



## Cheap Price ASTM F15 Kovar Alloy Feni29co17 4j29 Iron Nickel Cobalt Material Plate/Sheet

Our Product Introduction

for more products please visit us on [victory-alloy.com](http://victory-alloy.com)

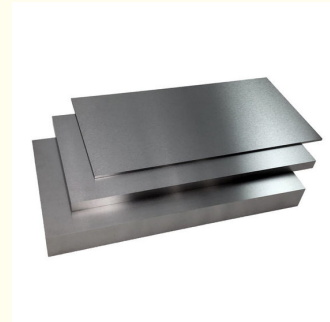
### Basic Information

- Place of Origin: China
- Brand Name: Victory
- Model Number: 4j29(kovar)
- Minimum Order Quantity: 50
- Price: \$18-\$35
- Packaging Details: Wooden Case& carton
- Delivery Time: 7-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 300 tons per month

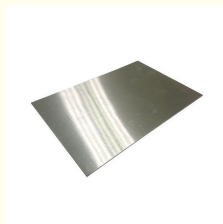


### Product Specification

- Certificate: ISO9001
- Shape: Sheet
- Ni (Min): 28.5
- Size: Customized
- Color: Nickel,silver
- Ultimate Strength ( $\geq$  MPa): 570
- Elongation ( $\geq$  %): 30 %
- Application: Glass To Metal Sealing
- Brand Name: DLX
- Highlight: Kovar AlloyElectric Vacuum Kovar Alloy, Kovar Alloy 4J29, K94610 kovar sheet



### More Images



### Product Description

Our Product Introduction

## Precision Alloy Kovar 4J29 plate/sheet

**Precision Alloy Kovar** alloy is a vacuum melted, iron-nickel-cobalt alloy that is widely used in the electronics industry. **Precision Alloy Kovar** is a nickel-iron-cobalt, controlled-expansion alloy which contains 29% nickel. **Precision Alloy** its coefficient of expansion, which decreases with rising temperature to the inflection point, matches the expansion rate of borosilicate glasses and alumina ceramics.

**Precision Alloy Kovar** alloy has been used for making hermetic seals with the harder Pyrex glasses and ceramic materials. This **Precision alloy** has found wide application in power tubes, microwave tubes, transistors, and diodes. In integrated circuits, **Precision Alloy** has been used for the flat pack and the dual-in-line package.



**Basic performance:** **Precision Alloy** is divided into low-expansion alloy and fixed-expansion alloy, the latter is also known as sealing alloy. **Precision Alloy** Expansion alloy besides has the specific thermal expansion coefficient, according to the different USES also requires a good sealing property, weldability and corrosion resistance, machinability and cutting, and in the use of expansion characteristics caused by the temperature range there is no obvious change of phase transformation, **Precision Alloy** product is commonly bar, sheet, strip, wire and tube and so on.

**Precision Alloy Expansion alloy applications:** **Precision Alloy** is widely used in glass, metal and ceramic sealing in avionics and instruments, electric vacuum industry and other electronic devices, electric light source and other fields.

### Chemical Composition

Grade	C%	P%	S%	Mn%	Si%	Cu%	Cr%	Mo%	Ni%	Co
Kovar	Max 0.03	Max 0.020	Max 0.020	Max 0.50	Max 0.30	Max 0.20	Max 0.20	Max 0.20	28.5-29.5	16

### Specifications

Grade	UNS	Werkstoff Nr.
Kovar	K94610	1.3981

### Physical Properties

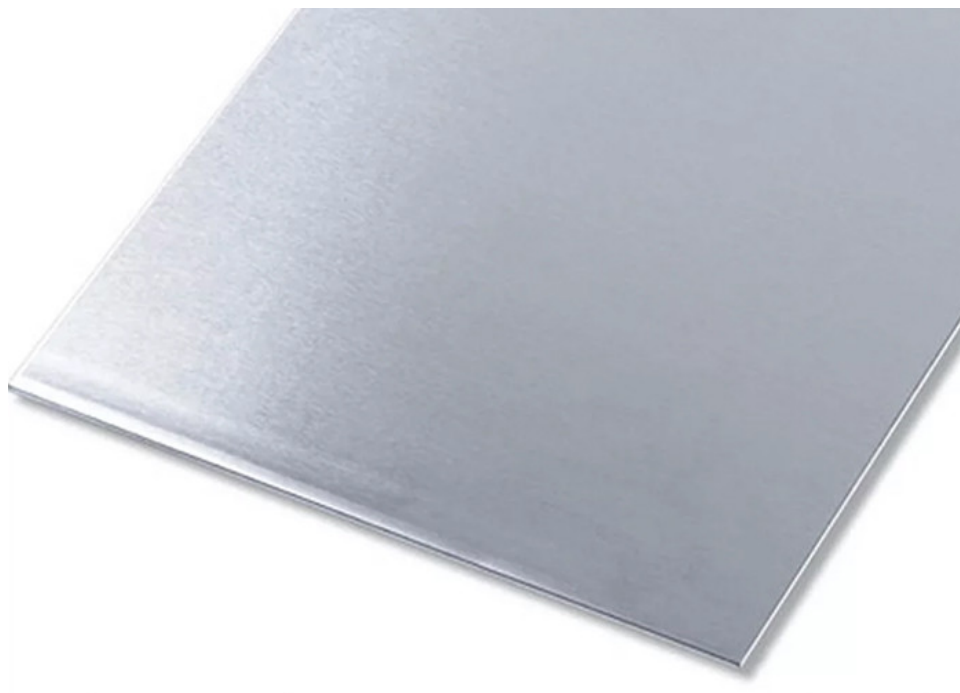
Grade	Density	Melting Point
Kovar	8.17 g/cm <sup>3</sup>	1449°C

### Mechanical Properties

Grade	Tensile Strength N/mm <sup>2</sup>				
	Soft	1/4 Hard	1/2 Hard	3/4 Hard	Full Hard
Kovar Strip	<570	520-630	590-700	600-770	>700
Kovar Wire	<585	585-725	655-795	725-860	>860

### Coefficient of Expansion

Alloy	Linear Coefficient of Thermal Expansion $\alpha$ , 10 <sup>-6</sup> /°C						
	20-200°C	20-300°C	20-400°C	20-450°C	20-500°C	20-600°C	20-700°C
Kovar	5.9	5.3	5.1	5.3	6.2	7.8	9.2





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