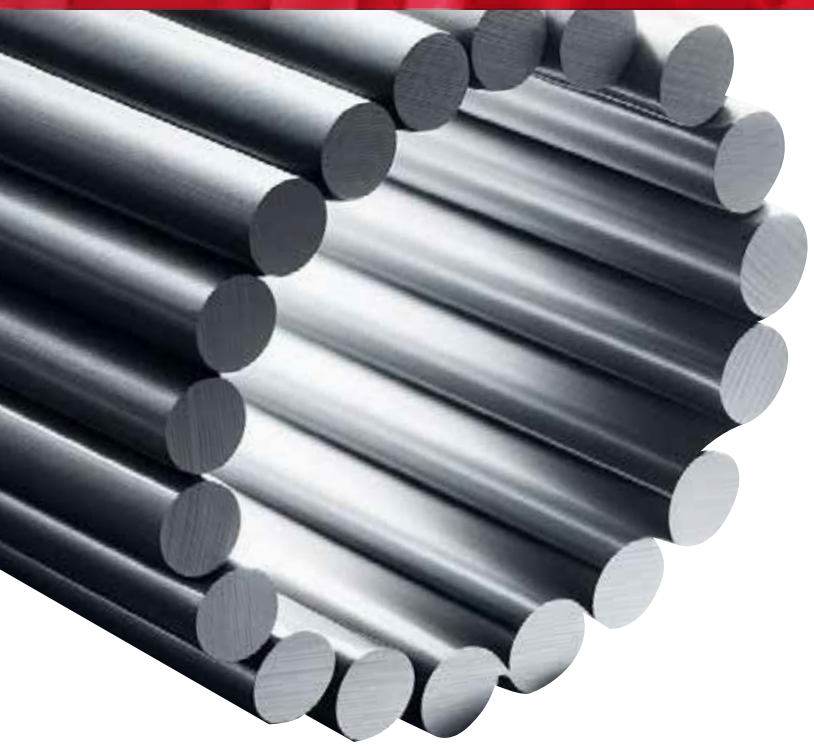
NICKEL ALLOY

718 - 2.4668



718 - 2.4668

Nickel Alloy 718, with the designation UNS N07718 and the DIN/EN designation 2.4668, is a precipitation-hardening nickel-chromium alloy. It has excellent resistance to corrosion and oxidation, as well as high tensile and fatigue strength at high temperatures, and is widely used in aerospace, oil and gas, and other high-performance applications.

KEY FEATURES

- High strength
- Good corrosion resistance
- High temperature stability
- Good weldability

CHEMICAL PROPERTIES

Nickel (Ni)	Chromium (Cr)	Niobium (Nb)	Molybdenum (Mo)	Cobalt (Co)	Titanium (Ti)	Manganese (Mn)	Silicone (Si)	Copper (Cu)	Aluminium (Al)	Phosphorus (P)	Carbon (C)	Sulphur (S)	Iron (Fe)
50-55%	**17-21%**	**4.75-5.5%**	**2.8-3.3%**	**1%**	**0.65-1.15%**	**0.35%**	**0.35%**	**0.3%**	**0.2-0.8%**	**0.15%**	**0.08%**	**0.02%**	**rest**

MECHANICAL PROPERTIES

Tensile strength (N/mm²)	**725**
Yield strength (N/mm²)	**325**
Elongation (% in 4D)	**30**
Hardness - Rockwell C (HRC) max	**40-45**
Hardness - Brinell (HB) max	**331**

PHYSICAL PROPERTIES

Density (kg/m³)		**8220**
Modulus of elasticity (Gpa)		**200**
Mean coefficient of thermal expansion	0-100ºC (µm/m/°C)	**12.8**
	0-350ºC (µm/m/°C)	**13.4**
	0-538ºC (µm/m/°C)	**14.1**
Thermal conductivity	at 100ºC (W/m.K)	**11.4**
	at 500ºC (W/m.K)	**14.3**
Specific Heat 0-100ºC (J/kg.K)		**435**
Electrical resistivity (nΩ.m)		**132**
Melting point (ºC)		**1335**

MARKET SECTORS

Automotive Industry
Turbocharger rotors, fasteners, components

Power Generation
Gas turbine components, cryogenic tanks

Oil & Gas Industry
Downhole equipment, wellhead components, oil well tools

Medical Devices
Surgical instruments, medical implants, components

Nuclear Industry
Reactors, nuclear fuel elements

Aerospace Industry
Turbine disks, engine parts, structural elements