

# 6061 - ALUMINIUM ALLOY

Typical Analysis (Ave. values %)	Mg	Mn	Fe	Si	Zn	Cr	Ti	Cu	Al
	1.0	0.15	0.7	0.6	0.25	0.2	0.15	0.3	96.5
NEAREST STANDARD	BS					ISO			
	EN AW-6061					Al Mg1SiCu			

<b>DESCRIPTION</b>	Heat treatable alloy of medium strength, good corrosion resistance and weldability.
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<b>APPLICATIONS</b>	Road and rail vehicle frames. Heavy duty structures.
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<b>MECHANICAL PROPERTIES</b>	Temper	Tensile strength MPa	0.2% Proof stress MPa	Elong.A5 %	Elong.A50 %	Hardness Vickers
	O	125	55	18-27	26	30
	T4	180-235	110-140	14-21	16-21	70
	<b>T6</b>	<b>260-310</b>	<b>240-270</b>	<b>7-14</b>	<b>8-12</b>	<b>100</b>

<b>FABRICATION PROPERTIES</b>	Machinability	Good
	Extruding	Good
	General	Fair

<b>PHYSICAL PROPERTIES</b>	Density	2.70 (kg/dm <sup>3</sup> )
	Melting point (Liquidus)	650°C
	Melting point (Solidus, Eutectic)	580°C
	Coefficient of thermal expansion	23.3- $\mu\text{m m}^{-1}\text{K}^{-1}$
	Thermal conductivity	166-W m <sup>-1</sup> K <sup>-1</sup>
	Specific heat capacity	895 JKg <sup>-1</sup> K <sup>-1</sup>
	Electrical resistivity	40 n $\Omega$ m
	Electrical conductivity	43% IACS

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

<b>CORROSION RESISTANCE</b>	Industrial atmosphere	Good
	Marine atmosphere	Good
	General	Good

Round cold Drawn Temper T6										
<b>SIZE RANGE</b>	22.22	40	60	80	100	115	150	190	260	
	25	45	65	85	101.6	120	160	200		
	30	50	70	90	105	130	170	220		
	35	55	75	95	110	140	180	250		
Plate Cold Rolled Temper T6										
<b>SIZE RANGE</b>	10	20	40	63.5	80	95.2	114.3	140	254	
	12.7	25.4	44.45	69.85	82.55	101.6	115	152.4	305	
	15.9	31.8	50.8	70	88.9	105	120	180		
	19.1	38.1	57.15	76.2	90	110	130	203		

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

Every care has been taken in listing this information, particularly specifications voestalpine High Performance Metal ( Australia ) Pty Ltd will not accept responsibility for any loss or other damage caused to any person or Company as a result of the use of information contained herein

Notes