Alloy Specification Sheet – 6082

Element	% Present
Silicon	0.7 to 1.3
Iron	0.5
Copper	0.1
Manganese	0.4 to 1.0
Magnesium	0.6 to 1.2
Zinc	0.2
Titanium	0.1
Chromium	0.25
Aluminium	Balance

Alloy 6082 is a medium strength alloy with excellent corrosion resistance and known as a structural alloy with the highest strength of the 6000 series alloys.

It is difficult to produce thin walled, complicated extrusion shapes in 6082 alloy and the extruded surface finish is not as smooth as other similar strength alloys in the 6000 series.

Mechanical Property	O	T4	T6
Proof Stress 0.2% (Mpa)	60	170	310
Tensile Strength (Mpa)	130	260	340
Shear Strength (Mpa)	85	170	210
Elongation A5 (%)	27	19	11
Hardness Vickers (HV)	35	75	100

Physical Property	Value
Density	2.70 g/cm3
Melting Point	555°C
Modulus of Elasticity	70 GPa
Electrical Resistivity	0.038 x 10 $^{-6}$ Ωm
Thermal Conductivity	180 W/mK
Thermal Expansion	24 x 10 $^{-6}$ / K

In the T6 and T651 temper, 6082 machines well.

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

Applications:-

- High Stress Construction
- Transport
- Bridges
- Cranes
- Beer Barrels