

铝型材化学成分

合金牌号		6063 (%)	6063A (%)	6061 (%)
硅	Si	0.20 - 0.60	0.30 - 0.60	0.40 - 0.80
铁	Fe	≤ 0.35	≤ 0.15 - 0.35	0.7
铜	Cu	≤ 0.10	≤ 0.10	0.15 - 0.40
锰	Mn	≤ 0.10	≤ 0.15	≤ 0.15
镁	Mg	0.45 - 0.90	0.60 - 0.90	0.80 - 1.20
铬	Cr	≤ 0.10	≤ 0.05	0.04 - 0.35
锌	Zn	≤ 0.10	≤ 0.15	≤ 0.25
钛	Ti	≤ 0.10	≤ 0.10	≤ 0.15
其他单个		0.05	0.05	0.05
其他全部		0.15	0.15	0.15
铝	AL	余量	余量	余量

基材 (坯料)

牌号、状态	6063 T5							
标准编号	GB/T5237.1-2000							
外观质量	1、表面应整洁，不允许有裂纹、起皮、腐蚀和气泡等缺陷存在； 2、型材表面上不允许有轻微的压坑、碰伤、擦伤存在，其允许深度装饰而不大于 0.03mm； 3、型材端头允许有因锯切产生的局部变形，其纵向长度不应超过 20mm。							
尺寸允许偏差	平面间隙		弯曲度		扭拧度		角度	长度
	任意 25mm 宽度 ≤ 0.2mm		任意 300mm 长度上 ≤ 0.5mm		每米长度上 ≤ 0.026mm		±2	公称长度上 ≤ 6.6 米时 ± 15mm
力学性能	韦氏硬度 (HW) ≥ 8		抗拉强度 ≥ 160N/mm ²		屈氏强度 ≥ 110N/mm ²		伸长率 8%	
化学成分	Mg 0.2-0.6	Si 0.45-0.9	Fe ≤ 0.35	Cu ≤ 0.1	Mn ≤ 0.1	Zn ≤ 0.1	Cr ≤ 0.1	Ti ≤ 0.1

电泳涂漆型材

牌号、状态	6063 T5							
标准编号	GB/T5237.3-2000 规定							
基材质量	GB/T5237.1-2000 规定							
尺寸允许偏差	应符合 GB/T5237.1-2000 规定							
力学性能	去除膜层后应符合 GB/T5237.1-2000 规定							
化学成分	去除膜层后应符合 GB/T5237.1-2000 规定							
复合质量	级别	阳极氧化物		漆膜	复合膜	漆膜		外观质量
		平均膜厚	局部膜厚	局部膜厚	局部膜厚	附着力	硬度	
	A	≥ 10um	≥ 8um	≥ 12um	≥ 21um	0 级	≥ 2H	
B	≥ 10um	≥ 8um	≥ 7um	≥ 16um	0 级	≥ 2H	喷涂前基材的外观质量应符合 GB/T-5237-2 的有关规定，涂漆后的漆膜应均匀、整洁、不允许有皱纹、裂纹、气泡、渣痕、夹杂物、发粘和漆膜脱落等影响使用的缺陷，但在电泳型材端头 80mm 范围内允许局部无漆膜。	

