

Façade & Roof Material Daylight Reflectance Test Report

Report number: OTM2205008



Client:

Jinko Solar Co.,Ltd.

No.1, Lane 1466, Shenchang Road
Minhang District, Shanghai
China

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View laboratory profile

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.

Report number:

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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 22/04/2022 and was tested on 23/04/2022.

Approved signatory:

Dr. Chen Fangzhi

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

Date of test:

23/04/2022

Date of report:

12/05/2022

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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, V2.0.1) 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: ± 0.007 (± 0.7 %) • Diffuse daylight reflectance: ± 0.007 (± 0.7 %) • 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. |

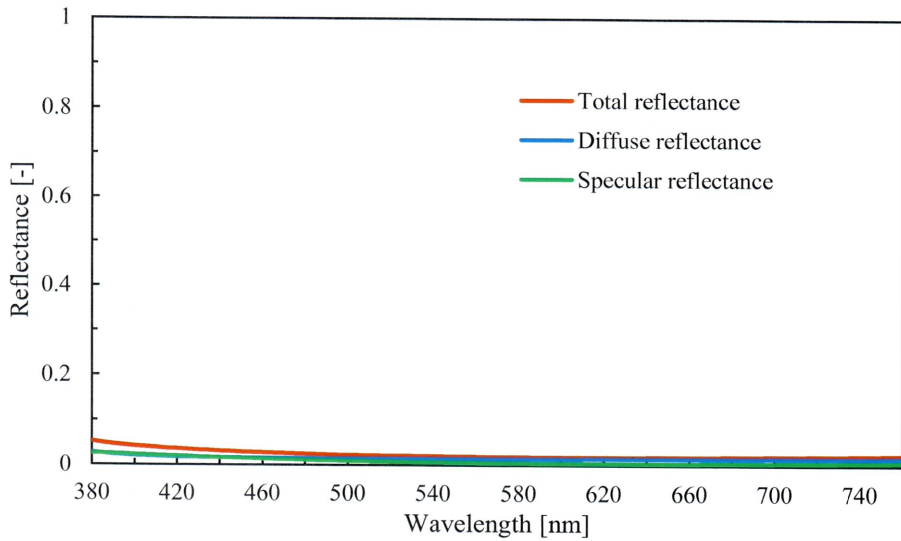
Disclaimer

- 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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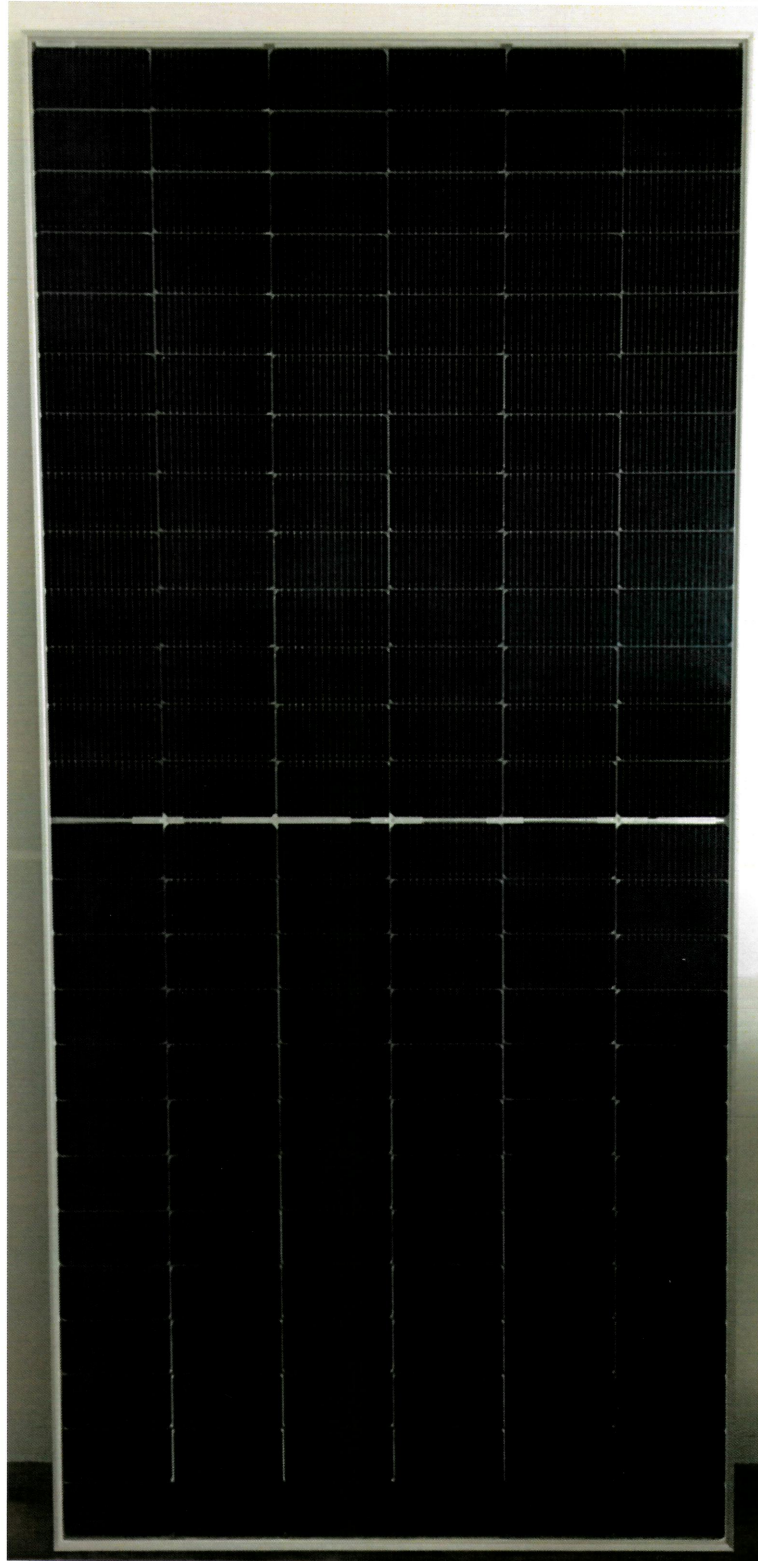
| | |
|----------------------------------|--|
