

# Dysprosium Disk

**Formula:** Dy

**Percentage Purity:** 99%

**Temper:** As Rolled

**Thickness:** 0.25mm

**Diameter:** 24.8mm

**CAS Number:** 7429-91-6

**UOM Code:** 108-065-29

**SKU:** 1000020866-group

**Product Code:** DY00-FL-000140

## Material Properties for Metals

### Atomic Properties

| Element   | Value                               |
|---|-------------------------------------|
| Atomic number                                     | 66                                  |
| Crystal structure                                 | Hexagonal close packed              |
| Electronic structure                              | Xe 4f <sup>10</sup> 6s <sup>2</sup> |
| Valences shown                                    | 3                                   |
| Atomic weight( amu )                              | 162.5                               |
| Thermal neutron absorption cross-section( Barns ) | 930                                 |
| Natural isotope distribution( Mass No./% )        | 164/ 28.20                          |
| Natural isotope distribution( Mass No./% )        | 160/ 2.34                           |
| Natural isotope distribution( Mass No./% )        | 163/ 24.90                          |
| Natural isotope distribution( Mass No./% )        | 158/ 0.10                           |
| Natural isotope distribution( Mass No./% )        | 156/ 0.06                           |
| Natural isotope distribution( Mass No./% )        | 161/ 18.90                          |
| Natural isotope distribution( Mass No./% )        | 162/ 25.50                          |
| Atomic radius - Goldschmidt( nm )                 | 0.177                               |
| Ionisation potential( No./eV )                    | 1/ 5.93                             |
| Ionisation potential( No./eV )                    | 2/ 11.67                            |

### Mechanical Properties

| Element            | Value           |
|--------------------|-----------------|
| Material condition | Polycrystalline |

| <b>Element</b>                            | <b>Value</b> |
|---|--------------|
| Poisson's ratio                           | 0.232        |
| Bulk modulus( GPa )                       | 39.2         |
| Tensile modulus( GPa )                    | 63.1         |
| Hardness - Vickers( kgf mm <sup>2</sup> ) | 55           |
| Tensile strength( MPa )                   | 248          |
| Yield strength( MPa )                     | 228          |

## **Electrical Properties**

| <b>Element</b>                              | <b>Value</b>   |
|---|----------------|
| Electrical resistivity( $\mu\text{Ohmcm}$ ) | 91@20@20°C     |
| Temperature coefficient( K <sup>-1</sup> )  | 0.0012@0-100°C |

## **Physical Properties**

| <b>Element</b>              | <b>Value</b> |
|-----------------------------|--------------|
| Boiling point( C )          | 2562         |
| Density( gcm <sup>3</sup> ) | 8.536@20°C   |

## **Thermal Properties**

| <b>Element</b>   | <b>Value</b> |
|--|--------------|
| Melting point( C )   | 1412         |
| Latent heat of evaporation( J g <sup>-1</sup> )                      | 1725         |
| Latent heat of fusion( J g <sup>-1</sup> )                           | 105          |
| Specific heat( J K <sup>-1</sup> kg <sup>-1</sup> )                  | 173@25°C     |
| Thermal conductivity( W m <sup>-1</sup> K <sup>-1</sup> )            | 10.7@0-100°C |
| Coefficient of thermal expansion( $\times 10^{-6}$ K <sup>-1</sup> ) | 8.6@0-100°C  |