



## **MONEL® K-500**



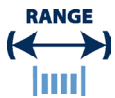
### **Key Features**

- Corrosion resistance similar to Monel 400 but with higher strength and hardness
- Low permeability and is non-magnetic to temperatures as low as -101 °C (-150 °F)
- Age hardenable
- Good for sea water applications

### **IMPORTANT**

We will manufacture to your required mechanical properties.

## **key advantages to you, our customer**



0.025mm to 21mm  
(.001" to .827")



Order 3m to 3t  
(10 ft to 6000 Lbs)



Delivery:  
within 3 weeks



Wire to your spec



E.M.S available



Technical support

### **MONEL® K-500 available in:-**

- Round wire
- Bars or lengths
- Flat wire
- Shaped wire
- Rope/Strand

### **Packaging**

- Coils
- Spools
- Bars or lengths



\*Trade name of Special Metals Group of Companies.



Chemical Composition			Specifications	Key Features	Typical Applications
Element	Min %	Max %	ASTM B865 BS 3075 NA 18 BS 3076 NA 18 ISO 15156-3 (NACE MR 0175) QQ-N-286  <b>Designations</b>  W.Nr. 2.4375 UNS N05500 AWS 041	Corrosion resistance similar to Monel 400 but with higher strength and hardness  Low permeability and is non-magnetic to temperatures as low as -101 °C (-150 °F)  Age hardenable  Good for sea water applications	Pump Shafts  Fasteners  Marine Propeller Shafts  Oil Well Tools  Instruments  Springs
Ni	63.00	70.00			
Co	-	2.00			
Cu	27.00	33.00			
Fe	-	2.00			
Al	2.30	3.20			
C	-	0.25			
Si	-	1.00			
Mn	-	1.50			
Ti	0.35	0.85			
S	-	0.01			

<b>Density</b>	8.44 g/cm <sup>3</sup>	0.305 lb/in <sup>3</sup>
<b>Melting Point</b>	1350 °C	2460 °F
<b>Coefficient of Expansion</b>	13.7 µm/m °C (20 – 100 °C)	7.6 x 10 <sup>-6</sup> in/in °F (70 – 212 °F)
<b>Modulus of Rigidity</b>	66 kN/mm <sup>2</sup>	9573 ksi
<b>Modulus of Elasticity</b>	179 kN/mm <sup>2</sup>	25962 ksi

Heat Treatment of Finished Parts					
Condition as supplied by Alloy Wire	Type	Temperature		Time (Hr)	Cooling
		°C	°F		
Annealed	Age Harden <sup>Δ</sup>	580 – 590	1075 – 1095	8 – 10	Air
Spring Temper	Age Harden <sup>Δ</sup>	530 – 540	985 – 1005	4 – 6	Air

<sup>Δ</sup> Heat treating Monel K-500 in free air can have a detrimental effect on its corrosion resistant properties.

Properties				
Condition	Approx. tensile strength		Approx. operating temperature	
	N/mm <sup>2</sup>	ksi	°C	°F
Annealed	<850	<123	-100 to +260	-150 to +500
Annealed + Aged	>950	>138	-100 to +260	-150 to +500
Spring Temper	1000 – 1300	145 – 189	-100 to +260	-150 to +500
Spring Temper + Aged	1200 – 1500	174 – 218	-100 to +260	-150 to +500

The above tensile strength ranges are typical. If you require different please ask.