

DESCRIPTION

Aluminium Alloy 5083 is known for exceptional performance in extreme environments. 5083 is highly resistant to attack by both seawater and industrial chemical environments. Alloy 5083 also retains exceptional strength after welding. It has the highest strength of the non-heat treatable alloys but is not recommended for use in temperatures in excess of 65 °C.

APPLICATIONS

AA-5083 is typically used in:

- Shipbuilding
- Vehicle bodies
- Pressure vessels
- Marine Applications
- Drilling Rigs
- Transportation Equipments
- TV/Communication Towers

Please note that Mechanical Properties shown are for H-111 temper

CHEMICAL COMPOSITION

Element	Composition %
Magnesium (Mg)	4.0 – 4.90
Manganese (Mn)	0.40 – 1.00
Iron (Fe)	0.40 Typical
Silicon (Si)	0.0 – 0.40
Titanium (Ti)	0.05 – 0.25
Chromium (Cr)	0.05 – 0.25
Copper (Cu)	0.10 Typical
Zinc (Zn)	0.0 – 0.10
Others (Total)	0.0 – 0.15
Other (Each)	0.0 – 0.05
Aluminium (Al)	Balance

SUPPLIED FORMS

At **Dinco Trading Co** we stock Aluminium Alloy 5083 in the form of sheets/plates

MECHANICAL PROPERTIES

Property	Value
Proof Stress	115 Min MPa
Tensile Strength	270 - 345 MPa
Elongation at 50 mm	15 Min %
Hardness Brinell	75 HB

WELDABILITY

Weldability – Gas: Average
Weldability – Arc: Excellent
Brazeability: Poor
Weldability – Resistance: Excellent

FABRICATION

Machinability: Poor
Workability – Cold: Average

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.65 g/cm ³
Melting Point	570 °C
Thermal Expansion	25 ×10 ⁻⁶ /K
Modulus of Elasticity	72 GPa
Thermal Conductivity	121 W/m.K
Electrical Resistivity	0.058 ×10 ⁻⁶ Ω.m

SIZES RANGE FOR AA5083-H 111

We stock Aluminium Alloy 5083 H111 at our warehouse in the UAE.

Please contact us on sales@dinco.ae with your inquiries or call: 06-5432452