Aluminium Architectural Profile National Standard GB5237-2008

1.Mill Finish Profiles

Dimensions&Tolerances	Planar Joint Clearance	Curvature	Torsion	Angle	Length
	Random 25mm Widths≤0.2 mm	Random 300mm Widths≤0.2 mm	Random 1000mm Widths≤ 0.2mm	±1°	Nominall Length≤6000 mm +15 mm

Mechanical Property	HW	Tensile Strength gh (mpa)	Stress at Definite Elongation gp0.2 (mpa)	Elongation
	⩾8	⩾160	⩾110	8%

Chemical Components (%)	Si	Mg	Fe	Cu	Mn	Zn	Cr	Ti
	0.2-0.6	0.45-0.9	⩽0.35	⩽0.1	⩽0.1	⩽0.1	⩽0.1	⩽0.1

2.Anodizing & Dye

Oxide Film Quality	Grade	Average Film Thichness	Mini Film Thickness	CASS Test	Drop Alkali Test	Drop Sand Test Abrasion Coefficient	Hole Sealing	Visual Quality
	Aa 10	⩾10μm	⩾8μm	⩾9	⩾50s	⩾300g/μm	⩽30mg/dm^2	1.Surface of profile is not allowed to have defects that influence on use, electric burning,oxide film spalling for example. 2.sureface of profile from the end within 80 mm is allowed to have defects such aselectric burning, oxide film spalling.
	Aa 15	⩾15μm	⩾12μm	⩾9	⩾75s	⩾300g/μm		

3.Electrophoretic Coating

Compound Material	Grade	Anodic Oxidation		Paint Film	Compound Paint	Paint Film		Visual Quality
		Average Film Thickness	Local Film Thickness	Local Film Thickness	Local Film Thickness	Adhesion	Hardness	
	A	⩾10μm	⩾8μm	⩾12μm	⩾21μm	0	⩾2H	Paninted film should be uniform and neat. There is no wrinkle, crack,bubble,flow line,inclusions,tacky,and paint spalling or other defects on the surface that affecting further uses.Now, electrophoresis profiles from end within 80 mm range allows local membarance
	B	⩾10μm	⩾8μm	⩾7μm	⩾16μm	0	⩾2H	

4.Powder Coating

Coating Property	Gloss Value	Coating Layer Thickness		Color and Chromatism	Indentation Hardness	Adhesion	Shock Resistance	Cup Drawing Test	Visual Quality
		Max Film Thickness	Mini Film Thickness						
	60	⩽120	⩾40	It should be consistent with standard color version that stipulated in the contract	⩾80	0	Positive Coating Film should not have the defects that tacky and Paint Spalling on the surface after shock test	Coating Film should not have the defects that tacky and paint spalling on the surface after cup drawing test which sag depth of 6mm	Exposed surfaces should be uniform and smooth.There is no wrinkle,crack,bubble,flow line,inclusions,tacky and paint spalling or other defects on the surface that affecting further uses

5.Thermally Broken Profile

Test Item	Load Styles	Test Result						
		Longitudinal Shear Characteristic Value(N/mm)			Transverse Tensile Characteristic Value(N/mm)			The Average Value of Deflection
		Indoor Tem.	Low Tem.	High Tem.	Indoor Tem.	Low Tem.	High Tem.	
Longitudinal Shearing Test	Barrier Strip	⩾24	⩾24	⩾24	⩾24	/		/
High Temperature Sustained Load Test	Barrier Strip	/	/	/	/	⩾24	⩾24	⩽0.6

The Chemical Composition Table of Aluminium Profile

Chemical Composition of 6063 Aluminium Alloy

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others		Ai
6063	0.2-0.6	⩽0.35	⩽0.10	⩽0.10	0.45-0.90	⩽0.10	⩽0.10	⩽0.10	⩽0.05	⩽0.15	Remain

Item			Unit	Performance Index
Alloy and Temper				6063 T5
Tensile Strength δ b			Mpa	⩾160
Yield Strength δ p0.2			Mpa	⩾110
Elongation			%	⩾8
Vickers-Hardness			HW	≥8
Anodizing	Oxidation Film Thickness (Average Thickness)	AA110	UM	⩾10
		AA15		⩾15
		AA20		⩾20
		AA25		⩾25
	Sealing Quality		Mg/dm^2	⩽30
Electrophoretic Coating	Film Thickness (Average Thickness)	Grade A	Um	⩾21
		Grade B		⩾16
	Film Hardness		H	⩾2
	Film Adhesion		Grade	0(The Best)
Powder Coating	Film Thickness(Exposed Surface)		Um	40-120
	Film Indentation Hardness			⩾80
	Film Adhesion		Grade	0 (The Best)