

Cobalt Disk Single Crystal - T 0.5mm Ø 10mm

Formula: Co

Percentage Purity: 99.99%

Thickness: 0.5mm

Diameter: 10mm

Orientation: (11-20)

Orientation Accuracy: = 0.4°

Polish: Polished

Surface Finish: = 0.03µm Ra

CAS Number: 7440-48-4

UOM Code: 903-716-59

Legacy Code: CO0020AJ

Distributor Code: GF90371659

SKU: 1000061278

Product Code: CO00-SC-000298

Material Properties for Metals

Atomic Properties

| Element | Value |
|---|------------------------------------|
| Atomic number | 27 |
| Crystal structure | Hexagonal close packed |
| Electronic structure | Ar 3d ⁷ 4s ² |
| Valences shown | 2, 3 |
| Atomic weight(amu) | 58.9332 |
| Thermal neutron absorption cross-section(Barns) | 37.5 |
| Photo-electric work function(eV) | 5 |
| Atomic radius - Goldschmidt(nm) | 0.125 |
| Ionisation potential(No./eV) | 2/ 17.06 |
| Ionisation potential(No./eV) | 4/ 51.3 |
| Ionisation potential(No./eV) | 3/ 33.5 |
| Ionisation potential(No./eV) | 1/ 79.5 |
| Ionisation potential(No./eV) | 1/ 79.5 |
| Ionisation potential(No./eV) | 6/ 102 |

Mechanical Properties

| Element | Value |
|---|--------------|
| Material condition | Hard |
| Material condition | Soft |
| Poisson's ratio | 0.32 |
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| Bulk modulus(GPa) | 181.5 |
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| Tensile modulus(GPa) | 211 |
| Tensile modulus(GPa) | 211 |
| Hardness - Vickers(kgf mm ²) | 320 |
| Hardness - Vickers(kgf mm ²) | 170 |
| Tensile strength(MPa) | 1135 |
| Tensile strength(MPa) | 760 |
| Yield strength(MPa) | 345-485 |

Electrical Properties

| Element | Value |
|---|----------------|
| Electrical resistivity(μOhmcm) | 6.34@20°C |
| Temperature coefficient(K ⁻¹) | 0.0066@0-100°C |
| Thermal emf against Pt (cold 0C - hot 100C)(mV) | -1.33 |

Physical Properties

| Element | Value |
|-----------------------------|--------------|
| Boiling point(C) | 2870 |
| Density(gcm ³) | 8.9@20°C |

Thermal Properties

| Element | Value |
|--|--------------|
| Melting point(C) | 1495 |
| Latent heat of evaporation(J g ⁻¹) | 6490 |
| Latent heat of fusion(J g ⁻¹) | 263 |
| Specific heat(J K ⁻¹ kg ⁻¹) | 456@25°C |
| Thermal conductivity(W m ⁻¹ K ⁻¹) | 100@0-100°C |
| Coefficient of thermal expansion($\times 10^{-6}$ K ⁻¹) | 12.5@0-100°C |