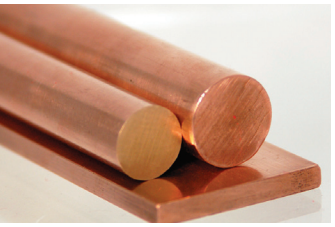
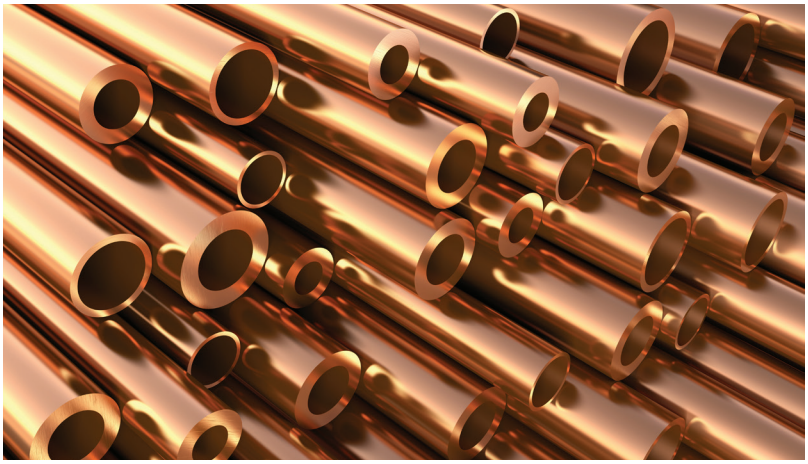
C11000 ELECTROLYTIC TOUGH PITCH COPPER

OFFERED IN ROD, BAR, SHEET, PLATE, BUS TUBES, PROFILES, STAMPINGS, ROTO-BARS, WIRES AND FORGINGS






C11000, Electrolytic Tough Pitch Copper is a hard drawn bus bar with high thermal and electrical conductivity. This material can be bent, soldered, drilled, riveted, and formed to almost any configuration. ETP Copper is available in round bar, squares, flat rectangular (bus bar), and certain profile shapes.

TYPICAL USES

Electrical
Busbars, Switch Gear, Stab Terminals, Conductors, Magnet Wire, Stranded Conductors, Wire, Electrical Terminals, Switches, Radio Parts, Contacts, Welding Fixtures, Ground Straps, Commutators

Architecture
Downspouts, Flashing, Roofing, Gutters, Building Fronts, Skylight Frames, Kitchen Countertops

Automotive
Gaskets, Radiators

Builders Hardware
Ball Floats, Butts, Rivets, Nails, Cotter Pins, Soldering Copper, Tacks, Nuts & Bolts

Industrial
Heat Exchangers, Pans, Vats, Road Bed Expansion Plates, Rotating Bands, Kettles, Chimney Cap Screens, Chlorine Cells, Pressure Vessels, Anodes, Chemical Process Equipment, Pipe Welding Dies, Back-up Welding Shoes, Printing Rolls, Plating Racks, Hooks

SIZES AVAILABLE

Rectangles / Flat Bar	1/8" - 2" thick through 1/2" - 8" wide
Square Bar	1/4" - 4" square
Round Bar	3/16" - 15" diameter
Bus Tubes	cut to size, up to 6" O.D.
Sheets (Cold Rolled)	up to 1/4" thick max
Plates (Hot Rolled)	cut to size, up to 6" thick

*** TIN PLATED COPPER & SILVER PLATED COPPER AVAILABLE!**

SIMILAR OR EQUIVALENT SPECS

ASTM B49	ASTM B171	ASTM B188
ASTM B152	ASTM B187	ASTM B283

AVIVA METALS®

www.avivametals.com 09/24

C11000 ELECTROLYTIC TOUGH PITCH COPPER

Chemical Composition, Mechanical Requirements, Physical Properties

CHEMICAL COMPOSITION

	CU (1, 2, 3)
min	99.90

(1) Oxygen and trace elements may vary depending on the process.
(2) This is a high conductivity copper which has, in the annealed condition a minimum conductivity of 100% IACS.
(3) Cu value includes Ag.

MECHANICAL REQUIREMENTS (ASTM B-187)

Temper Designation		Size	Tensile Strength - ksi		Elongation in 4x dia. or thickness
Standard	Form		min	max	
Ho4	Hard	**Rod**			
		up to 3/8" incl.	45	60	12
		over 3/8" to 1" incl.	40	55	12
		over 1" to 2" incl.	35	50	15
		over 2" to 3" incl.	33	48	15
		over 3"	30	48	15
		Bar			
		up to 3/8" incl. up to 4" incl. in width	37.5	50	10
		all other sizes	33	50	15
		Angles & Shapes			
		all sizes	33	50	15

PHYSICAL PROPERTIES

Melting Point - Liquidus °F **1981**
Melting Point - Solidus °F **1949**
Density lb/cu in @ 68 °F **0.322**
Specific Gravity **8.91**
Electrical Conductivity % IACS @ 68 °F **101**
Thermal Conductivity Btu/ sq ft/ ft hr/ °F at 68°F **226**
Coefficient of Thermal Expansion 10^{-6} per °F (68-212 °F) **9.4**
Coefficient of Thermal Expansion 10^{-6} per °F (68-392 °F) **9.6**
Coefficient of Thermal Expansion 10^{-6} per °F (68-572 °F) **9.8**
Specific Heat Capacity Btu/lb/ °F @ 68 °F **0.092**
Modulus of Elasticity in Tension ksi **17000**
Modulus of Rigidity ksi **6400**
Machinability Rating **20**

AVIVA Color Code

ORANGE

The values listed on this document represent reasonable approximations suitable for general engineering use. Due to commercial variations in composition and to manufacturing limitations, they should not be used for specification purposes. See applicable A.S.T.M. Specification references.

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