

 **ALUCOPANEL® A1**

EUROCLASS A1 in accordance with BS EN 13501-1:2018

PHYSICAL PROPERTIES			
	TEST STANDARD	TOLERANCE	RESULT
Panel Thickness	Calibrated Caliper	(±) 0.2 mm	4.0 mm
Weight of the Panel	Calibrated weighing device	± 0.5 kg/m ²	8.0kg/m ²
Standard Width	...	(±) 2 mm	1000, 1250, 1500, up to 2000 mm
Length	...	(±) 2 mm	up to 6000 mm Max. 8000 mm
Skin Thickness (Top / Bottom)	Caliper	(±) 0.02 mm	0.50 mm
FIRE PERFORMANCE			
	TEST STANDARD	REQUIREMENT	RESULT / CERTIFICATE REF. NO.
Reaction to Fire Classification	EN 13501-1	Class A1	TBW 0300647
Self Ignition Temperature (CORE)	ASTM D 1929	Not less than 343°C	SIT: > 750°C FIT: > 750°C
Self Ignition Temperature (ACP)	ASTM D 1929	Not less than 343°C	SIT: > 525°C FIT: > 524°C
Exterior Wall Cladding System	NFPA 285	Pass as per standard	TBW0300672
Roof Covering Assembly with Mineral Wool Insulation (45-70° from the horizontal plane)	EN 13501-5	B _{ROOF} (t4)	TBW0300736 With thermal insulation fixed direct at rear face of ACP, on Alum structure with 300mm Void ideal for Continuous Roof Covering.
Roof Covering Assembly (0-10° from the horizontal plane)	EN 13501-5	B _{ROOF} (t4)	TBW0300737 without any packing material on Alum structure with 300mm Void ideal for canopies and feature.
COIL SPECIFICATION (TOP AND BOTTOM COIL)			
	TEST STANDARD	REQUIREMENT	RESULT
Alloy / Temper	ASTM B209	...	3105 - H16
Tensile Strength	ASTM E8	172 - 221 N/mm ²	196 N/mm ²
Yield Strength	ASTM E8	Min. 145 N/mm ²	190 N/mm ²
Elongation	ASTM E8	Min. 1.0 %	4.2 %
Modulus of Elasticity	ASTM E111	Measure Value	69 Gpa

MECHANICAL PROPERTIES			
	TEST STANDARD	REQUIREMENT	RESULT
Peel off Strength	ASTM D 903	≥ 10 kg / 25 mm	17.35 kg/25 mm
Climbing Drum Peel	ASTM D1781	measure value	130.8 N.mm/mm
Shear Strength	ASTM C 273	≥ 3.2 MPa	3.35 Mpa
Tensile Strength	ASTM E 08	> 35 MPa for 4mm	44.48 Mpa
0.2% Proof stress	ASTM E8	measure value	49.0 Mpa
Punch Shear Test	ASTM D 732	≥ 20 MPa	23.77 Mpa
Modulus of Elasticity	ISO178-2019	measure value	26,281 Mpa
Flexural Strength	ISO178-2019	measure value	163.4 Mpa
THERMAL PROPERTIES			
	TEST STANDARD	REQUIREMENT	RESULT
Temperature for Thermal deformation	ASTM D 648	≥ 100°C	149°C
Linear Thermal Expansion per 100°C	ASTM D696	≥ 2.4 mm/m/c°	≥ 2.4 mm/m/c°
Thermal Conductivity	ASTM C 518	Measure Value	0.129 W/Mk
COATING PROPERTIES AND PERFORMANCE (TOP COAT)			
	TEST STANDARD	REQUIREMENT	RESULT
Coating Thickness	ASTM D 1400	≥ 25 µm	≥ 25 µm
Weathering Resistance	ASTM C 481	A. Shear Strength B. Film Adhesion C. Impact Resistance	A. 3.20 Mpa (after exposure) B.1. Dry Adhesion - No removal of film B.2. Wet Adhesion - No removal of film B.3. Boiling Water - No removal of film C. Impact Resistance - No removal of film
Corrosion Resistance	AAMA 2605 ASTM D 2247 ASTM D 714 ASTM B 117	A. Humidity Resistance (@4000 hours exposure) B. Salt Spray Resistance (@4000 hours, 35°C)	A. No formation of blisters B.1 Scribed - rating of 9 B.2. Unscribed - rating of 10
Chemical Resistance	ISO 2812 -1: 2014	A. Acid Resistance B. Alkali Resistance C. Oil Resistance D. Solvent Resistance	A. NO CHANGE B. NO CHANGE C. NO CHANGE D. NO CHANGE
Abrasion Resistance	ASTM D 968	≥ 50 L/mil	55.5 L/mil
Pencil Hardness	ASTM D 3363	≥ H	≥ H
T-Bend Test	ASTM D 522	2T (No Cracks)	2T (No Cracks)

