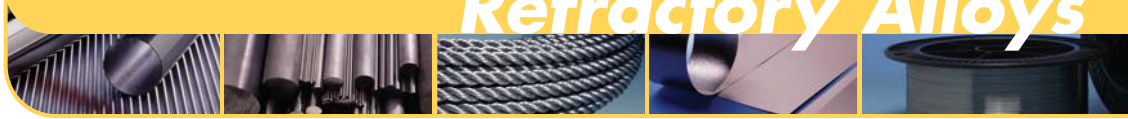




ED FAGAN INC.

Niobium aka Columbium

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

Niobium, also termed Columbium, is a shiny grey metal that takes on a bluish tinge when exposed to air at room temperature. Due to its low capture cross section for thermal neutrons, niobium has application in the nuclear industry. Niobium can be electrically heated and anodized to a wide variety of colors that makes it very attractive in the jewelry industry. Niobium is added to iron or nickel to produce alloys in the aerospace, medical and electronics industries.

APPLICATIONS

Capacitors; superconducting magnets; steel additive; nuclear reactors; optics.

PHYSICAL PROPERTIES

Density	<i>lb/in³</i>	0.31
	<i>gm/cm³</i>	8.57
Melting Point	<i>°F</i>	4380
	<i>°C</i>	2415
Specific Heat	<i>Cal/gm/°C</i>	0.065
Coefficient of Linear Thermal Expansion	<i>micro-in/°F x 10⁶</i>	7.10
	<i>micro-in/°C x 10⁶</i>	4.00
Electrical Resistivity	<i>micro-ohm-cm</i>	13.10
Recrystallization Temp.	<i>°C</i>	800

MECHANICAL PROPERTIES

Tensile Strength	<i>KSI(Mpa)-RT</i>	40(275)
	<i>KSI(Mpa)-500°C</i>	30(205)
	<i>KSI(Mpa)-1000°C</i>	10(70)
Elongation	<i>% in 1.0"</i>	30
Hardness	<i>DPH</i>	130
Modulus of Elasticity	<i>KSI</i>	15250
	<i>Gpa</i>	105

FORMS AVAILABLE

Rod	0.062" - 4"
Sheet	0.010" - 0.125"
Foil/Coil	0.001" / 0.010 - 0.070"
Plate	0.187" - 1"

CHEMISTRY - *Minimum %* 99.6

SPECIFICATIONS

AMS 7850



Nuclear Applications



Capacitors



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



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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