

## Products & Sizes

Coil	Sheet	Plate	Bar	Precision Reroll Strip
0.020" - 0.160"	0.020" - 0.160"	0.1875" - 2.000"	0.250" - 10.000"	0.0008" - 0.015"

## 718 Chemical Composition

	Element	Min	Max
C	Carbon	-	0.008
Mn	Manganese	-	0.35
P	Phosphorus	-	0.015
S	Sulfur	-	0.015
Si	Silicon	-	0.35
Cr	Chromium	17.00	21.00
Ni	Nickel	50.00	55.00
Mo	Molybdenum	2.80	3.30
Nb	Columbium	4.75	5.50
Ti	Titanium	0.65	1.15
Al	Aluminum	0.20	0.80
Co	Cobalt	-	1.00
B	Boron	-	0.006
Cu	Copper	-	0.30
Ta	Tantalum	-	0.05
Fe	Iron	-	Balance

## Industry Standards

- PWA-LCS
- DFARS Compliant
- RR SABRe Edition 2
- GE Aircraft Engine (GT193)
- GE Aviation S-SPEC-35 AeDMS S-400
- EN 2.4668
- EN 10204

## Industry Applications

- Jet Engine
- Gas Turbine Operations
- Base Plates
- Rotor Bolts (Power Generation)
- Burst Discs

## Physical Properties

Property	Value
Electrical Resistivity	68°F (20°C)
Annealed	127 microhm-cm
Aged	121 microhm-cm

### Density and Specific Gravity

Property	Annealed Condition	Aged Condition
Density	0.296 lb./in <sup>3</sup> (8.19 g/cm <sup>3</sup> )	0.297 lb./in <sup>3</sup> (8.22 g/cm <sup>3</sup> )
Specific Gravity	8.19	8.22

### Thermal Conductivity

Temperature Range		Coefficients	
°C	°F	W/m·K	Btu/(hr/ft <sup>2</sup> /in/°F)
0-100	32-212	6.5	11.2

## Mechanical Properties

### Typical Short Time Tensile Properties as a Function of Temperature

- Solution Treatment: 1800°F (982°C) 1 hour
- Precipitation Treatment: 1325°F (718°C) 8 hours, Furnace Cool at 100°F (55°C) per hour to 1150°F (621°C) 8 hours

Inconel 718 machining often results in less tool life due to the work hardening and abrasion properties of the alloy. High cutting pressure and temperature also contributes towards work hardening, surface tearing, and deformation.

### Mechanical Properties and Yield Strength of Alloy 718

Product	Yield Strength Max (0.2% offset)	Ultimate Tensile Strength Max	Elongation (% in 2")
Sheet & Strip	80,000 psi (550 MPa)	14,000 (965 MPa)	30 (min)
Plate	105,000 psi (725 MPa)	150,000 (1,035 MPa)	30 (min)

### Solution Treated plus Precipitation Heat Treatment

Yield Strength Max (0.2% offset)	Ultimate Tensile Strength Min	Elongation (% in 2")
150,000 (1,035 MPa)	180,000 (1,240 MPa)	12 (min)