

C94700 Tin Bronze HT**Copper Alloy No. C94700 HT****Heat Treated Nickel Tin Bronze CDA 947 , Nicomet® Bronze****Chemical Composition % by weight**

Element	Nominal	Minimum	Maximum
Aluminum	-	-	.005
Antimony	-	-	.15
Copper	88	85	90
Iron	-	-	.25
Lead	-	-	.01
Manganese	-	-	.20
Nickel	5	4.5	6
Phosphorus	-	-	.05
Silicon	-	-	.005
Sulfur	-	-	.05
Tin	5	4.5	6
Zinc	2	1	2.5

Applications

Valve stems and bodies, bearings, wear guides, shift forks, feeding mechanisms, circuit breaker parts, gears, piston cylinders, nozzles.

Mechanical Properties

M07/TF00 As Continuous Cast, Solution and Precipitation Heat Treated

Hardness*	Brinell Hardness (3000 kg load)	180
Tensile Strength**	KSI	75 min
Yield Strength **	KSI (0.5% Ext. under load)	50 min
Elongation**	% in 2 inch	5 min

**Test values are nominal approximations and depend on specimen size and orientation.

Physical Properties

Thermal Conductivity	BTU/ (sq ft-ft-hr-F)	31.2
Specific Heat	BTU/lb/°F @ 68F	.09

Thermal Expansion	Per °F from 68 F to 392 F	.000011
Density	lb/cu in @ 68 F	.320
Electrical Conductivity* (Annealed)	% IACS @ 68 F	15
Modulus of Elasticity	KSI	15,000

*Volume basis

Fabrication Practices

Stress relieving temperature	500 F or 260 C
Time at temperature	1 hour per inch of section thickness
Responds to heat treatment	Yes
Solution heat treating temperature	1425-1475 F or 775-800 C
Time at temperature	2 hours per inch of section thickness
Quenching medium	Water
Precipitation hardening temperature	580-620 F or 305-325 C
Time at temperature	5 hours
Quenching medium	Air
Machinability rating (Free Cutting Brass=100)	30
Suitability for being joined by:	Soldering/Excellent
	Brazing/Excellent*
	Oxyacetylene Welding/Fair
	Carbon Arc Welding/Not Recommended
	Gas Shielded Arc Welding/Good
	Coated Metal Arc Welding/Good

*Since brazing is performed at temperatures within the hot-short range, strain must be avoided during the brazing and cooling of this alloy.

The values listed above 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.

ADDEESS:

Conex Bronze Fittings

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KEYWORDS:

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