



# Specialty Metals – Strip Products

## Inconel® alloy 718

UNS N07718  
W.Nr 2.4668

Inconel® 718 is an age-hardenable Nickel-Chromium-Columbium (Niobium)-Molybdenum alloy with high strength, corrosion-resistance, and good fabrication characteristics. Inconel® 718 has high tensile, yield, and creep-rupture properties at high temperatures up to 1200°F (650°C).

Alloy 718 combines properties which make it suitable for a variety of fabricated component applications in both aircraft turbine engines and land-based turbines. These include seals, bellows, and many types of stamped metal components. The alloy is used in downhole and well head components for oil and gas wells.

Industries supplied include: Oil & Gas Extraction, Nuclear, Aerospace, Defense and Automotive.

### Nominal Composition

	C	Mn	Si	P	S	Cr	Ni	Mo	Nb	Ti	Al	Co	Fe
min						17.00	50.00	2.80	4.75	0.65	0.20		
max	0.08	0.35	0.35	0.015	0.015	21.00	55.00	3.30	5.50	1.15	0.80	1.00	balance

### Physical Properties

	At 70°F	At 20°C
Density	0.296 lb/in <sup>3</sup>	8.19 g/cm <sup>3</sup>
Modulus of Elasticity (E)	29 x 10 <sup>3</sup> ksi	200 GPa
Modulus of Rigidity (G)	11.6 x 10 <sup>3</sup> ksi	80 GPa
Coefficient of Expansion	7.7 microinches/in.-°F (70-600°F)	13.9 μm/m-°C (20-538°C)
Electrical Resistivity	47.5 μ ohm.in	121 μ ohm.cm
Thermal Conductivity	79 Btu-in./ft. <sup>2</sup> hr.-°F	11.4 W/m-K

### Applicable Specifications

Strip and Foil	AMS 5596, AMS 5597, ASTM B670
----------------	-------------------------------

### Typical Mechanical Properties

Condition	Heat Treatment	Tensile Strength	Suggested Operating Conditions
Annealed	1800°F (980°C)	120 – 140 ksi (830-965 MPa)	-330°F to 1200°F (-200°C to 650°C)
Spring Temper		180 - 230 ksi (1240 - 1585 MPa)	-330°F to 1200°F (-200°C to 650°C)
After Precipitation Heat Treat	Per AMS 5596	190 - 240 ksi (1310 - 1655 MPa)	-330°F to 1200°F (-200°C to 650°C)

INCONEL® is a registered trademark of the Special Metals Corporation group of companies.

Phone: 1.888.843.2350

Elgiloy Specialty Metals - Strip  
Products

1565 Fleetwood Dr.  
Elgin, IL 60123 USA

[WWW.ELGILOY.COM](http://WWW.ELGILOY.COM)

**LIMITATION OF LIABILITY AND DISCLAIMER OF WARRANTY:**

The content in these data sheets is provided primarily by third-party melting mills and is provided for reference only. It is not intended for engineering or design.

Applications may be discussed, however, Elgiloy Specialty Metals does not recommend or endorse any material for any particular end use or application.

The data included in this data sheet are typical values and may vary.

Elgiloy Specialty Metals makes no representations or warranties, express or implied, as to the accuracy, completeness, condition, suitability, performance, fitness for a particular purpose, or merchantability of any information contained in any data sheet.

In no event will Elgiloy Specialty Metals be liable for any damages whatsoever arising from the use of the information included in the data sheets.