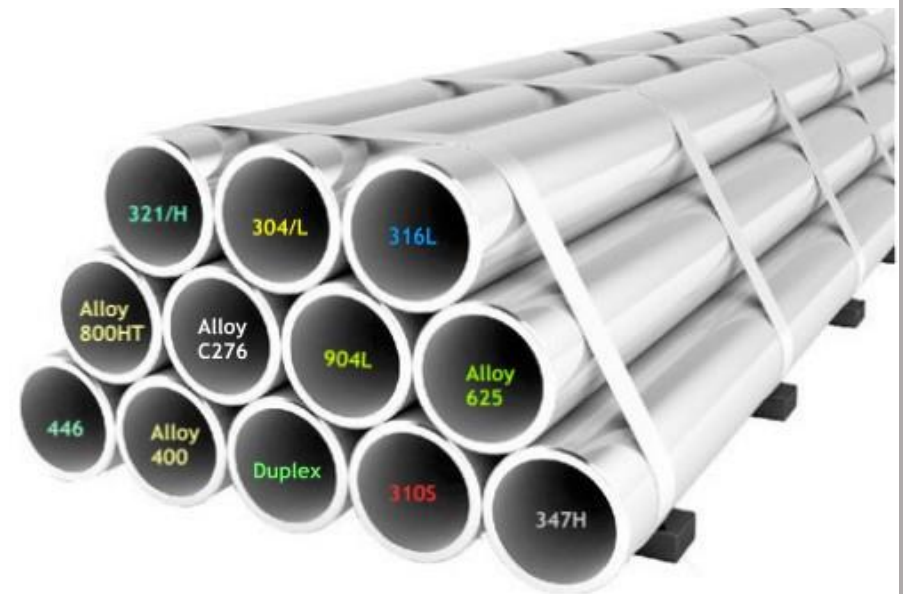


## **MONEL K500**

### **Datasheet for Monel K500**

- Pipes & Tubes
- Sheets & Plates
- Bars & Rods, Forgings
- Fittings & Flanges
- Nuts & Bolts
- Valves



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We are a metal supplier of Hastelloy, Monel, Inconel, Incoloy, Stainless Steel, Duplex, Super Duplex, Nickel Alloys and more.

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# Datasheet for Monel K500

## UNS N05500, DIN W.Nr. 2.4375

### What is Monel K500?

- Monel K-500 can be furnished in the form of plate, sheet, strip, bar, rod, wire, forgings, pipe & tube, fittings and fasteners in accordance with relative standards such as ASTM B865, BS3072NA18, BS3073NA18, DIN 17750, ISO 6208, DIN 17752, ISO 9725, DIN 17751, and DIN 17754, etc.
- Alloy K-500 products can be supplied in the solution annealed and age hardened condition.
- Monel K500 (UNS N05500 or DIN W.Nr. 2.4375) is a precipitation – hardenable nickel – copper alloy that combines high strength, corrosion resistance and non-magnetic properties. There is no need for post weld heat treatment in Alloy K-500, however, thorough cleaning after welding is critical for optimum corrosion resistance, otherwise there is the risk of contamination and embrittlement.
- It also has low permeability and is nonmagnetic to under -100°C[-150°F]. 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 Ni<sub>3</sub> (Ti, Al) are precipitated throughout the matrix.

### Monel K500 Product Specification

Product	Monel K-500
Equivalents	Alloy K-500, UNS N05500, W.Nr. 2.4375
Items	Pipe, Tubes, Tubing, Fittings, Flanges, Valves, Fasteners, Sheet, Square Bar, Threaded Bar, Plate, Hexagon Bar, Fasteners and Fixings, Round Bar, Flat Bar, Rebar, Angle, Tube & Pipe, Wire
Size	1/4" - 60"
Pipe Type	Seamless, Welded, ERW, Fabricated, Custom Size Pipes
Specifications	ASTM, ASME, DIN, GOST, JIS
Certification	EN 10204 3.1
Fittings Type	Butt Weld, Screwed & Socket Weld, Flanges, Instrumentation
Other Fittings	Elbows, Tees, Reducers, Caps, Stub Ends, Flanges (ANSI, Table E, D and H), Nuts, Bolts, Screws, Threaded Bars

