Technical Datasheet

EN AW-6061 / AlMg1SiCu

Edition February 2005

Euralco Europe BV
www.euralco.com

BRIEF DESCRIPTION

6061 T6(51) is a highly versatile, medium strength alloy whose main characteristics are corrosion resistance, weldability and good mechanical strength. It is mainly used in machine parts and welded constructions.

PROCESSING METHODS

Weldability

WIG/MIG	excellent
filler alloy	AA 4043
	AA 5356
By resistance	excellent

Anodizing

technical	excellent
decorative	good

Machinability good

Corrosion Behaviour
excellent in inland atmosphere
good in marine atmosphere

AVAILABILITY

6061 sheet and plate is available in temper T6 up to 6mm and T651 above 6mm (quenched – stretched – artificially aged) in the following dimensions :

Thickness	Max. width
0.8 - 2.0 mm	2000 mm
2.0 - 3.0 mm	1520 mm
3.0 - 12 mm	2400 mm
12 - 200 mm	1520 mm

CHEMICAL COMPOSITION (weight %)

Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti +Zr
0.4	max.	0.15	max.	0.8	0.04	max.	
0.8	0.7	0.40	0.15	1.2	0.35	0.25	---

PHYSICAL PROPERTIES (nominal values)

Density	2.70 g/cm^3
Elastic modulus	69000 MPa
Lin. thermal expansion coefficient (20°-100°C)	23.4 10^{-6} K^{-1}
Thermal conductivity (Temper T651)	150 - 170 W/mK
Electrical conductivity (Temper T651, 20°C)	23 - 26 MS/m

MECHANICAL STRENGTH

Min. tensile properties (Temper T6(51) / EN Standard 485-2)

Thickness (over ... to)	Rm [MPa]	Rp0.2 [MPa]	A50 [%]
0.8 - 6 mm	310	260	10
6.0 - 12.5 mm	300	255	9
12.5 - 100 mm	295	240	7
100 - 150 mm	275	240	5

Typical strength for various thicknesses

Thickness (over ... to)	Rm [MPa]	Rp0.2 [Mpa]	A50 [%]	HB
0.8 - 25 mm	330	295	12	110
25 - 60 mm	330	295	12	105
60 - 150 mm	320	285	11	100