| <u>Sample ID</u> | 2204030 |
| <u>Sample description</u> | <p>Product: Solar Photovoltaic (PV) Module</p> <p>Brand: Jinko</p> <p>Type: Half-cut c-Si Solar photovoltaic module</p> <p>JKMxxxN-78HL4-BDV, JKMxxxN-72HL4-BDV, JKMxxxM-72HL4-BDVP</p> <p>JKMxxxM-7RL3-BDVP, JKMxxxN-78HL4-V, JKMxxxN-72HL4-V</p> <p>JKMxxxN-60HL4-V, JKMxxxN-54HL4-V, JKMxxxN-72HL4-TV</p> <p>JKMxxxM-72HL4-V, JKMxxxM-60HL4-V, JKMxxxM-54HL4-V</p> <p>JKMxxxM-72HL4-TV, JKMxxxM-7RL3-V, JKMxxxM-6RL3-V, JKMxxxM-7RL3-TV</p> <p>(xxx = 360-620, in steps of 5)</p> |
| <u>Dimension</u> | 35 mm × 1134 mm × 2465 mm |
| <u>Test results</u> | <p>Total daylight reflectance = 0.020 (2.0%)</p> <p>Diffuse daylight reflectance = 0.014 (1.4%)</p> <p>Specular daylight reflectance = 0.006 (0.6%)</p> |
| <u>Curves</u> |  <p>The graph plots Reflectance [-] on the y-axis (ranging from 0 to 1) against Wavelength [nm] on the x-axis (ranging from 380 to 740). Three curves are shown: Total reflectance (orange), Diffuse reflectance (blue), and Specular reflectance (green). All curves show very low reflectance values across the entire wavelength range, with the total reflectance being the highest and specular reflectance being the lowest.</p> |

