

Carbon Coated Thin Film

Formula: C

Percentage Purity: 99.997%

Thickness: 0.025 μ m

Length 1: 25mm

Length 2: 70mm

Specific Density: 5 μ g/cm²

Support: Temporary Glass

CAS Number: 7440-44-0

UOM Code: 388-276-82

SKU: 1000037270-group

Product Code: C-00-ML-000110

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	6
Crystal structure	Hexagonal/Diamond
Electronic structure	He 2s ² 2p ²
Valences shown	2, 3, 4
Atomic weight(amu)	12.011
Thermal neutron absorption cross-section(Barns)	0.0034
Photo-electric work function(eV)	4.8
Natural isotope distribution(Mass No./%)	12/ 98.89
Natural isotope distribution(Mass No./%)	13/ 1.11
Atomic radius - Goldschmidt(nm)	0.077
Ionisation potential(No./eV)	6/ 490
Ionisation potential(No./eV)	4/ 64.5
Ionisation potential(No./eV)	1/ 11.26
Ionisation potential(No./eV)	3/ 47.9
Ionisation potential(No./eV)	2/ 24.38
Ionisation potential(No./eV)	5/ 392

Mechanical Properties

Element	Value
Hardness - Mohs	0.5-1
Hardness - Mohs	10
Material condition	Diamond
Material condition	Graphite
Bulk modulus(GPa)	33
Bulk modulus(GPa)	542
Tensile modulus(GPa)	4.8

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	1375@0@0°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.7

Physical Properties

Element	Value
Boiling point(C)	5000
Density(gcm^3)	2.25@20°C

Thermal Properties

Element	Value
Melting point(C)	3650
Specific heat($\text{J K}^{-1} \text{kg}^{-1}$)	712@25°C
Thermal conductivity($\text{W m}^{-1} \text{K}^{-1}$)	80-240@0-100°C
Coefficient of thermal expansion($\times 10^{-6} \text{K}^{-1}$)	0.6-4.3@0-100°C