

Product quality technical standard parameters

Q/VBGC 1-2013

1、 Aluminum profiles (cabe border/100A,octagonal prisms, square columns, flat aluminum, etc.)

Performance and technical specifications

1. Chemical composition of the profile

The profile is made of AlMgSi0.5 alloy with grade 6063 T5, meeting or exceeding the requirements of the national standard GB/T5237.1 ~ 5-2008.

2. Straightness of profiles

The profile shall have a thickness of $\leq 3.0\text{mm}/6\text{m}$, with straightness of any 300mm length edge not exceeding 0.2mm.

3. Twisting of profiles

The twist of the 6 m length is 1.8 mm.

4. Mechanical properties of the profiles

The mechanical properties of aluminum alloy profiles at room temperature are: tensile strength $\sigma_b \geq 210 \text{ N/mm}^2$, yield limit $\sigma_{0.2} \geq 165 \text{ N/mm}^2$, elongation δ is 8%,

Brinell hardness $\geq 75\text{HB}$ or Vickers hardness $\geq 80\text{HV}$, working wall thickness of the profile $2.0 \pm 0.2\text{MM}$

5. Surface quality

The oxide film meets AA12 standard (minimum average thickness $\geq 10\mu\text{m}$, minimum local thickness $\geq 6\mu\text{m}$).

6. Surface quality of the profiles

The surface of aluminum profiles must be free from cracks, peeling, bubbles, inclusions, corrosion spots, dents, dents from impact, or scratches. Minor extrusion marks caused by the mold are permissible, provided they do not exceed 0.02mm in depth.

7. Color of oxide film

The color of the aluminum profile after surface oxidation should be uniform, the bright band after extrusion should not be obvious, and there should be no corrosion spot, electric burn, black spot, film detachment and other defects. The profile after matte treatment should not have mold scratch and bright band after extrusion.

8. Treatment of the profile end face

The profile cutting end faces undergo deburring treatment to ensure smooth surfaces

free of burrs, preventing mutual scratches and guaranteeing first-class construction safety.

9. The cutting precision of aluminum profiles is $\pm 0.3\text{mm}$, the cutting precision of profile angles is $\pm 0.1^\circ$, and the machining precision of profile locking holes is $\pm 0.2\text{mm}$.

10. Salt spray corrosion resistance: Experimental results confirm;

Salt spray corrosion resistance: experimentally verified;

Heat and moisture resistance: Proven by experiments.

Weather resistance: Proven by experiments.

11. Quality Standards

The quality meets or exceeds the ultra-high precision grade requirements for 6063 aluminum alloy specified in national standards GB/T5237.1 ~ 5-2008 and GB/T319.

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