

# Alloy 400

A nickel-copper grade, Alloy 400 combines high strength and corrosion resistance.

Superb corrosion resistance in a wide range of media including seawater, hydrofluoric acid, fluorine, sulphuric acid and alkalis.

## PRODUCT FORMS

PRODUCT FORM	SIZE RANGE FROM	SIZE RANGE TO
Alloy 400 round bar	4.76 mm	279 mm
Alloy 400 round tubing	3.175 mm	19.05 mm
Alloy 400 sheet & plate	0.5 mm	76.2 mm
Alloy 400 pipe	0.25 in	8 in
Alloy 400 pipe fittings	0.25 in	8 in
Alloy 400 flanges	0.25 in	8 in

Can't find the size you need? **Please contact us at [onlinesales@neonickel.com](mailto:onlinesales@neonickel.com)**

## CHEMICAL ANALYSIS

%	C	SI	MN	S	FE	NI	CU
Min	0	0	0	0	0	63	28
Max	0.3	0.5	2	0.024	2.5	70	34

## APPLICATIONS

- Packed columns
- Pressure vessels and reactors
- Brine heaters
- Heat exchangers
- Salt production equipment
- Pump and valve components
- Pipe work and pipe spools

## ABOUT ALLOY 400

Alloy 400 from NeoNickel has superb corrosion resistance, particularly in neutral and alkaline salts. It is also one of a limited number of alloys that can be used in conjunction with hydrofluoric acid and fluorine. With high nickel content, this alloy is immune to chloride-induced stress corrosion cracking. The alloy also has good mechanical properties from sub-zero temperatures up to 549°C. This alloy also performs excellently in seawater, with improved resistance to cavitation corrosion compared with other copper-base alloys. It's often used to handle sulphuric acid up to 80% concentration at room temperature and up to 15% sulphuric acid at boiling temperatures. **Check out our Technical Resource: [Burst Pressure Tables using Alloy 400 Seamless Tube](#).**

## PROPERTIES

<b>Density:</b>	8.80 g/cm <sup>3</sup>
<b>Melting Range:</b>	1300 - 1350 °C
<b>Hardness:</b>	60-80 HRB
<b>Specific Heat Capacity:</b>	427 J/kg.°C
<b>Electrical Resistivity:</b>	0.511 μΩ.m
<b>Curie Temperature:</b>	21-49°C
<b>Poisson's Transus:</b>	0.32

## MECHANICAL & PHYSICAL PROPERTIES

MECHANICAL & PHYSICAL PROPERTIES	-180°C	-130°C	-70°C	21.1°C	93.3°C	204.4°C	315.6	371.1°C	426.7°C	537.8°C	648.9°C	982°C
Ultimate Tensile Strength /MPa	-	-	-	450	420	390	380	370	370	-	-	-
0.2% Yield Strength /MPa	-	-	-	175	150	135	130	130	130	-	-	-
Reduction of area %	-	-	-	-	-	-	-	-	-	-	-	-
Elongation %	-	-	-	51	44	43	47	-	48	38	-	-
Coefficient of Thermal Expansion /μm/m°C	11.1	11.4	12.1	-	14.2	15.2	15.7	16.1	-	16.3	16.6	18.1
Thermal Conductivity /kcal/(hr.m.°C)	14.19	15.65	17.03	18.92	20.64	23.13	25.89	28.72	-	31.39	33.88	-

## SPECIFICATIONS

**UNS Number:** N04400

**Werkstoff Number:** 2.4630

**Standards:** ASTM B127, B163, B164, B165, B564, B725, B730, B366, AMS 4675, 4730, AMS 4544, 4731