

Rhenium Spooled Wire

Formula: Re

Percentage Purity: 99.97%

Product Shape: Spooled

Diameter: 0.2mm

Length: 1m

Temper: Annealed

CAS Number: 7440-15-5

UOM Code: 005-411-67

SKU: 1000000712-group

Product Code: RE00-WR-000115

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	75
Crystal structure	Hexagonal close packed
Electronic structure	Xe 4f ¹⁴ 5d ⁷ 6s ²
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
Poisson's ratio	0.26

Element	Value
Bulk modulus(GPa)	334
Bulk modulus(GPa)	334
Tensile modulus(GPa)	466
Tensile modulus(GPa)	466
Hardness - Vickers(kgf mm ²)	280
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@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($\times 10^{-6}$ K ⁻¹)	6.6@0-100°C