

Yttrium Powder

Formula: Y

Percentage Purity: 99.9%

Maximum Particle Size: 500µm

Weight: 50g

CAS Number: 7440-65-5

UOM Code: 104-367-67

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 |

| Element | Value |
|-------------------------------------|--------------|
| Poisson's ratio | 0.265 |
| Poisson's ratio | 0.265 |
| Bulk modulus(GPa) | 37.3 |
| Bulk modulus(GPa) | 37.3 |
| Tensile modulus(GPa) | 66.3 |
| Tensile modulus(GPa) | 66.3 |
| 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@20 |
| 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($\times 10^{-6}$ K ⁻¹) | 10.8@0-400 |
| Coefficient of thermal expansion($\times 10^{-6}$ K ⁻¹) | 10.8@0-400C |