Gold Foil

Formula: Au
Percentage Purity: 99.95%
Temper: As Rolled
Thickness: 0.05mm
Length 1: 50mm
Length 2: 50mm
CAS Number: 7440-57-5
UOM Code: 551-800-12
SKU: 1000030645
Product Code: AU00-FL-000145

Material Properties for Precious Metals

Atomic Properties

Element	Value
Atomic number	79
Crystal structure	Face centred cubic
Electronic structure	Xe $4f^{1}$? $5d^{1}$? $6s^{1}$
Valences shown	1,3
Atomic weight(amu)	196.9665
Thermal neutron absorption cross-section(Barns)	98.8
Photo-electric work function(eV)	4.8
Atomic radius - Goldschmidt(nm)	0.144
Ionisation potential(No./eV)	1/ 9.22
Ionisation potential(No./eV)	2/ 20.5

Mechanical Properties

Element	Value
Material condition	Soft
Material condition	Hard
Poisson's ratio	0.42
Poisson's ratio	0.42
Bulk modulus(GPa)	171
Bulk modulus(GPa)	171

Element	Value
Tensile modulus(GPa)	78.5
Tensile modulus(GPa)	78.5
Hardness - Vickers(kgf mm?²)	20-30
Hardness - Vickers(kgf mm?²)	60
Tensile strength(MPa)	130
Tensile strength(MPa)	220
Yield strength(MPa)	205
Yield strength(MPa)	-

Electrical Properties

Element	Value
Electrical resistivity(µOhmcm)	2.20@20@20°C
Temperature coefficient(K?¹)	0.004@0-100°C
Thermal emf against Pt (cold 0C - hot 100C)(mV)	0.74

Physical Properties

Element	Value
Boiling point(C)	3080
Density(gcm?³)	19.3@20°C

Thermal Properties

Element	Value
Melting point(C)	1064.4
Latent heat of evaporation(J g?¹)	1738
Latent heat of fusion(J g?¹)	64.9
Specific heat(J K?¹ kg?¹)	129@25°C
Thermal conductivity(W m?¹ K?¹)	318@0-100°C
Coefficient of thermal expansion(x10?? K?¹)	14.1@0-100°C