NICKEL ALLOY

ALLOY 400

SuperiorTube www.superiortube.com

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TUBING APPLICATIONS

Alloy 400 (UNS N04400)

Alloy 400 (UNS N04400) is a solid-solution alloy that can be hardened only by cold working. It has high strength and toughness over a wide temperature range and excellent resistance to many corrosive environments.

Alloy 400 is widely used in many fields, especially marine and chemical processing. Typical applications are valves and pumps; pump and propeller shafts; marine fixtures and fasteners; electrical and electronic components; springs; chemical processing equipment; gasoline and fresh water tanks; crude petroleum stills, process vessels and piping; boiler feedwater heaters and other eat exchangers; and deaerating heaters.

AVAILABLE TUBE PRODUCT FORMS
STRAIGHT | COILED | SEAMLESS
SEAM WELDED, COLD REDRAWN AND ANNEALED

TYPICAL MANUFACTURING SPECIFICATIONS	
ASTM B163	AMS 4574
ASTM B165	BS3074
Also individual customer specifications	

TYPICAL APPLICATIONS
HEAT EXCHANGERS
STEAM GENERATORS
REBOILER TUBES
BRINE HEATERS AND EVAPORATOR BODIES IN SALT PLANT
NUCLEAR CORE COOLING TUBES
SULPHURIC AND HYDROFLURIC ACID ALKYLATION PLANT
CONTROL LINES

INDUSTRIES PREDOMINANTLY USING THIS GRADE
CHEMICAL PROCESSES
OIL AND GAS
NUCLEAR AND POWER

Technical Data

MECHANICAL PROPERTIES		
Temper	Annealed	
Tensile Rm	70	ksi (min)
Tensile Rm	480	MPa (min)
R.p. 0.2% Yield	28	ksi (min)
R.p. 0.2% Yield	195	MPa (min)
Elongation (2" or 4D gl)	40	% (min)

PHYSICAL PROPERTIES (Room Temperature)		
Specific Heat (0-100°C)	427	J.kg-1.°K-1
Thermal Conductivity	21.8	W.m -1.°K-1
Thermal Expansion	13.9	mm/m/°C
Modulus Elasticity	173	GPa
Electrical Resistivity	5.47	µohm/cm
Density	8.83	g/cm3

CHEMICAL COMPOSITION (% by weight)		
Element	Min	Max
C	-	0.3
Si	-	0.5
Mn	-	2
S	-	0.24
Cu	Balance	
Fe	-	2.50
Ni	63	70

AMETEK® SPECIALTY METAL PRODUCTS