Common bronze bearing alloys

UNS Number	SAE No. (Former SAE No.)	Properties, Applications
	Copper Tin Alloys (Tin Bronzes)	
C90300 C90500 C90700	CA903 (620) CA905 (62) CA907 (65)	Good general purpose bearings with favorable combination of strength, machinability, castability, pressure tightness, corrosion resistance. Tin bronzes operate better with grease lubrication than other bearing bronzes. Widely used in water pump fittings, valve bodies and general plumbing hardware.
	Copper-Tin-Lead Alloys (Leaded Tin Bronzes)	
C92200 C92300 C92700	CA922 (622) CA923 CA927 (63)	Moderate-to-high strength alloys. Lead content provides good machinability but is insufficient to act as "internal lubricant" should normal lubricant be unreliable. Bearings also require good shaft alignment and shaft hardness between 300–400 HB.
	Copper-Tin-Lead Alloys (High-Leaded Tin Bronzes)	
C93200 C93400 C93500 C93600 C93700 C93800 C94100 C94300	CA932 (660) CA935 (66) — CA937 (64) CA938 (67) — CA943	Good bearing properties, excellent casting and machining characteristics. Higher in strength than copper-lead alloys, although they have somewhat lower strength and fatigue resistance than unleaded tin bronzes. C93200 is often considered the "standard" bearing bronze. C93800 is used for general service at moderate loads and high speeds; C94300 is used at lighter loads and high speeds. These alloys conform well to irregularities in the journal. Applications include light duty machinery, home appliances, farm machinery, pumps and thrust washers.
	Manganese Bronze and Leaded Manganese Bronze Alloys (High Strength and Leaded High Strength Yellow Brasses)	
C86300 C86400	CA863 (430B) —	Alloys exhibit good corrosion resistance; however, they require reliable lubrication and hardened, well-aligned shafts. C83600 is twice as strong as C86400 and is used in applications characterized by high loads and slow speeds. C86400 is better suited to light duty applications.
	Copper-Aluminum Alloys (Aluminum Bronzes)	
C95300 C95400 C95500 C95520 C95800	CA953 (68B) C954 C955 — C958	High strength, very corrosion and wear resistant. Widely used in heavy duty applications or where shock loading is a factor. Useful to temperatures higher than 500 F (260 C). Not suitable for high speeds or applications where lubrication is intermittent or unreliable. Alloys C95300, C95400 and C95500 can be heat treated to improve their mechanical properties, as required, for severe applications.
	Copper-Lead Alloys (Leaded Coppers)	
C98200 C98400 C98600 C98800 C98820 C98840	49 — 480 481 484 485	Alloys have fair strength, fair wear resistance and low pounding resistance, but have very favorable antifriction properties and good conformability. They operate well under intermittent, unreliable or dirty lubrication, and can operate under water or with water lubrication. Used at light-to-moderate loads and high speeds, as in rod bushings and main bearings for refrigeration compressors, and as hydraulic pump bushings. Usually require reinforcement.