

Cerium Powder

Formula: Ce

Percentage Purity: 99.9%

Maximum Particle Size: 45µm

Weight: 10g

CAS Number: 7440-45-1

UOM Code: 205-689-78

SKU: 1000039562-group

Product Code: CE00-PD-000111

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	58
Crystal structure	Face centred cubic
Electronic structure	Xe 4f ² 6s ²
Valences shown	3, 4
Atomic weight(amu)	140.12
Thermal neutron absorption cross-section(Barns)	0.73
Photo-electric work function(eV)	2.9
Natural isotope distribution(Mass No./%)	136/ 0.2
Natural isotope distribution(Mass No./%)	140/ 88.4
Natural isotope distribution(Mass No./%)	142/ 11.1
Natural isotope distribution(Mass No./%)	138/ 0.3
Atomic radius - Goldschmidt(nm)	0.182
Ionisation potential(No./eV)	2/ 10.85
Ionisation potential(No./eV)	1/ 5.47
Ionisation potential(No./eV)	3/ 20.20
Ionisation potential(No./eV)	4/ 36.72

Mechanical Properties

Element	Value
Material condition	Polycrystalline
Material condition	Cast

Element	Value
Poisson's ratio	0.248
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Bulk modulus(GPa)	24.4
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Tensile modulus(GPa)	33.5
Tensile modulus(GPa)	33.5
Hardness - Vickers(kgf mm ²)	25-30
Tensile strength(MPa)	102
Yield strength(MPa)	91

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	85.4@20@20°C
Temperature coefficient(K ⁻¹)	0.0087@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	1.14

Physical Properties

Element	Value
Boiling point(C)	3426
Density(gcm ³)	6.75@20°C

Thermal Properties

Element	Value
Melting point(C)	799
Latent heat of evaporation(J g ⁻¹)	2680
Latent heat of fusion(J g ⁻¹)	37.3
Specific heat(J K ⁻¹ kg ⁻¹)	205@25°C
Thermal conductivity(W m ⁻¹ K ⁻¹)	11.3@0-100°C
Coefficient of thermal expansion(x10 ⁻⁶ K ⁻¹)	8@0-100°C