

Tungsten Alloys

Refractory Metals and Alloys

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74

W
183.84

Tungsten

29

Cu

Copper

26

Fe

Iron

28

Ni

Nickel

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 favorably 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.

EFINEA Grade	ASTM B77-15 Class	Nominal Tungsten (wt%)	Nominal Density g/cc	Min Yield Strength ksi(MPa)	Min Ultimate Tensile Strength ksi (MPa)	Min Elongation %	Modulus of Elasticity ksi (MPa)	Class Hardness Rockwell "C" Max
EFINEA 17	1	90	17	75(517)	110 (758)	5	45 (310)	32
EFINEA 17N	1	90	17	75(517)	94 (648)	2	45 (310)	32
EFINEA 75	2	92.5	17.5	75(517)	110 (758)	5	48 (331)	33
EFINEA 175N	2	92.5	17.5	75(517)	94 (648)	2	48 (331)	33
EFINEA 18	3	95	18	75(517)	105 (724)	3	50 (345)	34
EFINEA 18N	3	95	18	75(517)	94 (648)	1	50 (345)	34
EFINEA185	4	97	18.5	75(517)	100 (689)	2	52 (358)	35

Forms Available

- Plate -----
- Parts | Part Blanks -----
- Plate | Sheet -----
- Shapes -----



Specifications

ASTM B777-15

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.