NiFe Soft Magnetic Materials

Our Product Introduction

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℃
- HCR: 30
- Feature: High Initial Permeability
- Highlight: **NiFe Soft magnetic materials**, **ASTM Soft magnetic materials**, **ASME soft iron material**

Our Product Introduction

Product Description

High Permeability Soft Magnetic Alloy

This text describes a high nickel alloy that has a tendency to "gummy" machining. It behaves similarly to the austenitic (300 series) stainless steels. When machining this alloy, high-speed steel or carbide tools may be used with a lard oil lubricant. However, if water-soluble cutting fluids are used, it's important to clean the parts thoroughly immediately after machining to avoid corrosion contamination.
When using high-speed steel tooling, turning should be done at a speed of 50 surface ft./min. with a feed of .001" to .002" per revolution. Drilling should be done at a speed of 35 surface ft./min. with a feed of .001" to .004" per revolution.
This alloy can be readily formed using standard methods and can be welded using conventional welding methods. However, it's not hardenable by heat treatment. Annealing may be done in a dry hydrogen atmosphere at 2150 F for 4 hours, followed by furnace cooling to 1100 F, then a cooling rate of 500 F per hour from 1100 F to 700 F. After reaching 700 F, it should be air-cooled. A strain relief anneal may be done at 1700 F for 1/2 hour in a dry hydrogen or inert gas atmosphere.
The alloy has good ductility and is easily cold formed. Strip in the cold rolled condition works best for blanking operations. It's worth noting that this alloy can only be hardened by cold working.

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

rial	Shape	Class	Thickness or Diameter mm	Magnetic permeability in 0.08A/m magnetic field intensity μ0.4(mH/m)	Maximum permeability μm(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 μ0.4(mH/m)	Maximum permeability μm(mH/m)	Coercivity(under saturation magnetic induction)Hc/A·m-1	Saturation magnetic induction Bs/T
				not less than		no greater than	

Permalloy 80	Cold rolled strip	I	0.03-0.04	18000(22.5)	80000(100)	3.6	0.70
			0.05-0.09	28000(35)	110000(137.5)	2.4	0.70
			0.10-0.19	30000(37.5)	150000(187.5)	1.6	0.70
			0.20-0.34	40000(50)	180000(225)	1.2	0.70
			0.35-1.00	50000(62.5)	250000(312.5)	0.8	0.70
			1.10-2.50	40000(50)	150000(187.5)	1.2	0.70
		Ⅱ	0.03-0.04	30000(37.5)	110000(137.5)	2.4	0.70
			0.05-0.09	40000(50)	140000(175)	1.6	0.70
			0.10-0.19	50000(62.5)	180000(225)	1.2	0.70
			0.20-0.34	60000(75)	200000(250)	1.0	0.70
			0.35	55040(68.8)	260000(325)	0.7	0.70
	Hot rolled tape		4.5-20	30000(37.5)	100000(125)	1.6	0.70
	Hot forged bar		20-100	30000(37.5)	100000(125)	1.6	0.70






Changzhou Victory Technology Co., Ltd

+8619906119641 victory@dlx-alloy.com victory-alloy.com

NO.32 West Taihu Road, Xinbei District, Changzhou, Jiangsu