

Vanadium Powder

Formula: V

Percentage Purity: 99.7%

Maximum Particle Size: 45µm

Weight: 100g

CAS Number: 7440-62-2

UOM Code: 295-097-68

SKU: 1000125676-group

Product Code: V-00-PD-000130

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	23
Crystal structure	Body centred cubic
Electronic structure	Ar 3d ³ 4s ²
Valences shown	2,3,4,5
Atomic weight(amu)	50.9415
Thermal neutron absorption cross-section(Barns)	5.06
Photo-electric work function(eV)	4.3
Natural isotope distribution(Mass No./%)	51/ 99.75
Natural isotope distribution(Mass No./%)	50/ 0.25
Atomic radius - Goldschmidt(nm)	0.136
Ionisation potential(No./eV)	3/ 29.3
Ionisation potential(No./eV)	2/ 14.6
Ionisation potential(No./eV)	5/ 65.2
Ionisation potential(No./eV)	6/ 128
Ionisation potential(No./eV)	1/ 6.74
Ionisation potential(No./eV)	4/ 46.7

Mechanical Properties

Element	Value
Material condition	Hard
Material condition	Soft

Element	Value
Poisson's ratio	0.365
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Bulk modulus(GPa)	158
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Tensile modulus(GPa)	127.6
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Izod toughness(J m ⁻¹)	10-136
Hardness - Vickers(kgf mm ⁻²)	80
Hardness - Vickers(kgf mm ⁻²)	150
Tensile strength(MPa)	260-585
Tensile strength(MPa)	530-730
Yield strength(MPa)	170-450
Yield strength(MPa)	515-690

Electrical Properties

Element	Value
Electrical resistivity(μOhmcm)	19.6@20@20°C
Superconductivity critical temperature(K)	5.4
Temperature coefficient(K ⁻¹)	0.0039@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.63

Physical Properties

Element	Value
Boiling point(C)	3380
Density(gcm ⁻³)	6.1@20°C

Thermal Properties

Element	Value
Melting point(C)	1890
Latent heat of evaporation(J g ⁻¹)	8975
Latent heat of fusion(J g ⁻¹)	345
Specific heat(J K ⁻¹ kg ⁻¹)	486@25°C
Thermal conductivity(W m ⁻¹ K ⁻¹)	30.7@0-100°C
Coefficient of thermal expansion($\times 10^{-6}$ K ⁻¹)	8.3@0-100°C