

STAINLESS STEEL

ALLOY 825

(UNS N08825)

TUBING APPLICATIONS

Alloy 825 is an austenitic nickel-iron-chromium alloy with additions of molybdenum, copper and titanium. This alloy provides high levels of corrosion resistance to both moderately oxidizing and moderately reducing environments.

Alloy 825 is especially resistant to sulfuric and phosphoric acids, as well as chloride stress-corrosion cracking and pitting.

AVAILABLE TUBE PRODUCT FORMS

STRAIGHT, COILED, SEAMLESS
SEAM WELDED AND COLD REDRAWN
SEAM WELDED, COLD DRAWN AND ANNEALED

TYPICAL MANUFACTURING SPECIFICATIONS

ATSM B163 ASTM B704
ASTM B423

Also individual customer specifications.

TYPICAL APPLICATIONS

Condensers
Oil and Gas Well Equipment
Hydraulic Systems
Chemical Injection Lines
Chemical Process Equipment and Vessels
Downhole Control Lines
Control and Instrumentation
Acid Production
Nuclear Fuel Processing

INDUSTRIES PREDOMINANTLY USING THIS GRADE

CHEMICAL PROCESSES
OIL AND GAS
NUCLEAR AND POWER

TECHNICAL DATA

MECHANICAL PROPERTIES

Temper	Annealed	
	Tensile Rm	85
Tensile Rm	590	MPa (min)
R.p. 0.2% Yield	35	ksi (min)
R.p. 0.2% Yield	240	MPa (min)
Elongation (2" or 4D gl)	30	% (min)

PHYSICAL PROPERTIES (Room Temperature)

Specific Heat (0-100°C)	440	J.kg ⁻¹ .°K ⁻¹
Thermal Conductivity	11.1	W.m ⁻¹ .°K ⁻¹
Thermal Expansion	14.0	mm / m / °C
Modulus Elasticity	196	GPa
Electrical Resistivity	1.13	μohm / cm
Density	8.13	g / cm ³

CHEMICAL COMPOSITION (% by weight)

Element	Min	Max
C	-	0.05
Si	-	0.50
Mn	-	1
P	-	0.030
S	-	0.030
Al	-	0.20
Cr	19.50	23.50
Cu	1.5	3.00
Fe	Balance	
Mo	2.50	3.50
Ni	38	46
Ti	0.060	1.20

Disclaimer: The information contained within this data sheet is for guidance only and is not intended for warranty of individual application - express or implied.

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