

7175 Aluminium

Technical Datasheet



Commercial Aluminium Alloy

Service. Quality. Value.

Applications

- Aircraft structural parts
- Rivets
- Bolts
- Ordnance

Key features:

- High mechanical strength
- Heavily utilised by the aerospace industry
- High fracture toughness
- Good resistance to stress corrosion cracking (SCC)

Product Description

7175 aluminium alloy is typically utilised in applications where improved formability and toughness are required. Used extensively in the aerospace industry, the combination of high mechanical strength, fracture toughness and stress corrosion cracking resistance, makes this alloy suitable for structural aircraft applications. The T-73 temper eliminates the development of stress corrosion cracking (SCC).

Weldability

Poor

Availability

Bar, sheet, plate

Chemical Composition (weight %)

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Al	Others
min.			1.20		2.10	0.18	5.10		Rem	0.05
max.	0.15	0.20	2.00	0.10	2.90	0.28	6.10	0.10	Rem	0.15

Typical Physical Properties

Characteristic		English	Metric
Nominal Density (68 °F/20 °C)		0.101 lbs./in. ³	2.80 Mg/m ³
Melting Range		990 °F - 1175 °F	532 °C - 635 °C
Specific Heat (212 °F/100 °C)		0.207 BTU/lb. - °F	865 J/kg - °K
Coefficient of Thermal Expansion	Linear 68 °F-212 °F 20 °C-100 °C	13.0 micro in./in.-°F	23.4 micro m/m -°K
	Volumetric 68 °F/20 °C	3.78 x 10 ⁻⁵ in. ³ /in. ³ -°F	68 x 10 ⁻⁶ m ³ /m ³ -°K
Thermal Conductivity (68 °F/20 °C)	T651	82 BTU/ft. - hr. - °F	142 W/m - °K
	T7351	94 BTU/ft. - hr. - °F	163 W/m - °K
Electrical Conductivity (68 °F/20 °C)	Equal Volume	T651	36% IACS
	Equal Volume	T7351	42% IACS
		T651	107% IACS

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

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Smiths Birmingham 0121 728 4940
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Quality & Testing:



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