NICKEL ALLOY

400 - 2.4360

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Nickel alloy 400 is a single phase, solid-solution nickel-copper alloy that offers superior resistance to many corrosive environments over temperatures ranging from sub-zero to 800°F. It is known for its resistance to corrosion, especially in environments where hydrofluoric acid and fluorine gases are present, and is only hardenable through cold working, rather than heat treatment.

KEY FEATURES

- Excellent corrosion resistance
- High ductility
- Good mechanical properties
- Thermal stability
- Non-magnetic

CHEMICAL PROPERTIES

Nickel (Ni)	Copper (Cu)	Iron (Fe)	Manganese (Mn)	Silicone (Si)	Carbon (C)	Sulphur (S)
63%	**28-34%**	**2.5%**	**2%**	**0.5%**	**0.3%**	**0.03%**

MECHANICAL PROPERTIES

Tensile strength (N/mm²)	**700**
Yield strength (N/mm²)	**310**
Elongation (% in 4D)	**35**
Hardness - Rockwell (HRB) max	**80**
Hardness - Brinell (HB) max	**-**

PHYSICAL PROPERTIES

Density (kg/m³)		**8800**
Modulus of elasticity (Gpa)		**173**
Mean coefficient of thermal expansion	0-100ºC (µm/m/°C)	**13.9**
	0-350ºC (µm/m/°C)	**14.6**
	0-538ºC (µm/m/°C)	**15.3**
Thermal conductivity	at 100ºC (W/m.K)	**21.8**
	at 500ºC (W/m.K)	**26.2**
Specific Heat 0-100ºC (J/kg.K)		**427**
Electrical resistivity (nΩ.m)		**547**
Melting point (ºC)		**1350**

MARKET SECTORS

Food & Beverage Industry
Food handling machinery, storage tanks, processing vessels

Chemical Processing
Tanks, pumps, values, reactors, vessels, heat exchangers

Marine Equipment
Heat exchangers, condensers, fixtures, fasteners

Electrical Industry
Electrical components, springs, connectors

Oil & Gas Industry
Components for downhole and surface applications

Aerospace Industry
Aircraft components, missile systems, aircraft fuel tanks

Steel Dynamics UK®

Tel: +44 (0)1204 368600
Email: sales@steel-dynamics.co.uk

Visit our website:
www.steel-dynamics.co.uk