



Aluminium sheet, coil & plate alloy 7075

Material Data Sheet

The T6 and T651 tempers have fair machinability, resistance welding and corrosion resistance ratings. This alloy is heavily utilised by the aircraft and ordnance industries because of its superior strength.

Mechanical Properties

Tensile (500" dia Specimen)					Brinell Hardness 500kg 10mm	Ultimate Shearing Strength		Fatigue* Endurance Limit - R.R. Moore Type		Modulus	
Ultimate		Yield		Elongation/4D		KSI	Mpa	KSI	Mpa	KSI x 10 ³	Gpa
KSI	Mpa	KSI	Mpa	%							
70	483	60	414	13	135	42	290	18	125	10.6	73.1

*5 x 10E8 cycles of reversed stress

Physical Properties

Characteristic	Imperial	Metric	
Normal Density (68 °F/20 °C)	0.101 lbs/in ³	2.80 °C Mg/m ³	
Melting Range	990 °F - 1175 °F	532 °C - 635 °C	
Specific Heat (212 °F/100 °C)	0.23 BTU/lb - °F	960 J/kg - °C	
Coefficient of Thermal Expansion	Linear		
	68 °F - 212 °F	13.0 micro in/in - °F	
	20 °C - 100 °C		
	Volumetric		
68 °F / 20 °C	3.78 x 10 ⁻⁵ in ³ /in ³ - °F	68 x 10 ⁻⁶ m ³ /m ³ - °C	
Thermal Conductivity (68 °F / 20 °C)	T651	75 BTU/ft - hr - °F	130 W/m - °C
Electrical Conductivity (68 °F / 20 °C)	Equal Volume	T651	33% IACS
	Equal Weight	T651	50% IACS

Chemical Composition

Weight %	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Each	Total
Minimum	-	-	1.2	-	2.1	0.18	5.1	-	-	-
Maximum	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.15

Comparative Characteristics

Corrosion Resistance		Cold Workability	Machinability	Anodise Re-sponse	Brazability	Weldability		
General	Stress					Gas	Arc	Spot
D	C	D	B	C	D	D	B	B

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