### Monel K500 Products & Specifications - UNS N05500 & W.Nr. 2.4375

Form	Standard
Metal Type	UNS N05500
Bar	ASTM B865 QQ-N-286
Wire	AMS4676
Sheet	ASTM B865 QQ-N-286
Plate	ASTM B865 QQ-N-286
Forging	QQ-N-286 Din 17754
Weld Wire	FM 60 ERNiCu-7
Weld Electrode	FM 190 ENiCu-7 Din 17753
Din	2.4375

### Types of Nickel Alloys

ASTM/AISI	UNS No	EN	DIN	JIS
Incoloy 800	N08800	1.4558	X2NiCrAlTi3220	NCF2B
Incoloy 800H	N08810			
Incoloy 825	N08825	2.4858	NiCr21Mo	NCF825
Inconel 600	N06600	2.4816	LC-NiCr12Fe	NCF1B
Hastelloy B	N10001			N12MV

Hastelloy B2	N10665	2.4617	NiMo28	
Hastelloy C				
Hastelloy C276	N10276	2.4819	NiMo16Cr15W	NW 0276
Hastelloy C4	N06455	2.461		
Hastelloy C22	N06022	2.4602		
Inconel 625	N06625	2.4856	NiCr22Mo9Nb	
Inconel 718	N07718	2.4668		
Monel 400	N04400	2.436		NW 4400
Nickel 200	N02200	2.406		

- **Trademark Notice:** Some names are trade names and/or trademarks of specific manufacturers. We are not affiliated with any manufacturer(s). Orders will be filled to meet specifications from any available source(s). Names are listed solely for reference to help identify products consistent with listed specifications.

## Chemical & Mechanical Properties of Monel Alloy K-500

### Chemical Composition of Monel Alloy K-500

Element	Min%	Max%
Ni	63	-
Al	2.3	3.15
C	-	0.18
Fe	-	2

Mn	-	1.5
Si	-	0.5
Ti	0.35	0.85
S	-	0.01
Cu	27	33

#### Mechanical Properties of Monel Alloy K-500

Tensile Strength, min.		Yield Strength, min.		Elongation, min.	Hardness, min.
Mpa	ksi	Mpa	ksi	%	HB
1100	160	790	115	20	300

#### Mechanical Properties of Alloy K- 500 Under Various Delivery Condition

Hot Worked, Solution Treated and Precipitation Treated							
Size	Tensile Strength		Yield Strength (0.2% offset)		Elongation in 2" or 4D	Hardness	
	Ksi min	MPa min	Ksi min	Mpa min	% min	HB (3000 Kg) min	HRC min
<25.4 mm	100	895	90	620	20	250	24
>25.4 mm	100	895	85	585	20	250	24
Hot Worked and Precipitation Treated							
Size	Tensile Strength		Yield Strength (0.2% offset)		Elongation in 2" or 4D	Hardness	

	Ksi min	Mpa min	Ksi min	Mpa min	% min	HB (3000 kg) min	HRC min
All sizes	140	965	100	690	20	265	27
Cold Worked and Precipitation Treated							
Size	Tensile Strength		Yield Strength (0.2% offset)		Elongation in 2" or 4D	Hardness	
	Ksi min	Mpa min	Ksi min	Mpa min	% min	HB (3000 kg) min	HRC min
6.4 - 25.4 mm	145	1000	110	760	15	300	32
25.4 - 76.2 mm	140	965	100	690	17	280	29
76.2 - 101.6 mm	135	930	95	655	20	255	25

#### Physical Properties of Monel Alloy K-500

Density	Melting Range	Specific Heat		Electrical Resistivity
g/cm <sup>3</sup>	°F	J/kg.k	Btu/lb. °F	μΩ·m
8.44	2400-2460	419	0.1	615

#### Applications of Monel K-500

Monel K-500 is used primarily for manufacturing valves and pumps, doctor blades and scrapers, pump shafts, drill collars and instruments, impellers, valves, and fasteners.

