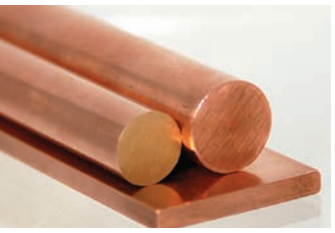
C11000 ELECTROLYTIC TOUGH PITCH COPPER

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 from NBM

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

Similar or Equivalent Specifications

ASTM B-49, B-152, B-171, B-187, B-188, B-283

C11000 ELECTROLYTIC TOUGH PITCH COPPER

Chemical Composition, Tensile & Hardness, Physical Properties

Chemical Composition

	Cu [1,2,3]
min/max	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.	30	48	15
		over 3"	37.5	50	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 of Rigidity ksi **6400**
Machinability Rating **20**

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.

USA/CANADIAN SALES
(713) 869-9600
sales@nbmmetals.com

MCNA ISO 9001:2008 Certified Management Certification of North America ANAB ACCREDITED
ISO 9001:2008

EUROPEAN SALES
+33 494 109 386
info@nbmmetals.com

afaq EN/AS 9120 Aerospace AFNOR CERTIFICATION

MEXICO SALES
521 81 19 11 29 58
ventas@nbmmetals.com

OTHER TERRITORIES
trading@nbmmetals.com