



## TELLURIUM COPPER (DEOXIDIZED GRADES)

### EQUIVALENT SPECIFICATIONS

SPECIFICATIONS	DESIGNATION
ISO	Cu-DHP
European	Cu-DHP
BS	C-106
JIS	C 1220
M1 f	M1 f

### ASTM B301, ASTM B124, Free-Machining Copper

C145 Tellurium Copper (TelCu) has applications in the production of hot forged products, high-speed screw machine products and parts requiring high conductivity, extensive machining, corrosion resistance, copper color, or a combination of these. The addition of tellurium enhances the strength of the copper alloy and assists in chip breakage, allowing for much higher machining speeds and ultimately longer tool life than with pure copper in high-speed screw machines.

### Typical Applications of C14500 Tellurium Copper:

- Gas cutting nozzles ,High-speed automatic screw machines ,Electrical Switches on power semiconductors
- Welding Torch tips ,Transformer & Circuit-breaker terminals ,Fasteners ,Production of hot forged products

### CHEMICAL COMPOSITION

	Cu	P	Te
Min/Max	99.90 min	0.004 - 0.012	0.40 - 0.7
Nominals	99.5000	0.0080	0.5500

### PHYSICAL PROPERTIES

Product Property	US Customary	Metric
Coefficient of Thermal Expansion	9.5 • 10 <sup>6</sup> ? per °F (68-212 F)	17.1 • 10 <sup>6</sup> ? per °C (20-100 C)
Coefficient of Thermal Expansion	9.7 • 10 <sup>6</sup> ? per °F (68-392 F)	17.5 • 10 <sup>6</sup> ? per °C (20-200 C)
Coefficient of Thermal Expansion	9.9 • 10 <sup>6</sup> ? per °F (68-572 F)	17.8 • 10 <sup>6</sup> ? per °C (20-300 C)
Density	0.323 lb/in <sup>3</sup> @ 68 F	8.94 gm/cm <sup>3</sup> @ 20 C
Electrical Conductivity	93 %IACS @ 68 F	0.544 MegaSiemens/cm @ 20 C
Electrical Resistivity	11.2 ohms-cmil/ft @ 68 F	1.86 microhm-cm @ 20 C
Melting Point Liquid US	1976 F	1080 C
Melting Point Solid US	1924 F	1051 C
Modulus of Elasticity in Tension	17000 ksi	117000 Mpa
Modulus of Rigidity	6400 ksi	44130 Mpa
Specific Gravity	8.94	8.94
Specific Heat Capacity	0.092 Btu/lb/°F at 68 F	393.5 J/kg • °K at 293 K
Thermal Conductivity	205.0 Btu • ft/(hr • Ft <sup>2</sup> • °F) at 68 F	354.8W/m • °K at 20 C

### SIZES AVAILABLE :

HOLLOW RODS  
ROUND RODS  
HEX  
SQUARE  
FLAT  
BILLETS  
INGOTS

Min Bore Size 20 mm and Max OD 100 mm  
8mm To 100 mm  
10mm To 60mm  
10mm To 60mm  
10mm Min Thickness and max Width 120mm  
Up to 200 mm  
As per Specification

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