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Institut Interuniversitaire des Silicates, Sols et Matériaux

Laboratoire de Recherches et d'Essais

Association sans but lucratif



Accreditation N° : 32-Test
according to ISO 17025

TEST REPORT N° 2007B COU 3037-2

Including 3 pages + 7 annex
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Mons, March.17th, 2008

REQUESTED BY : **AGC FLAT GLASS EUROPE - R&D CENTRE**
2 rue de l'Aurore
B6040 Jumet
BELGIUM

REFERENCE OF THE REQUEST : Offer 07/03/2008

CONCERNED MANUFACTURER: **AGC FLAT GLASS EUROPE**
Chaussée de la Hulpe, 166
1170 BRUXELLES
BELGIUM

NUMBER OF SAMPLES AND IDENTIFICATION : Coating Glass - See page 2

PURPOSE OF THE REQUESTED : **INITIAL TYPE TEST**
Determination of the photo-energetic properties
according to EN 1096-1.*

SAMPLES RECEIVED ON : 07/03/2008

TESTING DATE : 10/03/2008

REMARKS : * Test under accreditation



Notified body (Id.N°1174)
according to ART.18 of the « Construction Products Directive » CPD 89/106/EEC

DESCRIPTION OF THE SAMPLES

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Concerned manufacturer	:	AGC FLAT GLASS EUROPE Chaussée de la Hulpe, 166 1170 BRUXELLES BELGIUM
Production site	:	AGC FLAT GLASS EUROPE - R&D CENTRE 2 rue de l'Aurore B6040 Jumet BELGIUM
Commercial name of the product	:	TOPN+T
Customer's references	:	M360 40/8
Internal reference	:	CCOU 3037-2
Sampling	:	Traceability of the samples is under responsibility of the manufacturer.
Sampling information	:	Traceability of the samples is under responsibility of the manufacturer.
Class of Coating	:	/
Coating position	:	3
Low emissivity	:	yes
Glass Substrate	:	Clear Float Glass
Normal emissivity of clear glass (ϵ_n)	:	0.89
Samples	:	
Number of samples	:	3 (50 * 100 mm)
Nominal Thickness	:	4 mm

PHOTO-ENERGETIC PROPERTIES - EN 1096-1

Instruments Description	For emissivity	For optical properties
Spectrophotometer	PerkinElmer PARAGON 1000	PerkinElmer LAMDA 19
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	JS	JS

Notes : Uncertainty calculated on emissivity measurement is ± 0.01
 Reproducibility on emissivity measurement is estimated to ± 0.005

Considered parameters for the calculation of g and Ug	
Composition of the insulating glass	: 4/15/4
Position of the coating	: 3
Filling up	: 90% Ar

3037-2: 3.90 mm

		COATED GLASS (EN 1096-1)		IGU (EN 673)	
U.V. range (280 – 380 nm)					
• Transmission	τ_{uv}	40.3	%	30.6	%
Visible range (380 – 780 nm) – III D65/obs 2°					
• Transmission	τ_v	89.2	%	80.8	%
• Reflection coated side	ρ_v	5.0	%	/	
• Reflection opposite side	ρ'_v	6.5	%	/	
Solar range (300 – 2500 nm)					
• Transmission	τ_e	64.6	%	56.8	%
• Reflection coated side	ρ_e	25.2	%	/	
• Reflection opposite side	ρ'_e	21.9	%	/	
• Solar factor	g	0.67		0.64	
Thermal range (5000 – 50000 nm)					
• Emissivity	ϵ_n	0.033		/	
• Thermal coefficient	Ug	/		1.13	W/m ² °K

D. LIBERT
 Head of Department

Glazing and Components - INISMa