



ED FAGAN INC.

Hiperco 50¹

Soft Magnetic Alloys



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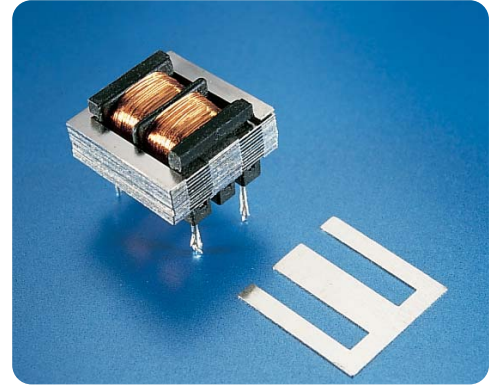
DESCRIPTION

An alloy of 49% Cobalt, and 2% Vanadium. This alloy exhibits the highest magnetic saturation of any commercial alloy and excels in applications where this attribute is needed. This alloy has higher mechanical strength than other soft magnetic alloys.

APPLICATIONS

Electrical generators, pole pieces for electromagnets, magnetic bearings, and high magnetic flux devices and instruments.

Footnotes: 1. Trademark Carpenter Technology Corp., Reading PA



TYPICAL DC MAGNETIC PROPERTIES

Saturation Induction - Gauss	24,200
Maximum Permeability	10,000
Coercive Force - Oersteds	0.4
Coercive Force - A/m	31.83

TYPICAL AC MAGNETIC PROPERTIES

Core Loss W/lb @ 400Hz & 20k G	34
B-40 Permeability @ 60Hz	N/A

N/A = not a typical application value

PHYSICAL PROPERTIES

Density	lb/cu in	0.293
Specific Gravity		8.12
Curie Temp	°F	1710
	°C	932
Melting Point	°F	2600
	°C	1427
Electrical Resistivity	micro-ohm-cm	41
	ohm-cir mil/ft	240
Thermal Conductivity	W/cm °C	0.29
	BTU-in/sq. ft-hr-°F	200
Specific Heat	Cal/g-°C	-
	BTU/lbm-°F	-
Thermal Expansion	ppm/°F(75°F to 842°F)	5.6
	ppm/°C(25°C to 450°C)	10.2

MECHANICAL PROPERTIES

Tensile Strength	ksi	118
	MPa	814
Yield Strength	ksi	63
	MPa	435
Elongation	% in 2 in.	9
Typical Hardness	Rockwell	HRC 20
Modulus of Elasticity	Mpsi	30
	kMPa	207

FORMS AVAILABLE

Rod	22.225mm – 44.450mm
Strip/Coil	0.050mm – 1.270mm

Strip/Coil can be slit to customers requirements, down to 4mm widths.

CHEMISTRY - maximum % unless noted

Iron	49 nom.	Silicon	0.05
Nominal Nickel	-	Vanadium	1.9
Nominal Cobalt	49 nom.	Niobium	0.05
Molybdenum	-	Phosphorus	-
Carbon	0.01	Sulfur	-
Manganese	-		

SPECIFICATIONS

ASTM A801, MIL A47182, AMS A47182



Ed Fagan Inc also specializes in locating exotic materials. So, if you can't locate that hard-to-find material you need... Put EFI's material locator service to work for you!

www.material-locator.com

**THE MATERIALS YOU NEED,
WHEN YOU NEED THEM**



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ED FAGAN INC.

Glass Sealing/ Controlled Expansion Alloys

EFI provides the highest quality materials including materials from Carpenter Technology Corp.

ASTM F15 Alloy:

aka Kovar & Pernifer 2918
Coil/Strip, Sheet, Plate,
Bar, Wire

Invar 36:

Bar, Sheet, Plate

42/46/48/52 Alloy:

Coil/Strip, Sheet, Plate, Bar

Electronic Nickel

200/201/233/270:

Coil/Strip, Rod, Sheet, Plate

Soft Magnetic Alloys/ EMI Shielding & Laminations

EFI is a distributor of magnetic shielding alloys for the world's leading producer of these alloys – ThyssenKrupp VDM.

EFI Alloy 79: aka Magnifer 7904,

Moly-Permalloy & HyMu 80
Sheet, Coil/Strip

EFI 50:

aka Magnifer 50 & High Perm 49
Bar, Coil/Strip

Carpenter VimVar Core Iron:

Rod, Bar

Carpenter Hiperco 50:

Coil/Strip, Billet

Radiometal 4550: Rod, Coil/Strip

Refractory Metals/Alloys

EFI is a stocking distributor of Molybdenum & Tungsten products, as well as many other refractory metals and alloys, providing the highest quality materials available.

Molybdenum:

Bar, Sheet, Plate, Coil/Strip

TZM Molybdenum Alloy:

Sheet, Bar

Tungsten:

Bar, Coil/Strip, Sheet

Tantalum: Sheet, Tubing

Niobium: Strip

Tungsten Alloy: Rod, Shapes

Rhenium: Sheet

Hard-to-Find Special Purpose Metals, Alloys and Materials

Are you spending too much of your valuable time trying to locate suppliers of specialty metals and materials? Use EFI's Material Locator (see below) to source it for you so you can get back to doing what you do best.

- Coil/Strip
- Sheet
- Plate
- Rod
- Tube
- Pipe
- Wire

JUST IN TIME DELIVERY

All standard stock items can be **shipped within 24 hours** – and are often **shipped the same day**. All materials are certified with shipment.

METALS WE DISTRIBUTE

Titanium
Zirconium

High Temperature Alloys
Corrosion Resistant Alloys
Stainless Steel

Copper – OFE, OFHC
Brass & Bronze
Beryllium Copper

SERVICES WE OFFER

Slitting, Shearing, Saw Cutting, Centerless Grinding, Water-jet Cutting, Laser Cutting,
Custom Stocking Programs • Consignment Programs



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