

825 NICKEL ALLOY - UNS N08825

MATERIAL DESCRIPTION

Alloy 825 (UNS N08825) is an Iron-Nickel alloy with high amounts of chromium and additions of Molybdenum, copper and titanium. Alloy 825 has excellent corrosion resistance in oxidizing and non oxidizing media as well as excellent resistance towards pitting, crevice and stress corrosion cracking in chloride containing environments. Typical applications are Sulphuric acid piping and vessels, Phosphoric acid evaporators, Pickling tanks and equipment, chemical process equipment & propeller shafts.

APPLICABLE SPECIFICATIONS

ASTM B425

Wr No 2.4858, UNS N08825

ANSI/NACE MR0175/ISO15156-3, ANSI/NACE MR0103

HEAT TREATMENT

Intoco bar stock is in the Solution Annealed condition

CHEMICAL ANALYSIS RANGE

ELEMENT	WEIGHT %	ELEMENT	WEIGHT %
C	0.05 max	Ti	0.6 – 1.2
Mn	1.00 max	Fe	22.0 min
S	0.03 max	Al	0.20 max
Si	0.5 max	Mo	2.50 - 3.50
Ni	38.0 - 46.0	Cu	1.5 – 3.0
Cr	19.5 - 23.5		

TYPICAL MECHANICAL PROPERTIES (Min unless stated)

0.2% Yield ksi (MPa)	UTS ksi (MPa)	Ductility		Full size (10mm x 10mm) Charpy V Notch @ -60°C Ft-lbs (J)	Hardness HBW (HRC)
		%El 4D	%RA		
35 (241)	85 (586)	30	-	35 (47) avg	332 (35)

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