

# Praseodymium Rod

**Formula:** Pr

**Percentage Purity:** 99%

**Diameter:** 6.35mm

**Length:** 50mm

**Production Method:** Cast

**CAS Number:** 7440-10-0

**UOM Code:** 061-288-83

**SKU:** 1000008552-group

**Product Code:** PR00-RD-000110

## Material Properties for Metals

### Atomic Properties

Element	Value
Atomic number	59
Crystal structure	Hexagonal close packed
Electronic structure	Xe 4f <sup>3</sup> 6s <sup>2</sup>
Valences shown	3,4
Atomic weight( amu )	140.9077
Thermal neutron absorption cross-section( Barns )	11.5
Atomic radius - Goldschmidt( nm )	0.183
Ionisation potential( No./eV )	1/ 5.42
Ionisation potential( No./eV )	2/ 10.55
Ionisation potential( No./eV )	4/ 38.95
Ionisation potential( No./eV )	5/ 57.45
Ionisation potential( No./eV )	3/ 21.62

### Mechanical Properties

Element	Value
Material condition	Polycrystalline
Poisson's ratio	0.312
Bulk modulus( GPa )	31.2
Tensile modulus( GPa )	35.2
Hardness - Vickers( kgf mm <sup>2</sup> )	40

Element	Value
Tensile strength( MPa )	110
Yield strength( MPa )	103

## Electrical Properties

Element	Value
Electrical resistivity( $\mu\text{Ohmcm}$ )	68@20@20°C
Temperature coefficient( $\text{K}^{-1}$ )	0.00171@0-100°C

## Physical Properties

Element	Value
Boiling point( C )	3512
Density( $\text{gcm}^{-3}$ )	6.782@20°C

## Thermal Properties

Element	Value
Melting point( C )	931
Latent heat of evaporation( $\text{J g}^{-1}$ )	2343
Latent heat of fusion( $\text{J g}^{-1}$ )	80
Specific heat( $\text{J K}^{-1} \text{kg}^{-1}$ )	192@25°C
Thermal conductivity( $\text{W m}^{-1} \text{K}^{-1}$ )	12.5@0-100°C
Coefficient of thermal expansion( $\times 10^{-6} \text{K}^{-1}$ )	4.8@0-100