



PRI Construction Materials Technologies LLC

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Laboratory Test Report

Report for: Jason Rochester
Stepstone, Inc.
17025 South Main St.
Gardenia, CA 90248

Product Name(s): *See sampling section*

Project No.: 839T0002

Dates Tested: Jun. 29, 2021

Test Methods: ASTM C 1371
ASTM C 1549
ASTM E 1980

Results Summary: *See Results table*

Purpose: Determine the solar reflectance, thermal emittance, and solar reflectance index value(s) of Stepstone, Inc.'s Cal Arch Paver color portfolio.

Test Methods: The test methods used included ASTM C 1549-16: *Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Reflectometer* and ASTM C 1371-15: *Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emitters*. 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 E 1980-11: *Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces* utilizing Approach II.

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Sampling: The following materials were received by PRI. Specimens provided were light sandblast finish with an expiration date of November, 2021

<u>Product</u>	<u>Source</u>	<u>Date</u>	<u>Sampling</u>
Porcelain #1813	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Granada White #1801	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Almond #1806	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Iceberg Green #1805	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Caramel #1810	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Kona Brown #1821	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Agave Green # 1821	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Adobe #1812	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
French Gray #1804	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Café Brown #1807	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Pebble #1824	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.
Brick Red #1816	Los Angeles, CA	Jun. 10, 2021	Stepstone, Inc.

Results:

Property	Solar Reflectance		Thermal Emittance		SRI		
	ASTM C 1549 ¹		ASTM C 1371 ²		ASTM E 1980 ³		
	Avg.	Std.Dev.	Avg.	Std.Dev.	Low-Wind	Med-Wind	High-Wind
Solar Reflective Index (SRI) 2 Specimens 4" x 4" 2 readings each specimen; 4 readings total; Test @ 73.4±3.6°F & 50±10%RH;							
Porcelain #1813 Light Sandblast finish	0.356	0.018	0.90	0.01	39	40	40
Granada White #1801 Light Sandblast finish	0.525	0.005	0.91	0.01	62	62	62
Almond #1806 Light Sandblast finish	0.359	0.007	0.90	0.01	39	40	40
Iceberg Green #1805 Light Sandblast finish	0.441	0.003	0.90	0.01	50	51	51
Caramel #1810 Light Sandblast finish	0.396	0.013	0.90	0.01	44	45	45
Kona Brown #1821 Light Sandblast finish	0.193	0.017	0.90	0.00	18	18	19
Agave Green # 1821 Light Sandblast finish	0.265	0.002	0.90	0.00	26	26	27

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Property	Solar Reflectance		Thermal Emittance		SRI		
	ASTM C 1549 ¹		ASTM C 1371 ²		ASTM E 1980 ³		
	Avg.	Std.Dev.	Avg.	Std.Dev.	Low-Wind	Med-Wind	High-Wind
Adobe #1812 Light Sandblast finish	0.254	0.003	0.90	0.01	26	26	27
French Gray #1804 Light Sandblast finish	0.234	0.007	0.91	0.00	24	24	24
Café Brown #1807 Light Sandblast finish	0.296	0.007	0.91	0.01	32	32	32
Pebble #1824 Light Sandblast finish	0.333	0.008	0.91	0.01	36	37	37
Brick Red #1816 Light Sandblast finish	0.296	0.007	0.91	0.01	32	32	32

- 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 E1980, 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: Jun. 29, 2021

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	Jun. 29, 2021	3	NA

END OF REPORT

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