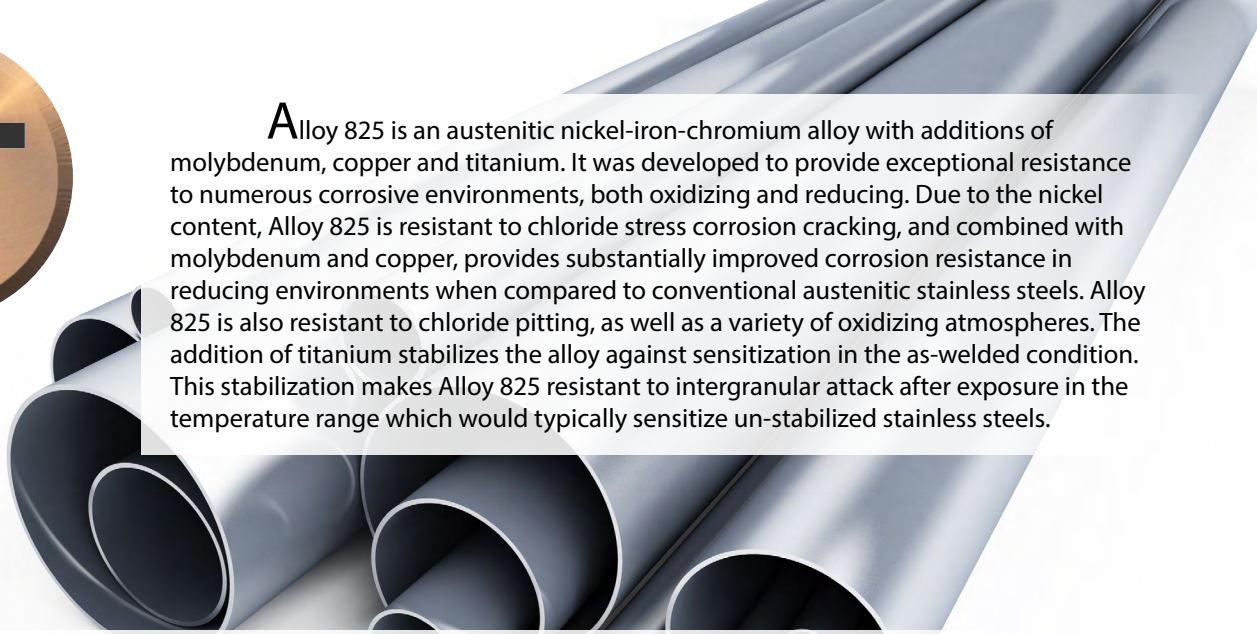
Alloy 825 Nickel-Chromium



Alloy 825 is an austenitic nickel-iron-chromium alloy with additions of molybdenum, copper and titanium. It was developed to provide exceptional resistance to numerous corrosive environments, both oxidizing and reducing. Due to the nickel content, Alloy 825 is resistant to chloride stress corrosion cracking, and combined with molybdenum and copper, provides substantially improved corrosion resistance in reducing environments when compared to conventional austenitic stainless steels. Alloy 825 is also resistant to chloride pitting, as well as a variety of oxidizing atmospheres. The addition of titanium stabilizes the alloy against sensitization in the as-welded condition. This stabilization makes Alloy 825 resistant to intergranular attack after exposure in the temperature range which would typically sensitize un-stabilized stainless steels.

CHEMICAL COMPOSITION

	C	Mn	S	Si	Cr	Ni	Fe	Mo	Cu	Ti	Al
MIN/MAX	0.05 max	1.00 max	0.03 max	0.50 max	19.5-23.5	38-46	22 min	2.5-3.5	1.5-3	0.6-1.2	0.2 max

Request Quote

APPLICABLE SPECIFICATIONS

Pipe Seamless	Pipe Welded	Tube Seamless	Sheet/Plate	Bar	Tube Welded	Fitting	Forging
ASTM B423	ASTM B163	ASTM B423	ASTM B424	ASTM B425	ASME SB163	ASTM B366 ASTM B564	ASTM B564

APPLICATIONS

Air Pollution Control Scrubbers

Injection Well Piping Systems

Seawater Heat Exchangers

Nuclear Fuel Reprocessing

Petroleum Refining Air-cooled Heat Exchangers

Copper Refining Equipment

Chemical Processing Equipment

Piping Systems & Sour Gas Components

PHYSICAL PROPERTIES

Density	Electrical Resistivity	Coefficient of Thermal Expansion	Thermal Conductivity	Modulus of Elasticity	Specific Heat Capacity	Melting Point	Specific Gravity
0.294 lb / in^3	678 Ohm circ mil/ ft (78°F)	7.8 x 10-6 in / in°F (200°F)	76.8 Btμ-ft/hr-ft2 - °F (78°F)	28.3 psi x 10.6 (100°F)	0.105 Btu / lb-°F	2500-2 550 °F	8.13
8.14 g / cm^3	1.13 μ cm (26°C)	4 m / m°C (93°F)	11.1 W/m-k (26°C)	196 MPa (38°C)	440 J / kg-°K	1370-1400 °C	8.13

MAXIUM PRESSURE WORK

P = Maxium work pressure(psi)
S = Minimum tensile strength of material for a specific temper(It is the value of the tensile strength in psi in Mechanica properties table)
D = Exterior diameter of tube
T = Wall thickness of tube

$$P = \frac{2T \times S}{5D}$$

NON DESTRUCTIVE TESTS

Eddy Current Testing
Hydrostatic Testing
Air Underwater Testing
Ultrasonic Testing
(PMI) Positive Material Identification

DESTRUCTIVE TESTS

Microstructure Test
Tensile Test
Expansion Test
Optical Spectrometry Test

1000 N.HWY 77 HILLSBORO, TX 76645 P 254.580.9888 F 254.580.9888 AMERITUBE.NET