



Grade	Code	UNS	Nickel Alloys
Monel K-500	2.4375	N05500	

Nickel Alloy Properties

MONEL alloy K-500 (UNS N05500/ W.Nr. 2.4375) is a nickel-copper alloy which combines the excellent corrosion resistance of MONEL 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 so that submicroscopic particles of Ni₃ (Ti, Al) are precipitated throughout the matrix. The thermal processing used to effect precipitation is commonly called age hardening or aging.

Chemical Composition (Monel K-500)

Ni+Co %	Cr %	C %	S %	Mn %	Si %	Al %	Ti %	Cu %	Fe %
Balance	-	0,25 max.	0,01 max.	1,50 max.	0,50 max.	0,35 - 0,85	2,30 – 3,15	27,00 – 33,00	-

Mechanical Properties (Hot-Finished)

Product Form	Rp0.2, Mpa	Rm, Mpa	Elongation [%]	Hardness[HRC]	Density [g/cm ³]
Rod & Bar	276-758	621-1069	45-20	35	8,44

Suitable For

Typical applications for MONEL alloy K-500 products are chains and cables, fasteners and springs for marine service; pump and valve components for chemical processing; doctor blades and scrapers for pulp processing in paper production; oil well drill collars and instruments, pump shafts and impellers, non-magnetic housings, safety lifts and valves for oil and gas production; and sensors and other electronic components.

Remarks

Specification

Monel K-500, 2.4375, N05500

Norm

ASTM B865, AMS 4676, NACE MR0175, MR0103