



PRI Construction Materials Technologies LLC

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Laboratory Test Report

Report for: Paulo Stein
Hardscape.com
15132 Park of Commerce Blvd. Ste # 103
Jupiter, FL 33487

Product Name(s): Porcelain Paver Products

Project No.: 2275T0004

Dates Tested: Apr. 25, 2022

Test Methods: ASTM C1371
ASTM C1549
ASTM E1980

Results Summary: See Data table

Purpose: Determine the solar reflectance, thermal emittance, and solar reflectance index value(s) of the tested product(s).

Test Methods: The test methods used included ASTM C1549-16: *Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Reflectometer*, Procedure B and ASTM C1371-15: *Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers*. Thermal emittance measurement for samples was modified in accordance with Devices and Services Company's Tech Note 04-1. Both of these methods are Energy Star, Leadership in Energy and Environmental Design (LEED), and Cool Roof Rating Council (CRRC) approved methods for determining radiative properties.

The solar reflectance index (SRI) was calculated in compliance with ASTM E1980-11: *Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces*.

Sampling: Samples were delivered to PRI CMT in Tampa, FL by proponent.

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Results: All measurements were recorded at 73.4±1.8°F & 50±5%RH

ASTM E 1980

| Product | Solar Reflectance | | Thermal Emittance | | SRI | | |
|------------------|-------------------------|----------|-------------------------|----------|-------------------------|----------|-----------|
| | ASTM C1549 ¹ | | ASTM C1371 ² | | ASTM E1980 ³ | | |
| | Avg. | Std.Dev. | Avg. | Std.Dev. | Low-Wind | Med-Wind | High-Wind |
| French Limestone | 0.493 | 0.008 | 0.84 | 0.01 | 54 | 55 | 57 |
| Quartz Blanco | 0.512 | 0.012 | 0.83 | 0.00 | 56 | 58 | 59 |
| Quartz Gold | 0.507 | 0.010 | 0.84 | 0.00 | 56 | 57 | 58 |
| Sandstone Grey | 0.439 | 0.010 | 0.86 | 0.01 | 47 | 49 | 50 |
| Coralina Grey | 0.401 | 0.006 | 0.87 | 0.00 | 43 | 44 | 45 |
| French Limestone | 0.493 | 0.008 | 0.84 | 0.01 | 54 | 55 | 57 |

- Note(s):
- 1- Reflectance measurements were conducted using a Devices and Services SSR-ER Version 6.4 Reflectometer operated in v5 emulation mode and calibrated with Devices and Services Reference Tile # D-18.
 - 2- Emittance measurements were conducted using a Devices and Services Emittance Model AE calibrated with Devices and Services Reference Standards: High Emittance: 0.86 and Low Emittance: 0.06. Thermal emittance measurement for sample was modified in accordance with Devices and Services Company's Tech Note 04-1.
 - 3- SRI calculations per ASTM E 1980 Approach II utilize the following assumptions: Low-Wind $h_c = 5 \text{ W/m}^2\text{-K}$, Medium-Wind $h_c = 12 \text{ W/m}^2\text{-K}$, and High-Wind $h_c = 30 \text{ W/m}^2\text{-K}$.

Statement of Attestation: The Solar Reflectance Index of these samples was calculated in accordance with **ASTM E 1980: Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces**. The laboratory test results presented in this report are representative of the materials supplied.

Signed: 
 Brent Barbeau
 Manager

Date: Apr. 26, 2022

Report Issue History:

| Issue # | Date | Pages | Revision Description (if applicable) |
|----------|---------------|-------|--------------------------------------|
| Original | Apr. 26, 2022 | 2 | NA |

END OF REPORT

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