Palladium Thin Film Disk (Mylar® Backing)

Palladium thin film disk offers uniform palladium layers for hydrogen sensing, fuel cell catalyst studies, catalytic surface work, and microelectronic or optical thin?film research. **SKU:** 1000003381-group
Product Code: PD00-MF-000401

Material Properties for Precious Metals

Atomic Properties

Element	Value
Atomic number	46
Crystal structure	Face centred cubic
Electronic structure	Kr 4d¹?
Valences shown	2, 3, 4
Atomic weight(amu)	106.42
Thermal neutron absorption cross-section(Barns)	6
Photo-electric work function(eV)	5
Natural isotope distribution(Mass No./%)	108/ 26.7
Natural isotope distribution(Mass No./%)	110/ 11.8
Natural isotope distribution(Mass No./%)	104/ 11.0
Natural isotope distribution(Mass No./%)	102/ 1.0
Natural isotope distribution(Mass No./%)	105/ 22.2
Natural isotope distribution(Mass No./%)	106/ 27.3
Atomic radius - Goldschmidt(nm)	0.137
Ionisation potential(No./eV)	1/ 8.3
Ionisation potential(No./eV)	2/ 19.4
Ionisation potential(No./eV)	3/ 32.9

Mechanical Properties

Element	Value
Material condition	Soft
Material condition	Hard
Poisson's ratio	0.39
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Bulk modulus(GPa)	187

Element	Value
Bulk modulus(GPa)	187
Tensile modulus(GPa)	121
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Hardness - Vickers(kgf mm?²)	40
Hardness - Vickers(kgf mm?²)	100
Tensile strength(MPa)	140-195
Tensile strength(MPa)	325
Yield strength(MPa)	205
Yield strength(MPa)	34.5

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	10.8@20
Temperature coefficient(K?¹)	0.0042@0-100
Thermal emf against Pt (cold 0C - hot 100C)(mV)	-0.57

Physical Properties

Element	Value
Boiling point(C)	3140
Density(gcm?³)	12@20°C

Thermal Properties

Element	Value
Melting point(C)	1554
Latent heat of evaporation(J g?¹)	3398
Latent heat of fusion(J g?¹)	157
Specific heat(J K?¹ kg?¹)	244@25
Thermal conductivity(W m?¹ K?¹)	71.8@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	11@0-100