

Façade & Roof Material Daylight Reflectance Test Report

Report number: OTM2303018



Client: Zhejiang Ganghang Solar Technology Co., Ltd

Room 503-504, 10th
Building, Kuamao City,
Hangzhou, Zhejiang, China

Laboratory: Optical & Thermal Testing Laboratory

OTM Solutions Pte Ltd
21 Woodlands Close
#07-05 Primz Bizhub
Singapore 737854

Tel: (+65) 6908 0126
WhatsApp: (+65) 8838 1374
Email: info@otm.sg
Web: www.otm.sg



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The Optical & Thermal Testing Laboratory of OTM Solutions Pte Ltd is accredited to ISO/IEC 17025 under the Singapore Accreditation Council - Singapore Laboratory Accreditation Scheme (SAC-SINGLAS, Certificate No: LA-2016-0610-G).

The results reported herein have been performed in accordance with the terms of accreditation under the Singapore Accreditation Council.

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Job description: Total / diffuse / specular daylight reflectance testing of 1 sample.

The sample was delivered by the client and received by OTM on 13/03/2023 and was tested on 18/03/2023.

Approved signatory: Dr. Chen Fangzhi

Laboratory Manager (Tel: +65 9187 7666; Email: chen.fz@otm.sg)



Date of test: 18/03/2023

Date of report: 20/03/2023

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Test method description

<u>Methods</u>	<ul style="list-style-type: none"> • ASTM E903-20 Standard test method for solar absorptance, reflectance, and transmittance of materials using integrating spheres • ASTM E971-11 Standard practice for calculation of photometric transmittance and reflectance of materials to solar radiation • CIE 130-1998 Practical methods for the measurement of reflectance and transmittance
<u>Instruments</u>	<ul style="list-style-type: none"> • PerkinElmer Lambda 950 UV/VIS/NIR spectrophotometer, with 150 mm integrating sphere
<u>Environmental conditions</u>	<ul style="list-style-type: none"> • Temperature: 24 ± 2 °C • Relative humidity: 45 ± 15%
<u>Calculation software</u>	<ul style="list-style-type: none"> • In-house software (DLR@OTM, V2.0.2) based on ASTM E971-11 (based on ASTM G173 AM1.5 direct normal solar spectrum)
<u>Estimated uncertainties</u>	<ul style="list-style-type: none"> • Total daylight reflectance: ± 0.006 (± 0.6%) • Diffuse daylight reflectance: ± 0.006 (± 0.6%) • Specular daylight reflectance: ± 0.003 (± 0.3%) • The uncertainties were estimated at a level of confidence of approximately 95%, with a coverage factor $k = 2$
<u>Notes</u>	<ul style="list-style-type: none"> • The measurements were performed on the cell part (dark blue color) only.

Disclaimer

- The test report shall not be reproduced except in full, without written approval of the laboratory.
- The sampling was not performed by the laboratory. The test results relate only to the sample received and tested.
- The sample description information was declared by the client and it may affect the validity of the results.
- The test report is issued subject to the “Testing Service Terms and Conditions” annexed to OTM official quotation and on request from OTM.

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Sample ID	2303024
Sample description	N/A
Dimension	30 mm × 1134 mm × 2278 mm
Test results	<p>Total daylight reflectance = 0.009 (0.9%)</p> <p>Diffuse daylight reflectance = 0.002 (0.2%)</p> <p>Specular daylight reflectance = 0.008 (0.8%)</p>
Curves	<p>The graph displays three data series: Total reflectance (red line), Diffuse reflectance (blue line), and Specular reflectance (green line). The y-axis represents Reflectance [-] from 0 to 1, and the x-axis represents Wavelength [nm] from 380 to 740. All three curves show very low reflectance values, consistently below 0.1, across the entire visible spectrum.</p>

