

Alloy 625

Smiths Advanced Metals

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Nickel-Chromium Alloy Bar

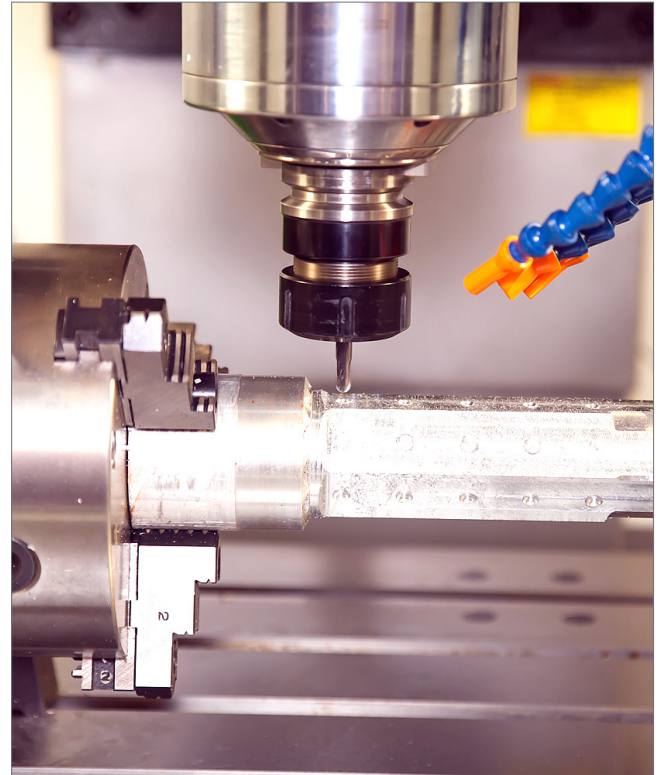
Developed for high-temperature strength with excellent corrosion resistance.

Alloy 625 (often referred to as Inconel® 625) combines high strength and toughness with excellent corrosion resistance.

Molybdenum and Niobium are added during the alloying process to strengthen the material. The result is a product that is strong and offers superior corrosion resistance in a broad range of corrosive media. The product also maintains these characteristics at elevated temperatures.

Alloy 625 is resistant to the effects of oxidation and carburisation and offers excellent stress corrosion cracking resistance. Superior fatigue strength and weldability are also positive features. The alloy may be formed using various hot and cold forming methods.

Alloy 625 finds use in aerospace engine exhaust systems, subsea cable connectors, heat exchangers and submarine propulsion motors. [Smiths Advanced Metals](#) offers [Alloy 625 bars](#) from stock in various sizes to suit your engineering requirements.



Grades / Specifications

- 2.4856
- UNS N06625
- AMS5666
- ASME SB446
- ASTM B446
- NACE MR0103
- NACE MR0175

Benefits

- Excellent oxidation resistance up to 1093°C
- Good strength and toughness
- Excellent weldability
- Excellent stress corrosion cracking resistance

*Chemical Composition (weight %)

	Cr	Ni	Mo	Co	Nb	Ti	C	Mn	Si	P	S	Fe	Al
min.	20.00	Rem	8.00		3.15								
max.	23.00		10.00	1.00	4.15	0.40	0.10	0.50	0.50	0.015	0.015	5.00	0.40

* As per AMS 5666

Mechanical Properties

	Bars ≤ 4" dia. or section	Bars > 4" dia. or section
0.2% Proof Stress	415 N/mm ²	345 N/mm ²
Tensile Strength	830 N/mm ²	760 N/mm ²
Elongation	30%	25%

* Properties as per ASTM B446

Physical Properties

Density (g/cm ³)	8.44
Melting Range (°C)	1280 – 1350
Specific Gravity	8.44
Magnetic Permeability (75°F, 200 oersted)	1.0006
Specific Heat (Btu/lb X °F)	0.098

www.smithsadvanced.com

info@smithsadvanced.com



Stratton Business Park,
London Road, Biggleswade,
Bedfordshire SG18 8QB
Tel: **+44 (0) 1767 604710**

