



Alloy 42

1. Brief introduction:

It's Nickel-Iron controlled-expansion alloy with Ni42% nominal value.

It has low and nominally constant coefficient of thermal expansion from room temperature to about 300 °C.

It is a sealing structural material widely used in the electric vacuum industry. Used for semiconductor lead frames in integrated circuits, bi-meatl thermostat strip, thermostat rods, for ceramic-to-metal seals with alumina ceramics and various glass-to-metal seals.

2. Main specifications:

Chinese grade	UNS	UK	Werkstoff Nr.	Germany	Russia	France
4J42	K94100	Ni42	1.3917	Vacodil42, Ni42	42H	N42

3. Chemical composition under YB/T5235-2005 standard:

Grade	chemical composition, %								
	C	P	S	Mn	Al	Si	Co	Ni	Fe
	MAX								
4J42	0.05	0.02	0.02	0.8	0.1	0.3	1	41~42.5	Remainder

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



4. Tensile strength under YB/T5235-2005 standard:

delivery condition	Tensile strength of strip ,N/mm2
Soft	<590
Hard	>700

5. Typical average linear expansion coefficient value $\alpha_{10-6}/^{\circ}\text{C}$:

Grade	20°C~100°C	20°C~200°C	20°C~300°C	20°C~400°C	20°C~450°C	20°C~500°C	20°C~600°C
4J42	5.6	4.9	4.8	5.9	6.9	7.8	9.2

6. Main product types:

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

7. Alloy42 source URL:

<https://www.hitealloy.com/product/alloy-42-4j42.html>