

Monel K500 / UNS N55000 / DIN 2.4375

Precipitation Hardened Nickel Copper Alloy

Alloy K500 Data Sheet

Introduction

Monel Alloy K500 is Aluminum & Titanium alloyed age hardened Nickel Copper Alloy. High strength & erosion resistance. Corrosion resistance better to Alloy 400 with retainment of mechanical properties at high temperature.

Chemical Composition (Typical)

Element	Limits	
	min	max
Carbon	0.000	0.250
Manganese	0.000	1.500
Sulphur	0.000	0.010
Silicon	0.000	0.500
Iron	0.000	2.000
Copper	27.000	33.000
Nickel*	63.000	--
Aluminum	2.300	3.150
Titanium	0.350	0.850

* Includes Cobalt

Mechanical Properties (Typical)

Parameter	Value
Yield 0.2 % (Mpa/Nmm ²), Min	690
Tensile (Mpa/Nmm ²), Min	965
Elongation (% in 50MM), Min	20
Reduction Area(%), Min	--
Hardness (HRC), Max	41*

*Cold Drawn Stress Relieved

Physical Properties

Parameter	Value
Density (Kg/m ³)	8440
Elastic Modulus (Gpa)	179
*Co-eff of Expansion ($\mu\text{m}/\text{m}/^\circ\text{C}$)	7.7
*Thermal Condc. (W/m.K)	16.7
Electric Resistivity (n Ω .m) 25°C	307

*Note : @20°C

Corrosion Data

Corrosion resistance of Monel alloy k500 is comparable to Monel 400 except when in age hardened condition is more susceptible to stress corrosion cracking. Monel K500 shows moderate resistance to hydrogen sulphide with retainment in mechanical strength. K500 is shows less corrosion in sea water applications.

Equivalent Grade Designation

Monel k500
Alloy K500
UNS N05500
EN DIN 2.4375
W.Nr 2.4375
AWS 041
BS3072
DIN Ni Cu 30 Al
BS NA 18

Alloy K500 Data Sheet

Available Product Forms

Round, Square, Hexagon ,Flat Bars & Wires
Seamless / Welded Pipes
Seamless / Welded Tubes
Hot & Cold Rolled Plates & Sheets
Forged Bars
Forged Flanges
Butt-Weld Pipe Fittings
Socket-Weld/Forged Pipe Fittings
Machined Components
Ferrule Compression Fittings
Welding Consumables

Common Manufacturing Specifications

ASTM F467, AMS 4676, ASTM F468, QQ N286, MIL N-24549, BS 3075, 3076 NA 18, ASTM B865, FM 60
ERNiCu-7,FM 190 ENiCu-7, Din 17753, ASME SB865

Alternate to Alloy

Inconel Alloy 718, Monel 400 are alternative to this grade.

Applications & Industries

Marine Fixtures & Equipments
Chemical & Hydro-Carbon Processing Industries
Heat Exchangers & Pressure Vessels
Feedwater Heaters & De-aerating heaters
Valves Body & parts
Pumps, Shafts, Fasteners- Nuts, Bolts, Anchor Rods & Springs etc
Oil Well Tools

Excellence Inherent

With 3 decade long experience inherited, we aim at providing better solutions for Industrial Piping Sector. Skilled Team, passion drives our *will* to be better with resolute for continous customer & vendor concurrence. We also perceive our duty towards planet for its unconditional support & try to minimise any harm caused due to our activity. For Instance, *We Stay Paperless*

The Information contained in this data sheet is for reference purpose only and actual data may vary from product to product. Complete rely on these values for product design recommended. User will be solely responsible for any failure in intended construction. **FERROBEND™** is trademark Property of **FERROBEND**.



FERROBEND | Industrial Piping Products

#1016 Prasad Chambers Opera House Mumbai 400004 INDIA

Tel : 91 - 22 - 6666 5432 Fax : 91 - 22 - 6636 3375

www.ferrobend.com