HandyTube
Performance That's Seamless.™

Alloy I825

Alloy Designation: (UNS N08825)

Specifications: ASTM B423

Typical Size Ranges: OD (.02"–1.00")

Available Product Forms:

Annealed to Full Hard, in Coiled or Straight form

General Description and Applications:

With its exceptional resistance to corrosion in both reducing and oxidizing environments as well as greater strength than more common austenitic steels, I825 is an alloy that is ideal for chemical processing, oil and gas recovery and acid production. This nickel, iron and chromium containing alloy can be used in a variety of applications and can be a great value when compared to other alloys.

Commitment to Quality:

ISO 9001-CERTIFIED

Lloyd's Register LRQA

SHIPBUILDING CERTIFICATIONS

DNV

Lloyd's Register Marine

ABS

BUREAU VERITAS

HIGH PRESSURE APPLICATIONS

TÜV SÜD

AD-2000-Merkblatt-W0

PED 2014 / 68 / EU

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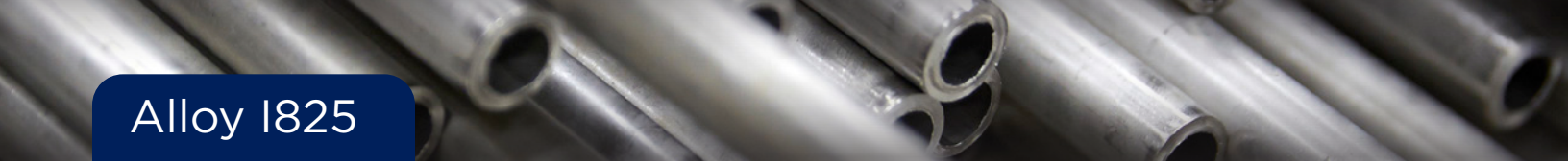

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Chemical Properties as per Specs:

CHEMICAL COMPOSITION BY WEIGHT PERCENT															
Ni	**Cr**	**Fe**	**Mo**	**Al**	**Ti**	**Nb**	**Co**	**Ta**	**Mn**	**Cu**	**N**	**C**	**S**	**Si**	**P**
38.0 - 46.0	19.5 - 23.5	22.0 Min	2.5 - 3.5	0.20 Max	0.6 - 1.2	1.0 Max	-	-	1.0 Max	1.5 - 3.0	-	.050 Max	0.30 Max	0.50 Max	-

PREN CALCULATION AND NUMBER:

- PREN = Cr + 3.3(Mo +0.5W) + 16N
- MIN PREN = 19.5 + 3.3(2.5) = 27.75
- MAX PREN = 23.5 + 3.3(3.5) =35.05
- PREN Range: 27.75 - 35.05

MECHANICAL PROPERTIES	
Ultimate Tensile Strength	75 ksi Minimum (517 MPa)
Yield Strength	25 ksi Minimum (172 MPa)
% Elongation to Failure	30% Minimum
Hardness	80 HRB Max
Young's Modulus	28.3x10^6 ksi (195 GPa)

PHYSICAL PROPERTIES	
Density	0.294 lb/in^3 or 8.14 g/cm^3
Melting Point	2500 – 2550°F or 1370 – 1400°C
Coefficient of Thermal Expansion	7.8 (µin/in-°F)
Specific Heat	0.105 BTU/lb-°F
Thermal Conductivity	11.1 (W/m.K)
Electrical Resisitivity	113 µΩcm

ANNEALING SUGGESTION:

- I825 is best annealed between the temperatures of 1700-1800 degrees Fahrenheit or 927-982 degrees Celsius.