Red Brass and Tin Bronze Alloys

Commercial Ref.	Chemical composition Alloys re. specifications in force (values in percentages, minimum/maximum)										Most similar International standards
	Cu	Sn	Pb	Zn	Ni	P	Fe	Sb	S	Others	
B – 0 2)	Rest	1,5 3,0	4,0 9,0	7,0 11,0	2,0	0,10	1,2	0,3	0,10		BS 1400 - LG1 C84400
B – 5 2)	Rest	4 7	4 6,5	4 6,5	2					1	ISO 1338 - CuSn5Pb5Zn5 BS 1400 - LG2 NFA 53-707 - UE5 C83600
B – 7 2) 3)	Rest	6,0 8,0	5,0 7,0	3,5 5,5	2,0					1,0	ISO 1338 - CuSn7Pb6Zn4 BS 1400 - LG3 NFA 53-707 - UE7 C93200
B-Rg10 2)	86,0 89,0	9,0 11,0	1,5	1,0 3,0	0,05 2	0,25 0,05	2,0 0,25	0,3	0,10		ISO 1338 - CuSn10Zn2 BS 1400 - LG3 NFA 53-707 - UE10 C90500
B – 10 2)	Rest	9,0 12,0	1,0	1,0	2,0	0,4	0,2	0,2	0,05		ISO 1338 - CuSn10 BS 1400 - CT1 C90700
B – 12 1),2)	Rest	10,5 13,0	1,0	1,0	2,0	0,4	0,2	0,2	0,05		ISO 1338 - CuSn12 BS 1400 - PB2 NFA 53-707 - UE12 C91700

Red Brass and Tin Bronze Alloys

Commercial Ref.	Denomination of materials and processes in accordance with standard			Approximate mechanical characteristics at 20°C (minimum values)					Properties	Applications
	Denomination	Material no.	Process	Elastic limit $R_{p0.2}$ N/mm²	Breaking load $R_{p0.2}$ N/mm²	Elongation A5 (%)	Hardness HB 10/1000	Elastic Modulus KN/mm²		
B – 0 2)	CuSn2ZnPb DIN 1705	2.1098.01	G GC GZ	90	210	18	60	90 to 95	Good machinability. Weldable with brass. Works well at moderate speed and load. Resistant to sea water and waste water. Working temperature up to 225°C.	Bushings and bearings at moderate speeds and loads. Low pressure valves and fittings.
B – 5 2)	CuSn5ZnPb DIN 1705	2.1096.01	G GC GZ	90	220	16	60	65 to 105	Good machinability. Weldable with brass, with soft solder; only conditionally strong. Works well at moderate load. Resistant to sea water.	Bushings and bearings at moderate speeds and loads. Low pressure valves and fittings.
B – 7 2) 3)	CuSn7ZnPb DIN 1705	2.1090.01 2.1090.04 2.1090.03	G GC GZ	120 120 130	240 270 270	15 16 13	65 70 75	98 to 115	Semi-hard material. Resistant to wear and tear and sea water.	Bearings, sliding plates up to peaks of 4,000 N/mm². Appropriate for emergency sliding.
B-Rg10 2)	CuSn10Zn DIN 1705	2.1086.01	G GC GZ	130		15	75	75 to 110	Hard material. Good resistance to traction, wear and tear and sea water.	Sliding bearings and coupling parts subjected to moderate stresses.
B – 10 2)	CuSn10 DIN 1705	2.1050.01	G GC GZ	130	270	18	70	90 to 110	Hard material endowed with a high expansion percentage, resistant to corrosion and sea water.	Suitable for guide wheels and turbine blades.
B – 12 1),2)	CuSn12 DIN 1705	2.1052.01 2.1052.04 2.1052.03	G GC GZ	140 140 150	260 280 280	12 8 5	80 90 95	90 to 110	Hard material with resistance to wear and tear, corrosion and sea water.	Spindle nuts, worm gears and cylinder liners.