Aluminium alloy AA 2044

Conforming to RoHS III (2018/740/EU) and ELV(2000/53/EC)

Alloy AA 2044 is developed specifically for electronics and automotive industry for excellent machining characteristics and mechanical properties. AA 2044 alloy is a direct replacement for 2030 and 2007, where lead it is substituted with tin and bismuth and retains all the technological properties of the original alloys.

Chemical Composition AA 2044

Alloy	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Each	Total	Other	Additional
AA 2044	max. 0.80	max. 0.70	3.30 4.50	0.20 1.00	0.50 1.30	max. 0.10	max. 0.50	max. 0.20	max. 0.05	max. 0.05	max. 0.15	Sn=0.75-1.3 Bi=0.2-0.4 Ni=max. 0.1	

Mechanical properties AA 2044

Cold Drawn

Temper	Dimension		Rm min.		$Rp_{0.2}$ min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T3, T351	7 to 76.2	0.275 to 3	370	54	240	35	7	7	100

Extruded

Temper	Dimension		Rm min.		$Rp_{0.2}$ min.		A	A (2")	HB min.
	mm	inch (")	MPa	ksi	MPa	ksi	% min.		
T4, T4510, T4511	20 to 80	0.788 to 3.149	370	54	250	36	8	8	100
T4, T4510, T4511	80 to 180	3.149 to 7.087	340	50	220	32	8	8	90

Comparative Characteristics AA 2044

Temper	Corrosion resistance		Cold workability	Anodizing Response	Brazeability	Weldability	
	General	Stress				Gas	Arc
T3	●	●●	●●●	●●●	●	●	●●●
T351	●	●●●	●●●	●●●	●	●	●●
T4, T4510, T4511	●	●●	●●●	●●●	●	●	●●●

Rating: ●●●● - Excellent | ●●● - Good | ●● - Fair | ● - Poor

Physical Properties AA 2044

Density (g/cm³)	2.81
Modulus of elasticity (MPa)	74650
Thermal conductivity (W/m K)	170-200
Coefficient of thermal expansion (25-100°) 10^{-6} /K	23.0-24.8
Electrical conductivity at 20°C (MS/m)	18-22 (31%-40% IACS)

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