

625 NICKEL ALLOY - UNS N06625

MATERIAL DESCRIPTION

625 Nickel Alloy is a nickel-based superalloy that possesses high strength properties and resistance to elevated temperatures. It also demonstrates protection against corrosion and oxidation. Its ability to withstand high stress and a wide range of temperatures, both in and out of water, as well as being able to resist corrosion while being exposed to highly acidic environments makes it a fitting choice for nuclear and marine applications.

APPLICABLE SPECIFICATIONS

AMS 5666, ASTM B446 GRADE 1, ASME SB446

API 6A PSL 3

NORSOK M630 MDS N01

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

PED 2014/68/EU

HEAT TREATMENT

Intoco bar stock is in the Annealed condition (Grade 1)

CHEMICAL ANALYSIS RANGE

ELEMENT	WEIGHT %	ELEMENT	WEIGHT %
Ni	58.0 Min	Ph	0.015 Max
Cr	20.0 - 23.0	S	0.015 Max
Fe	5.0 Max	Al	0.40 Max
Mo	8.0 - 10.0	Ti	0.40 Max
Cb + Ta	3.15 - 4.15	Co	1.0 Max
C	0.10 Max	Mn	0.50 Max
Si	0.50 Max		

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	Hardness HBW (HRC)
		%El 4D	%RA	Ft-lbs (J)	
<u>≤4" dia</u> 60 (414)	<u>≤4" dia</u> 120 (827)	<u>≤4" dia</u> 30	-	Long 20 (27) avg	287 (30) Max
<u>>4" - 10" dia</u> 50 (345)	<u>>4" - 10" dia</u> 110 (758)	<u>>4" - 10" dia</u> 25		<u>≥3" (76.2mm) dia</u> Trans 15 (20) avg	

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