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Copper, Brass & Bronze Based Alloy Properties

									As-Cast				Comments
Alloy	Similar Designation	Usual Condition	Castability	Machinability	Corrosion Resistance	Weldability	Hardenable	Density (g/cm ³)	Tensile Str (psi)	Yield Str (psi)	Elongation (%)	Hardness	
Be Cu 10C (C82000)	MIL C 19454	Solution treated Precipitation Hardened.	3	1	3	4	yes	8.8					Better electrical conductivity than Be Cu 20C.
Be Cu 10C (C82500)	AMS 4890 MIL C 11866 MIL C 19494	Solution treated Precipitation Hardened.	1	4	1	4	yes	8.3					Easiest to cast. Most popular Be Cu Alloy. Can be heat treated to strength and hardness of steel, with combined properties of electrical conductivity corrosion, and wear resistance.
Be Cu 275 C (C 82800)	MIL C 19464	Solution treated Precipitation Hardened.	2	4	2	4	yes	8.1					Highest hardness. Readily cast. Properties similar to Be Cu 20.
Silicon Brass (C87500)	ASTM B584 MIL C 22087	As -Cast	2	2	2	2	no	8.3	60,000	35,000	16	HRB 55	Very good castability and toughness. High strength at high temperatures; good resistance to corrosion and pressure-tightness.
Silicon Bronze (C87300)	ASTM B763 MIL C 11866	As -Cast	3	3	3	3	no	8.3	45,000	28,000	12	HRB 50	Highest strength at elevated temperatures, Used in a place of pure copper where strength is required.
Phosphor Bronze (C90300)	ASTM B427	As -Cast	4	2	2	3	no	8.8	45,000	25,000	30	HRB 45	Cast gears and gear blanks, Good wear and corrosion resistance.
Navy "G" (C90700)	ASTM B584 MIL C 22087	As -Cast	4	2	2	3	no	8.7	40,000	20,000		HRB 40	Bearings and bushings. General utility bronze for high pressure applications and severe conditions.
Navy "M" (C92200)	ASTM B61 ASTM B584	As -Cast	3	2	2	5	no	8.6	35,000	16,000	30	HRB 35	Valves and fittings. Readily machined.
Red Brass 85-5-5-5 (C83600)	ASTM B62 ASTM B584	As -Cast	2	2	2	3	no	8.8	30,000	20,000	20	HRB 30	All purpose alloy. Good machinability.
Yellow Brass (C85700)	ATM B584	As -Cast	5	3	2	4	no	8.4	30,000	11,000	20	HRB 35	Good Machinability. Often used for pipe fittings.
Manganese Bronze A (C86500)	ASTM B584 AMS 4860 MIL C 22087	As -Cast	4	2	1	4	no	8.3	71,000	28,000	30	HRB 80	Good for salt and fresh water environments.

- Key**
- 1 = Excellent
 - 2 = Very Good
 - 3 = Good
 - 4 = Fair
 - 5 = Poor
- Hardness Scale**
- HRB = Rockwell Hardness, B Scale
 - HRE = Rockwell Hardness, E Scale
 - HRC = Rockwell Hardness, C Scale
 - BHN = Brinell Hardness, B Scale
 - No data = Metal not usually used in this condition