

C11000 ETP CONDUCTIVE WIRE

DATASHEET

Copper has excellent physical, thermal properties and electrical conductivity. Copper is easily soldered, welded and plated for corrosion resistance.

Gold plated pure copper is used when electrical conductivity is crucial and its application is critical to maintaining a stable resistance with minimal variation over the wire length.

Copper is available in three grades of [Oxygen free \(OF\)](#), [Oxygen free electronic \(OFE\)](#) and also in grade Electrolytic tough pitch (ETP), in both round and milled ribbon forms.

CHEMICAL COMPOSITION

	Cu %	Ag%
Nominal composition	99.99	min

MECHANICAL PROPERTIES

	Tensile strength R _m	
	MPa	ksi
Hard	455	66
Anealed	240	35

PHYSICAL PROPERTIES

Density g/cm ³ (lb/in ³)	8.89 (0.321)
Electrical resistivity at 20°C Ωmm ² /m (Ω circ. mil/ft)	0.017 (10.2)
Temperature coefficient of resistance K ⁻¹	+0.00393 to +0.00397
Conductivity at 20°C (68°F)	Annealed, 100% to 101.5% IACS min

COEFFICIENT OF THERMAL EXPANSION

Temperature °C (°F)	Thermal expansion 10 ⁻⁶ /K (10 ⁻⁶ /°F)
20-500 (68-932)	17.0 (9.4)

THERMAL CONDUCTIVITY

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Temperature °C (°F)	100 (212)
W m ⁻¹ K ⁻¹ (Btu h ⁻¹ ft ⁻¹ °F ⁻¹)	388 (224)

SPECIFIC HEAT CAPACITY

Temperature °C (°F)	20
kJ kg ⁻¹ K ⁻¹ (Btu lb ⁻¹ °F ⁻¹)	0.385 (0.09)
Melting Point °C (°F)	1083 (1981)

STANDARDS

Specifications	ASTM B 1, 2, 3, 250
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