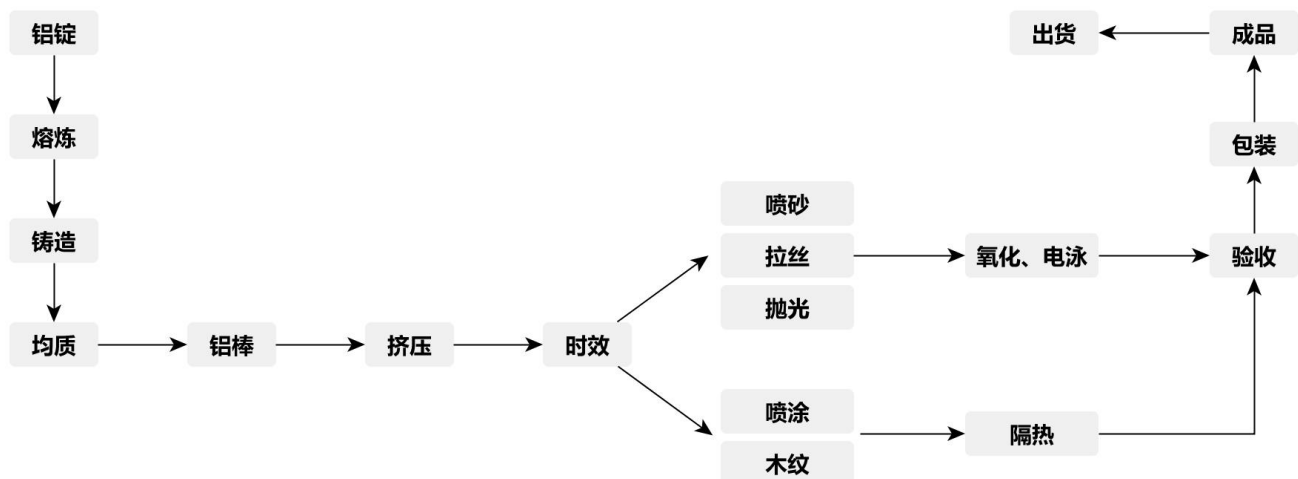
粉末涂漆型材

牌号、状态	6063 T5								
标准编号	GB/T5237.4-2000 规定								
基材质量	GB/T5237.1-2000 规定								
尺寸允许偏差	应符合 GB/T5237.1-2000 规定								
力学性能	去除涂层后应符合 GB/T5237.1-2000 规定								
化学成分	去除涂层后应符合 GB/T5237.1-2000 规定								
复合质量	光亮值	膜厚		色彩色均	压痕硬度	附着力	耐冲击性	抗杯突性	外观质量
	60	最大膜厚	最小膜厚						
		≤120	≥40	按合同中指定的色板。	≥80	0 级	涂层无开裂或脱落现象,可接受微小皱痕	经杯突试验,涂层无开裂或脱落现象。	喷粉型材装饰面上的涂层应平滑、均匀,不允许有皱纹、流痕、鼓泡、裂纹、发粘等影响使用的缺陷。

阳极氧化、着色型材

牌号、状态	6063 T5								
标准编号	GB/T5237.4-2000 规定								
基材质量	应符合 GB/T5237.1-2000 规定								
尺寸允许偏差	应符合 GB/T5237.1-2000 规定								
力学性能	应符合 GB/T5237.1-2000 规定								
化学成分	应符合 GB/T5237.1-2000 规定								
复合质量		平均膜厚	最小局部膜厚	CASS 测试	滴碱测试	磨损系数 落砂测试	封孔	外观质量	
	AA10 级	≥10um	≥8um	≥9um	≥50S	≥300g/um	≤30g/dm ²	1、表明不允许有电灼伤、氧化膜脱落等影响使用的缺陷。	
	AA15 级	≥15um	≥12um	≥9um	≥75S	≥300g/um		2、距型材端头 80mm 以内允许局部无膜和电灼伤。	

铝材生产流程图



General Chemical Composition Of Alloy

Alloy		6063 (%)	6063A (%)	6061 (%)
Silicon	Si	0.20 - 0.60	0.30 - 0.60	0.40 - 0.80
Iron	Fe	≤ 0.35	≤ 0.15 - 0.35	0.7
Copper	Cu	≤ 0.10	≤ 0.10	0.15 - 0.40
Manganese	Mn	≤ 0.10	≤ 0.15	≤ 0.15
Magnesium	Mg	0.45 - 0.90	0.60 - 0.90	0.80 - 1.20
Chromium	Cr	≤ 0.10	≤ 0.05	0.04 - 0.35
Zinc	Zn	≤ 0.10	≤ 0.15	≤ 0.25
Titanium	Ti	≤ 0.10	≤ 0.10	≤ 0.15
Others (each)		0.05	0.05	0.05
Others (total)		0.15	0.15	0.15
Aluminium	AL	Remainder	Remainder	Remainder

