Gold Spooled Wire

Formula: Au
Percentage Purity: 99.99%
Product Shape: Spooled
Diameter: 0.1mm
Length: 0.5m
Temper: Annealed
CAS Number: 7440-57-5
UOM Code: 561-044-55
SKU: 1000033768
Product Code: AU00-WR-000133

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
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Bulk modulus(GPa)	171
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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