

C11000 Copper Rod (Cu-ETP) Technical Data Sheet

Product Overview

C11000 Copper, also known as Electrolytic Tough Pitch Copper (ETP Copper), is the most widely used high-conductivity copper alloy. Containing a minimum copper content of 99.90%, C11000 offers excellent electrical conductivity, thermal conductivity, corrosion resistance, and cold-working characteristics.

Equivalent Grades

UNS: C11000
EN: Cu-ETP
DIN: CW004A
JIS: C1100

Chemical Composition & Physical Properties

Copper (Cu): $\geq 99.90\%$
Oxygen (O): $\leq 0.040\%$

Density: 8.92 g/cm³
Thermal Conductivity: 394 W/m·K
Electrical Conductivity: 58 MS/m
Electrical Conductivity: 100% IACS
Modulus of Elasticity: 130 GPa

Mechanical Properties

Mechanical Properties (EN 1652)						
Temper	Tensile Strength	Yield Strength Minimum	Elongation Minimum	Hardness	Bendability 90°	
	Rm	Rp _{0.2}	A _{50mm}	HV *	gw rel. Bending radius R/T	bw
	MPa	MPa	%	HV	Strip thickness $\leq 0.50\text{mm}$	
R220	220 .. 260	≤ 140 *	33	40 .. 65	0	0
R240	240 .. 300	180	8	65 .. 95	0	0
R290	290 .. 360	250	4	90 .. 110	0	0.5
R360	≥ 360	320	2	≥ 110	1	2

Applications & Available Forms

Applications

Electrical busbars, transformer windings, power connectors, grounding systems, switchgear components, heat exchangers and industrial equipment.

Available Product Forms

Copper Rod, Copper Bar, Copper Tube, Copper Plate and Custom Machined Components.

Standards

ASTM B187, ASTM B152, ASTM B75, EN 10204 3.1

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Fabrication Properties *	
Cold Forming Properties	Excellent
Machinability (Rating 20)	Less suitable
Electroplating Properties	Excellent
Hot Tinning Properties	Excellent
Soft Soldering, Brazing	Excellent
Resistance Welding	Less suitable
Gas Shielded Arc Welding	Less suitable
Laser Welding	Less suitable

