

NICKEL ALLOY

X750 - 2.4669



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Nickel Alloy X750 is a high-strength and versatile nickel-chromium alloy with excellent corrosion and oxidation resistance at elevated temperatures. It can be precipitation-hardened through heat treatment, and the alloy can be easily fabricated using standard techniques for nickel-based alloys. However, its high strength may require special considerations during machining.

KEY FEATURES

- Good corrosion resistance
- Resistance to oxidation
- Good high temperature strength
- Easily fabricated

CHEMICAL PROPERTIES

Nickel (Ni)	Chromium (Cr)	Iron (Fe)	Titanium (Ti)	Manganese (Mn)	Cobalt (Co)	Niobium (Nb)	Aluminium (Al)	Silicone (Si)	Copper (Cu)	Carbon (C)	Sulphur (S)
70%	14-17%	5-9%	2.25-2.75%	1%	1%	0.7-1.2%	0.4-1%	0.5%	0.5%	0.08%	0.01%

MECHANICAL PROPERTIES

Tensile strength (N/mm ²)	744
Yield strength (N/mm ²)	365
Elongation (% in 4D)	30
Hardness - Rockwell C (HRC) max	20-30
Hardness - Brinell (HB) max	320

PHYSICAL PROPERTIES

Density (kg/m ³)	8260	
Modulus of elasticity (Gpa)	195	
Mean coefficient of thermal expansion	0-100°C (µm/m/°C)	14.2
	0-350°C (µm/m/°C)	15.2
	0-538°C (µm/m/°C)	15.5
Thermal conductivity	at 100°C (W/m.K)	10.0
	at 500°C (W/m.K)	12.9
Specific Heat 0-100°C (J/kg.K)	430	
Electrical resistivity (nΩ.m)	122	
Melting point (°C)	1425	

MARKET SECTORS



Fasteners & Fixings

High performance springs, connectors, valves



Chemical Processing

Heat exchangers, chemical processing vessels



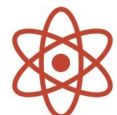
Oil & Gas Industry

Downhole tools, wellhead components, valves



Automotive Industry

Exhaust systems components, turbocharger parts, valves



Nuclear Industry

Reactors for components, control rod components



Aerospace Industry

Gas turbine engines, turbine blades, seals, discs, casings



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