

## Technical datasheet

## Alloy 36 / W-Nr. 1.3912

A binary nickel-iron alloy containing 36% nickel with a low room temperature coefficient of thermal expansion making it ideal for precision components requiring high dimensional stability and for aerospace composite tooling.

### Available products

#### Product form

Sheet/plate  
Bar  
Tube/pipe

#### Size range from

0.25 mm thickness  
2.0 mm diameter  
12.0 mm outside diameter

#### Size range to

50.0 mm thickness  
190.0 mm diameter

### Chemical composition (%)

Ni	Fe	Mo	Co	Cr	Mn	Si	C
35.0-38.0	Balance	0.50 max	1.0 max	0.50 max	0.60 max	0.35 max	0.10 max

### Major specifications

ASTM B388, B753, F90, F1684-06  
SEW 385

UNS K93600  
DIN 385, 1715

### Physical properties

Density	8.11 g/cm <sup>3</sup>	Coefficient of thermal expansion (20-100°C)
Melting temperature	1430°C	1.5 µm/m•C

### Mechanical properties – typical room temperature properties

Yield strength	240 MPa
Tensile strength	490 MPa
Elongation	42 %

### Key attributes

Alloy 36 is known for its controlled expansion coefficient for precision applications where dimensional stability is key. It has a very low room temperature thermal expansion coefficient and minimum variation at cryogenic temperatures through to 260°C. Alloy 36 maintains good strength and excellent toughness at temperatures down to -253°C.

Alloy 36 is readily formed by both hot and cold forming and can be machined. Workability characteristics are similar to those of austenitic stainless steels. Alloy 36 can be welded by most standard techniques. Please contact us for further details on forming and fabrication.

### Applications

Tooling for aerospace composites  
Standards of length and measuring gauges  
Laser components  
Thermostat rods  
Bimetallic components in electrical industries  
Piping and tanks for liquified natural gas (LNG)

Do you require further information or a quotation?

Please contact us...

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