

DSET LABORATORIES

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THE ULTIMATE COATINGS COMPANY

Report No.: 37257-0
Order No.: AE37257
Client Reference: P.O. #: 20171
Date: May 16, 2017
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HEMISPHERICAL SPECTRAL REFLECTANCE TEST REPORT

1.0 INTRODUCTION

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

1. Thermo-seal 1500 White
2. Thermo-seal 1500 Pearl White
3. Thermo-seal 1500 Byron Beige
4. Thermo-seal 1500 Castlemaine
5. Thermo-seal 1500 Greywynd
6. Thermo-seal 1500 Kangaroo
7. Thermo-seal 1500 Brickland
8. Thermo-seal 1500 Cinnemoie
9. Thermo-seal 1500 Mild Grey
10. Thermo-seal 1500 Brisbane Blue
11. Thermo-seal 1500 Greenstream
12. Thermo-seal 1500 Wallaby
13. Thermo-seal 1500 Joey Grey

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 direct (ASTM G159) solar spectrum utilizing 105 weighted ordinates. 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. Thermo-seal 1500 White	89.9
2. Thermo-seal 1500 Pearl White	78.2
3. Thermo-seal 1500 Byron Beige	69.8
4. Thermo-seal 1500 Castlemaine	61.5
5. Thermo-seal 1500 Greywynd	68.8
6. Thermo-seal 1500 Kangaroo	53.8
7. Thermo-seal 1500 Brickland	47.9
8. Thermo-seal 1500 Cinnemoie	37.8
9. Thermo-seal 1500 Mild Grey	64.8
10. Thermo-seal 1500 Brisbane Blue	53.1
11. Thermo-seal 1500 Greenstream	30.0
12. Thermo-seal 1500 Wallaby	55.6
13. Thermo-seal 1500 Joey Grey	46.9