Silver Square Single Crystal

Silver square single crystal with high conductivity, reflectance, and lattice uniformity for plasmonics, nanoelectronics, sensors, resonators, and advanced optical studies. **SKU:** 1000013122-group
Product Code: AG00

Material Properties for Precious Metals

Atomic Properties

Element	Value
Atomic number	47
Crystal structure	Face centred cubic
Electronic structure	Kr 4d¹? 5s¹
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
Poisson's ratio	0.367
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Bulk modulus(GPa)	103.6
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Tensile modulus(GPa)	82.7
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Izod toughness(J m?¹)	5

Element	Value
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°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(x10?? K?¹)	19.1@0-100°C