



ED FAGAN INC.

Molybdenum

Refractory Metals and Alloys



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DESCRIPTION

Molybdenum's unique properties give rise to processes and applications in electronics, aerospace, nuclear and metal working industries which would not be possible with many of the more common metals and alloys. Some of the more interesting properties of Molybdenum relate to high temperature applications, such as high melting points, excellent high temperature strength, and good thermal and electrical conductivity, low coefficient of expansion and low vapor pressure at elevated temperatures.

APPLICATIONS

In missile industry, nose cones, high temperature structural parts, nozzles, leading edges of control surfaces, support vanes, re-entry cones, heat radiation shields. In electronics, cathodes, magnetron end hats, x-ray tube components. In high temperature applications, furnace windings, structural furnace members, and containers for components exposed to high temperatures.

PHYSICAL PROPERTIES

Density	<i>lb/in³</i>	0.37
	<i>gm/cm³</i>	10.30
Melting Point	<i>°F</i>	4760
	<i>°C</i>	2625
Thermal Conductivity	<i>cal/cm²/cm²°C/sec</i>	0.35
Specific Heat	<i>Cal/g-°C</i>	0.061
Coefficient of Linear Thermal Expansion	<i>micro-in/°F</i>	4.90
	<i>micro-in/°C</i>	2.70
Electrical Resistivity	<i>microhm-cm</i>	5.17
Recrystallization Temp.	<i>°C</i>	1100

MECHANICAL PROPERTIES

Tensile Strength	<i>KSI(Mpa)-RT</i>	150(1035)
	<i>KSI(Mpa)-500°C</i>	75(515)
	<i>KSI(Mpa)-1000°C</i>	25(175)
Elongation	<i>% in 1.0"</i>	-
Hardness	<i>DPH</i>	230
Modulus of Elasticity	<i>KSI</i>	45,000
	<i>Gpa</i>	310

FORMS AVAILABLE

Rod	0.125" - 4.0"
Sheet	0.005" - 0.125"
Coil/Strip	0.001" - 0.030"
Plate	0.187" - 1.00"
Precision Cut Wire*	0.001" - 0.125"
Threaded Rod/Nuts	Various Sizes

If you do not see the size you require listed above please call us at 800-348-6268. New stock sizes are added often.

*Wire cut to length to your tolerance, concentricity, and straightness requirements.

SPECIFICATIONS

AMS 7800 ASTM B-386 ASTM B-387



CHEMISTRY - Minimum % 99.95



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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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*

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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**



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