

# Carbon Sputtering Target - T 3mm Ø 100mm

**Formula:** C

**Percentage Purity:** 99.997%

**Thickness:** 3mm

**Diameter:** 100mm

**CAS Number:** 7440-44-0

**UOM Code:** 037-291-57

**Legacy Code:** C 009300

**Distributor Code:** GF03729157

**SKU:** 1000004978

**Product Code:** C-00-ST-000300

## Material Properties for Metals

### Atomic Properties

Element	Value
Atomic number	6
Crystal structure	Hexagonal/Diamond
Electronic structure	He 2s <sup>2</sup> 2p <sup>2</sup>
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
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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( $\mu\text{Ohmcm}$ )	1375@0°C
Thermal emf against Pt (cold 0C - hot 100C)( mV )	0.7

## Physical Properties

Element	Value
Boiling point( C )	5000
Density( $\text{gcm}^3$ )	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