

Copper

Typical Applications

- Electronics
- Large generators
- Rotor conductors
- Transformers & motors
- Switchgears
- Vacuum engineering
- Cables
- Electrical instruments

Product Description

C103 copper offers the highest electrical conductivity of any commercial commercially pure copper on the market (greater than 100% IACS). The metal has a copper content of 99.95%. Apart from high conductivity, C103 offers outstanding thermal conductivity and is not susceptible to hydrogen embrittlement when heated in a reduced atmosphere.

Formability

Excellent

Chemical Composition (weight %)

Weight (%)	Cu	Pb	Bi	Imps
Min	99.95			
Max		0.005	0.001	0.03

Key features:

- Excellent electrical conductivity
- Outstanding thermal conductivity
- Not susceptible to hydrogen embrittlement when heated in reduced atmosphere
- Highest electrical conductivity for commercially pure copper
- Excellent formability and joining qualities

Related material specifications

- BS2874 / BS1433: C103
- BS EN13601: CW008A
- C10200
- Cu-OF

Availability

Bar and sheet

Fabrication Properties

Machining	Poor
Cold working	Excellent
Electroplating	Excellent
Soft soldering	Excellent
Hot-Dip Tinning	Excellent
Resistance Welding	Fair
Gas Shield	Good
Arc Welding	

Physical Properties

Melting Point	1083°C
Density	8.9 g/cm ³
Specific heat	385J/Kg °K
Thermal conductivity (RT)	393W/m°K
Thermal expansion coefficient (20-200°C)	17.3 x10 ⁻⁶
Electrical conductivity	100-101.5% IACS
Electrical Resistivity	0.01724 ohm mm ² /m

Technical Assistance

Our knowledgeable staff backed up by our resident team of qualified metallurgists and engineers, will be pleased to assist further on any technical topic.

UK Service Centres:

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 Smiths Biggleswade **01767 604 704**
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