



HSM Wire International, Inc

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Alloy 500 - K500 Alloy

Description: Alloy 500 is a age hardened Nickel-Copper alloy which combines the corrosion resistance of Alloy 400 with high strength corrosion fatigue and erosion resistance.

Applications: Propeller and Pump Shafts, Pumps and valves used in the manufacture of perchlorethylene, chlorinated plastics, Gas lift equipment, Drill collars, Scrapers and Sensors.

Nominal Composition:	Ni	C	Cu	Fe	Mn	Al	Ti
	63.0	0.25	27 - 33	0.50 - 2.0	1.50	2.30 - 3.20	0.35 - 0.85
	S	Si					
0.01	0.50						

Physical and Mechanical Properties

	Metric Units
Density	8.9 gm/cu cm
Specific Heat	456 J/kg K
Electrical Resistivity	61 micro ohms cm
Curie Temperature	-135°C
Melting Range	1310 - 1350°C
Thermal Expansion (10 ⁻⁶ K)	14.9 (20 - 300°C)
Yield Strength	Rp 0.2%
20°C Temp	620N/mm sq
100°C Temp	740N/mm sq
200°C Temp	700N/mm sq
300°C Temp	660N/mm sq
400°C Temp	640N/mm sq
Tensile Strength	RM
	900N/mm sq
Elongation	A5 min
	15%

*To be used as a guideline only.

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