

2219 Aluminium

Technical Datasheet



Service. Quality. Value.

High Strength Aluminium Alloy

Applications

- Space boosters
- Fuel tanks
- High temperature structural applications in the aerospace sector

Product Description

2219 Aluminium is a high strength alloy used in high temperature structural applications including space boosters and fuel tanks. The alloy benefits from good mechanical properties combined with good machinability. With good fracture toughness, the alloy is useful over a temperature range of -452° to 600 °F. The T8 temper of 2219 aluminium is resistant to stress corrosion cracking.

Weldability

The alloy is readily weldable.

Key features:

- High strength
- Good fracture toughness
- Readily weldable
- Good machinability

Related Material Specifications

- ASTM B211
- AMS 4162
- ASTM B221
- AMS 4163

Machinability

Good

Availability

Bar, sheet, plate

Chemical Composition (weight %)

Weight (%)	Al	Si	Fe	Cu	Mn	Mg	Zn	Ti	V	Zn	Others
min.	Bal			5.80	0.20			0.02	0.05	0.10	0.05
max.	Bal	0.20	0.30	6.80	0.40	0.02	0.10	0.10	0.15	0.25	0.15

Mechanical Properties

Bar & Extrusions:					
Material	Temper	Direction	Tensile Strength ksi	Yield Strength ksi	Elongation in 2" (%)
2219 (AMS 4162)	T8511	L	58	42	6
2219 (AMS 4162)	T8511	LT	56	39	4
Sheet & Plate (bare)					
Material	Temper	Direction	Tensile Strength ksi	Yield Strength ksi	Elongation in 2" (%)
2219 (QQ-A-250/30)	0	0.020" - 2.00"	32 max	16 max	12
2219 (QQ-A-250/30)	T351	0.250" - 2.00"	46	28	10
2219 (QQ-A-250/30)	T351	0.250" - 2.00"	62	46	7-8
Sheet & Plate (Clad) Temper T81/T851					
Material	Temper	Direction	Tensile Strength ksi	Yield Strength ksi	Elongation in 2" (%)
2219 (AMS 4094)	T81/T851	0.020" - 0.039"	49	37	6
2219 (AMS 4094)	T81/T851	0.039" - 0.099"	55	41	7
2219 (AMS 4094)	T81/T851	0.099" - 0.249"	58	43	7
2219 (AMS 4094)	T81/T851	0.249" - 0.499"	58	42	8

UK Service Centres:

Smiths Belfast **02895 908 897**
Smiths Biggleswade **01767 604 704**
Smiths Birmingham **0121 728 4940**
Smiths Bristol **0117 971 2800**
Smiths Chelmsford **01245 466 664**
Smiths Gateshead **0191 469 5428**
Smiths Horsham **01403 261 981**

Smiths Leeds **0113 307 5167**
Smiths Manchester **0161 794 8650**
Smiths Norwich **01603 789 878**
Smiths Nottingham **0115 925 4801**
Smiths Redruth **01209 315 512**
Smiths Verwood **01202 824 347**
Main Office **0845 527 3331**

Quality & Testing:



www.smithmetal.com info@smithmetal.com

All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.