COPPER

C106 - CW024A

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Copper C106, also known as phosphorus-deoxidised, non-arsenical copper, is a high-purity copper alloy with excellent thermal and electrical conductivity, good corrosion resistance and high ductility. It is commonly used in applications that require forming, welding and brazing. C106 can be used for plating and polishing, with aesthetic value for use in architectural applications.

KEY FEATURES

- Excellent thermal and electrical conductivity
- Good resistance to corrosion
- High ductility and malleability
- Good welding and brazing properties

CHEMICAL PROPERTIES

Copper (Cu)	Phosphorus (P)	Other Impurities
99.85-99.9%	**0.015-0.04%**	**0.06%**

MECHANICAL PROPERTIES

	Soft	1/2 Hard	Hard
Tensile strength (N/mm²)	**200**	**250**	**300**
Yield strength (N/mm²)	**50**	**110**	**140**
Elongation (% at break)	**30**	**12**	**5**
Hardness (HV)	**45**	**70**	**90**
Proof stress 0.2% (MPa)	**50**	**110**	**140**

PHYSICAL PROPERTIES

Density (kg/m³)		**8940**
Modulus of elasticity (Gpa)		**119**
Mean coefficient of thermal expansion	0-100ºC (µm/m/ºC)	**16.8**
	0-350ºC (µm/m/ºC)	**17.8**
	0-538ºC (µm/m/ºC)	**18.5**
Thermal conductivity	at 100ºC (W/m.K)	**330**
	at 500ºC (W/m.K)	**290**
Specific Heat 0-100ºC (J/kg.K)		**393**
Electrical resistivity (nΩ.m)		**172**
Melting point (ºC)		**1083**

MARKET SECTORS

Electrical Industry
Wiring, cables, connectors, terminals, PCBs

Automotive Industry
Vehicle wiring harnesses, connectors, terminals, radiators

Industrial & Manufacturing
Heat exchangers, machined parts, metal working

Medical Devices
Medical equipment, diagnostic instruments

Architecture & Construction
Roofing, cladding, gutters, plumbing pipes and fittings

Aerospace Industry
Spacecraft, aircraft components, communication systems