Aluminium Alloy

6082 T6/T651

MG METALS

Product Information

Aluminium alloy 6082 is a medium strength alloy and has excellent corrosion resistance. With it being the highest strength of the 6000 series, alloy 6082 is also known as a structural alloy.

Alloy 6082 is the most commonly used for machining in plate form. The addition of a large amount of manganese controls the grain structure which in turn results in a stronger alloy.

Typical Applications

- Automotive
- Bridges
- Cranes
- Highly stressed applications
- Ore skips
- Milk churns
- Beer barrells

Temper Types

O	Soft
T4	Solution heat treated and naturally aged to a substantially stable condition
T6	Solution heat treated and artificially aged
T651	Solution heat treated, stress relieved by stretching then artificially aged

Available Forms

Sheet, bar and extrusion typically in T6.
Plate typically in T651.

Related Specification

- AA6082
- HE30/HP30
- ENAW-6082
- ISO: AL si1MgMn
- DIN 3.2315
- A96082

Aluminium Alloy

6082 T6/T651

MG METALS

Chemical Composition

	Mn	Fe	Mg	Si	Cu	Zn	Ti	Cr	Al
Min.	0.40	–	0.60	0.70	–	–	–	–	Bal
Max.	1.00	0.50	1.20	1.30	0.10	0.20	0.10	0.25	Bal

Typical Physical and Mechanical Properties	Typical Values
Density	2.71 g/cm3
Melting point	555˚c
Modulus of elasticity	70 GPa
Thermal conductivity	180 W/m.k
Tensile strength	280 MPa Min
Proof stress	240 MPa Min
Hardness Brinell	89 HB

Weldability

Aluminium alloy 6082 has very good weldability but strength is lowered in the weld zone.

When welded to itself, alloy 4043 wire is recommended. If welding Aluminium alloy 6082 to 7005, then the wire used should be alloy 5356.