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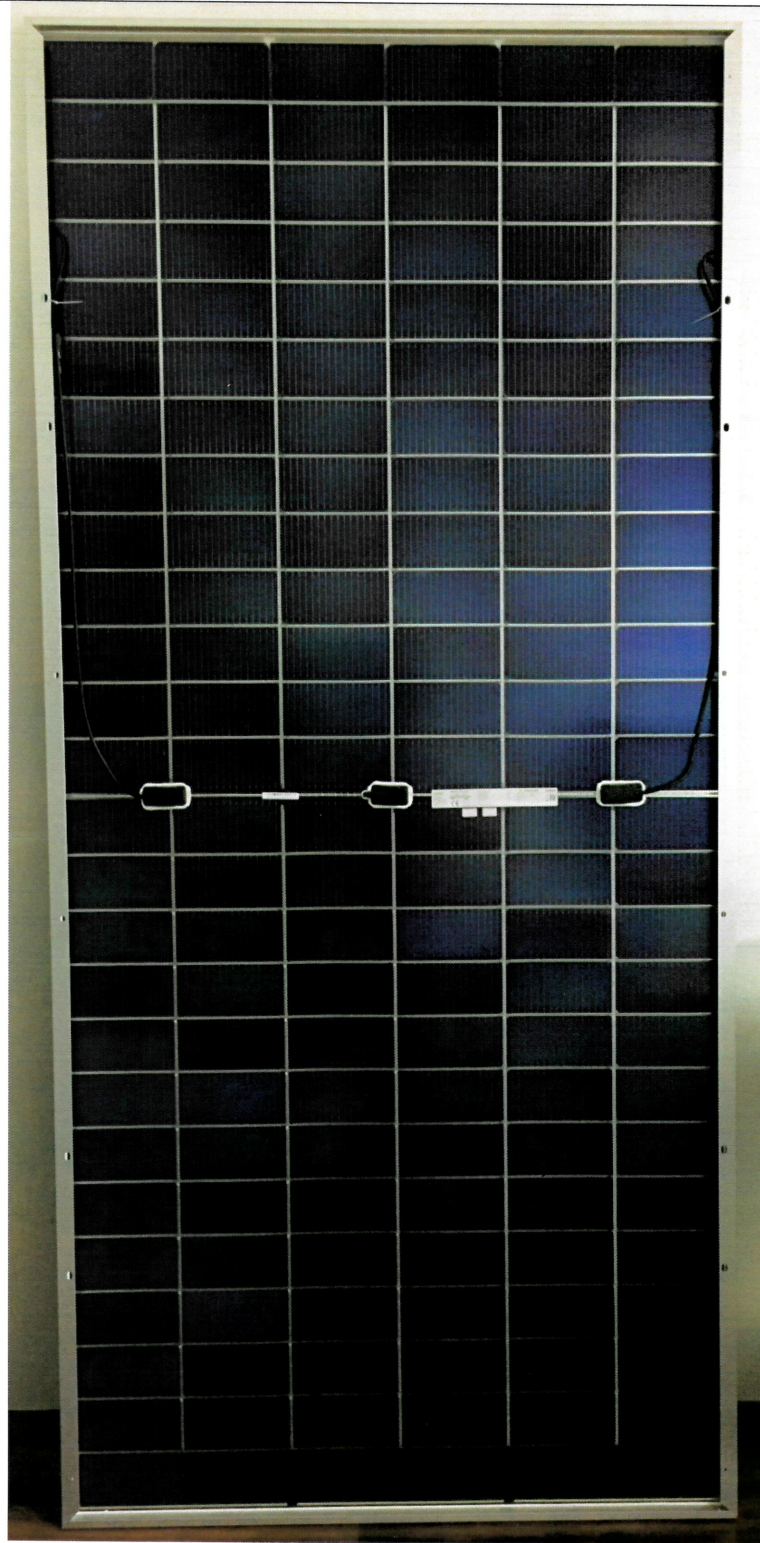
Photos



Front side (the side tested)

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Back side

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