

# Monel<sup>®</sup> 400

## Product Datasheet



Nickel-Copper Alloy

Service. Quality. Value.

### Cost effective solutions

Monel<sup>®</sup> 400 (UNS N04400) offers excellent corrosion resistance in a variety of environments.

Corrosion rates are low, particularly in rapidly flowing brackish or seawater. The product also provides excellent resistance to stress-corrosion cracking in freshwater. Monel<sup>®</sup> 400 is a solid-solution alloy which can be hardened by cold working. The product promotes attractive performance characteristics, including good weldability and high strength and retains its properties at sub zero temperatures. The material is also suitable for use in high-temperature environments up to 1000° F. Due to the alloys copper content, Monel<sup>®</sup> 400 is a viable, low cost alternative when compared to commercially pure nickel.



### Key Features

- Excellent corrosion resistance
- High strength
- Good weldability
- Low cost alternative to commercially pure nickel

### Applications

- Crude petroleum stills
- Valves, pumps and shafts
- Distillation towers
- Heat exchangers
- Fittings and fasteners

### Chemical Composition (weight %)

C	Mn	S	Si	Ni	Cu	Fe
.30 max	2.00 max	0.024 max	.50 max	63.0 min	28.0 - 34.0	2.50 max

### Mechanical Properties (typical at room temperature - annealed condition)

Form	Condition	Tensile (ksi)	.2 Yield (ksi)	Elongation (%)	Hardness (HRB)
Rod & Bar	Annealed	75-90	25-50	60-35	60-80
Rod & Bar	Cold-Drawn Stress Relieved	84-120	55-100	40-22	85 HRB - 20 HRC
Plate	Annealed	70-85	28-50	50-35	60-76
Sheet	Annealed	70-85	30-45	45-35	65-80
Seamless Tube	Annealed	70-85	25-45	50-35	75 max *

\* The ranges shown are composites for various product sizes and therefore are not suitable for specification purposes. Hardness values are suitable for specification purposes provided tensile properties are not also specified.

### UK Service Centres:

Smiths Belfast	02895 908 897	Smiths Leeds	0113 307 5167
Smiths Biggleswade	01767 604 704	Smiths Manchester	0161 794 8650
Smiths Birmingham	0121 728 4940	Smiths Norwich	01603 789 878
Smiths Bristol	0117 971 2800	Smiths Nottingham	0115 925 4801
Smiths Chelmsford	01245 466 664	Smiths Redruth	01209 315 512
Smiths Gateshead	0191 469 5428	Smiths Verwood	01202 824 347
Smiths Horsham	01403 261 981	Main Office	0845 527 3331

### Quality & Testing:



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