

Alloy Specification Sheet – 6005 & 6005A



Alloy 6005/6005A is a medium strength alloy with excellent corrosion resistance. This alloy can sometimes be used interchangeably with 6082 but 6005 has better extrusion characteristics and a better surface finish.

It is difficult to produce thin walled or complicated extrusion shapes in 6005 alloy, however it is still more extrudable than 6082. 6005/6005A tube has very good bending properties.

Element	% Present
Silicon	0.5 to 0.9
Iron	0.35
Copper	0.3
Manganese	0.5
Magnesium	0.4 to 0.7
Zinc	0.2
Titanium	0.1
Chromium	0.3
Manganese & Chromium	0.12 to 0.5
Aluminium	Balance

Mechanical Property	T5
Proof Stress 0.2% (Mpa)	240
Tensile Strength (Mpa)	260
Shear Strength (Mpa)	205
Elongation A5 (%)	8
Hardness Vickers (HV)	100

Physical Property	Value
Density	2.70 g/cm ³
Melting Point	605°C
Modulus of Elasticity	70 GPa
Electrical Resistivity	0.034 x 10 ⁻⁶ Ωm
Thermal Conductivity	188 W/mK
Thermal Expansion	24 x 10 ⁻⁶ / K

Fabrication Process	Rating
Workability – Cold	Fair
Machinability	Fair
Weldability – Gas	Excellent
Weldability –Arc	Excellent
Weldability –Resistance	Excellent
Brazability	Excellent
Solderability	Excellent

6005/6005A is usually supplied in tube or extruded form and in T5 temper.

Applications:-

- Tubing for furniture
- Railway & Bus Profile Structures
 - Pylons
 - Portable Ladders
- Higher Strength Sections

