

Gadolinium Rod

Formula: Gd

Percentage Purity: 99%

Diameter: 6.35mm

Length: 50mm

Production Method: Cast

CAS Number: 7440-54-2

UOM Code: 151-743-90

SKU: 1000051431-group

Product Code: GD00-RD-000110

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	64
Crystal structure	Hexagonal close packed
Electronic structure	Xe 4f ⁷ 5d ¹ 6s ²
Valences shown	3
Atomic weight(amu)	157.25
Thermal neutron absorption cross-section(Barns)	49000
Photo-electric work function(eV)	3.1
Natural isotope distribution(Mass No./%)	160/ 21.8
Natural isotope distribution(Mass No./%)	155/ 14.8
Natural isotope distribution(Mass No./%)	157/ 15.7
Natural isotope distribution(Mass No./%)	152/ 0.2
Natural isotope distribution(Mass No./%)	158/ 24.8
Natural isotope distribution(Mass No./%)	156/ 20.5
Natural isotope distribution(Mass No./%)	154/ 2.2
Atomic radius - Goldschmidt(nm)	0.18
Ionisation potential(No./eV)	2/ 12.1
Ionisation potential(No./eV)	1/ 6.14

Mechanical Properties

Element	Value
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Material condition	Polycrystalline
Poisson's ratio	0.26
Bulk modulus(GPa)	39.1
Tensile modulus(GPa)	56.2
Hardness - Vickers(kgf mm ²)	55
Tensile strength(MPa)	193
Yield strength(MPa)	179

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	134@20@20°C
Temperature coefficient(K ⁻¹)	0.00176@0-100°C

Physical Properties

Element	Value
Boiling point(C)	3266
Density(gcm ³)	7.895@25°C

Thermal Properties

Element	Value
Melting point(C)	1313
Latent heat of evaporation(J g ⁻¹)	1920
Latent heat of fusion(J g ⁻¹)	98.7
Specific heat(J K ⁻¹ kg ⁻¹)	230@25°C
Thermal conductivity(W m ⁻¹ K ⁻¹)	10.5@0-100°C
Coefficient of thermal expansion($\times 10^{-6}$ K ⁻¹)	6.4@0-100°C