

GENERAL INFORMATION

Alloy Nifer®36 – the nickel-iron alloy with small coefficient of thermal expansion containing 36% of nickel. Alloy is ferromagnetic at a temperature is lower than Curie's temperature and non-magnetic at higher temperatures. It is used for length standards, measuring devices, laser machines details, stabilizers of thermocouple temperatures, tanks and pipelines for transportation and storage of liquefied gases.

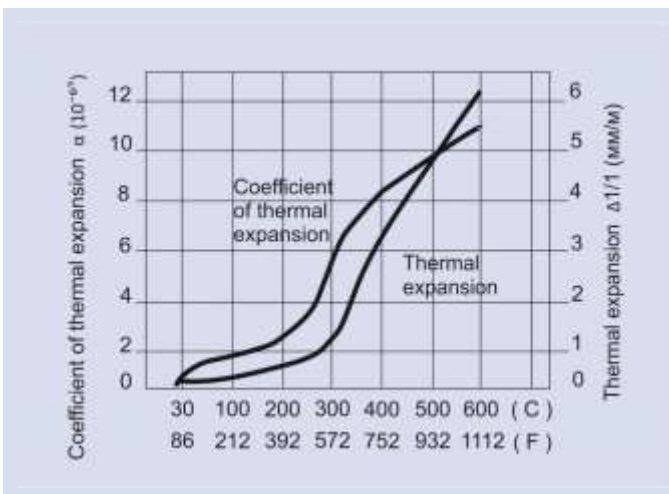
Alloy Nifer®36 is characterized by:

- extremely low coefficient of thermal expansion in the range of temperatures from -250°C to +200°C;
- good ductility, toughness;
- good mechanical properties and small tendency to destruction at cryogenic temperatures.

Classification			
DIN	1.3912		
UNS	K93603		
Chemical composition, %			
Ni	Cr	Fe	C
35-37	≤0.25	rest	≤0.15
Mn	Si	Co	S
≤0.6	≤0.4	≤0.5	≤0.025

MECHANICAL PROPERTIES AT 20°C IN ANNEALED CONDITION	
Tensile strength, MPa	490
Yield strength (0.2%), MPa	240
Elongation, %	42

PROCESSING PROPERTIES	
Density, g/cm ³	8.11
Melting range, °C	1370-1375
Heat conductivity, W/(m·°C)	10.0
Specific heat, J/kg·°C	515
TCLE, mm/m·°C (from 20° to 100°C)	1.5
Elastic modulus, KN/mm ²	133
Electric resistance, μΩ·m	0.8



Pic.1 - Typical changes of thermal expansion coefficient depending on alloy temperature Nifer®36

MAIN DELIVERY CONDITIONS

Bars and rods

Forged, rolled, draw, with heat treatment, pickled, repeatedly peeled, machined or polished

Item	Forged, mm	Forge-rolled, mm
Round bar	≤600	8-100
Square bar	40-200	15-280
Flat bar	on request	on request
Hexagonal bar	40-80	13-41

Strip

Cold-rolled, with thermal treatment and pickled or with bright annealing.

Thickness, mm	Width, mm	Coils (ID), mm		
0,02≤0,10	4-200	300	400	
>0,10≤0,2	4-350	300	400	500
>0,2≤0,25	4-750		400	500 600
>0,25≤0,6	6-750		400	500 600
>0,60≤1,0	8-750		400	500 600
>1,0≤2,0	15-750		400	500 600
>2,0<3,0	25-750		400	500 600

Wire

Dry or wet drawing (depends on sizes), from ¼ hardness up to hard, after bright annealing.

Sizes: diameter 0,01 – 12,0 mm, in coils, in drums, on spools and cross-pieces.

Sheets/plates

Hot or cold rolled (Hot-rolled, Cold-rolled), heat treatment and pickling

Thickness, mm		Width, mm	Length, mm
1.10 < 1.50	Cold-rolled	2000	8000
1.50 < 3.0	Cold-rolled	2500	8000
3.0 < 7.5	Cold-rolled, Hot-rolled	2500	8000
7.5 < 25.0	Hot-rolled	2500	8000
≥25.0	Hot-rolled	2500	8000

Production of disks, hollow blanks, forged products etc. with customized sizes is possible on request