NICKEL ALLOY

ALLOY C276

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TUBING APPLICATIONS

Alloy C276 (UNS N10276)

C276 is a nickel-molybdenum-chromium superalloy with an addition of tungsten designed to have excellent corrosion resistance in a wide range of severe environments. The high chromium, molybdenum and tungsten contents make the alloy especially resistant to pitting and crevice corrosion in reducing environments while chromium conveys resistance to oxidizing media. The low carbon content minimizes carbide precipitation during welding to maintain corrosion resistance in as-welded structures.

Alloy C276 is resistant to the formation of grain boundary precipitates in the weld heat-affected zone, thus making it suitable for most chemical process application in an as welded condition. Alloy C276 is widely used in the most severe environments such as mixed acid chemical processing, pollution control, pulp and paper production, industrial and municipal waste treatment, and recovery of sour oil and gas.

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

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

TYPICAL APPLICATIONS
POLLUTION CONTROL
MIXED ACID CHEMICALS
PULP AND PAPER PRODUCTION
WASTE TREATMENT
VERY HIGH CHLORIDE ENVIRONMENTS

INDUSTRIES PREDOMINANTLY USING THIS GRADE
CHEMICAL PROCESSES
OIL AND GAS

Technical Data

MECHANICAL PROPERTIES		
Temper	Annealed	
Tensile Rm	100	ksi (min)
Tensile Rm	690	MPa (min)
R.p. 0.2% Yield	41	ksi (min)
R.p. 0.2% Yield	290	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	9.4	W.m -1.°K-1
Thermal Expansion	11.2	mm/m/°C
Modulus Elasticity	221	GPa
Electrical Resistivity	1.30	µohm/cm
Density	8.89	g/cm3

CHEMICAL COMPOSITION (% by weight)		
Element	Min	Max
C	-	0.02
Si	-	0.08
Mn	-	1
P	-	0.030
S	-	0.30
Co	-	2.5
Fe	4	7
Cr	14.5	16.5
Cu	3	4.5
Mo	15	17
V	-	0.35
Ni	Balance	

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SPECIALTY METAL PRODUCTS