

DSET LABORATORIES

A Division of Atlas Material Testing Technology LLC
45601 North 47th Avenue
Phoenix, Arizona 85087 U.S.A.
Phone: +1 623-465-7356
Toll Free: 800-255-3738 (U.S. only)
Fax: +1 623-465-9409
www.atlas-mts.com

Report No.: 41380-0
Order No.: AE41380
Client Reference: Quote #: 2021-2
Date: September 9, 2021

**HEMISPHERICAL SPECTRAL REFLECTANCE
TEST REPORT**

prepared for:

THE ULTIMATE COATINGS COMPANY

2801-B Vassar Street
Reno, NV 89502

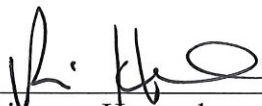
presented by:

Atlas Weathering Services Group
45601 North 47th Avenue
Phoenix, AZ 85087-7042
Phone: 623-465-7356

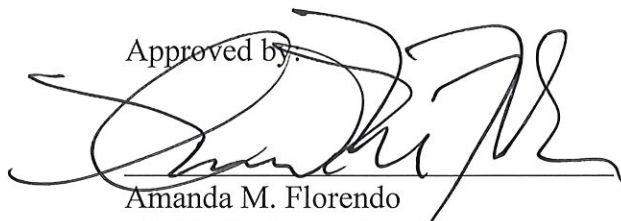
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This report contains 4 pages

Prepared by:


Rhiannon Howard
Weathering Technician II

Approved by:


Amanda M. Florendo
DSET Site Supervisor

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**HEMISPHERICAL SPECTRAL REFLECTANCE
TEST REPORT****1.0 INTRODUCTION**

This report presents results of spectral reflectance on the following fifteen painted specimens coded:

1. ECO-THERM 2500 Ihop Blue
2. ECO-THERM 2500 Federal Spec. #14255 Green V.2
3. ECO-THERM 2500 Roxbury Caramel
4. ECO-THERM 2500 Tweed Gray
5. ECO-THERM 2500 Charcoal
6. ECO-THERM 2500 Black
7. THERMO-SEAL 1500 Peppercorn
8. THERMO-SEAL 1500 Shreveport
9. THERMO-SEAL 1500 Black
10. THERMO-SEAL 1500 Quiver Tan
11. THERMO-SEAL 1500 Birchwood
12. THERMO-SEAL 1500 Brisbane Blue
13. THERMO-SEAL 1500 Terracotta
14. THERMO-SEAL 1500 Russet Crowe

2.0 TEST METHODS AND PROCEDURES

Hemispherical spectral reflectance measurements were performed in accordance with ASTM Standard Test Method E903. The measurements were performed with a PerkinElmer Lambda 950 Spectrophotometer utilizing an integrating sphere (Fig X1.3 of E903). Total reflectance measurements were obtained in the solar spectrum from 2500nm to 250nm at an incident angle of 8°. The measurements employ a detector-baffled, wall-mounted integrating sphere that precludes the necessity of employing a reference standard except to define the instrument's 100% line. The measurements are properly denoted as being 'hemispherical spectral reflectance'.

Total solar reflectance was obtained by integrating the spectral data against Air Mass 1.5 (ASTM G173) direct solar spectrum. All spectral data are submitted herewith in the original.

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3.0 OBSERVATIONS, DEVIATIONS, AND WAIVERS

Measurements were made on the coated side of the specimens.

With all test methods, there typically is a level of uncertainty for the test data due to the acceptable operating tolerances of the instrumentation and variation caused by the test method. The estimated tolerances are expected to be less than plus or minus 2% for most materials tested to ASTM E903.

CAUTION: ASTM Test Method E903, paragraph 5.4 clearly states “this test method has been found practical for smooth materials... Materials that are textured, inhomogeneous, patterned, or corrugated require special consideration”. In that, the specimen exhibits inhomogeneities, and the client is cautioned when utilizing the reported measurements.

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4.0 RESULTS

Specimen Code	% Solar Reflectance
1. ECO-THERM 2500 Ihop Blue	31.6
2. ECO-THERM 2500 Federal Spec. #14255 Green V.2	36.1
3. ECO-THERM 2500 Roxbury Caramel	50.2
4. ECO-THERM 2500 Tweed Gray	41.0
5. ECO-THERM 2500 Charcoal	29.4
6. ECO-THERM 2500 Black	21.7
7. THERMO-SEAL 1500 Peppercorn	27.9
8. THERMO-SEAL 1500 Shreveport	24.1
9. THERMO-SEAL 1500 Black	21.8
10. THERMO-SEAL 1500 Quiver Tan	35.0
11. THERMO-SEAL 1500 Birchwood	56.0
12. THERMO-SEAL 1500 Brisbane Blue	52.7
13. THERMO-SEAL 1500 Terracotta	33.7
14. THERMO-SEAL 1500 Russet Crowe	34.9