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C14500 Tellurium Copper

Copper 145 | UNS C14500 | Free-machining copper

Tellurium-bearing C14500 combines improved machining performance with high electrical and thermal conductivity. The tellurium addition distinguishes it from C11000 copper and ordinary oxygen-free copper.

GRADE & REFERENCE DATA

Property / designation	Reference specification or typical value
Grade / designation	UNS C14500 | Copper 145 | Tellurium copper
Reference rod/bar specification	ASTM B301/B301M (verify order and revision)
Copper, Cu	99.90% minimum* (supplier standard reference)
Tellurium, Te	0.40–0.70 wt%
Phosphorus, P	0.004–0.012 wt%
Electrical conductivity	93% IACS at 68°F (reference value)
Thermal conductivity	355 W/(m·K) at 20°C (reference value)
Density	8.94 g/cm³ at 20°C
Machinability rating	85 (reference relative-machinability index)

TYPICAL APPLICATIONS

- Machined electrical connectors, switch parts and motor components
- Precision screw-machine products, terminals and soldering tips
- Industrial contact components with electrical and machining requirements

WHAT TO SPECIFY IN AN RFQ

Composition and properties depend on the governing purchase specification and condition. *The referenced Cu minimum includes permitted additions per the cited specification note; do not interpret it as 99.90% elemental Cu plus additional Te. Include minimum conductivity and temper in the RFQ.

MATERIAL SELECTION NOTE

C11000 prioritizes high conductivity; C14500 adds tellurium for improved chip formation. Substitutions should be separately evaluated.

Reference data only. Not a mill test report, certificate of conformity or inventory guarantee.

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MOZAIC ROUND-BAR PROCESSING

Round-bar sourcing review • precision grinding • straightening • cutting • protective packaging

Material page: https://mozaicprecision.com/material/copper-145/

Source: Copper Development Association and Wieland Concast C14500 reference data

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