

Alloy 718

Smiths Advanced Metals

Rev: SAM/datasheets/high-temperature-sheet/alloy-718/feb-2022

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Sheet with Exceptional Strength

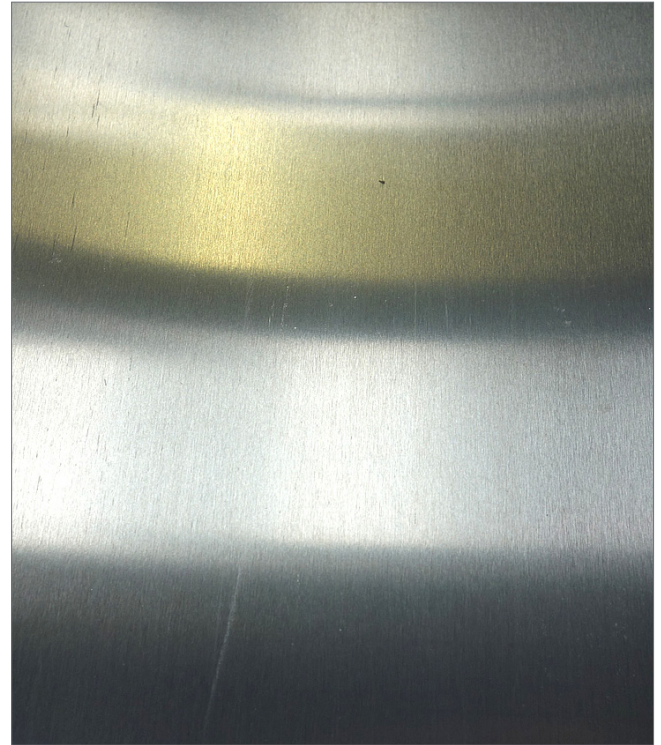
Nickel-chromium-cobalt-molybdenum alloy.

Alloy 718 is a nickel-chromium-cobalt-molybdenum alloy with exceptional strength and oxidation resistance at high temperatures.

The addition of aluminium, titanium, niobium and molybdenum gives the material superior strength. Alloy 718 is a precipitation-hardenable alloy that also offers high creep-stress rupture strength. The corrosion resistance of the alloy is good, with superior resistance to post-weld cracking.

The material is suitable for applications requiring high resistance to creep and stress rupture at elevated temperatures. Typical applications include aerospace engine components, power industry engines, fasteners and oil & gas sector components. Alloy 718 is also non-magnetic and may be used to fabricate complex parts and components.

Smiths Advanced stocks Alloy 718 sheets in various sizes, which we guillotine in-house to close tolerances.



Grades / Specifications

- AMS5596
- ASME SB670
- ASTM B670
- B50TF133
- B50TF14
- UNS N07718

Benefits

- Excellent mechanical properties
- Good corrosion resistance
- Excellent weldability

*Chemical Composition (weight %)

	Ni	Cr	Mo	Cu	Co	C	Mn	Si	P	S	Fe	Ti	Al	Nb	Ta	B
min.	50.00	17.00	2.80									0.65	0.20	4.75		
max.	55.00	21.00	3.30	0.30	1.00	0.08	0.35	0.35	0.015	0.015	Bal	1.15	0.80	5.50	0.05	0.006

* As per AMS 5596



Oil & Gas Applications

Alloy 718 is highly suitable for applications in the oil & gas sector.

Corrosion, extreme pressure and high temperatures offer potential vulnerability for oil & gas hardware. Alloy 718 offers superior pitting and crevice corrosion resistance. Combined with high strength and impressive oxidation resistance, the material performs well at sub-zero and elevated temperatures.

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