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Accreditation N° : 032-Test
according to ISO/IEC 17025

Including 4 pages + 1 annex (7 pages)

TEST REPORT N° 2022B COU 45878

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Mons, October 19th, 2022

REQUESTED BY : **SOLAR SCREEN INTERNATIONAL SA**
18 rue du Commerce
3895 Foetz
Luxembourg

REFERENCE OF THE REQUEST : Films for glazing

CONCERNED MANUFACTURER: **SOLAR SCREEN INTERNATIONAL SA**
18 rue du Commerce
3895 Foetz
Luxembourg

NUMBER OF SAMPLES AND IDENTIFICATION : **Solar 80 C - See page 2**

PURPOSE OF THE REQUESTED : Determination of the photo-energetic properties according to EN 15752-1:2014 (EN410:2011*)

SAMPLES RECEIVED ON : 11/10/2022

DATE OF THE TESTS : 17/10/2022

COMMENTS : * Service(s) covered by accreditation 032-Test
** Information given by the customer

DESCRIPTION OF THE SAMPLES

Concerned manufacturer**	:	SOLAR SCREEN INTERNATIONAL SA 18 rue du Commerce 3895 Foetz Luxembourg
Production site**	:	See product description
Commercial name of the product**	:	Solar 80 C
Customer's references**	:	/
Internal reference	:	COU 45878
Sampling	:	Under responsibility of the applicant
Sampling information	:	Traceability of the samples is under responsibility of the manufacturer. Date of production : /**
Class of film (EN 15752-1:2014 table 1)**	:	B
Type of film (EN 15752-1:2014 table 2)**	:	2
Low emissivity**	:	Yes
Glass Substrate**	:	Clear Float Glass
Normal emissivity of clear glass (ϵ_n)	:	0.89
Samples	:	
Number of samples	:	3 samples (100 x 100 mm)
Nominal Thickness	:	Glass 4 mm + film 50 μm **

PHOTO-ENERGETIC PROPERTIES

Instruments Description	For emissivity	For optical properties
Spectrophotometer	PerkinElmer SPECTRUM 100	PerkinElmer PE750
Type	Single Beam (FTIR)	Double Beam
Reflectance accessory	PerkinElmer	
Type of references	SnO ₂ Coated Glass Gold Mirror	Primary surface Ag Mirrors Secondary surface Ag Mirrors
Measurement Responsible	DL	DL

Notes : Uncertainty calculated on emissivity measurement is ± 0.01

Reproducibility on emissivity measurement is estimated to ± 0.005

N : number of measurement points to determine total normal reflectance : 26

Considered parameters for the calculation of g and Ug : vertical glazing	
Composition of the insulating glass	: 4/15/4
Second pane : Clear glass 4 mm	
Position of the film	: 4
Filling up	: 90% Ar

	REFERENCE CLEAR GLASS	GLASS + FILM	IGU
Thickness	3.85 mm	3.85 mm	
U.V. range (280 – 380 nm)			
• Transmission τ_{uv}	56 %	0.30 %	0.15 %
Visible range (380 – 780 nm) – Ill D65/obs 2°			
• Transmission τ_v	90 %	15 %	14 %
• Reflection film side ρ_v	8 %	61 %	61 %
• Reflection opposite side ρ'_v	8 %	58 %	/ %
Solar range (300 – 2500 nm)			
• Transmission τ_e	86 %	12 %	11 %
• Reflection film side ρ_e	8 %	63 %	63 %
• Reflection opposite side ρ'_e	8 %	53 %	/ %
• Solar factor side film / side opposite g	0.87/0.87	0.18 / 0.18	0.14
• Total Solar Energy Rejected TSER	/	82 %	86 %
Shading Coefficient	/	0.17	/
Glare Reduction	/	83 %	/
UV Rejection UVR	/ %	99.70 %	/

	REFERENCE CLEAR GLASS	GLASS + FILM	IGU WITHOUT FILM	IGU with film
Thermal range (5000 – 50000 nm)				
• Emissivity ϵ_n	0.89 (0.890)	0.17 (0.172)	/	/
• Thermal coefficient U_g	5.8 W/m ² °K	3.8 W/m ² °K	2.6 W/m ² °K	2.1 W/m ² °K

D. LIBERT
 Head of Department

Glazing and Components - INISMa