

## DESCRIPTION

Aluminium Alloy **AA-5083** is known for exceptional performance in extreme environments. **AA-5083** is highly resistant to attack by both seawater and industrial chemical environments. **AA-5083** also retains exceptional strengths after welding. It has the highest strength in 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:

- Ship Building
- Vehicle Bodies
- Pressure Vessels
- Marine Applications
- Transportation Equipment
- Drilling Rigs

Please note that Mechanical Properties shown are for **H111\*** temper.

**\*H111**-To achieve this temper, the metal is strain hardened to a strength that is lower than what is permissible for H11 (1/8-hard)

## CHEMICAL COMPOSITION

Element	Composition %
Magnesium (Mg)	4.00 – 4.90
Manganese (Mn)	0.40 – 1.00
Iron (Fe)	0.40 Typical
Silicon (Si)	0.00 - 0.40
Titanium (Ti)	0.05 - 0.25
Chromium (Cr)	0.05 - 0.25
Copper (Zn)	0.10 Typical
Zinc (Zn)	0.00 - 0.10
Others (Total)	0.00 - 0.15
Others (Each)	0.00-0.05
Aluminium (Al)	Balance

## SUPPLIED FORMS

At **Dinco Trading LLC** we stock/offer Aluminium Alloy **AA-5083** in the form of - Flat sheet & 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 <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
Electrical Resistivity	0.058 x10 <sup>-6</sup> Ω .m

## SIZES RANGE FOR AA5083-H111

We stock Aluminium Alloy **AA-5083** at our warehouses in Dubai and Sharjah.  
 Please contact us on [sales@dinco.ae](mailto:sales@dinco.ae) with your inquiries or call **04-3312182**, or visit: [www.dinco.ae](http://www.dinco.ae)