

Silicon Foil

Formula: Si

Percentage Purity: 99.999%

Thickness: 1mm

Length 1: 25mm

Length 2: 25mm

Structure: Polycrystalline

CAS Number: 7440-21-3

UOM Code: 203-112-54

SKU: 1000082094-group

Product Code: SI00-SH-000120

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	14
Crystal structure	Diamond
Electronic structure	Ne 3s ² 3p ²
Valences shown	4
Atomic weight(amu)	28.0855
Thermal neutron absorption cross-section(Barns)	0.16
Photo-electric work function(eV)	4.2
Natural isotope distribution(Mass No./%)	30/ 3.10
Natural isotope distribution(Mass No./%)	29/ 4.67
Natural isotope distribution(Mass No./%)	28/ 92.23
Atomic radius - Goldschmidt(nm)	0.117
Ionisation potential(No./eV)	5/ 167
Ionisation potential(No./eV)	1/ 8.15
Ionisation potential(No./eV)	2/ 16.3
Ionisation potential(No./eV)	3/ 33.5
Ionisation potential(No./eV)	4/ 45.1
Ionisation potential(No./eV)	6/ 205

Mechanical Properties

Element	Value
Hardness - Mohs	7
Material condition	Polycrystalline
Poisson's ratio	0.42
Bulk modulus(GPa)	100
Tensile modulus(GPa)	113

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	$23 \times 10^{-1} @ 20 @ 20^{\circ}\text{C}$
Thermal emf against Pt (cold 0C - hot 100C)(mV)	-41.56

Physical Properties

Element	Value
Boiling point(C)	2355
Density(gcm^{-3})	$2.34 @ 20^{\circ}\text{C}$

Thermal Properties

Element	Value
Melting point(C)	1410
Latent heat of evaporation(J g^{-1})	13700
Latent heat of fusion(J g^{-1})	1650
Specific heat($\text{J K}^{-1} \text{kg}^{-1}$)	$703 @ 25^{\circ}\text{C}$
Thermal conductivity($\text{W m}^{-1} \text{K}^{-1}$)	$80-150 @ 0-100^{\circ}\text{C}$
Coefficient of thermal expansion($\times 10^{-6} \text{K}^{-1}$)	$4.7-7.6 @ 0-100^{\circ}\text{C}$