

# Neodymium Foil

**Formula:** Nd

**Percentage Purity:** 99%

**Temper:** As Rolled

**Thickness:** 0.025mm

**Length 1:** 100mm

**Length 2:** 100mm

**CAS Number:** 7440-00-8

**UOM Code:** 085-496-13

**SKU:** 1000012285-group

**Product Code:** ND00-FL-000100

## Material Properties for Metals

### Atomic Properties

Element	Value
Atomic number	60
Crystal structure	Hexagonal close packed
Electronic structure	Xe 4f <sup>7</sup> 6s <sup>2</sup>
Valences shown	3
Atomic weight( amu )	144.24
Thermal neutron absorption cross-section( Barns )	49
Photo-electric work function( eV )	3.2
Natural isotope distribution( Mass No./% )	148/ 5.7
Natural isotope distribution( Mass No./% )	145/ 8.3
Natural isotope distribution( Mass No./% )	142/ 27.2
Natural isotope distribution( Mass No./% )	143/ 12.2
Natural isotope distribution( Mass No./% )	150/ 5.6
Natural isotope distribution( Mass No./% )	146/ 17.2
Natural isotope distribution( Mass No./% )	144/ 23.8
Atomic radius - Goldschmidt( nm )	0.182
Ionisation potential( No./eV )	2/ 10.72
Ionisation potential( No./eV )	1/ 5.49

### Mechanical Properties

<b>Element</b>	<b>Value</b>
Material condition	Polycrystalline
Poisson's ratio	0.31
Bulk modulus( GPa )	33.3
Tensile modulus( GPa )	37.9
Hardness - Vickers( kgf mm <sup>2</sup> )	35
Tensile strength( MPa )	172
Yield strength( MPa )	165

## **Electrical Properties**

<b>Element</b>	<b>Value</b>
Electrical resistivity( $\mu\text{Ohmcm}$ )	64@20@20°C
Temperature coefficient( K <sup>-1</sup> )	0.00164@0-100°C

## **Physical Properties**

<b>Element</b>	<b>Value</b>
Boiling point( C )	3068
Density( gcm <sup>3</sup> )	7.004@20°C

## **Thermal Properties**

<b>Element</b>	<b>Value</b>
Melting point( C )	1021
Latent heat of evaporation( J g <sup>-1</sup> )	2000
Latent heat of fusion( J g <sup>-1</sup> )	75
Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )	205@25°C
Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )	13@0-100°C
Coefficient of thermal expansion( $\times 10^{-6}$ K <sup>-1</sup> )	6.7@0-100°C