NICKEL ALLOY

ALLOY C22

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TUBING APPLICATIONS

Alloy C22 (UNS N06022)

Alloy C22, is a versatile austenitic nickel-chromium-molybdenumtungsten alloy with enhanced resistance to pitting, crevice corrosion and stress corrosion cracking. The high chromium content provides good resistance to oxidizing media while the molybdenum and tungsten content give good resistance to reducing media. This nickel alloy also has excellent resistance to oxidizing aqueous media including wet chlorine and mixtures containing nitric acid or oxidizing acids with chlorine ions.

Alloy C22 has resistance to oxidizing acid chlorides, wet chlorine, formic and acetic acids, ferric and cupric chlorides, sea water, brine and many mixed or contaminated chemical solutions, both organic and inorganic. This nickel alloy also offers optimum resistance to environments where reducing and oxidizing conditions are encountered in process streams. This is beneficial in multi-purpose plants where such "upset" conditions occur frequently.

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

TYPICAL MANUFACTURING SPECIFICATIONS
ASTM B622
ASTM B626
Also individual customer specifications.

TYPICAL APPLICATIONS
PROCESSING EQUIPMENT
HEAT EXCHANGERS
HYDRAULIC SYSTEMS
VESSELS

INDUSTRIES PREDOMINANTLY USING THIS GRADE
CHEMICAL PROCESSES
OIL AND GAS

Technical Data

MECHANICAL PROPERTIES		
Temper	Annealed	
Tensile Rm	111	ksi (min)
Tensile Rm	765	MPa (min)
R.p. 0.2% Yield	52	ksi (min)
R.p. 0.2% Yield	359	MPa (min)
Elongation (2" or 4D gl)	25	% (min)

PHYSICAL PROPERTIES (Room Temperature)		
Specific Heat (0-100°C)	414	J.kg-1.°K-1
Thermal Conductivity	10.2	W.m -1.°K-1
Thermal Expansion	6.9	µm/µm/°C
Modulus Elasticity	206	GPa
Electrical Resistivity	4.48	µohm/cm
Density	8.69	g/cm3

CHEMICAL COMPOSITION (% by weight)		
Element	Min	Max
C	0.17	0.25
Si	-	0.4
Mn	0.40	0.7
P	-	0.045
S	-	0.045
Cr	-	0.4
Cu	-	0.5
Mo	-	0.1
Ni	-	0.4

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