Yttrium Powder

Yttrium powder: highly reactive, corrosion resistant, mechanically stable; fine particles for rapid kinetics in alloying, synthesis, and catalysts. Used for high-performance alloys, magnetic materials, polymerization catalysts, and thin-film evaporation. **SKU:** 1000017646-group
Product Code: Y-00-PD-000110

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	39
Crystal structure	Hexagonal close packed
Electronic structure	Kr $4d^1$ $5s^2$
Valences shown	3
Atomic weight(amu)	88.9059
Thermal neutron absorption cross-section(Barns)	1.3
Photo-electric work function(eV)	3.1
Atomic radius - Goldschmidt(nm)	0.181
Ionisation potential(No./eV)	1/ 6.38
Ionisation potential(No./eV)	Jun-93
Ionisation potential(No./eV)	3/ 20.5
Ionisation potential(No./eV)	2/ 12.2
Ionisation potential(No./eV)	May-77
Ionisation potential(No./eV)	4/ 61.8

Mechanical Properties

Element	Value
Hardness - Brinell	100-140
Hardness - Brinell	30-60
Material condition	Soft
Material condition	Hard
Poisson's ratio	0.265
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Bulk modulus(GPa)	37.3

Element	Value
Bulk modulus(GPa)	37.3
Tensile modulus(GPa)	66.3
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Izod toughness(J m?¹)	24
Tensile strength(MPa)	130
Tensile strength(MPa)	455
Yield strength(MPa)	375
Yield strength(MPa)	57

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	53@20°C
Electrical resistivity(µOhmcm)	53@20C
Temperature coefficient(K?¹)	0.00271@0-100
Temperature coefficient(K?¹)	0.00271@0-100C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.55

Physical Properties

Element	Value
Boiling point(C)	3338
Density(gcm?³)	4.478@20
Density(gcm?³)	4.478@20C

Thermal Properties

Element	Value
Melting point(C)	1522
Latent heat of evaporation(J g?¹)	4135
Latent heat of fusion(J g?¹)	193
Specific heat(J K?¹ kg?¹)	285@25
Specific heat(J K?¹ kg?¹)	285@25C
Thermal conductivity(W m?¹ K?¹)	17.2@0-100
Thermal conductivity(W m?¹ K?¹)	17.2@0-100C
Coefficient of thermal expansion(x10?? K?¹)	10.8@0-400
Coefficient of thermal expansion(x10?? K?¹)	10.8@0-400C