

Alloy K500

Alloy K500 is a nickel copper alloy, and is an age-hardenable version of Alloy 400, but gives enhanced strength, hardness, and improved resistance to sea-water and other chemical environments. (Alloy K500 has approximately three times the yield strength and twice the tensile strength of Alloy 400). Alloy K500 has very good dimensional stability and low magnetic permeability, making it suitable for a wide range of applications in marine and oil environments – pump shafts, valve components, bolting, instrumentation components, etc.

AI Materials predominately hold Alloy K500 in the solution annealed and aged condition, along with some stock as aged only / cold-worked material)

We stock the following Specifications: ASTM B865, UNS N05500, BS3076:NA18, QQN 286, NACE MR0175

In the following Sizes:

12.7 mm	15.875 mm	19.05 mm	22.225 mm	25.4 mm
28.575 mm	31.75 mm	38.1 mm	41.275 mm	44.45 mm
50.8 mm	57.15 mm	65 mm	70 mm	76.2 mm
85 mm	88.9 mm	90 mm	101.6 mm	127 mm
140 mm	152.4 mm	165.7 mm	177.8 mm	203.2 mm
		300 mm		

AI Materials can also supply rings and bored bar – please contact us with your requirements.

Technical data – nominal percentages:

	C	Mn	Si	S	Ni	Cu	Ti	Al	Fe	
Min	-	-	-	-	63.0	27	0.35	2.3	-	%
Max	0.25	1.5	0.5	0.01	Bal	33	0.85	3.2	2.0	%

Mechanical data

K500 Soln Ann & Aged	Tensile Strength, min		Yield Strength (0.2% offset) min		Elongation in 4 x Dia min %	Reduction in Area Min %	Brinell Hardness Number (HB)	Approx Rockwell Hardness (HRC)	
	KSI	MPa	KSI	MPa				Min	Max
< 25 mm dia	145	900	90	620	20.00			27	35
25 mm – 110 mm dia	145	900	85	585	20.00			27	35
> 110 mm dia	120	830	75	500	15.00			27	35