

DATA SHEET

ALLOY 36 | 1.3912

Major specifications

UNS K93600 | ASTM F1684 | SEW 385 | DIN 17745

Product forms

Round bars | plates

The current Stock Range can be found on www.sd-metals.com. Further dimensions available upon request.

Key features

Alloy 36 is a binary nickel-iron alloy with 36% nickel that is known for its low coefficient of expansion. It has a very low thermal expansion coefficient at room temperature and minimal variation at cryogenic temperatures, making it ideal for use in precision components. It is also used in applications where dimensional stability is critical such as in tools for the production of composite materials used in aerospace and automotive applications.

Areas of application

Tools for composite materials used in aerospace applications, length and measurement gauges, thermostat rods, laser components.

CHARACTERISTIC

Chemical composition limits in %

Fe	Rest
Ni	35,00 - 38,00
Co	max. 1,00
Mn	max. 0,60
Cr	max. 0,50
Mo	max. 0,50
Si	max. 0,35
C	max. 0,10
P	max. 0,025
S	max. 0,025

Physical constants and thermal properties

Density	8,11 g/cm ³
Melting point	1430 °C
Thermal conductivity	10,0 W/m • °C
Thermal Expansion Properties	
Temperature range (°C)	Mid-linear coefficient (µm/m • °C)
-200 - 20	1,5
-100 - 20	1,3
20 - 100	1,5
20 - 200	2,6
20 - 300	5,5
20 - 400	8,4
20 - 500	10,1

Typical mechanical properties (annealed)

Yield strength	min. 240 MPa
Tensile strength	min. 490 MPa
Elongation	min. 42 %

All information is subject to change without notice.

The properties correspond to the material in the heading. They may vary for other specifications. Please contact us for more details.