



ED FAGAN INC.

EFI Alloy 79

Soft Magnetic Alloys

769 Susquehanna Avenue, Franklin Lakes, NJ 07417 • **phone 201.891.4003**
10537 Humbolt Street, Los Alamitos, CA 90720 • **phone 562.431.2568**

DESCRIPTION

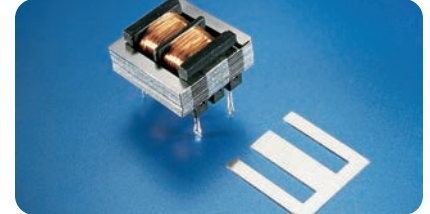
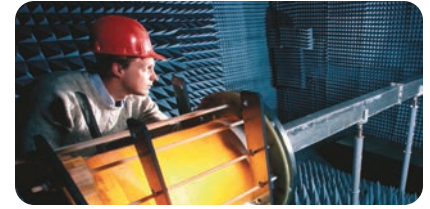
A soft magnetic alloy consisting of 80% Nickel, 5% Molybdenum, and balance Iron used where extremely high initial & maximum permeability and minimum hysteresis is needed.

APPLICATIONS

Electro-magnetic shielding, specialty transformer laminations, toroidal tape wound cores, high quality motor laminations, stepping motors.

AKA: Magnifer 7904¹, Carpenter HyMu 80², Hipernom², Moly-Permalloy, Permalloy 80

Footnotes: 1. Trademark VDM Metals GmbH, Germany;
2. Trademark Carpenter Technology Corp., Reading PA



TYPICAL DC MAGNETIC PROPERTIES

Saturation Induction - Gausses	8,700
Maximum Permeability	230,000
Coercive Force - Oersteds	0.015
Coercive Force - A/m	1.19

All magnetic testing was performed in accordance with applicable ASTM specification. Please refer to appropriate specification for details. Procedures are product specific.

TYPICAL AC MAGNETIC PROPERTIES

Core Loss W/lb @ 400Hz & 20k G	N/A
B-40 Permeability @ 60Hz	45,000

N/A = not a typical application value

PHYSICAL PROPERTIES

Density	lb/cu in	0.316
Specific Gravity		8.74
Curie Temp	°F	860
	°C	460
Melting Point	°F	2650
	°C	1454
Electrical Resistivity	micro-ohm-cm	59
	ohm-cir mil/ft	349
Thermal Conductivity	W/cm °C	0.35
	BTU-in/sq. ft-hr-°F	240
Specific Heat	Cal/g-°C	-
	BTU/lbm-°F	-
Thermal Expansion	ppm/°F(75°F to 842°F)	7.5
	ppm/°C(25°C to 450°C)	13.6

MECHANICAL PROPERTIES

Tensile Strength	ksi	98
	MPa	676
Yield Strength	ksi	38
	MPa	262
Elongation	% in 2 in.	40
Typical Hardness	Rockwell	HRB 85
Modulus of Elasticity	Mpsi	31.4
	kMPa	217

FORMS AVAILABLE

Rod	0.500" - 1.875"	Coil	0.004" - 0.025"
Sheet*	0.010" - 0.125"	Sq. Bar	1.812"

If you do not see the size or form you require listed above, please call us. We add new stock material frequently, and may have the size and form you need.

*Not a standard stock item. Please call for delivery options.

CHEMISTRY - maximum % unless noted

Iron	Bal.	Silicon	0.50
Nominal Nickel	80	Vanadium	-
Nominal Cobalt	0.50	Niobium	-
Molybdenum	5.0 nom.	Phosphorus	0.02
Carbon	0.05	Sulfur	0.01
Manganese	0.80	Chromium	0.30

SPECIFICATIONS

ASTM A753 Type 4, **MIL** N-14411C Comp 1



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**



toll free 800.348.6268
www.edfagan.com
sales@edfagan.com
international sales
+44 (0) 1548 858 770

efi
ED FAGAN INC.

Glass Sealing / Controlled Expansion Alloys / Electrical & Electronic Nickel

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

ASTM F15 Alloy:

aka Kovar, Pernifer 2918, NILO K & Dilvar P1

Coil/Strip, Sheet, Plate, Round Bar

Invar 36:

aka Pernifer 36, NILO 36 & Invar Steel

Round Bar, Sheet, Plate

Super Invar 32-5:

Round bar, Sheet, Plate

42/*46/48/52 Alloy:

aka Pernifer 40, 46, 48 & 50;

NILO 42, 46, 48 & 50;

Glass Seal 42, 46, 48 & 50

Coil/Strip, Sheet, Plate, Round Bar

Electronic Nickel

200/201/233/270:

Coil/Strip, Round Bar, Sheet

**Products listed in Italics are special order and not standard stock items. Please call for availability.*

Soft Magnetic Alloys/ EMI Shielding & Laminations

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

EFI Alloy 79:

aka Magnifer 7904, Moly-Permalloy,

HyMu 80, Hypernom & Permalloy 80

Round Bar, Sheet, Coil/Strip

EFI Alloy 50:

aka Magnifer 50, High Permeability 49 & Alloy 47-50

Round & Square Bar, Coil/Strip

Carpenter VimVar Core Iron:

Round Bar

Carpenter Hiperco 50:

Plate, Coil/Strip

Carpenter Hiperco 50A:

Round Bar

Radiometal 4550:

Round Bar, 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:

Round Bar, Sheet, Plate,

Threaded Rod & Nuts

**Foil/Coil/Strip, Wire*

TZM Molybdenum Alloy:

Round Bar, Sheet, Plate

Tungsten:

Round Bar, Plate, **Sheet, *Wire*

Tungsten Alloy:

Round Bar, **Sheet, *Plate,*

**Shapes, *Flat Blanks*

**Tantalum: Round Bar, Sheet*

**Niobium: Foil/Coil/Strip*

**Rhenium: Sheet*

**Products listed in Italics are special order and not standard stock items. Please call for availability.*

METALS WE DISTRIBUTE

Titanium - CP & 6Al-4V • High Temperature Alloys • Corrosion Resistant Alloys • Stainless Steel

JUST IN TIME DELIVERY: All **standard stock** items can be **shipped within 24 hours** – and are often **shipped the same day**. For **special order** materials, EFI has long relationships with the manufacturers of these materials, so please contact a sales rep to discuss price and delivery options. All materials can be certified with shipment.

SERVICES WE OFFER

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



Are you spending too much of your valuable time trying to locate specialty metals and materials? If you can't locate the hard-to-find materials you need, use EFI's Material Locator to source them for you.

www.material-locator.com

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



toll free 800.348.6268
www.edfagan.com
sales@edfagan.com
international sales
+44 (0) 1548 858 770

efi
ED FAGAN INC.

11/2016