

Aluminium Alloy AA2011 (D51) Conforming to RoHS(2002/95/EC) and ELV(2000/53/EC)



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Alloy AA2011 conforming to RoHS is developed specifically for electronics industry. It is renowned for its excellent machining characteristics and short chips. In the electronics industry the environment friendly and technologically advanced AA2011 RoHS alloy is a direct replacement for 2011 alloy. Lead content of less than 0.4% but it retains all the high quality properties and is a technical equivalent to the original 2011 alloy.

Chemical Composition AA2011:

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
AA2011	max. 0,40	max. 0,70	5,0 6,0	max 0,05	max 0,05	max 0,05	max. 0,30	max. 0,05	0,20 0,40	max. 0,05	max. 0,15	Bi=0,5-0,6	

Mechanical properties AA2011:

Cold Drawn									
Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3	5 to 40	0.197 to 1.575	320	45	270	40	10	10	90
	40 to 50	1.575 to 1.969	300	43	250	36	10	12	90
	50 to 76.2	1.969 to 3	280	40	210	30	10	14	90
T8	5 to 76.20	0.197 to 3	370	54	270	40	8	12	110
Extruded									
Temper	Dimension		Rm min.		Rp _{0.2} min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4	20 to 180	0.788 to 7.087	275	40	125	18	14	14	80
T6	20 to 75	0.788 to 2.953	310	45	230	33	8	10	90
	75 to 180	2.953 to 7.087	295	43	195	28	6	10	90

Comparative Characteristics AA2011:

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	D	D	A	C	D	D	B
T8	D	B	A	C	D	D	D
T4	D	D	A	C	D	D	B
T6	D	B	A	C	D	D	D

Rating: A=Excellent, B=Good, C=Fair, D=Poor

Physical Properties AA2011:

Density (g/cm ³)	2,82
Modulus of elasticity (MPa)	70300
Thermal conductivity (W/m K)	152-173
Coefficient of thermal expansion (20-100°) 10 ⁻⁶ /K	23,1
Electrical resistivity (MS/m)	22,6-26,1 (39%-45% IACS)

