



Invar 36

1. Brief introduction

Ni-Fe low-expansion alloy containing 36% Nickel.

It maintains nearly constant dimensions over the range of normal atmospheric temperatures, and has low coefficient of expansion from cryogenic temperatures to about 5000 F(260°C).

It retains good strength and toughness at cryogenic temperatures.

It's used for length standards, measuring devices, laser components, bi-metal thermostat strip, thermostat rods, and tanks & piping for storing & transporting liquefied gases.

We developed Invar rectangular waveguide with extra small thermal expansion coefficient, suitable for outdoor radio unit, for transmitting ultra-high frequency electromagnetic waves. The pulse signal can be transferred to the destination with the minimal loss through the Invar rectangular tube, wave frequency doesn't produce drift phenomenon owing to the environmental temperature changes. The size of the inner diameter varies from the wavelength of the transmitted signal, widely used for the millimeter and centimeter wave of communication, radar, radio navigation and other military fields.

2. Main specifications:

Chinese grade	UNS	Werkstoff Nr.	Germany	Russia	France
4J36	K93600 K93601 K93603	1.3912	Vacodil36 Nilos36	26H	Fe-Ni36



3. Chemical composition under YB/T5241-2005 standard:

Grade	C	P	S	Si	Mn	Ni	Fe
	MAX						
4J36	0.05	0.02	0.02	0.3	0.2~0.6	35~37	Remainder

Remarks: If require adjustments for some chemical compositions, pls consult with us.

4. Typical average linear expansion coefficient value α , 10⁻⁶/°C

Grade	20°C~50°C	20°C~100°C	20°C~200°C	20°C~300°C	20°C~400°C	20°C~500°C
4J36	0.6	0.8	2.0	5.1	8	10

5. Main product types:

wire, rod, bar, strip, plate/sheet, tube, rectangular tube, square tube, ring, forging.

6. Invar36 source URL:

<https://www.hitealloy.com/product/invar-4j36.html>