Glazing System Solar/Luminous/Thermal Property Test Report

Report number: OTM2104001

Client:

Company name

Address line 1
Address line 2
Address line 3

Attention: Name

Laboratory:

Optical & Thermal Testing Laboratory

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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: OTM2104001

Job description: Glazing system solar / luminous / thermal property testing of a single glazing glass sample.

The glass sample was delivered by the client and received by OTM on 01/04/2021 and was tested on 01/04/2021.

Approved signatory: Dr. Chen Fangzhi

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

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Date of test: 01/04/2021

Date of report: 01/04/2021

SAMPLE

Test method description

Methods:	• ANSI/NFRC 100-2020 Procedure for determining fenestration product U-factors • ANSI/NFRC 200-2020 Procedure for determining fenestration product solar heat gain coefficient and visible transmittance at normal incidence • NFRC 300-2020 Test method for determining the solar optical properties of glazing materials and systems • NFRC 301-2020 Standard test method for emittance of glazing products
Instruments	• PerkinElmer Lambda 950 UV/VIS/NIR spectrophotometer, with 150 mm integrating sphere • PerkinElmer Spectrum Two FTIR spectrometer
Calculation software	• Optics 6.0 • Window 7.7.10.0 • IGDB@OTM V1.1.3 (in-house software for IGDB format data generation)
Estimated uncertainties	• ±0.006 for solar energy and visible light transmittance/reflectance • ±0.04 W/(m^{2}K) for U-value • ±0.005 for SHGC • ±0.006 for shading coefficient • The uncertainties were estimated at a level of confidence of approximately 95%, with a coverage factor k = 2 • The estimated uncertainties do not include uncertainties caused by sample-to-sample variations and sample non-uniformities
Notes	• To convert the results from decimal values to percentages, multiply the decimal values by 100%. Example: visible light transmittance/reflectance of 0.123 is equal to 12.3%.

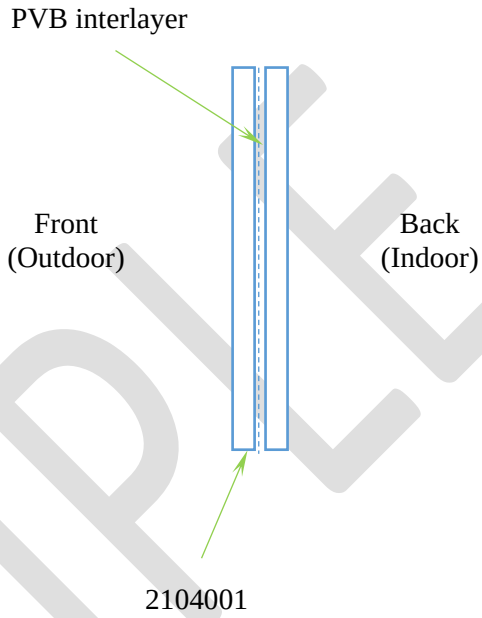
SAMPLE

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 samples 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.

SAMPLE

Glazing system description

System schematics:	• Glass sample description 
Glazing system test results	Refer to pages 5 – 6

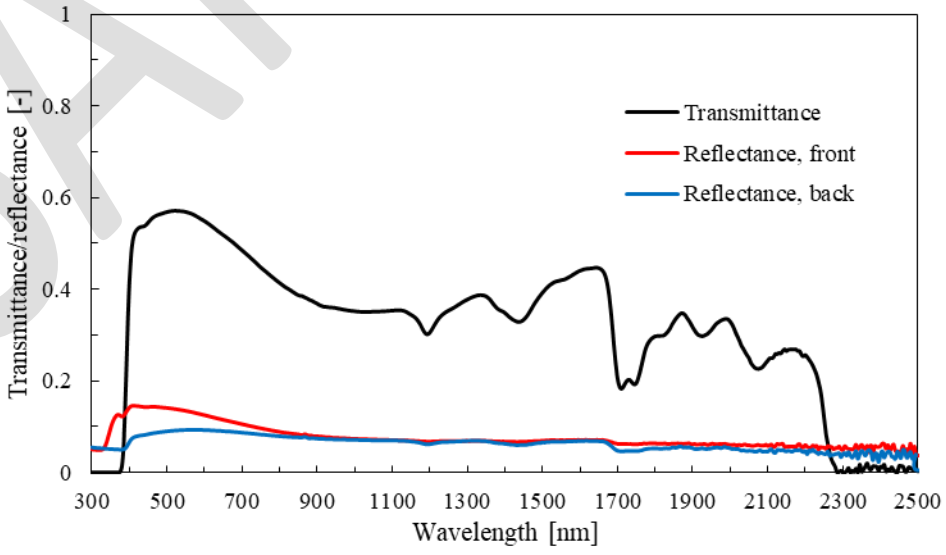
SAMPLE

Glazing system test results

Sample ID	2104001
Sample description	Glass sample description
Dimension	10 mm × 30 cm × 30 cm
Test results	

Solar energy transmittance	0.420
Solar energy reflectance, front	0.090
Solar energy reflectance, back	0.070
Visible light transmittance	0.560
Visible light reflectance, front	0.130
Visible light reflectance, back	0.090
Emissivity, front	0.840
Emissivity, back	0.840
Solar heat gain coefficient	0.580
Shading coefficient	0.660
Summer condition U-value	4.90 W/(m^{2}K)
Winter condition U-value	5.40 W/(m^{2}K)

Curves



SAMPLE

Pictures	 Test sample photo

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