



Hebei Longze Metal Products Manufacturing Co., LTD

Technical Data Sheet: Solar Photovoltaic (PV) Mounting Brackets

Product Overview

Brand: Longze Fasteners

Product Name: Solar PV Mounting Brackets / Racking Systems

International Standards: AS/NZS 1170.2 / JIS C 8955 / Eurocode 3

Material Options: Aluminum Alloy AL 6005-T5 / Q235B Carbon Steel

Compatible Hardware: DIN 6923 / ISO 4161 / ASME B18.16.4 (Serrated Flange Nuts)

Surface Treatment: Anodized ($\geq 12\mu\text{m}$) for Aluminum / Hot-Dip Galvanized ($\geq 80\mu\text{m}$) for Steel

Application Scenarios: Residential Rooftops, Commercial Carports, Utility-Scale Ground Mounts.

Dimensional Configuration (Standard Series)

Technical Specifications

Property Item	Specification (Aluminum AL 6005-T5)	Specification (Steel Q235B)
Tensile Strength (R_m)	≥ 260 MPa	370 - 500 MPa
Yield Strength ($R_{p0.2}$)	≥ 240 MPa	≥ 235 MPa
Hardness	≥ 85 HW	≤ 180 HBW
Max Wind Load	Up to 60 m/s	Up to 60 m/s
Max Snow Load	Up to 1.6 kN/m ²	Up to 2.0 kN/m ²
Design Life	25 Years	25 - 50 Years

***Note: Custom structural designs are available based on project wind and snow load reports.**

Technical Specifications & Load Performance

<i>Component Type</i>	<i>Material</i>	<i>Common Profiles</i>	<i>Surface Finish</i>
<i>Roof Rails</i>	<i>AL 6005-T5</i>	<i>40 * 40 mm / 50 * 50 mm</i>	<i>Clear / Black Anodized</i>
<i>Ground C-Post</i>	<i>Q235B</i>	<i>C100 * 50 * 20 * 2.5 mm</i>	<i>Hot-Dip Galvanized</i>
<i>Triangle Brackets</i>	<i>AL 6005-T5</i>	<i>10° - 30° Adjustable</i>	<i>Anodized</i>
<i>Hardware Kits</i>	<i>SUS304 / Steel</i>	<i>M8 / M10 / M12</i>	<i>DIN 6923 Standard</i>

"Recommended with: Longze Solar Mounting Fasteners".

Eric's Professional Advice:

1 Material Synergy: For rooftop installations, we recommend AL 6005-T5 due to its lightweight and superior corrosion resistance. For large ground-mounted utility projects, HDG Q235B steel offers the best cost-to-strength ratio.

2. Anti-Loosening Strategy: Every bracket joint should be secured with our DIN 6923 Serrated Flange Nuts. The serrations ensure that thermal expansion and wind vibration won't compromise the structural integrity over the system's 25-year lifespan.

3. Corrosion Protection: For coastal or high-salinity areas, always specify 100µm Zinc coating for steel or Class 15 Anodizing for aluminum to prevent premature oxidation.

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