Mill Finish Profile Executive Standard

Type	6063 T5							
Standard code	GB/T5237.1-2000							
Appearance quality	1. No crack, peeling, corrosion and air bubble. 2. No obvious knockout, bumping, scratch. Accepted depth is no more than 0.03mm for decorative surface and no more than 0.07mm for non-decorative surface. 3. Local distortion is accepted at the two ends of the profile, but the length should be less than 20mm.							
Tolerance	Z-plane		Tortuosity		Twisting Degree		Angle	Length
	Any 25mm' width ≤ 0.2mm		Any 300mm' length ≤ 0.2mm		Any 1m' length ≤ 0.026mm		±2	length ≤ 6.6m ± 15mm
Mechanical property	Hardness of Webster (HW) ≥ 8		Tensile strength ≥ 160N/mm ²		Yield strength ≥ 110N/mm ²		Elongation 8%	
Chemical composition	Mg 0.2-0.6	Si 0.45-0.9	Fe ≤ 0.35	Cu ≤ 0.1	Mn ≤ 0.1	Zn ≤ 0.1	Cr ≤ 0.1	Ti ≤ 0.1

Electrophoresis Profile Executive Standard

Type	6063 T5							
Standard code	GB/T5237.3-2000							
Base material quality	Accord with GB/T5237.1-2000							
Tolerance	Should accord with GB/T5237.1-2000							
Mechanical property	Should accord with GB/T5237.1-2000 without paint film							
Chemical composition	Should accord with GB/T5237.1-2000 without paint film							
Compound quality	Class	Anodic oxide		Paint film	Compound	Paint film		Appearance quality
		Average film thickness	Local film thickness	Local film thickness	Local film thickness	Adhesion	Hardness	
		A	≥ 10um	≥ 8um	≥ 12um	≥ 21um	0 grade	
B	≥ 10um	≥ 8um	≥ 7um	≥ 16um	0 grade	≥ 2H	The quality of base material should meet the criterion of GB/5237-2, paint film should be even, neat and have no crack, peeling, corrosion, air bubble, slag inclusion and other defect affecting future use of the profile. Within the length of 80mm, profile without paint film is acceptable.	

Powder Coating Profile Executive Standard

Type	6063 T5								
Standard code	GB/T5237.4-2000								
Base material quality	Accord with GB/T5237.1-2000								
Tolerance	Should accord with GB/T5237.1-2000								
Mechanical property	Should accord with GB/T5237.1-2000 without paint film								
Chemical composition	Should accord with GB/T5237.1-2000 without paint film								
Film Performance	Gloss value	Film thickness		Color and colour shading	Indentation hardness	Adhesion	Shock resistant	Cupping resistant	Appearance quality
		Maximum local thickness	Minimum local thickness						
	60	≤120	≥40	Colour should be accord with the palette stated in the contract	≥80	0 grade	≥2H	No crack, no desquamate after the test with a 6mm cup	The surface of the profile should be even, neat, and have no crack, corrosion, and other defects affecting future use of the profile. Slight cedrate is acceptable and the tolerance should be decided by both side of the contract party.

Anodic Oxidation Profile Executive Standard

Type	6063 T5							
Standard code	GB/T5237.2-2000							
Base material quality	Accord with GB/T5237.1-2000							
Tolerance	Should accord with GB/T5237.1-2000							
Mechanical property	Should accord with GB/T5237.1-2000 without paint film							
Chemical composition	Should accord with GB/T5237.1-2000 without paint film							
Film performance	Class	Average film thickness	Minimum local film thickness	CASS test	Alkali test	Abrasion coefficient	Hole sealing	Appearance quality
	AA10	≥10um	≥8um	≥9um	≥50S	≥300g/um	≤30g/dm ²	The surface of the profile should be even, neat and have no electric burn, peeling and other defects affecting future use of the profile. Within 80mm's length at the two ends, within the length of 80mm, profile without paint film is acceptable.
	AA15	≥15um	≥12um	≥9um	≥75S	≥300g/um		

Aluminum Profile Production Flow Chart

