

Njördal™ H116

International designation conforms AA 5083 – EN AW 5083 – AlMg4,5Mn0,7

Coil, sheet & plate for approved marine and offshore applications

Chemical Composition *(in weight-%)*

Element	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Others (each)	Others (total)
Min.				0.40	4.00	0.05				
Max.	0.40	0.40	0.10	1.00	4.90	0.25	0.25	0.15	0.05	0.15

Physical Properties *(typical values)*

Density (g/cm³)	Elastic Modulus (GPa)	Shear Modulus (GPa)	Spec. Heat Capacity (J/gK)	Melting range (°C)	Thermal Conductivity (W cm⁻¹ K⁻¹)					Electrical Conductivity (mΩ⁻¹ mm²)
					-200°C	-60°C	+20°C	+100°C	+200°C	
2.66	69.20	25.80	1.03	575–640	0.61	1.06	1.20	1.31	1.40	15–19

Mechanical Properties *(as delivered)*

Rp0,2 (MPa)		Rm (MPa)		A5.65/S0 (%)		A50 (%)
Min.	Typical	Min.	Typical	Min.	Typical	Min.
220	250	305	340	10	12	10

Mechanical Properties *(after welding, strength is that of temper H111)*

Rp0,2 (MPa)		A5.65/S0 (%)	A50 (%)
Min.	Min.	Min.	Min.
145	290	14	16

Minimum guaranteed strength values are equal to strength values of alloy 5383.

Corrosion Resistance

Hydro Njördal H116 is a marine grade alloy and shows an excellent corrosion resistance in a marine environment. It does not require any surface treatment except for decorative purposes. Even longtime exposure to a saltwater regiment will not lead to any loss of function or deterioration of mechanical properties.

Weldability

Hydro Njördal H116 shows an excellent weldability in classic fusion welding techniques as well as in friction stir welding or laser welding. Recommended welding wires for fusion welding are AA 5183 (S- AlMg4,5Mn0,7) and AA 5556A (S- AlMg5Mn).

Bendability *(t = material thickness)*

Thickness (mm)	Inner bending radius at 90°
> 3.0–6.0	2.5 t
> 6.0–8.0	4.0 t

Note: H116 is to be used for constructions with large bending radii only.

Available Product Range

Thickness (mm)	Width (mm)	Length (mm)
3.0–8.0	800–2 000	1 500–12 000

Waiver

This data sheet may only be considered as a general information of the properties which the described material normally would have. However we hereby waive any liability or warranty that the particular products delivered to Hydro's customer will show such properties. A binding liability or warranty with regard to specific properties of a product to be delivered by Hydro is subject to an individual specification to be agreed by Hydro and Hydro's customer as part of an individual delivery order or delivery agreement for certain products.