference Standards: High Emittance: 0.90 and Low Emittance: 0.06.

### Solar Reflectance Index (Calculated using ASTM E 1980)

Shellock Beach  
 Reflectance (a) 0.441  
 Emittance (e) 0.88  
 Absorptance (a) 0.559

Low-Wind Condition	
$h_c =$	5 W/m <sup>2</sup> ·K
$c_{\text{low-wind}}$	0.550
<b>SRI<sub>low-wind</sub></b>	<b>49</b>

Medium-Wind Condition	
$h_c =$	12 W/m <sup>2</sup> ·K
$c_{\text{medium-wind}}$	0.544
<b>SRI<sub>medium-wind</sub></b>	<b>50</b>

High-Wind Condition	
$h_c =$	30 W/m <sup>2</sup> ·K
$c_{\text{high-wind}}$	0.539
<b>SRI<sub>high-wind</sub></b>	<b>51</b>

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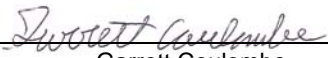
### Solar Reflectance Index

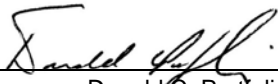
Shellock Ivory  
Reflectance (a) 0.593  
Emittance (e) 0.89  
Absorptance (a) 0.407

Low-Wind Condition	
$h_c =$	5 W/m <sup>2</sup> ·K
$C_{\text{low-wind}}$	0.390
<b>SRI<sub>low-wind</sub></b>	<b>70</b>

Medium-Wind Condition	
$h_c =$	12 W/m <sup>2</sup> ·K
$C_{\text{medium-wind}}$	0.387
<b>SRI<sub>medium-wind</sub></b>	<b>71</b>

High-Wind Condition	
$h_c =$	30 W/m <sup>2</sup> ·K
$C_{\text{high-wind}}$	0.384
<b>SRI<sub>high-wind</sub></b>	<b>71</b>

Signed:   
Garrett Coulombe  
Laboratory Technician

Signed:   
Donald C. Portfolio  
President

Date: October 27, 2008

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