Test Report

Solar Reflective Index (SRI) Measurements According to ASTM E1980 on SICC GmbH “ThermoActive TopShield TopCoat”

Prepared For:

SICC GmbH
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Report: RD14104

Stuart Ruis
President
March 6, 2014

The test results in this report apply only to the specimens tested. The tests conform to the respective test methods except for the report requirements. The report includes summary data but a full complement of data is available upon request. This report shall not be reproduced, except in full, without written approval of R & D Services, Inc. This report must not be used by the client to claim product endorsement by R & D Services, Inc., IAS or any other organization.
Calculated Solar Reflectance Indices (SRI) Report

Test Number: RD141318              Date of Test: February 20, 2014
Specimen Number: 1827140214-1.9     Date of Manufacture: Unknown

Description of Test Specimen: ThermoActive TopShield TopCoat


Report Prepared For: SICC GmbH / Mr. Dagmar Grass

Description

Measured solar reflectance and measured thermal emittance were used to calculate Solar Reflectance Indices (SRI) in accordance with ASTM E 1980-11 for nine coated panel specimens provided by SICC GmbH. The specimens were labeled as identified in the table below. The coated panel specimens were tested for thermal emittance and solar reflectance. The average thermal emittance and solar reflectance for all nine panels were used for the SRI calculation. The calculated SRI for low, medium and high wind speed is listed below.

Results

<table>
<thead>
<tr>
<th>Specimen Number</th>
<th>Identification</th>
<th>Reflectance</th>
<th>Emittance</th>
<th>Solar Reflective Index (SRI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1827140214-1.9</td>
<td>ThermoActive TopShield TopCoat</td>
<td>0.887</td>
<td>0.875</td>
<td>Low Wind: 111.2, Med Wind: 111.4, High Wind: 111.5</td>
</tr>
</tbody>
</table>

David W. Yarbrough, PhD, PE

3-6-2014
Date
Total Hemispherical Emittance Test Report

Test Number: RD141319HE  Date of Test: February 20, 2014
Specimen Number: 1827140214-1,9  Date of Manufacture: Unknown

Description of Test Specimen: ThermoActive TopShield TopCoat.


Report Prepared For: SICC GmbH / Mr. Dagmar Grass

Procedure

This report presents the results of the test specimen identified above using a Model AE emissometer manufactured by Devices and Services Company of Dallas, Texas. The emissometer is powered to provide warm-up prior to use. A warm-up time of one hour in a conditioned laboratory has been found to be acceptable. Calibration at high (0.86) and low (0.06) emittance is performed after the warm-up period using calibration disks supplied by Devices and Services Company. Test specimens are placed in good contact with the thermal sink that is part of the apparatus. A drop of distilled water between the test specimen and a thermal sink was used to improve the thermal contact. The measurement head of the emissometer is placed on the test specimen and held in place at least 90 seconds for each measurement. The emissometer was calibrated prior to use and calibration was verified at the end of testing. The average emittance reported below is based on three measurements.

Results

Test Temperature: 68 °F  
Test Humidity: 42 %RH

<table>
<thead>
<tr>
<th>R&amp;D Identification</th>
<th>Specimen Description</th>
<th>IR Emittance</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1827140214-1,9</td>
<td>ThermoActive TopShield TopCoat</td>
<td>0.875</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Uncertainty

The 95 % reproducibility as stated in Section 10 of ASTM C1371-04a is 0.019 units.

Reviewed By:  
Date: 3-6-2014
Solar Reflectance Test Report

Test Number: RD141320SR  Date of Test: February 20, 2014
Specimen Number: 1827140214-1,9  Date of Manufacture: Unknown

Description of Test Specimen: ThermoActive TopShield TopCoat.


Report Prepared For: SICC GmbH / Mr. Dagmar Grass

Procedure

The measurement of solar reflectance in accordance with ASTM C 1549-09 was completed using a solar reflectometer built by Devices and Services Company. The reflectometer was calibrated using standards with reflectance 0.0 and reflectance 0.823 prior to use. The solar reflectance measurements were made in a conditioned laboratory space. The solar reflectance was measured at air mass 1.5. Unless otherwise stated, all test surfaces were cleaned to remove dirt or any other blemishes prior to testing.

Results

<table>
<thead>
<tr>
<th>R&amp;D Identification</th>
<th>Specimen Description</th>
<th>Average Reflectance</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1827140214-1,9</td>
<td>ThermoActive TopShield TopCoat</td>
<td>0.887</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Reviewed By:  
Date: 3-6-2014