

# Magnesium Sputtering Target

**Formula:** Mg

**Percentage Purity:** 99.9%

**Thickness:** 3mm

**Diameter:** 50mm

**CAS Number:** 7439-95-4

**UOM Code:** 131-373-86

**SKU:** 1000038191-group

**Product Code:** MG00-ST-000100

## Material Properties for Metals

### Atomic Properties

Element	Value
Atomic number	12
Crystal structure	Hexagonal close packed
Electronic structure	Ne 3s <sup>2</sup>
Valences shown	2
Atomic weight( amu )	24.305
Thermal neutron absorption cross-section( Barns )	0.064
Photo-electric work function( eV )	3.66
Natural isotope distribution( Mass No./% )	24/ 78.99
Natural isotope distribution( Mass No./% )	26/ 11.01
Natural isotope distribution( Mass No./% )	25/ 10.00
Atomic radius - Goldschmidt( nm )	0.16
Ionisation potential( No./eV )	2/ 15.03
Ionisation potential( No./eV )	6/ 187
Ionisation potential( No./eV )	4/ 109
Ionisation potential( No./eV )	5/ 141
Ionisation potential( No./eV )	1/ 7.65
Ionisation potential( No./eV )	3/ 80.1

### Mechanical Properties

Element	Value
Material condition	Hard

<b>Element</b>	<b>Value</b>
Material condition	Soft
Poisson's ratio	0.291
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Bulk modulus( GPa )	35.6
Bulk modulus( GPa )	35.6
Tensile modulus( GPa )	44.7
Tensile modulus( GPa )	44.7
Hardness - Vickers( kgf mm <sup>2</sup> )	35-45
Hardness - Vickers( kgf mm <sup>2</sup> )	30-35
Tensile strength( MPa )	232
Tensile strength( MPa )	185
Yield strength( MPa )	69
Yield strength( MPa )	100

## **Electrical Properties**

<b>Element</b>	<b>Value</b>
Electrical resistivity( $\mu\text{Ohmcm}$ )	4.2@20@20°C
Temperature coefficient( K <sup>-1</sup> )	0.00425@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)( mV )	0.44

## **Physical Properties**

<b>Element</b>	<b>Value</b>
Boiling point( C )	1090
Density( gcm <sup>3</sup> )	1.74@20°C

## **Thermal Properties**

<b>Element</b>	<b>Value</b>
Melting point( C )	649
Latent heat of evaporation( J g <sup>-1</sup> )	5254
Latent heat of fusion( J g <sup>-1</sup> )	362
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	1020@25°C
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	156@0-100°C
Coefficient of thermal expansion( $\times 10^{-6}$ K <sup>-1</sup> )	26@0-100°C