



Bearing bronzes are standardised by composition in every system – UNS numbers (C9xxxx), SAE numbers (660, 64...), EN 1982 symbols and CC numbers, old DIN names (Rg7, GBz12), BS 1400 letters (LG2, PB1, AB2), JIS CAC numbers, GB/T Z-designations, ГОСТ Bp-designations and Polish B-numbers. Two designations are equivalent when the composition ranges overlap and the casting standard sets comparable minimums; they are neighbours when the family and duty match but the chemistry does not.

Cross-reference table

Rows are the twelve grades we machine; columns are the designation systems. "nearest" marks a neighbour whose composition differs; "verify" marks a designation we have seen on drawings but could not confirm against the national standard – tell us if your drawing uses it.

Slidura grade	UNS / ASTM	SAE	EN 1982	DIN (old)	BS 1400	JIS H5120	GB/T 1176	ГОСТ	PN	Trade names · also called
C93200 / SAE 660 CuSn7Zn4Pb7 · leaded tin bronze	C93200	SAE 660	CuSn7Zn4Pb7-C · CC493K	Rg7 · 2.1090	—	—	— (cast to ASTM; nearest ZCuSn5Pb5Zn5)	— (nearest БpO5Л5C5)	— (RG7 is quoted; nearest B555)	CDA 932 · 83-7-7-3 · Rg7 (DE) · RG-7 (ES) · UE7 (FR) · B7 (IT, withdrawn) · "bronze grafitado" (BR trade name)
C93700 / SAE 64 CuSn10Pb10 · leaded tin bronze	C93700	SAE 64	CuSn10Pb10-C · CC495K	CuPb10Sn · 2.1176	LB2	CAC603 (LBC3)	ZCuPb10Sn10	БpO10C10	B1010	CDA 937 · 80-10-10 · AFNOR U-Pb10E10
C93800 / SAE 67 CuSn7Pb15 · leaded tin bronze	C93800	SAE 67	CuSn7Pb15-C · CC496K	CuPb15Sn · 2.1182	LB1	CAC604 (LBC4)	ZCuPb15Sn8	БpO8C12 (nearest)	B1510 (verify)	CDA 938 · 78-7-15 · nearest standard grade to Brazilian TM 23 (Pb 15–18 %)
CuSn12 CuSn12 · tin bronze	C90800 (nearest)	—	CuSn12-C · CC483K	GBz12 · 2.1052	PB2 (nearest)	CAC502 (PBC2, nearest)	ZCuSn10P1 (nearest, phosphor)	БpO10Φ1 (nearest)	— (verify)	Bronzo B14 (IT, withdrawn 1978) · UE12 (FR) · kalay bronzu (TR) · 88/12 (ES)
CuSn10P (ZCuSn10P1) CuSn10P · tin bronze	C90710 / C90700 (nearest)	SAE 65 (nearest)	CuSn11P-C · CC481K (nearest)	— (no DIN casting grade; nearest G-CuSn10)	PB1	CAC502 (PBC2)	ZCuSn10P1	БpOΦ10-1	B101	Phosphor bronze · 89-11 · UE9P is a wrought bar, not this casting
CuSn10 CuSn10 · tin bronze	C90700 (nearest)	—	CuSn10-C · CC480K	G-CuSn10 · 2.1050	CT1 (nearest)	CAC403 (BC3, nearest)	ZCuSn10Zn2 (nearest)	БpO10 (nearest)	B10	Lead-free, unleaded tin bronze
C90500 / SAE 62 CuSn10Zn2 · tin bronze	C90500	SAE 62	— (nearest CuSn10-C · CC480K)	G-CuSn10Zn · 2.1086	G1	CAC403 (BC3)	ZCuSn10Zn2	БpO10Л2	B102 (verify)	CDA 905 · "G bronze" · 88-10-2 · Rg10 (DE trade) · UE10 (FR) · nearest to Brazilian TM 620
LG2 / C83600 CuSn5Zn5Pb5 · gunmetal	C83600	SAE 40	CuSn5Zn5Pb5-C · CC491K	Rg5 · 2.1096	LG2	CAC406 (BC6)	ZCuSn5Pb5Zn5	БpO5Л5C5	B555	CDA 836 · 85-5-5-5 · "ounce metal" · leaded gunmetal · IS 318 LTB2 (IN)
C95400 CuAl10Fe3 · aluminium bronze	C95400	—	CuAl10Fe2-C · CC331G (nearest)	G-CuAl10Fe · 2.0940	AB1	CAC702 (AIBC2)	ZCuAl10Fe3	БpA10Ж3Mц2 (nearest) · БpA9Ж3Л	BA1032 (nearest)	CDA 954 · aluminium bronze 9C · UA10N (FR) is the nickel grade, not this one
C95500 CuAl10Ni5Fe4 · aluminium bronze	C95500	—	CuAl10Fe5Ni5-C · CC333G	G-CuAl10Ni · 2.0975	AB2	CAC703 (AIBC3)	ZCuAl10Fe4Ni4 (nearest)	БpA10Ж4H4Л	BA1044 (verify)	CDA 955 · nickel-aluminium bronze · UA10N (FR) · same class as CuAl10Ni5Fe5 (graphite-plugged 650S2 base alloy)
CuAl10Fe3Mn2 (ZCuAl10Fe3Mn2) CuAl10Fe3Mn2 · aluminium bronze	C95400 (nearest)	—	CuAl10Fe2-C · CC331G (nearest)	G-CuAl10Fe · 2.0940 (nearest)	AB1 (nearest)	CAC702 (nearest)	ZCuAl10Fe3Mn2	БpA10Ж3Mц2	BA1032	Manganese-bearing variant of CuAl10Fe3; Polish BA1032 and Russian БpA10Ж3Mц2 buyers know it by name
C86300 / SAE 430B CuZn25Al5Mn4Fe3 · high-strength brass	C86300	SAE 430B	CuZn25Al5Mn4Fe3-C · CC762S	G-CuZn25Al5 · 2.0598	HTB3	CAC304 (HBsC4)	ZCuZn25Al6Fe3Mn3	ЛЦ23A6Ж3Mц2	MA58 (verify)	CDA 863 · "manganese bronze" · high-tensile brass · same class as CuZn25Al5Mn4 (graphite-plugged 650 base alloy) · AMS 4862

