

# Cerium Spooled Wire

**Formula:** Ce

**Percentage Purity:** 99.9%

**Product Shape:** Spooled

**Diameter:** 1mm

**Length:** 0.025m

**Temper:** Hard

**CAS Number:** 7440-45-1

**UOM Code:** 492-225-82

**SKU:** 1000039578-group

**Product Code:** CE00-WR-000110

## Material Properties for Metals

### Atomic Properties

Element	Value
Atomic number	58
Crystal structure	Face centred cubic
Electronic structure	Xe 4f <sup>2</sup> 6s <sup>2</sup>
Valences shown	3, 4
Atomic weight( amu )	140.12
Thermal neutron absorption cross-section( Barns )	0.73
Photo-electric work function( eV )	2.9
Natural isotope distribution( Mass No./% )	136/ 0.2
Natural isotope distribution( Mass No./% )	140/ 88.4
Natural isotope distribution( Mass No./% )	142/ 11.1
Natural isotope distribution( Mass No./% )	138/ 0.3
Atomic radius - Goldschmidt( nm )	0.182
Ionisation potential( No./eV )	2/ 10.85
Ionisation potential( No./eV )	1/ 5.47
Ionisation potential( No./eV )	3/ 20.20
Ionisation potential( No./eV )	4/ 36.72

### Mechanical Properties

Element	Value
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Material condition	Polycrystalline
Material condition	Cast
Poisson's ratio	0.248
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Bulk modulus( GPa )	24.4
Bulk modulus( GPa )	24.4
Tensile modulus( GPa )	33.5
Tensile modulus( GPa )	33.5
Hardness - Vickers( kgf mm <sup>2</sup> )	25-30
Tensile strength( MPa )	102
Yield strength( MPa )	91

## Electrical Properties

Element	Value
Electrical resistivity( $\mu\text{Ohmcm}$ )	85.4@20@20°C
Temperature coefficient( K <sup>-1</sup> )	0.0087@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)( mV )	1.14

## Physical Properties

Element	Value
Boiling point( C )	3426
Density( gcm <sup>3</sup> )	6.75@20°C

## Thermal Properties

Element	Value
Melting point( C )	799
Latent heat of evaporation( J g <sup>-1</sup> )	2680
Latent heat of fusion( J g <sup>-1</sup> )	37.3
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> )	11.3@0-100°C
Coefficient of thermal expansion( $\times 10^{-6}$ K <sup>-1</sup> )	8@0-100°C