Chromium Powder

Cr powder (99%, 7.1 g/cm³, mp 1857°C) — alloying for stainless steels, hardfacing coatings, thermal spray wear barriers & carbon-ceramic composites. **SKU:** 1000004543-group
Product Code: CR00-PD-000125

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	24
Crystal structure	Body centred cubic
Electronic structure	Ar 3d? 4s¹
Valences shown	2, 3, 6
Atomic weight(amu)	51.996
Thermal neutron absorption cross-section(Barns)	3.1
Photo-electric work function(eV)	4.4
Natural isotope distribution(Mass No./%)	50/ 4.35
Natural isotope distribution(Mass No./%)	52/ 83.79
Natural isotope distribution(Mass No./%)	54/ 2.36
Natural isotope distribution(Mass No./%)	53/ 9.5
Atomic radius - Goldschmidt(nm)	0.128
Ionisation potential(No./eV)	4/ 49.1
Ionisation potential(No./eV)	3/ 31.0
Ionisation potential(No./eV)	1/ 6.77
Ionisation potential(No./eV)	6/ 90.6
Ionisation potential(No./eV)	2/ 16.5
Ionisation potential(No./eV)	5/ 69.3

Mechanical Properties

Element	Value
Material condition	Hard
Material condition	Soft
Poisson's ratio	0.21
Poisson's ratio	0.21

Element	Value
Bulk modulus(GPa)	160.2
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Tensile modulus(GPa)	279
Tensile modulus(GPa)	279
Hardness - Vickers(kgf mm?²)	130
Hardness - Vickers(kgf mm?²)	220
Tensile strength(MPa)	689
Tensile strength(MPa)	103

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	13.2@20°C
Temperature coefficient(K?¹)	0.00214@0-100°C

Physical Properties

Element	Value
Boiling point(C)	2672
Density(gcm?³)	7.1@20°C

Thermal Properties

Element	Value
Melting point(C)	1857
Latent heat of evaporation(J g?¹)	6580
Latent heat of fusion(J g?¹)	260
Specific heat(J K?¹ kg?¹)	518@25°C
Thermal conductivity(W m?¹ K?¹)	94@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	6.5@0-100°C