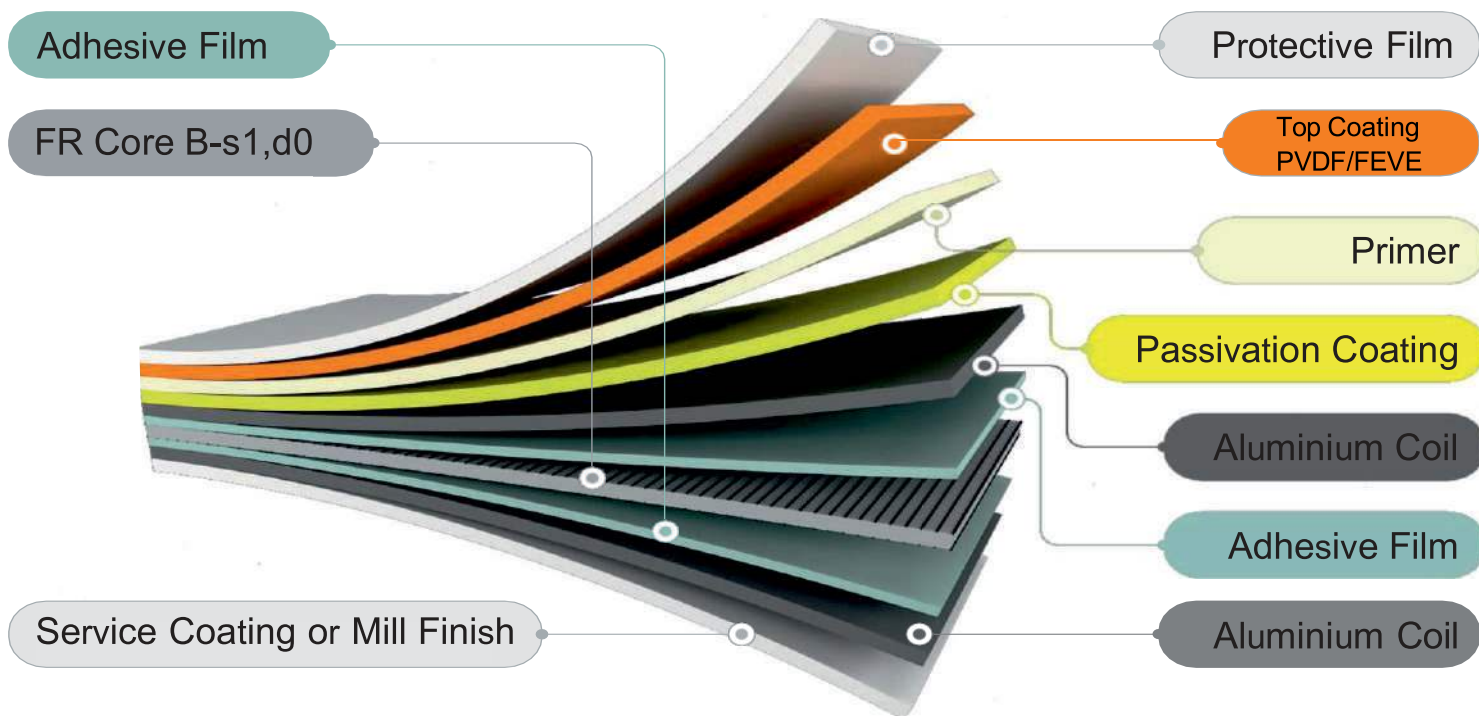


Technical Data Sheet

Ref: VCPPL/QA/TDS/01 Rev.: 1.1 Date : 23.12.2024

Product Category : 4 mm -0.50 Skin Thickness-AA 3105 Alloy- 7 Star - FR-B



Sr. No.	Test Parameters	Test Method	Specifications	Result
A	Physical Property of Aluminium Composite Panel			
1	Thickness of Panel ,mm	Measured	4 (± 0.20)	4.02
2	Panel Weight, [Kg/m2]	Measured	7.50 (±5%)	7.625
3	Specific Gravity of Panel	ASTM D 1505	1.87 (±5%)	1.90
B	Mechanical Properties of Aluminium Composite Panel			
1	Tensile Strength, Mpa	ASTM D 638	Min 45	52.63
2	Yield Strength, Mpa	ASTM D 638	Min 40	45.7
3	Elongation,%	ASTM D 638	≥5	6.9
4	Bending Strength, Mpa	ASTM C 393	Min. 100	115
5	Flexural Modulus, Mpa	ASTM C 393	≥20000	22956
6	Peel off Strength, N/mm	ASTM D 903	Min. 9	9.86
7	Shear Strength, MPa	ASTM C 393	Min. 22	24
8	Drum Peel Strength, N-mm/mm	ASTM D 1781	Min. 100	112

