

Alloy 718

Technical Datasheet



Service. Quality. Value.

Nickel Chromium Alloy

Typical Applications

- Wellhead components
- Safety valves
- Downhole equipment
- Containment vessels
- Cryogenic tankage
- Gas turbine engines
- Components for liquid fuelled rockets
- Aircraft engines

Product Description

Alloy 718 is a nickel chromium alloy which can be readily fabricated and has outstanding welding characteristics, especially if resistance to postweld cracking is required. The ease in which Alloy 718 can be fabricated offers significant benefits to the customer in terms of economy and performance. The material offers a combination of high tensile, fatigue, rupture and creep strength making it an extremely versatile alloy. Alloy 718 is used in applications ranging from simple fasteners to cryogenic tanks and rocket fuel cylinders.

Key features

- High strength and hardness
- Good Mechanical Properties at Elevated Temperatures
- Low magnetic permeability
- Excellent corrosion resistance
- Oxidation resistant

Corrosion Resistance

Alloy 718 has versatile resistance to corrosion which is outstanding, even in severe corrosive environments. The material also shows superior resistance to high temperature effects such as oxidation and carburization. It is an excellent choice for seawater and sour gas applications.

Availability

Bar, tube, strip, plate, sheet

Weldability

Excellent

Chemical Composition (weight %)

	Ni	Fe	Cr	Cu	Mo	Nb	C	Mn	
min	50.0	rem	17.0		2.80	4.75			
max	55.0	rem	21.0	0.30	3.30	5.50	0.08	0.35	
	P	S	Si	Ti	Al	Co	B		
min				0.65	0.20				
max	0.015	0.015	0.35	1.15	0.80	1.0	0.006		

Mechanical Properties

Ultimate Tensile Strength, psi	135,000
0.2% Yield Strength psi	70,000
Elongation %	45
Hardness Rockwell B	100

*Typical room temperature properties, 1800°F annealed condition

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.

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Quality & Testing:



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