

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**

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

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

W.Nr.Number: 2.4630

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