

K500 NICKEL ALLOY - UNS N05500

MATERIAL DESCRIPTION

Alloy K-500 combines the excellent corrosion resistance characteristic of alloy 400 with the added advantages of greater strength and hardness. The increased properties are obtained by adding aluminum and titanium to the nickel-copper base, and by heating under controlled conditions. Typically applications are, pump shafts, impellers, doctor blades, scrapers, oil-well drill collars, instruments, and electronic component applications.

APPLICABLE SPECIFICATIONS

AMS 4676, API 6A ANNEX M

DIN 17752 Wr No 2.4375 (Chemistry Only)

ASTM B865, BS 3076-NA18

QQ-N-286

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

PED 2014/68/EU

HEAT TREATMENT

Intoco bar stock is in the Age Hardened condition

CHEMICAL ANALYSIS RANGE

ELEMENT	WEIGHT %	ELEMENT	WEIGHT %
Ni	63.0 Min	P	0.020 Max
Cu	27.0 – 33.0	S	0.015 Max
Fe	2.0 Max	Al	2.30 – 3.15
Zn	0.020 Max	Ti	0.35 – 0.85
Pb	0.006 Max	Co	0.010 Max
C	0.17 Max	Mn	1.5 Max
Si	0.50 Max	Sn	0.006Max

TYPICAL MECHANICAL PROPERTIES (Min unless stated)

0.2% Yield ksi (MPa)	UTS ksi (MPa)	Ductility		Full size (10mm x 10mm) Charpy V Notch @ -29°C	Hardness HBW (HRC)
		%EI 4D	%RA	Ft-lbs (J)	
100 (690)	<u>140</u> (965)	17	25	0.6 – 2.75" dia 20 (27) avg ≥2.8" dia 30 (40.5)	315 (34) Max

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