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COATING PROPERTIES AND PERFORMANCE			
	TEST STANDARD	REQUIREMENT	RESULT
Film adhesion DRY (@27 °C) WET (@38 °C, 24hrs) BOILING (@100 °C, 20hrs)	AAMA 2605 (Clause 7.4)	No removal of film	No removal of film within or outside of the cross- hatched area; No blistering was observed
Impact Resistance Test 50 kg-cm	AAMA 2605 (Clause 7.5)	No removal of film	No removal of film

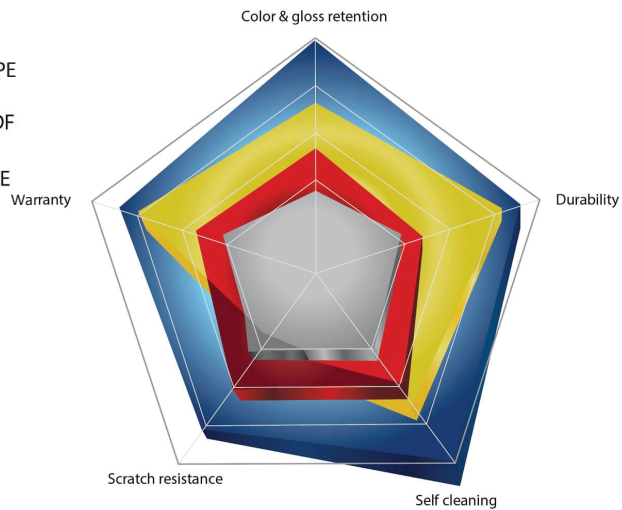
REMARK: Coating Performance results are complying with AAMA 2605-13 Requirements

SCHEMATIC DIAGRAM										
COATING SYSTEM								DFT		
				FEVE	PVDF	HDPE	PE			
CLEARCOAT	CLEARCOAT	4COAT/ LAYER	3COAT/ LAYER	2COAT/ LAYER	FEVE	PVDF	HDPE	PE	13-15µm	
INK	INK					PVDF	HDPE			3-5µm
TOPCOAT	TOPCOAT				PVDF	PVDF	HDPE	PE	18-20µm	
PRIMER	PRIMER	PRIMER						5-7µm		
SUBSTRATE	PRETREATMENT	PRETREATMENT	CHROME						<1µm	
		ALUMINIUM						METAL		

COATING GLOSS LIMITATION & COMPARISON WITH VARIOUS COATINGS

GLOSS RANGE (ASTM D 523) STANDARD @ 60°	
FEVE	60 - 90 GU
PVDF	15 - 40 GU
HDPE	15 - 90 GU
PE	20 - 90 GU

-  PE
-  HDPE
-  PVDF
-  FEVE



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COATING PROPERTIES AND PERFORMANCE (BOTTOM/SERVICE COAT)

	TEST STANDARD	REQUIREMENT	RESULT
Dry Film Thickness	ASTM D 7091	5-7 μ m	6 μ m
Coating Flexibility T-bend Test	ASTM D 4145	\leq 2T	2T
Solvent Resistance Test	ASTM D 4752	Bearable @ 50X Rubbing	> 50 DR
Film Adhesion Test by Crosshatch	AAMA 2605; ASTM D3359-09e2	No Removal of Paint	PASSED
Film Adhesion Test by Boiling Water	AAMA 2605	No Removal of Paint	PASSED
Backside Printing Information & Direction		As per Material Description	PASSED

IMPORTANT NOTE: BACKSIDE OF THE PANELS ARE PRE-COATED AND MAY COME IN DIFFERENT COLORS TO EMBELLISH THE SURFACE APPEARANCE BECAUSE THE BACK OF THE CLADDING IS NOT MEANT FOR DISPLAY PURPOSES.

REPORTS ARE BASED ON THE AVERAGE ANALYSIS RESULT