Compiled from the standards and from foundry and stockist catalogues in each market (2026). The last column is what buyers call the alloy in trade; the certificate names the standard the stock was cast to.

Same alloy, neighbour or different – the short list

- Equivalent (interchangeable): SAE 660 = C93200 = CC493K CuSn7Zn4Pb7 = Rg7; LG2 = C83600 = CC491K = Rg5 = CAC406 = БpO5Л5C5 = ZCuSn5Pb5Zn5
- Equivalent: SAE 64 = C93700 = CC495K = CuPb10Sn = ZCuPb10Sn10 = БpO10C10 = B1010; C95500 = CC333G = AB2 = CAC703 = БpA10Ж4H4Л
- Neighbours, not equal: LG2 and SAE 660; CuSn12 and CuSn10P; C95400 and CuAl10Fe3Mn2
- Not equivalent although often treated so: TM 23 (Pb 15 – 18 %) vs SAE 660 (Pb 6 – 8 %); "B14 industriale" sold as Rg7
- The certificate we deliver names the standard the stock was cast to – ASTM B505 / B271, EN 1982 or GB/T 1176 – next to your designation



Five equivalents that are not – and what to order instead

The mistakes we see most often on incoming drawings and enquiries:

TM 23 is not SAE 660

Termomecânica's TM 23 has 15 – 18 % lead by their own data sheet; SAE 660 / C93200 has 6 – 8 %. TM 23 behaves like a high-lead bearing bronze – the standard grade nearest to it is C93800 / SAE 67 (CuSn7Pb15), which we machine. Order 660 where the duty is general, SAE 67 where the drawing really wants a high-lead bush. Brazilian buyers also call SAE 660 "bronze grafitado", which is not the same as sintered SAE 841 or graphite-plugged bronze.

LG2 is not SAE 660

Both are sold as "general bronze" in Australia, the UK, South Africa and India and are interchangeable for light duty, but LG2 (5-5-5 gunmetal, C83600) is softer and about 15 % weaker than 660 (7-7-3 leaded tin bronze, C93200). Heavy pins: 660. Pumps, valves, water: LG2.

