

Alloy 100 (AMS 6478, AMS 6532)

Smiths Advanced Metals

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High Strength Steel

Offering outstanding ductility & toughness.

Alloy 100 is a steel alloy developed for applications requiring high strength and fracture toughness.

Our steel bars offer various attractive performance characteristics, which makes the alloy an ideal candidate for demanding applications.

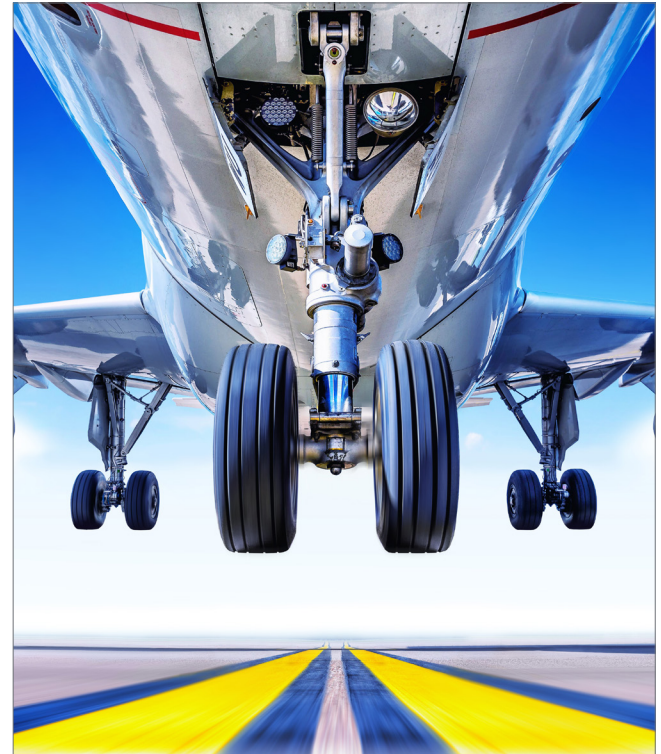
Alloy 100 combines high strength and hardness while being exceptionally ductile and tough. The alloy is not only strong and durable but also provides outstanding resistance to stress corrosion, cracking, and fatigue. We stock Alloy 100 steel bars which we also process in-house.

Product Suitability

The product is used to produce landing gear, jet engine shafts, structural members, and armour. The ballistics sector also uses Alloy 100.

Grades / Specifications

- AMS 6478
- AMS 6532
- MIL HDBK-5
- McDonnell Douglas MMS 217



Benefits

- High hardness and strength
- Exceptional ductility and toughness
- High fracture toughness
- Outstanding resistance to stress corrosion cracking

* Chemical Composition (weight, %)

	C	Mn	Si	P	S	P+S	Cr	Ni	Co	Mo	Ti	Al	O	N
Min	0.21						2.90	11.00	13.00	1.10				
Max	0.25	0.10	0.10	0.008	0.005	0.010	3.30	12.00	14.00	1.30	0.015	0.015	0.0020 (20ppm)	0.0015 (15ppm)

* As per AMS 6532

Machinability

Carbide tools are recommended when machining, as the alloy is more difficult to machine than alloys such as 4340. After basic machining, stress relieving is possible at 800°F (427°C) for 1 to 3 hours.

Distortion

Although distortion is minimal during the heat treatment process, mechanical straightening may be required to produce certain parts. A low-temperature stress relief is recommended prior to straightening to provide the best balance.

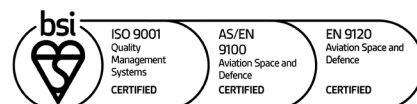
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