

# 5083 - ALUMINIUM ALLOY

Typical Analysis (Ave. values %)	Mg	Mn	Fe	Si	Zn	Cr	Ti	Cu	Al
	4.5	0.7	0.4	0.4	0.25	0.15	0.15	0.1	93.0
NEAREST STANDARD	BS					ISO			
	EN AW-5083					Al Mg4.5Mn0.7			

DESCRIPTION	High fatigue strength, excellent resistance to sea water and marine atmosphere. Good for forming in the in the soft temper condition. Suitable for anodising. Standard condition of supply - Temper H116.
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APPLICATIONS	Welded components for shipbuilding, masts, decks, storage tanks. Road and rail tanks. Pressure vessels, pipes and tubes. Tools. Chemical apparatus.
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MECHANICAL PROPERTIES	Temper	Tensile strength MPa	0.2% Proof stress MPa	Elong.A5 %	Elong.A50 %	Hardness Vickers
	O	275-300	125-145	17-23	22	75
	H112	310-330	205-240	10-17	16	95
	H114	345-360	270-275	6-16	14	105
	<b>H116</b>	<b>380</b>	<b>305</b>	<b>10</b>	<b>9</b>	<b>110</b>
	H118	400	335	9	8	115
	H119	420	370	5	5	120

FABRICATION PROPERTIES	Machinability	Good
	Extruding	Fair
	General	Fair

PHYSICAL PROPERTIES	Density	2.66 (kg/dm <sup>3</sup> )
	Melting point (Liquidus)	640°C
	Melting point (Solidus, Eutectic)	580°C
	Coefficient of thermal expansion	24- $\mu\text{mm}^{-1}\text{K}^{-1}$
	Thermal conductivity	117-W m <sup>-1</sup> K <sup>-1</sup>
	Specific heat capacity	899 JKg <sup>-1</sup> K <sup>-1</sup>
	Electrical resistivity	60 n $\Omega$ m
	Electrical conductivity	29% IACS

<b>JOINING PROPERTIES</b>	Spot welding	Excellent
	Soldering	Poor
	Brazing	Poor
	Oxy acetylene welding	Fair
	Gas shielded arc welding	Excellent

<b>CORROSION RESISTANCE</b>	Industrial atmosphere	Excellent
	Rural atmosphere	Excellent
	Marine atmosphere	Excellent
	General	Excellent

Cold Rolled Plate temper H116										
<b>SIZE RANGE</b>	16	19.05	20	25	32	40	45			

Sizes normally stocked in Australia. Some branches may not hold the entire range.  
Other sizes available on request

<b><u>LOCATIONS</u></b>						
<b>Bohler Uddeholm Australia Pty Ltd ABN 15000013052</b>						
Sydney	129-135 McCredie Rd Guildford	2161	Ph (02) 8724 5554	Fax (02) 8724 5555		
Newcastle	3 Pavilion Pl Cardiff	2285	Ph (02) 4954 6611	Fax (02) 4956 5773		
Albury	1 Eames St Albury	2640	Ph (02) 6041 3399	Fax (02) 6041 1820		
Wollongong	40 Doyle Ave Unanderra	2526	Ph (02) 4272 6544	Fax (02) 4272 7563		
Marayong	1/21 Binney Rd Marayong	2148	Ph (02) 9831 4431	Fax (02) 9671 1682		
Melbourne	282-290 Greens Rd Dandenong	3175	Ph (03) 9767 5554	Fax (03) 9767 5555		
Bayswater	4 Ramage St Bayswater	3153	Ph (03) 9729 7356	Fax (03) 9738 0850		
Adelaide	1 Williams Cir Pooraka	5095	Ph (08) 8368 4554	Fax (08) 8368 4555		
Brisbane	12-18 Limestone St Darra	4076	Ph (07) 3712 9554	Fax (07) 3712 9555		
Townsville	9-11 Caldwell St Garbutt	4814	Ph (07) 4479 4800	Fax (07) 4725 1316		
Perth	29-33 Gauge Cir Canningvale	6155	Ph (08) 9455 8672	Fax (08) 9455 8673		
Kewdale	5 Beete St Welshpool	6106	Ph (08) 9350 9582	Fax (08) 9350 9683		
Launceston	20 Murphy St Invermay	7248	Ph (03) 6334 3542	Fax (03) 6331 4001		
<a href="http://www.buau.com.au">www.buau.com.au</a>						
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