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C	Mechanical Properties of Aluminium Coil/Skin			
1	Thickness of Aluminium Coil, mm	Measured	0.50±0.03	0.505
2	Aluminium Alloy	ASTM B 209	AA 3105, H24	AA 3105, H24
3	Tensile Strength, [N/mm ²]	ASTM E8	Min 150	175
4	0.2% Proof Stress, [N/mm ²]	ASTM E8	Min 125	161
5	Elongation, %	ASTM E8	>2	4.45
6	Modulus of Elasticity, Mpa	ASTM E8	>68000	71050
D	Thermal Properties of Aluminium Composite Panel			
1	Thermal Resistance (R), (m ² K/W)	ASTM C 518	-	0.333
2	Coefficient of Thermal Conductivity(U)	ASTM C 518	-	3.003
3	Temperature Resistance(°C)	By Measurement	-50 to +80	-50 to +80
4	Heat Deflection Temperature (°C)	ISO 75-2	-	93°C
5	Linear Thermal Expansion(µm/m-°C)	ASTM D 696	-	149
E	Fire Performance of Aluminium Composite Panel			
1	Reaction to Fire	EN 13501-1:2018	B- s1,d0	B- s1,d0 (TBW0300625)
2	Surface burning test	ASTM E 84-22	Flame Spread Index & Smoke Developed Index	FSI-15°C & SDI-45°C (TBW0300991)
3	Ignition temperature of material	ASTM D1929-16	Self-Ignition Temperature & Flash Ignition Temperature	SIT- 452°C & FIT - 429°C (TBW0300625)
4	Reaction to fire for Building	NFPA 285	-	Passed (TBW0300641)
F	Coating Properties -Topcoil of Aluminium Composite Panel**			
1	Dry Film Thickness (Coating), [µm] 3-coat Primer: 5-7 µm Top Coat: 18-20µm Clear Coat: 10µm	ASTM D 7091	Min. 30µm	36.5
2	Dry Film Thickness (Coating), [µm] 2-coat Primer: 5-7 µm Top Coat: 18-20µm	ASTM D 7091	Min. 24µm	26
3	Coating Type	FTIR Method	PVDF, KYNAR 500/FEVE	PVDF(KYNAR 500)
4	Specular Gloss, %	ASTM D 523	STD ±5	28.3
5	Abrasion Resistance	ASTM D 968	≥2L/ µm	>2
6	Color Retention (4000 hrs.)	ASTM D 2244	7 Unit (Max.)	0.89
7	Chalk Resistance (4000 hrs.)	ASTM D 4214	Max. Rating 8	No Chalking
8	Salt Spray (4000 hrs.)	AAMA 2605 (ASTM G 85)	No Damage	No creepage
9	Humidity Resistance (4000 hrs.)	AAMA 2605 (ASTM D 2247)	No Damage	No Blisters
10	Cross Hatch (Adhesion Test) Dry @27°C Wet @38°C, 24 hrs Boiling @100°C, 20min	ASTM D 3359	No removal of film	No Adhesion Loss, Pass
11	Impact Resistance	AAMA 2605	No removal of film	65inch-Lbs, Pass
12	Pencil Hardness Test, [F-H]	ASTM D 3363	Min F	3H Pass
13	T-Bend Flexibility, [T]	ASTM D 4145	Max 2T	2T Pass

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G Coating Properties Bottom coil of Aluminum Composite Panel**				
1	Dry Film Thickness (Coating), [μm]	ASTM D 7091	5-7μm	6
2	T-Bend Flexibility, [T]	ASTM D 4145	Max 2T	2T Pass
3	Solvent Resistance (MEK- Methyl Ethyl Ketone)	ASTM D 5402	>50 DR @ 1Kg Load	50DR, Pass
4	Cross Hatch (Adhesion Test)	AAMA 2605	No removal of film	No Adhesion Loss, Pass
5	Boiling Water Test @100°C, 20min	AAMA 2605	No removal of film	No Adhesion Loss, Pass
6	Tracebility	Viva Standard	As per material	Pass
H Chemical Test of Aluminum Composite Panel (DropTest)				
1	1. Muriatic Acid(HCl) Resistance, 15 minutes spot test	AAMA 2605	No visible defects must be seen	No Change
	2. Mortar Resistance, 24 Hour Pat test			
	3. Nitric Acid (HNO ₃) Resistance, 30 minutes fume test			
	4. Detergent Resistance, 72 Hour Immerse test			
2	Alkali Solution (NaOH) Resistance	ASTM D 1308	No visible defects must be seen	No Change
	Acidic Solution (HCl) Resistance			
3	Solvent Resistance (MEK- Methyl Ethyl Ketone)	ASTM D 5402	>100 DR @ 1Kg Load	Resistant
I Dimensioning Details				
	Parameter	Range	Unit	Standard Tolerance
1	Width	Std.1220, Can be customized till 1670mm.	mm	-/+2
2	Length	Std. 2440, 3050, 3660, Can be customized till 6000mm.	mm	-/+4
3	Squareness	-	mm	-/+2
4	Bow	-	%	-/+0.5
J	Scan the QR code below to follow the Installation Guidelines			
				
Note * Specification limits as per ASTM and different international standards. ** Coating is compliant with AAMA 2605. *** Gloss varies from color to color and depends on paint type. ****Customization is possible in Alloys, Paint type, Color,Size based on MOQ.				

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Warranty

This product is warranted to be free from defects in materials when used and maintained as directed. Material installation as per viva guidelines detailed guidelines and warranty conditions are mentioned in warranty agreement.

In case of defects our doubts, please feel free to revert us at:

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