



Main Product Super Bright Expansion Alloy 1J33/ 4J29/4J33/Invar 36 Wire Precision Alloy wire

Our Product Introduction

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Basic Information

- Place of Origin: China
- Brand Name: Victory
- Model Number: Permalloy 80
- Minimum Order Quantity: 50
- Price: \$25-\$40
- Packaging Details: Standard Export Wooden Cases Ex.Gross Weight Under 20kg=Carton Box/Gross Weight over 20 kg=Plywood Box Or as per Request
- Delivery Time: 5-21 days
- Payment Terms: L/C, T/T, Western Union, MoneyGram
- Supply Ability: 200 tons per month



Product Specification

- Material: NiFe
- Certificate: ISO9001
- Shape: Wire, Strip, Foil, Sheet
- Resistivity: 0.56
- Density: 8.75g/cm3
- Size: Customized
- Standard: GB/ASTM/AISI/ASME
- Condition: Bright, Annealed, Soft
- Application: Industrial Magnet
- Curie Point: 400°C
- HCR: 30
- Feature: High Initial Permeability
- Highlight: **AISI Precision Alloy, Precision Alloy Wire, Soft magnetic materials Sheet**



Product Description

High Permeability Soft Magnetic Alloy

Our Product Introduction

Soft magnetic materials are utilized in two key areas - energy conversion and information processing. In the power industry, these materials are primarily used in high magnetic fields that have a high magnetic induction and low core loss of the alloy. On the other hand, in the electronics industry, these materials are mainly used in low or medium alloys that have a high magnetic permeability and low coercive force.



However, soft magnetic materials are not without their drawbacks. Due to the alternating magnetic eddy currents that are induced inside the material, there is a resultant loss. The smaller the resistance of the alloy, the greater the thickness, and the higher the frequency of the alternating magnetic field, the greater the eddy current losses and the more reduced the magnetic field becomes. To combat this issue, the material must be made thinner into a sheet or tape and then coated with an insulating layer. Alternatively, certain methods can be used to form an oxide insulating layer on the surface of the alloy. One commonly used coating for this purpose is magnesium oxide electrophoresis.

Iron-nickel alloys are often used in alternating magnetic fields, mainly for yoke iron, relays, small power transformers, and magnetically shielded components. Soft magnetic materials play a crucial role in energy conversion and information processing, making them an essential component in various industries.

Applications

High sensitivity and small power transformers, magnetic amplifiers, relays, chokes, magnetic heads for magnetic recording devices, magnetic shields, various tape wound cores, cut cores, and laminated cores used in weak magnetic fields.

Material	C	P	S	Mn	Si	Ni	Cr	Co	Mo	Cu
	Max									
Permalloy80	0.03	0.020	0.020	0.3-0.6	0.15-0.30	79.0-81.0	-	-	4.8-5.2	≤0.2

Material	Shape	Class	Thickness or Diameter mm	Magnetic permeability in 0.08A/m magnetic field intensity μ 0.4(mH/m)	Maximum permeability μ m(mH/m)	Coercivity(under saturation magnetic induction)Hc/A-m-1
				not less than		no greater than
Permalloy80	Cold rolled strip	I	0.03-0.04	18000(22.5)	80000(100)	3.6
			0.05-0.09	28000(35)	110000(137.5)	2.4
			0.10-0.19	30000(37.5)	150000(187.5)	1.6
			0.20-0.34	40000(50)	180000(225)	1.2
			0.35-1.00	50000(62.5)	250000(312.5)	0.8
			1.10-2.50	40000(50)	150000(187.5)	1.2
		II	0.03-0.04	30000(37.5)	110000(137.5)	2.4
			0.05-0.09	40000(50)	140000(175)	1.6
			0.10-0.19	50000(62.5)	180000(225)	1.2
			0.20-0.34	60000(75)	200000(250)	1.0
			0.35	55040(68.8)	260000(325)	0.7
	Hot rolled tape		4.5-20	30000(37.5)	100000(125)	1.6
	Hot forged bar		20-100	30000(37.5)	100000(125)	1.6

Material	Shape	Class	Thickness or Diameter mm	Magnetic permeability in 0.08A/m magnetic field intensity μ 0.4(mH/m)	Maximum permeability μ m(mH/m)	Coercivity(under saturation magnetic induction)Hc/A-m-1	Saturation magnetic induction Bs/T
				not less than		no greater than	

P e r m a l l o y 8 0	C o l d r o l l e d s t r i p	I	0.03- 0.04	18000(22.5)	80000(10 0)	3.6	0.70
			0.05- 0.09	28000(35)	110000(1 37.5)	2.4	0.70
			0.10- 0.19	30000(37.5)	150000(1 87.5)	1.6	0.70
			0.20- 0.34	40000(50)	180000(2 25)	1.2	0.70
			0.35- 1.00	50000(62.5)	250000(3 12.5)	0.8	0.70
			1.10- 2.50	40000(50)	150000(1 87.5)	1.2	0.70
		II	0.03- 0.04	30000(37.5)	110000(1 37.5)	2.4	0.70
			0.05- 0.09	40000(50)	140000(1 75)	1.6	0.70
			0.10- 0.19	50000(62.5)	180000(2 25)	1.2	0.70
			0.20- 0.34	60000(75)	200000(2 50)	1.0	0.70
			0.35	55040(68.8)	260000(3 25)	0.7	0.70
	H o t r o l l e d t a p e		4.5-20	30000(37.5)	100000(1 25)	1.6	0.70
	H o t f o r g e d b a r		20-100	30000(37.5)	100000(1 25)	1.6	0.70



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