

NICKEL ALLOY

ALLOY 276



Alloy 276 (UNS N10276)

Alloy 276 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 276 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 276 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/cm ³

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	