



Inconel IN718

Properties

Inconel IN718 is characterized by very good tensile, fatigue, and fracture strength as well as creep resistance up to temperatures of 700 ° C. It is corrosion resistant and easy to weld. Inconel IN718 can be heat-treated.

Application

The material is ideal for high temperature applications. It is used for:

- Gas turbines in the aerospace industry
- Pumps
- Measurement, energy, and process technologies.

Chemical Composition:

Fe	Ni	Cr	Nb	Mo	Ti	Co	Al	Mn	Si	Cu	C	P	S
Base	50 - 55%	17 - 21%	4.75 - 5.5%	2.8 - 3.3%	0.65- 1.50%	≤ 1.0	0.2 - 0.8%	≤ 0.35%	≤ 0.35	≤ 0.3	≤ 0.08	≤ 0.015	≤ 0.015

Mechanical and Thermal Properties:

Material Property	Unit	As Built	Heat Treated
Tensile Strength	MPa	1020 ± 50	1320 ± 100
Yield Strength (Rp 0.2%)	MPa	707 ± 50	1092 ± 100
Elongation at Break	%	29 ± 5	14 ± 3
E-Modulus	GPa	160 ± 20	
Hardness (DIN EN ISO 6508-1)	HRC	30	47
Max operating temperature	°C	650	650

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This data sheet contains approximate values. These values are influenced by part's geometry, additives, and environmental influences. They were developed based on current experiences and knowledge. Therefore, the above mentioned properties cannot be claimed legally binding nor can a definite purpose be derived.