- Process industry applications such as doctor blades & scrapers involving organic acids, caustic soda, dry chlorine, chlorinated plastics
- Marine industry and shipbuilding applications such as propellers, shafts, fasteners, gyroscopes, springs
- Oil & Gas industry pump shafts, valve stems, drill collars, instrumentation
- Sensors and electronic components
- Heat exchanger components

## What are the Properties of Monel K-500?

- Heat Treatment: Solution annealing: 980 – 1040°C | Age hardened: 540 – 600°C.
- Alloy K-500 weldability is very good.
- Corrosion resistance is excellent in marine and chemical environments. This alloy provides excellent corrosion resistance in a range of environments including sea water, hydrofluoric acid, sulphuric acid, non-oxidizing mineral acids, salts and alkalis.
- Excellent resistance to high velocity sea water
- Resistant to a sour-gas environment, and is listed within NACE MR1075.
- Excellent mechanical properties from sub-zero temperatures up to about 480 Deg C
- Non-magnetic alloy

## Manufacturing Monel K500 Products

<a href="#">Monel K-500 Alloy Sheet</a>	<a href="#">Monel K-500 Alloy Plate Cuttings/Profiles</a>	<a href="#">Monel K-500 Alloy Nuts, Bolts and Fasteners</a>
<a href="#">Monel K-500 Alloy Plate</a>	<a href="#">Monel K-500 Alloy Foil, Coil</a>	<a href="#">Monel K-500 Alloy Wire</a>
<a href="#">Monel K-500 Alloy Blocks/Slabs</a>	<a href="#">Monel K-500 Alloy Strip</a>	<a href="#">Monel K-500 Alloy Ingot</a>
<a href="#">Monel K-500 Alloy Rod/Bar</a>	<a href="#">Monel K-500 Alloy Pipes and Tubes</a>	<a href="#">Monel K-500 Alloy Forgings and Castings</a>
<a href="#">Monel K-500 Alloy Flanges</a>	<a href="#">Monel K-500 Alloy Forged Fittings</a>	<a href="#">Monel K-500 Alloy Buttweld Fittings</a>

## About Metallica Metals – The Steel Pipes Factory

- Established in 1975, the Metallica Metals Group (The Steel Pipes Factory) has its operations spread across major cities in India. We are a pioneer in the stainless steel pipes, nickel alloy products, titanium products, carbon steel pipes and alloy steel pipes manufacturing and processing industry. Our products including pipe fittings, flanges, pipes, sheet plates and valves are exported to over 70 countries across the world, while in India we have supplied to even the remote areas. With over 250 tons of sale in stainless steel and carbon steel pipes every day, Metallica has emerged as a prominent vendor for many buyers in India and Overseas
- **More than 3000 tons ready from stock and new production ready in just a few weeks.**
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## Our Key Products

### **STAINLESS STEEL & NICKEL ALLOYS**

Pure Nickel Alloys

Monel Alloys (Ni-Cu Alloys)

Inconel (Ni-Cr-Mo) Alloys

Incoloy Alloys (Ni-Cr-Fe)

Hastelloy Alloys

Stainless Steel 304/304L

Stainless Steel 309S/309H

Stainless Steel 310/310S

Stainless Steel 316/316L

Stainless Steel 316Ti

Stainless Steel 317/317L

Stainless Steel 321/321H

Stainless Steel 347/347H

Stainless Steel 904L

Duplex Steels (UNS S32205, UNS S31803)

Super Duplex Steels (UNS S32760 / UNS S32750)

Stainless Steel 254 SMO (UNS S31254 / 1.4547)

### **INSTRUMENTATION TUBES & FITTINGS**

Instrumentation Tube

Hydraulic Tubing

Seamless Tubing

Instrumentation Tube Fittings

Double Compression Tube Fittings

Precision Pipe Fittings

Needle & Gauge Valves

Manifold Valves

### **PRODUCTS**

Steel Sheet & Plate

Steel Coil & Strip

Steel Pipes

Steel Tubes

Electropolish Tube

Heat Exchanger Tubes

Steel Bars/Rods & Wire

Fasteners (Nut, Bolt, Washer)

Steel Angle Bars

Hex Steel Bars

Round Steel Bars & Rod

Flat Steel Bars

Forgings, Rings & Forged Blocks

Stainless Steel Pipe

Stainless Steel Seamless Pipe

Stainless Steel Welded Pipe

Stainless Steel Tubes

Stainless Steel Furnace Tubes

Stainless Steel Seamless Tubing

Stainless Steel Heat Exchanger Tubes

Large Diameter Pipe

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