



PO Box 217  
 Leander, TX 78646-0217  
 USA  
 800-621-9598  
[www.glemco.com](http://www.glemco.com)  
[sales@glemco.com](mailto:sales@glemco.com)

## Tungsten, W (wt 100%) Material Notes

Physical Properties	Metric	English
Density	19.3 g/cc	0.697 lb/in <sup>3</sup>
<b>Mechanical Properties</b>		
Hardness, Brinell	294	294
Hardness, Knoop	318	318
Hardness, Rockwell A	66	66
Hardness, Rockwell C	31	31
Hardness, Vickers	310	310
Tensile Strength, Ultimate	980 MPa	142000 psi
Tensile Strength, Yield	750 MPa	109000 psi
Modulus of Elasticity	400 GPa	58000 ksi
Poisson's Ratio	0.28	0.28
Shear Modulus	175 GPa	25400 ksi
Shear Strength	400 MPa	58000 psi
<b>Electrical Properties</b>		
Electrical Resistivity	5.65e-006 ohm-cm	5.65e-006 ohm-cm
Magnetic Susceptibility	3.3e-007	3.3e-007
Critical Magnetic Field Strength, Oersted	1.12 - 1.18	1.12 - 1.18
Critical Superconducting Temperature	0.0149 - 0.0159 K	0.0149 - 0.0159 K
<b>Thermal Properties</b>		
Heat of Fusion	184.2 J/g	79.2 BTU/lb
CTE, linear 20°C	4.4 μm/m-°C	2.44 μin/in-°F
Heat Capacity	0.134 J/g-°C	0.032 BTU/lb-°F
Thermal Conductivity	163.3 W/m-K	1130 BTU-in/hr-ft <sup>2</sup> -°F
Melting Point	3370 °C	6100 °F
<b>Optical Properties</b>		
Emissivity (0-1)	0.15	0.15