Aluminium Alloy AA 5083 – H111 Data Sheet

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 **AA5083-H111** in the form of - Sheet & plates. These are with **DNV Class certifications**

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
Brazability: Poor
Weldability - Resistance: Excellent

FABRICATION

Machinability: Poor
Workability – Cold: Average

GENERIC PHYSICAL PROPERTIES

Property	Value
Density	2.65 g/cm³
Melting Point	570 °C
Thermal Expansion	25 x 10^{-6}/K
Modulus of Elasticity	72.0 GPa
Thermal Conductivity	121 W/m.K
Electrical Resistivity	0.058 x 10^{-6} Ω .m

SIZES RANGE FOR AA 5083-H 111

We stock Aluminium Alloy **AA-5083** at our warehouses in Dubai & Sharjah. Please contact us on sales@dinco.ae with your inquiries or call: 04-3312182 or visit www.dinco.ae