

# 5083 ALUMINIUM

## COMMERCIAL ALUMINIUM ALLOY

### PRODUCT DESCRIPTION

Known as an alloy which offers exceptional performance characteristics in the most extreme environments, **5083** benefits from superior corrosion resistance in industrial, chemical and seawater environments. It has the highest strength of all non-heat treatable alloys. The material also retains excellent strength after welding. 5083 should not be used in temperatures above 65°C.

### KEY FEATURES

- Excellent extreme environment performance
- Exceptional strength after welding
- Highest strength of all non-heat treatable alloys

### APPLICATIONS

- Pressure vessels, shipbuilding
- Vehicle bodies, tipper trucks, mine skips and cages
- Rail cars



### MATERIAL SPECIFICATIONS

- GM41
- A95083
- AlMg 4.5 Mn
- Al Mg 4.5 Mn 0.7.

### AVAILABILITY

Plate and sheet.

### CHEMICAL COMPOSITION (weight %)

	Mn	Fe	Cu	Mg	Si	Zn	Cr	Ti	Al
Min	0.40			4.00			0.05	0.15	Bal
Max	1.00	0.40	0.10	4.90	0.40	0.25	0.25	0.15	Bal

### MECHANICAL PROPERTIES

Tensile Strength	300 MPa
Elongation A50 mm	23%
Shear Strength	175 MPa
Hardness Vickers	75 HV
Proof Stress	145 MPa

### PHYSICAL PROPERTIES

Density	2.65 g/cm <sup>3</sup>
Melting Point	570°C
Thermal Expansion	25 x10 <sup>-6</sup> /K
Modulus of Elasticity	72 GPa
Thermal Conductivity	121 W/m.K

\* The properties above are for material in the Soft O/H111 condition