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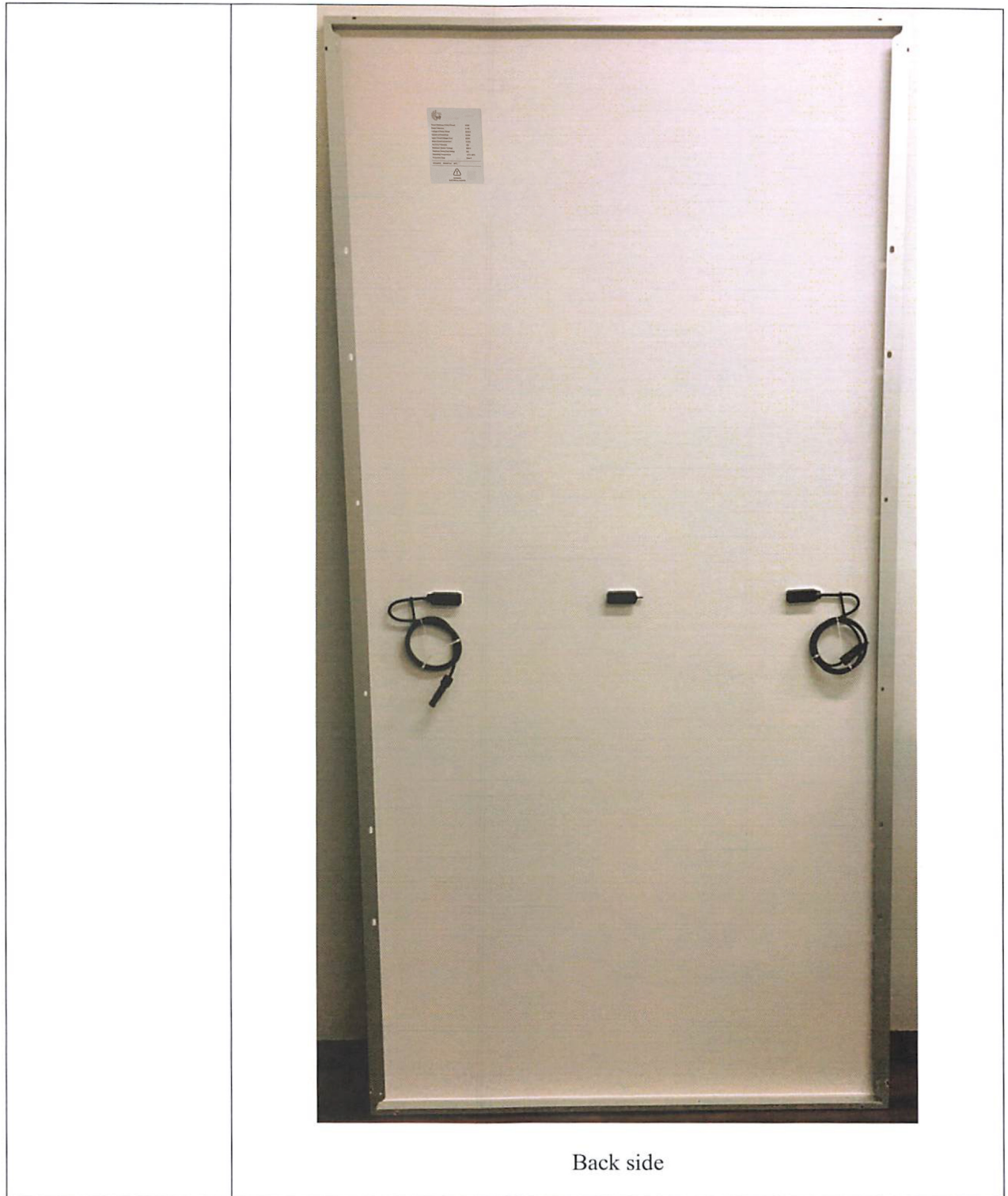
Photos



Front side (the side tested)

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Back side


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Rated Maximum Power (Pmax)	570W
Power Tolerance	0~3%
Voltage at Pmax (Vmp)	43.76 V
Current at Pmax(Imp)	13.03A
Open-Circuit Voltage (Voc)	51.91V
Short-Circuit Current (Isc)	14.07A
Voc & Isc Tolerance	+3%
Maximum System Voltage	1500 V
Maximum Series Fuse Rating	25A
Operating Temperature	-40°C~85°C
Protection Class	Class II

STC:AM1.5 1000W/m2 25°C



WARNING
ELECTRICAL HAZARD

Label on the back side