

74

W
183.84

Tungsten

Tungsten Alloys

Refractory Metals and Alloys

DESCRIPTION

The element tungsten (W) is quite brittle and difficult to machine, but with the addition of nickel, copper and/or iron, a group of alloys are produced that are machinable with enhanced engineering properties. Designed to be used where a concentrated mass in a limited space is required, these heavy metal tungsten alloys are manufactured using powder metallurgy techniques to produce an alloy that is twice as heavy as steel and 50% more dense than lead. Overall their mechanical properties; hardness, tensile strength and ductility compare favorable to steel. These alloys also have an excellent oxidation resistance and can be plated or painted for enhanced corrosion protection.

APPLICATIONS

Tungsten alloys have found wide acceptance in applications such as aircraft counterbalance weights, gyro weights, down hole well logging casings and weights for the oil and gas industry, high energy radiation shielding for the medical and nuclear industry.

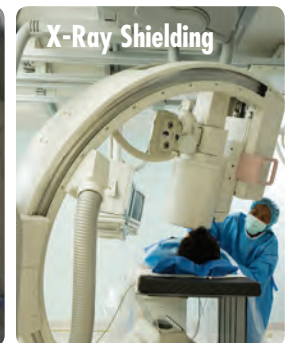
TYPICAL TUNGSTEN ALLOYS PROPERTIES

EFI GRADE	ASTM B777-15 Grade	Nominal Tungsten (wt %)	Nominal Density GM/CC	Minimum Yield Strength KSI (MPa)	Minimum Ultimate Tensile Strength KSI (MPa)	Minimum Elongation %	Modulus of Elasticity KSI (MPa)	Class Hardness Rockwell "C" Max
EF 17	1	90.0	17.0	75 (648)	110 (758)	5	45 (310)	32
EF 17N*	1	90.0	17.0	75 (648)	94 (648)	2	45 (310)	32
EF175	2	92.5	17.5	75 (648)	110 (758)	5	48 (331)	33
EF 175N*	2	92.5	17.5	75 (648)	94 (648)	2	48 (331)	33
EF 18	3	95.0	18.0	75 (648)	105 (724)	3	50 (345)	34
EF 18N*	3	95.0	18.0	75 (648)	94 (648)	1	50 (345)	34
EF 185	4	97.0	18.5	75 (648)	100 (689)	2	52 (358)	35

* Non-Magnetic Compositions

BLANK FORMS AVAILABLE

- Flats •
- Parts •
- Plate | Sheet •
- Round Bar •
- Shapes •



Please call us at 800-348-6268 for delivery lead times.
We can custom stock products in the size you require. No order is too small.

SPECIFICATIONS

ASTM B777-15

Special Purpose Alloys & Metals From Stock

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Special Purpose Alloys

www.edfagan.com | sales@edfagan.com

Controlled Expansion | Glass Sealing

Ed Fagan Inc. supplies the highest quality metals and alloys including materials from Carpenter Technology Corp.

Kovar® | ASTM F15 Alloy

Forms: Plate, Round Bar, Sheet, Strip/Coil, Wire
Trade Names: Kovar®, Pernifer® 2918, NILO K®, DilverP1®

Alloy 42/46/48/52

Forms: Plate, Round Bar, Sheet, Strip/Coil, Wire
Trade Names: Pernifer®40, 46, 48, 50; NILO® 42, 46, 48, 50; Glass Seal 42, 46, 48, 50

Free-Cut Invar "36"® Alloy

Forms: Round Bar, Wire

Invar "36"® Alloy

Forms: Plate, Sheet
Trade Names: Pernifer® 36, NILO® 36, Invar

Super Invar 32-5®

Forms: Plate, Round Bar, Sheet

Refractory Metals and Alloys

Ed Fagan Inc. is your leading source for quality refractory metals and alloys. We stock Tungsten, Molybdenum and its alloys in various forms and sizes manufactured from Plansee Group.

Molybdenum

Forms: Plate, Precision Cut Wire, Round Bar, Sheet/Strip, Spooled Wire, Threaded Rod/Nuts

Molybdenum Lanthanum Oxide (ML)

Forms: Sheet – Stress Relieved, Recrystallized

Molybdenum TZM

Forms: Plate, Round Bar

Niobium

Forms: Plate, Round Bar, Sheet, Strip/Coil, Wire

Rhenium

Forms: Plate, Round Bar, Sheet, Strip/Coil

Tantalum

Forms: Round Bar, Sheet

Tungsten

Forms: Parts (To Specification), Plate, Precision Cut Wire, Round Bar, Sheet

Tungsten Alloy

Blank Forms: Flats, Parts, Plate/Sheet, Rod, Shapes

Soft Magnetic Alloys | EMI Shielding & Laminations

Ed Fagan Inc. is a distributor of "EMI shielding alloys" for VDM Metals GmbH the world's leading producer of these alloys.

EFI Alloy 50

Forms: Round Bar, Square Bar, Strip/Coil, Wire
Trade Names: Alloy 4750, High Permeability 49®, Magnifer® 50

EFI Alloy 79

Forms: Rectangular Bar, Round Bar, Sheet, Strip/Coil, Wire
Trade Names: Hipernom, HyMu80®, Magnifer® 7904, Molypermalloy, Permalloy 80®

Hiperco® 50, Hiperco® 50A, Hiperco® 50 HS

Forms: Plate, Round Bar, Strip/Coil

Carpenter VimVar Core Iron

Forms: Plate, Round Bar

Electrical & Electronic Nickels

Ed Fagan Inc. supplies select, commercially pure grades of Nickel in various forms and sizes.

Electronic Nickels

200/201/205/233/270

Forms: Round Bar, Sheet, Strip/Coil, Wire

Alloys and Metals We Distribute

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

Ed Fagan Inc. Services

Slitting, Shearing, Saw Cutting, Grinding, Water Jet Cutting, Laser Cutting,
Custom Stocking and Consignment Programs

JUST-IN-TIME DELIVERY: All of our **standard stock** items can be **shipped within 24-hours** of your order confirmation and most are **shipped the same day**. All materials certified with shipment. For special orders and non-stock materials, contact our sales team for our competitive pricing and delivery lead times.

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