



CONSTRUCTION MATERIALS

TECHNOLOGIES

LABORATORY TEST RESULTS

Report for: Newmont Slate
1075 Fercliff Rd
Poultney, VT 05764

Attention: Bob Williams

Product(s): Newmont VT Green	Manufacturer: Newmont Slate
Project No.: NSCO-005-02-01	Source: Newmont Slate
Date(s) Received: June 22, 2016	Test Date(s): June 22, 2016

Purpose: The purpose of this testing was to determine the solar reflectance, thermal emittance, and solar reflectance index value of One (1) samples:

Newmont VT Green

Materials: The samples for testing were received from Newmont Slate. 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 1549-09: *Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Reflectometer* and ASTM C 1371-04a(2010)^{e1}: *Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emissometers*. Thermal emittance measurement for "concrete paver" sample was modified in accordance with Devices and Service 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*.

NSCO-005-02-01 PRI-CMT Accreditations: IAS TL-189; Miami-Dade 11-0429.05; Florida TST5878; Los Angeles TA24819; CRRC
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Results: All measurements were conducted at 72±3°F and 50±5%RH.

Sample ID	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	Medium-Wind	High-Wind
Newmont VT Green	0.196	0.005	0.84	0.01	13	15	17

- Notes)
- 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 Meter Model AE calibrated with Devices and Services Reference Standards. High Emittance: 0.10 and Low Emittance: 0.06. Thermal emittance measurement for "concrete paver" sample was modified in accordance with Devices and Services Company's Tech Note D4-1.
 - 3- SRI calculations per ASTM E 1980 utilize the following assumptions: Low-Wind h_s = 5 W/m²-K, Medium-Wind h_s = 12 W/m²-K, and High-Wind h_s = 30 W/m²-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: 
 Christopher Freidner
 Client Service Manager

Date: June 22, 2016

Report Issue History:

Issue #	Date	Pages	Revision Description (if applicable)
Original	06/22/2016	2	NA

END OF REPORT

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Client

Slate - Newmont VT GREEN

Reflectance (a) 0.20
Emittance (ϵ) 0.87
Absorptance (α) 0.80

<u>Low-Wind Condition</u>	
$h_c =$	5 W/m ² ·K
$C_{low-wind}$	0.809
$SRI_{low-wind}$	16

<u>Medium-Wind Condition</u>	
$h_c =$	12 W/m ² ·K
$C_{medium-wind}$	0.799
$SRI_{medium-wind}$	17

<u>High-Wind Condition</u>	
$h_c =$	30 W/m ² ·K
$C_{high-wind}$	0.789
$SRI_{high-wind}$	18

0.19
0.193
0.201
0.203
0.195