IMI SCOTT LTD
Resistance Wire and Elements
Thermocouple Wire and Cable

Dallimore Road, Roundthorn, Wythenshawe, Manchester M23 9WJ, England.
Telephone: +44(0)161 9985533 Fax: +44(0)161 9460538
Website: www.imiscott.co.uk
© IMI SCOTT LTD
IMI
a subsidiary of IMI plc.

Resistance Copper

Resistance Copper is specially selected for consistent resistivity and carefully processed in order to provide a high quality, cost effective resistance wire.

Resistance Copper is available in sizes down to 0.1 mm.

Physical and Mechanical Properties

Values stated are nominal or typical.

	Units	Value
Maximum continuous operating temperature in air	°C °F	300 572
Nominal composition	%	Cu > 99.9
Density at 20°C	g/cm³ lb/in³	8.9 0.321
Resistivity at 20°C	μΩcm Ω/cmf	1.73 10.4
Temperature Coefficient of Resistance, 20–200°C	1/K	0.00393
Coefficient of thermal expansion, 20 – 300°C	1/K 1/°F	18×10^{-6} 10×10^{-6}
Thermal conductivity at 20°C	W/mK Btu.in/ft².h.°F	400 2825
Specific heat capacity at 20°C	kJ/kgK Btu/lb°F	0.386 0.09
Melting point (approx.)	°C °F	1150 2102
Typical Tensile strength - annealed *	N/mm² lb/in²	220 32000
Typical Tensile Strength – fully cold worked *	N/mm² lb/in²	385 56000
Typical Elongation at break - annealed *	%	≥ 25
Modulus of Elasticity (tension) at 20°C – annealed	N/mm² lb/in²	117000 17×10^6
Modulus of Rigidity (torsion) at 20°C - annealed	N/mm² lb/in²	44000 6.4×10^6

* Values will vary dependant upon wire diameter.

Information contained within this technical data sheet is based upon the general experience of IMI Scott Ltd and is believed to be correct at the time of issue. No warranty is given or is to be implied from the details above. Customers are advised to carry out independent tests in order to determine the suitability of any IMI Scott Ltd product for an application.