

TECHNICAL DATA SHEET

APL / TDS / 005 / Rev.07 | Date 04.06.2026



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/m²	8.0kg/m²
Standard Width	...	(±) 2 mm	1000, 1250, 1500, up to 2000 mm
Length	...	(±) 4 mm	up to 6000 mm Max. 8000 mm
Skin Thickness (Top / Bottom)	Caliper	(±) 0.05 mm	0.50 mm

Fire Performance

	Test Standard	Requirement	Result / Certificate Ref. No.
Reaction to Fire Classification	EN 13501-1	Class A1	TBW 0300647
Assessment Parameter	Requirement	Result	Status
Gross Heat of Combustion (Whole Product – 4mm ACP) (ISO 1716)	≤ 3.0 MJ/kg	0.4 MJ/kg	PASS
Gross Heat of Combustion (Core Material – 3mm) (ISO 1716)	Non-combustible mineral core	-2.3 MJ/kg	PASS
Sustained Flaming (ISO 1182)	No sustained flaming	0 Seconds	PASS
Furnace Temperature Rise (ISO 1182)	≤ 30°C	14°C	PASS
Mass Loss (ISO 1182)	≤ 50%	33%	PASS
FIGRA _{0.2MJ} (EN 13823)	≤ 20 W/s for A1	0 W/s	PASS
THR _{600s} (EN 13823)	≤ 4 MJ for A1	0.4 MJ	PASS
Smoke Production (EN 13823)	Very limited	SMOGR _A ≤ 30m²/s²	PASS
Flaming Droplets (EN 13823)	None permitted	None	PASS

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Fire Performance			
	Test Standard	Requirement	Result / Certificate Ref. No.
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	TBW
			CAVITY (mm)
			TBW0300672
			300
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.
CWCT Performance			
	Test Standard	Result / Report No.	
Weathertightness testing for rainscreen	CWCT	N950-23-18492	
Assessment Parameter	Requirement	Result	Status
Wind Resistance – Serviceability (CWCT)	No permanent damage after testing at +1200 Pa and -1200 Pa.	No damage on the test sample was observed	Pass
	Within the permissible deflection limits (L/90) when ±1200 Pa is applied Measured Deflection < 9.8mm	Measured Deflection: 7.8 and -6.0	Pass
Wind Resistance – Safety (CWCT)	No permanent damage after testing at +1800 Pa and -1800 Pa.	No damage on the test sample was observed	Pass
	Within the permissible residual deflection (L/500) when ±1800 Pa is applied Measured Residual Deflection < 1.8mm	Measured Residual Deflection: 0.4 and -0.2	Pass
Watertightness – Dynamic (CWCT)	No water penetration to the internal face of the sample at 600 Pa throughout testing.	No water penetration was observed throughout the test	Pass
Impact Resistance – Soft and Hard Body (CWCT TN76)	Serviceability: Class 1 to Class 5 Safety: Negligible, Low, Moderate, High Risk	Serviceability: Class 2 – only slight cosmetic damage Safety : Negligible Risk – no damage affecting structural integrity.	Pass
Controlled Dismantle (CWCT)	No water penetration, no concealed damage, and no discrepancies from the approved drawings after dismantling	During dismantling, no water penetration or discrepancies from the drawings were found	Pass

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Coil Specification (Top And Bottom Coil)

	Test Standard	Requirement	Result	
Alloy / Temper	ASTM B209	...	3105 - H16	5005 - H16
Tensile Strength	ASTM E8	172 - 221 N/mm ²	196 N/mm ²	188 N/mm ²
Yield Strength	ASTM E8	Min. 145 N/mm ²	190 N/mm ²	183 N/mm ²
Elongation	ASTM E8	Min. 1.0 %	4.2 %	3.3 %
Modulus of Elasticity	ASTM E111	Measure Value		

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	

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Coating Properties And Performance (Top Coat Systems & Choices)

	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)

Coating Properties And Performance (Top Coat Systems & Choices)

	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

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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.

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Coating Properties And Performance (Bottom/Service Coat)

	Test Standard	Requirement	Result
Dry Film Thickness	ASTM D 7091	5-7 µm	6 µm
Coating Flexibility T-bend Test	ASTM D 4145	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
Coating type			Polyester

Anodizing Properties and Performance (Choices of Anodized systems for Top Aluminium skin)

Product Description	This Technical Data Sheet covers anodized finishes produced on aluminium extrusions and solid aluminium sheets using a sulfuric acid anodizing process supported by Italian anodizing technology and chemicals.		
Applicable Substrates	Aluminium composite panel (5005 alloy)		
Anodic Layer Properties	Coating Type: Sulfuric acid anodic oxide Thickness Range: Typically 10-25 microns, depending on project requirements Colouring Options: Natural, Bronze, Black, Champagne, Grey, Blue (interference) Sealing: Cold sealing process		
Appearance	Uniform metallic finish Colour consistency within normal coil anodizing batch tolerances (Delta E ≤ 3.0) Final appearance depends on alloy type, extrusion quality, and surface condition		
Applications	Façade / Cladding • Super High-rise buildings • High-rise buildings • Malls • Theme Parks • Schools • Hospitals • Any Building		
Notes	Minor colour variation may occur between alloys and different extrusion batches. Surface imperfections in raw aluminium may become visible after anodizing. Process parameters (voltage, additives, chemistry, and timings) are proprietary and based on Italtelco guidelines.		
Disclaimer	This Technical Data Sheet provides general information about anodized finishes on aluminium extrusions and sheets. Performance may vary based on alloy selection, fabrication methods, and installation environment.		

REPORTS ARE BASED ON THE AVERAGE ANALYSIS RESULT