Copper Foil/Sheet

Cu foil, 99.9–99.9999% purity, 0.0005–3.25 mm thick, up to 1000 x 1000 mm, for flexible electronics, batteries, PCBs, EMI shielding & thermal management. **SKU:** 1000002473-group
Product Code: CU00-FL-000280

Material Properties for Metals

Atomic Properties

Element	Value
Atomic number	29
Crystal structure	Face centred cubic
Electronic structure	Ar 3d¹? 4s¹
Valences shown	1, 2
Atomic weight(amu)	63.546
Thermal neutron absorption cross-section(Barns)	3.8
Photo-electric work function(eV)	4.5
Natural isotope distribution(Mass No./%)	65/ 30.8
Natural isotope distribution(Mass No./%)	63/ 69.2
Atomic radius - Goldschmidt(nm)	0.128
Ionisation potential(No./eV)	4/ 55.2
Ionisation potential(No./eV)	6/ 103
Ionisation potential(No./eV)	1/ 7.73
Ionisation potential(No./eV)	5/ 79.9
Ionisation potential(No./eV)	3/ 36.8
Ionisation potential(No./eV)	2/ 20.29

Mechanical Properties

Element	Value
Material condition	Soft
Material condition	Hard
Poisson's ratio	0.343
Poisson's ratio	0.343
Bulk modulus(GPa)	137.8
Bulk modulus(GPa)	137.8

Element	Value
Tensile modulus(GPa)	129.8
Tensile modulus(GPa)	129.8
Izod toughness(J m?¹)	68
Izod toughness(J m?¹)	58
Hardness - Vickers(kgf mm?²)	87
Hardness - Vickers(kgf mm?²)	49
Tensile strength(MPa)	314
Tensile strength(MPa)	224
Yield strength(MPa)	270
Yield strength(MPa)	54

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	1.69@20°C
Temperature coefficient(K?¹)	0.0043@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.76

Physical Properties

Element	Value
Boiling point(C)	2567
Density(gcm?³)	8.96@20°C

Thermal Properties

Element	Value
Melting point(C)	1083
Latent heat of evaporation(J g?¹)	4796
Latent heat of fusion(J g?¹)	205
Specific heat(J K?¹ kg?¹)	385@25°C
Thermal conductivity(W m?¹ K?¹)	401@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	17@0-100°C