Rhenium Rod

Rhenium rod; high tensile strength, creep resistance, and stability at temperature for machining into robust parts. Used in jet and rocket components, electrical contacts, thermocouples, anodes, and vacuum furnace structures.
SKU: 1000038260-group
Product Code: RE00-RD-000105

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	75
Crystal structure	Hexagonal close packed
Electronic structure	Xe 4f¹? 5d? 6s²
Valences shown	-1,1,2,3,4,5,6,7
Atomic weight(amu)	186.207
Thermal neutron absorption cross-section(Barns)	85
Photo-electric work function(eV)	5
Natural isotope distribution(Mass No./%)	187/ 62.6
Natural isotope distribution(Mass No./%)	185/ 37.4
Atomic radius - Goldschmidt(nm)	0.138
Ionisation potential(No./eV)	1/ 7.87
Ionisation potential(No./eV)	2/ 16.6

Mechanical Properties

Element	Value
Material condition	Soft
Material condition	Hard
Poisson's ratio	0.26
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Bulk modulus(GPa)	334
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Tensile modulus(GPa)	466
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Hardness - Vickers(kgf mm?²)	280

Element	Value
Hardness - Vickers(kgf mm?²)	700
Tensile strength(MPa)	2225
Tensile strength(MPa)	1125
Yield strength(MPa)	315
Yield strength(MPa)	2150

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	18.7@20°C
Superconductivity critical temperature(K)	1.7
Temperature coefficient(K?¹)	0.0045@0-100°C

Physical Properties

Element	Value
Boiling point(C)	5627
Density(gcm?³)	21@20

Thermal Properties

Element	Value
Melting point(C)	3180
Latent heat of evaporation(J g?¹)	3824
Latent heat of fusion(J g?¹)	179.9
Specific heat(J K?¹ kg?¹)	138@25
Thermal conductivity(W m?¹ K?¹)	48@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	6.6@0-100°C