

Bismuth Top Hat Single Crystal

Formula: Bi

Percentage Purity: 99.999%

Top Section Thickness: 1mm

Bottom Section Thickness: 1mm

Outside Diameter: 10mm

Inside Diameter: 8mm

Orientation: -111

Orientation Accuracy: = 1°

Polish: Unpolished

CAS Number: 7440-69-9

UOM Code: 720-085-27

SKU: 1000052107-group

Product Code: BI00-SC-000125

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	83
Crystal structure	Rhombohedral
Electronic structure	Xe 4f ¹⁴ 5d ¹⁰ 6s ² 6p ³
Valences shown	3, 5
Atomic weight(amu)	208.9804
Thermal neutron absorption cross-section(Barns)	0.034
Photo-electric work function(eV)	4.4
Atomic radius - Goldschmidt(nm)	0.182
Ionisation potential(No./eV)	5/ 56.0
Ionisation potential(No./eV)	1/ 7.29
Ionisation potential(No./eV)	3/ 25.6
Ionisation potential(No./eV)	4/ 45.3
Ionisation potential(No./eV)	6/ 88.3
Ionisation potential(No./eV)	2/ 16.7

Mechanical Properties

Element	Value
Material condition	Polycrystalline
Poisson's ratio	0.33
Bulk modulus(GPa)	31.3
Tensile modulus(GPa)	34
Hardness - Vickers(kgf mm ²)	16-19

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	117@20@20°C
Temperature coefficient(K ⁻¹)	0.0046@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	-7.34

Physical Properties

Element	Value
Boiling point(C)	1560
Density(gcm ³)	9.8@20°C

Thermal Properties

Element	Value
Melting point(C)	271.3
Latent heat of evaporation(J g ⁻¹)	857
Latent heat of fusion(J g ⁻¹)	52
Specific heat(J K ⁻¹ kg ⁻¹)	124@25°C
Thermal conductivity(W m ⁻¹ K ⁻¹)	7.9@0-100°C
Coefficient of thermal expansion($\times 10^{-6}$ K ⁻¹)	13.4@0-100°C