

# Cadmium Sputtering Target

**Formula:** Cd

**Percentage Purity:** 99.99%

**Thickness:** 2mm

**Diameter:** 50mm

**CAS Number:** 7440-43-9

**UOM Code:** 049-289-35

**SKU:** 1000006973-group

**Product Code:** CD00-ST-000100

## Material Properties for Metals

### Atomic Properties

Element	Value
Atomic number	48
Crystal structure	Hexagonal close packed
Electronic structure	Kr 4d <sup>10</sup> 5s <sup>2</sup>
Valences shown	2
Atomic weight( amu )	112.41
Thermal neutron absorption cross-section( Barns )	2450
Photo-electric work function( eV )	4
Natural isotope distribution( Mass No./% )	106/ 1.2
Natural isotope distribution( Mass No./% )	108/ 0.9
Natural isotope distribution( Mass No./% )	111/ 12.8
Natural isotope distribution( Mass No./% )	112/ 24.0
Natural isotope distribution( Mass No./% )	113/ 12.3
Natural isotope distribution( Mass No./% )	116/ 7.6
Natural isotope distribution( Mass No./% )	110/ 12.4
Natural isotope distribution( Mass No./% )	114/ 28.8
Atomic radius - Goldschmidt( nm )	0.152
Ionisation potential( No./eV )	2/ 16.9
Ionisation potential( No./eV )	3/ 37.5
Ionisation potential( No./eV )	1/ 8.99

### Mechanical Properties

<b>Element</b>	<b>Value</b>
Hardness - Mohs	-
Hardness - Mohs	2
Material condition	Polycrystalline
Material condition	Cast
Poisson's ratio	0.3
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Bulk modulus( GPa )	51
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Tensile modulus( GPa )	62.6
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Tensile strength( MPa ) -	
Tensile strength( MPa )	71

## **Electrical Properties**

<b>Element</b>	<b>Value</b>
Electrical resistivity( $\mu\text{Ohmcm}$ )	7.3@20@20°C
Superconductivity critical temperature( K )	0.517
Temperature coefficient( $\text{K}^{-1}$ )	0.0043@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)( mV )	0.91

## **Physical Properties**

<b>Element</b>	<b>Value</b>
Boiling point( C )	765
Density( $\text{gcm}^{-3}$ )	8.64@20°C

## **Thermal Properties**

<b>Element</b>	<b>Value</b>
Melting point( C )	321
Latent heat of evaporation( $\text{J g}^{-1}$ )	886
Latent heat of fusion( $\text{J g}^{-1}$ )	57
Specific heat( $\text{J K}^{-1} \text{kg}^{-1}$ )	232@25°C
Thermal conductivity( $\text{W m}^{-1} \text{K}^{-1}$ )	96.9@0-100°C
Coefficient of thermal expansion( $\times 10^{-6} \text{K}^{-1}$ )	31@0-100°C