B101 is not RG7

Polish B101 is the phosphor bronze CuSn10P (hard, lead-free, 90 HB); RG7 is the leaded tin bronze CuSn7Zn4Pb7 / SAE 660 (soft, forgiving). B101 needs a hardened shaft and constant lubrication; RG7 runs on plain steel with grease. Polish drawings often say B101 because that is the bar the local shop had.

B14 is not RG7 either

The Italian UNI B14 (withdrawn 1978) is CuSn12 – today CC483K. Some stockists sell a leaded "B14 industriale" as RG7; that is a different, leaded alloy. When the drawing says B14, order CuSn12 CC483K.

CAC406 / BC6 is not SAE 660

JIS CAC406 is the 5-5-5 gunmetal – the equivalent of LG2 / C83600, not of C93200. Japanese machines use it where American ones use 660, so it is the right replacement for a CAC406 position, but not the same alloy as 660.

How the designation systems work

Knowing what the letters and numbers encode is the fastest way to read a foreign drawing.

UNS / ASTM (USA)

Copper alloys are C plus five digits; cast alloys start at C80000. C9xxxx are bronzes (C90–C95: tin, leaded tin, aluminium bronzes), C86xxx high-strength bronzes. ASTM B505 covers continuous castings, B271 centrifugal, B584 sand castings; the number is the same across the three.

DIN (Germany, old)

Withdrawn but everywhere on drawings: Rg7 (Rotguss 7 = CuSn7Zn4Pb7), Rg5 (CuSn5Zn5Pb5), GBz12 or G-CuSn12, CuPb10Sn, G-CuAl10Fe, G-CuAl10Ni, G-CuZn25Al5, with material numbers 2.1090, 2.1096, 2.1052, 2.1176, 2.0940, 2.0975, 2.0598.

GB/T 1176 (China)

Z for cast plus composition: ZCuSn5Pb5Zn5, ZCuSn10P1, ZCuPb10Sn10, ZCuPb15Sn8, ZCuSn10Zn2, ZCuAl10Fe3, ZCuAl10Fe3Mn2, ZCuZn25Al6Fe3Mn3. Chinese foundries also cast the ASTM grades directly (C93200, C95400, C86300) and certify to ASTM.

SAE (USA, Latin America, Brazil)

Old SAE J461 / J462 numbers still used on drawings and by stockists: 660 = C93200, 64 = C93700, 67 = C93800, 65 = C90700 phosphor bronze, 62 = C90500, 40 = C83600, 430B = C86300. The numbers are unrelated to each other.

BS 1400 (UK, Commonwealth, India)

Letters for the family plus a number: LG2 leaded gunmetal, LB2 / LB1 leaded bronzes, PB1 / PB2 phosphor bronzes, G1 gunmetal, AB1 / AB2 aluminium bronzes, HTB3 high-tensile brass. Indian IS 318 uses LTB2 for the LG2 class.

ГОСТ 613 / 493 / 17711 (Russia, CIS)

Бр for bronze, Л for brass, then element letters and percentages: БрО5Л5С5 (Sn 5, Zn 5, Pb 5 = LG2 class), БрОФ10-1 (Sn 10, P 1 = CuSn10P), БрО10С10 (= SAE 64), БрА9Ж3Л / БрА10Ж3Мц2 (aluminium bronzes), БрА10Ж4Н (approx. C95500), ЛЛ23А6Ж3Мц2 (approx. C86300).

What we need to confirm an equivalent

For a safe substitution send:

1. The designation exactly as written, with the standard if given (e.g. "Rg7 DIN 1705", "LG2 BS 1400", "TM 23")
2. The duty in one line: load, movement, speed, temperature, medium, lubrication
3. Whether lead-free is required
4. The three dimensions or the drawing, and quantity
5. Whether the certificate should name ASTM, EN or GB – the stock is bought cast to the standard you need to see

Equivalents are stated on the basis of published composition ranges and casting-standard minimums; national standards change and some trade names are not standardised. The certificate of the delivered stock is the binding document.