

Silver Square Single Crystal

Formula: Ag

Percentage Purity: 99.999%

Thickness: 1mm

Size: 4x4mm

Orientation: -100

Orientation Accuracy: = 1°

Polish: Unpolished

CAS Number: 7440-22-4

UOM Code: 889-547-14

SKU: 1000013122-group

Product Code: AG00-SC-000163

Material Properties for Precious Metals

Atomic Properties

Element	Value
Atomic number	47
Crystal structure	Face centred cubic
Electronic structure	Kr 4d ¹⁰ 5s ¹
Valences shown	1-2,2
Atomic weight(amu)	107.8682
Thermal neutron absorption cross-section(Barns)	63.8
Photo-electric work function(eV)	4.7
Natural isotope distribution(Mass No./%)	107/ 51.83
Natural isotope distribution(Mass No./%)	109/ 48.17
Atomic radius - Goldschmidt(nm)	0.144
Ionisation potential(No./eV)	2/ 21.5
Ionisation potential(No./eV)	1/ 7.58
Ionisation potential(No./eV)	3/ 34.8

Mechanical Properties

Element	Value
Material condition	Hard
Material condition	Soft

Element	Value
Poisson's ratio	0.367
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Bulk modulus(GPa)	103.6
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Tensile modulus(GPa)	82.7
Tensile modulus(GPa)	82.7
Izod toughness(J m ⁻¹)	5
Hardness - Vickers(kgf mm ⁻²)	95
Hardness - Vickers(kgf mm ⁻²)	25
Tensile strength(MPa)	330
Tensile strength(MPa)	172

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	1.63@20@20°C
Temperature coefficient(K ⁻¹)	0.0041@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.74

Physical Properties

Element	Value
Boiling point(C)	2212
Density(gcm ⁻³)	10.5@20°C

Thermal Properties

Element	Value
Melting point(C)	961.9
Latent heat of evaporation(J g ⁻¹)	2390
Latent heat of fusion(J g ⁻¹)	103
Specific heat(J K ⁻¹ kg ⁻¹)	237@25°C
Thermal conductivity(W m ⁻¹ K ⁻¹)	429@0-100°C
Coefficient of thermal expansion($\times 10^{-6}$ K ⁻¹)	19.1@0-100°C