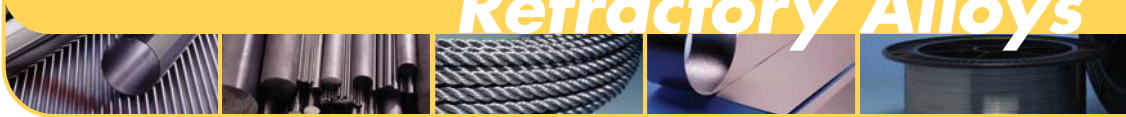




ED FAGAN INC.

Rhenium

Refractory Alloys



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

DESCRIPTION

Among the highest density element and melting point, rhenium does not have a ductile to brittle transition temperature and does not form carbides. High resistivity, combined with low vapor pressure, it is an ideal material for filament applications. Excellent resistance to corrosion, resists acid attack and the mechanical effects of electrical erosion. Rhenium has a beneficial effect as an alloying addition with other refractory metals as it greatly enhances the ductility and tensile strength of these alloys.

APPLICATIONS

Mass spectrometer filaments; grid heaters; cathode cups; thermocouples; nuclear reactors; semiconductors.

PHYSICAL PROPERTIES

Density	lb/in³	0.77
	gm/cm³	21.20
Melting Point	°F	5767
	°C	3180
Thermal Conductivity	cal/cm²/cm°C/sec	0.39
Specific Heat	Cal/gm/°C	0.033
Coefficient of Linear Thermal Expansion	micro-in/°F x 10⁶	11.70
	micro-in/°C x 10⁶	6.50
Electrical Resistivity	micro-ohm-cm	13.5

MECHANICAL PROPERTIES

Tensile Strength	KSI(Mpa)-RT	200(1380)
	KSI(Mpa)-500°C	135(930)
	KSI(Mpa)-1000°C	70(480)
Elongation	% in 1.0"	2
Modulus of Elasticity	KSI	67150
	Gpa	463

FORMS AVAILABLE

Rod	0.100" - 4"
Sheet	0.010" - 0.125"
Foil/Coil	0.005" - 0.060"
Plate	0.150" - 0.500"

Nuclear Applications



Rocket Nozzles



CHEMISTRY - Minimum % 99.97



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

efi
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
Coil, Sheet, Plate, Bar, Wire

Invar 36:
Bar, Sheet, Plate

42/46/48/52 Alloy:
Coil, Sheet, Plate, Bar

**Electronic Nickel
200/201/233/270:**
Coil, Rod, Sheet, Plate

Soft Magnetic/ Magnetic Shielding Alloy

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

EFI Alloy 79: aka Magnifer 79
HyMu 80
Sheet, Coil

EFI 50: aka Magnifer 50
High Perm 49
Bar, Coil

VimVar Core Iron:
Rod, Bar

Hiperco 50:
Coil, Billet

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

Tungsten:
Bar, Coil, Sheet

TZM Moly Alloy:
Sheet, Bar

Tantalum: Sheet, Tubing

Niobium: Strip

Tungsten Alloy: Rod, Shapes

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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