

Germanium Thin Film

Formula: Ge

Percentage Purity: 99.9999%

Thickness: 0.25 μ m

Length 1: 50mm

Length 2: 50mm

Area Density: 166.3 μ g/cm²

Support: Aluminium 6 μ m

CAS Number: 7440-56-4

UOM Code: 122-106-24

SKU: 1000032452-group

Product Code: GE00-MF-000100

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	32
Crystal structure	Diamond
Electronic structure	Ar 3d ¹⁰ 4s ² 4p ²
Valences shown	2,4
Atomic weight(amu)	72.59
Thermal neutron absorption cross-section(Barns)	2.3
Photo-electric work function(eV)	4.8
Natural isotope distribution(Mass No./%)	72/ 27.4
Natural isotope distribution(Mass No./%)	73/ 7.8
Natural isotope distribution(Mass No./%)	76/ 7.8
Natural isotope distribution(Mass No./%)	70/ 20.5
Natural isotope distribution(Mass No./%)	74/ 36.5
Atomic radius - Goldschmidt(nm)	0.139
Ionisation potential(No./eV)	4/ 45.7
Ionisation potential(No./eV)	3/ 34.22
Ionisation potential(No./eV)	1/ 7.90
Ionisation potential(No./eV)	5/ 93.5
Ionisation potential(No./eV)	2/ 15.93

Mechanical Properties

Element	Value
Hardness - Mohs	6.25
Material condition	Polycrystalline
Poisson's ratio	0.32
Bulk modulus(GPa)	73.9
Tensile modulus(GPa)	79.9

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	46×10^{-8} @ 22°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	33.9

Physical Properties

Element	Value
Boiling point(C)	2830
Density(gcm^{-3})	5.32 @ 20°C

Thermal Properties

Element	Value
Melting point(C)	937.4
Latent heat of evaporation(J g^{-1})	4516
Latent heat of fusion(J g^{-1})	465
Specific heat($\text{J K}^{-1} \text{kg}^{-1}$)	322 @ 25°C
Thermal conductivity($\text{W m}^{-1} \text{K}^{-1}$)	60.2 @ 0-100°C
Coefficient of thermal expansion($\times 10^{-6} \text{K}^{-1}$)	5.75 @ 0-100°C