



## Monel Alloy 400

Monel Alloy 400® is a nickel-copper alloy which can only be hardened by cold working. Monel Alloy 400 offers excellent resistance to many environments, including chemical, marine and alkali environments. This also shows good resistance to stress corrosion and cracking in fresh waters. It is also very resistant to hydrochloric and hydrofluoric acids when they are de-aerated. Monel Alloy 400 also offers fine mechanical properties from sub-zero temperatures up to about 480°C. However, it is a poor performer in oxidising conditions and not useful against, for example, nitrous and nitric acids.

Monel Alloy 400 is used in a variety of applications which require excellent resistance to numerous environments, primarily marine engineering, and chemical processing. Monel Alloy 400 is also used in gasoline and freshwater tanks, as well as crude oil distillation towers and industrial heat exchangers.

### Monel Alloy 400 Grades & Equivalents:

- BS3076 NA13
- 2.4360
- ASTM A164
- N04400
- QQ-N-281

### Typical Chemical Analysis

| C    | Si   | Mn    | P  | S          | Cr        | Ni       | Mo   |
|------|------|-------|----|------------|-----------|----------|------|
| 0.30 | 0.50 | 2.00  |    | 0.024      |           | 63.0 min |      |
| W    | N    | Cb/Nb | Ti | Co         | Cu        | Al       | B    |
|      |      |       |    |            | 28.0-34.0 |          |      |
| V    | Fe   | Mg    | Ta | Ca         | O         | Bi       | Se   |
|      | 2.5  |       |    |            |           |          |      |
| Sn   | Zn   | Pb    | Y  | Cb/Nb + Ta | Ni + Co   | H        | PREN |
|      |      |       |    |            |           |          |      |

### Typical Mechanical Properties

|                   |                           |
|-------------------|---------------------------|
| Tensile Strength  | 480 N/mm <sup>2</sup> min |
| 0.2% Proof Stress | 170 N/mm <sup>2</sup> min |
| Elongation        | 35%                       |
| Reduction of Area |                           |
| Hardness          |                           |
| Impacts           |                           |
| Stress Rupture    |                           |
| Other Remarks     |                           |

### Product Forms Available:

- Hexagon Head Bolts
- Hexagon Nuts
- Studbolts
- Socket Capscrews
- Socket Countersunk Screws
- Socket Setscrews
- & Many other special fasteners and bespoke machined parts

Products can be produced to customer drawings or relevant British (BS), American (ASME, ANSI), European (DIN, UNI) or International Standards (ISO).

The size ranges M3 to M120 Metric and 3/16" to 4.75" Imperial can be supplied. Thread forms include UNC, UNS, UNF, BSW, BSF, Whitworth, Metric, Metric Fine.



Callywhite Lane  
Dronfield  
Derbyshire  
S18 2XR

T: +44 01246 291111

[www.westspecialfasteners.co.uk](http://www.westspecialfasteners.co.uk)  
[sales@westspecialfasteners.co.uk](mailto:sales@westspecialfasteners.co.uk)