

QuNi36

M.-No.: 1.3990; ~1.3912; ~INVAR36@; UNS K93600

The weld is a binary iron-nickel-alloy with an extremely low coefficient of thermal expansion. The content of carbon and manganese by simultaneous absence of other impurities has a great influence on this characteristic. By cold forming the material, the thermal expansion can be lowered. A step by step thermo treatment of the material generates a man-made aging, by which the coefficient of thermal expansion can be stabilized within a specific temperature range. The basic material 1.3912 is distinguished by an extremely low coefficient of expansion between -250°C and 200°C and at the same time, good ductility and toughness.

Recommendation for

Tester and check instruments (e.g. thermostat), constructions for the production, storage and transport of liquide gases, connectors for bolted assemblies for metals with different characteristics, forms of the production of CFK-parts (aircraft industry), frames, attachments and boxes for controll units at the construction of satellites

NILO36, Invar - qualities

Material analysis in %

C	Si	Mn	Ti	Cr	P	S	Nb	Ni	Fe
0,2	0,5	0,6	0,5	0,5	0,025	0,025	1,0	35,0 - 38,0	Rest

(test certificates upon request.)

Standard/Mechanical Values

Inert gas	Argon	Values of the pure weld metal
Temperature	20°C	
Yield strength Re	MPa	
Tensile strength Rm	MPa	490
Elongation A (Lo = 5do)	%	<20
Hardness untreated	HRC	

Following standard:

Laser welding wires

rods: 333 mm / 1.000 mm

spool: K80 / K125 / K250 / SH253 / MA125

The reported values were determined by the manufacturer and / or by a neutral Laboratory. We cannot guarantee for the accuracy.