

Tin Square Single Crystal

Formula: Sn

Percentage Purity: 99.999%

Thickness: 1mm

Size: 7x7mm

Orientation: -1

Orientation Accuracy: = 1°

Polish: Polished

Surface Finish: = 0.03µm Ra

CAS Number: 7440-31-5

UOM Code: 127-062-71

SKU: 1000035697-group

Product Code: SN00-SC-000145

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	50
Crystal structure	Tetragonal
Electronic structure	Kr 4d ¹⁰ 5s ² 5p ²
Valences shown	2,4
Atomic weight(amu)	118.69
Thermal neutron absorption cross-section(Barns)	0.63
Photo-electric work function(eV)	4.3
Natural isotope distribution(Mass No./%)	122/ 4.6
Natural isotope distribution(Mass No./%)	124/ 5.6
Natural isotope distribution(Mass No./%)	114/ 0.7
Natural isotope distribution(Mass No./%)	120/ 32.4
Natural isotope distribution(Mass No./%)	118/ 24.3
Natural isotope distribution(Mass No./%)	112/ 1.0
Natural isotope distribution(Mass No./%)	116/ 14.7
Natural isotope distribution(Mass No./%)	115/ 0.4
Natural isotope distribution(Mass No./%)	117/ 7.7
Natural isotope distribution(Mass No./%)	119/ 8.6
Atomic radius - Goldschmidt(nm)	0.158

Element	Value
Ionisation potential(No./eV)	2/ 14.63
Ionisation potential(No./eV)	5/ 72.3
Ionisation potential(No./eV)	3/ 30.5
Ionisation potential(No./eV)	4/ 40.7
Ionisation potential(No./eV)	1/ 7.34

Mechanical Properties

Element	Value
Hardness - Mohs	1.5-1.8
Material condition	Polycrystalline
Poisson's ratio	0.357
Bulk modulus(GPa)	58.2
Tensile modulus(GPa)	49.9

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	12.6@20@20°C
Superconductivity critical temperature(K)	3.722
Temperature coefficient(K^{-1})	0.0046@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.42

Physical Properties

Element	Value
Boiling point(C)	2270
Density(gcm^{-3})	7.28@20°C

Thermal Properties

Element	Value
Melting point(C)	231.9
Latent heat of evaporation(J g^{-1})	2497
Latent heat of fusion(J g^{-1})	59.6
Specific heat($\text{J K}^{-1} \text{kg}^{-1}$)	213@25°C
Thermal conductivity($\text{W m}^{-1} \text{K}^{-1}$)	66.8@0-100°C
Coefficient of thermal expansion($\times 10^{-6} \text{K}^{-1}$)	23.5@0-100°C