

NOVA36

Comparable specifications

Material no.: 1.3912
ASTM: UNS K93603 / UNS K93600

Description and applications*

* Illustrative, not-exhaustive list

NOVA36 is a binary austenitic nickel-iron low expansion alloy containing 36% nickel. It maintains nearly constant dimensions over the range of normal atmospheric temperatures and has an extremely low coefficient of thermal expansion from about -250°C to about 200°C.

Such an alloy has good fatigue and mechanical properties at cryogenic temperatures. It exhibits moderately high strength along with good ductility and toughness.

Mainly used for applications requiring precise dimensional stability:
standard of length, measuring devices, laser components, bi-metal thermostat strips and thermostat rods;
tooling and dies for aerospace composite tooling,
cryogenic components and piping;
liquefied natural gas production and storage equipment;
marine components;
wind turbines.

Chemical composition*

* For reference only values

C	Mn	Si	Ni	Fe
max	max	max	35.00	balance
0.05	0.50	0.50	37.00	

Coefficient of thermal expansion*

* Mean coefficient ($10^{-6}/^{\circ}\text{C}$) between 0°C and...

-100°C	100°C	200°C	300°C	400°C	500°C	600°C
-1.6	1.1	2.2	5.3	7.6	8.9	10

Curie temperature: 230°C

Physical properties

Density	Melting Point	Specific Heat
8.11 g/cm ³	1430°C	515 J/kg-°C

Standard packaging data*

Welding process	Product type	Ø mm (inches)	Packing type	Weight kg (lbs)	Length mm (inches)
GMAW **	filler wire	0.80 - 1.20 (0.030 - 0.047)	spools BS300 / D300	15 (33)	n.a.
SAW **	filler wire	1.60 - 4.00 (1/16 - 5/32)	basket rims B450	25 (55)	n.a.
GTAW **	filler rod	1.60 - 4.00 (1/16 - 5/32)	cardboard boxes / tubes	5 (11)	1000 (39.4)

* Other sizes and packing types are available upon request

** GMAW: gas metal arc welding; SAW: submerged arc welding; GTAW: gas tungsten arc welding

Marking

Each filler rod for GTAW welding is durably marked with an identification traceable to the unique product type. Welding filler materials wound on spools or in coils are durably marked on the coil or spool with an identification traceable to the unique product type.

The outside of each unit package is suitably labelled with at minimum the following data: grade, diameter, heat, lot no., classifications.

Customized labels are available upon request.

Lot classification

All our productions fulfil the **Class S3** requirements acc. to EN ISO 14344.