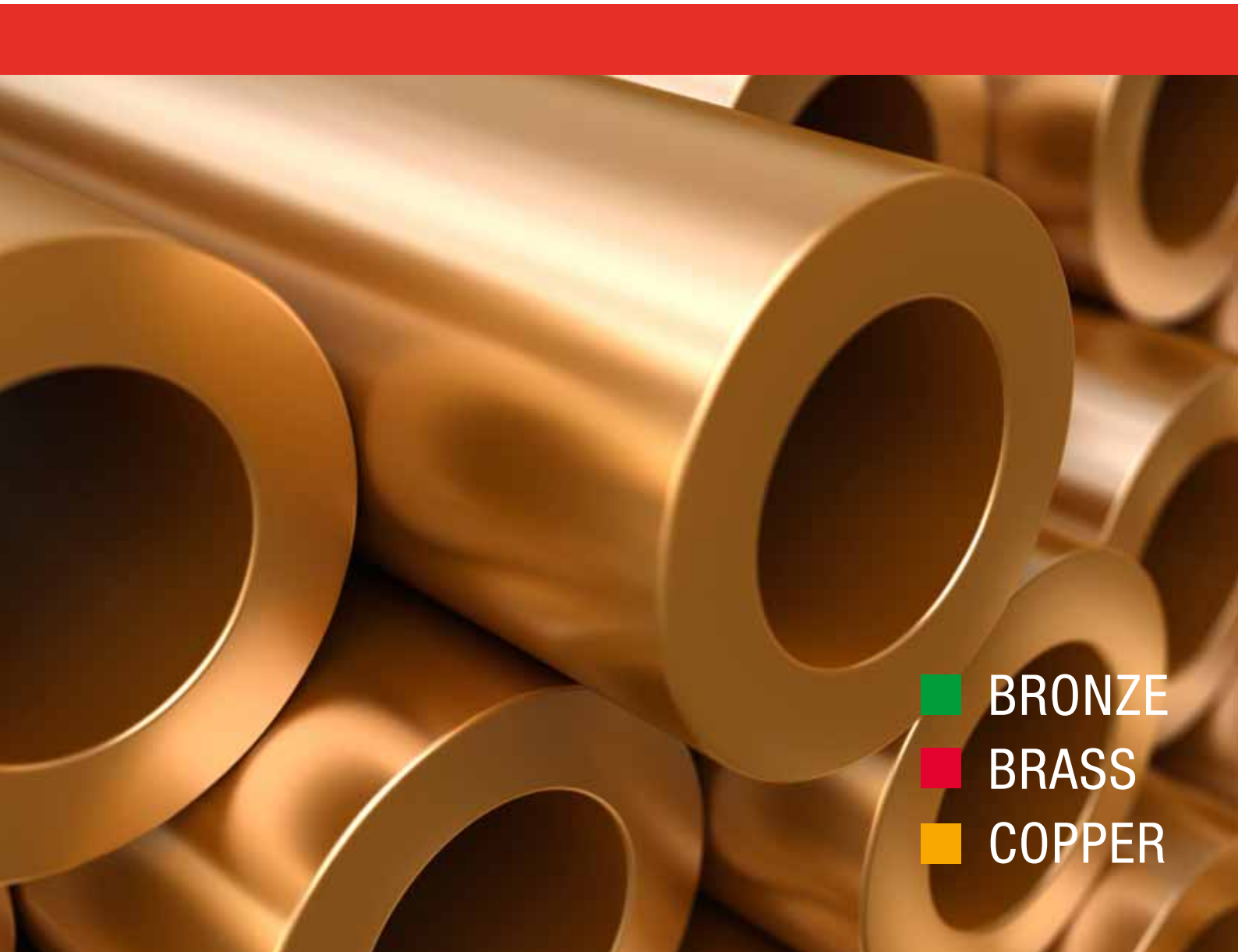




**United  
Cast Bar  
Limited**

# **Catalogue** of Nonferrous Metals



-  BRONZE
-  BRASS
-  COPPER

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## ABOUT THE GROUP

In addition to its in-house production of cast iron profiles from grey and ductile iron, the UCB GROUP is a leading international distributor of **NONFERROUS METALS**.

This catalogue provides a basic overview of the grades, shapes and dimensions of the nonferrous metals that UCB's distributors offer throughout Europe.

We can offer and are able to fulfill many other requirements for special alloys and/or specific dimensions. Please do not hesitate to contact us with your request or inquiry.





United  
Cast Bar  
Limited

## BRONZE

TIN BRONZE

ALUMINIUM BRONZE

LEAD BRONZE

PHOSPHOR BRONZE

## TIN BRONZE

bronze round bars / bronze flat bars / bronze square bars / bronze hexagonal bars / bronze tubes / bronze strips / bronze sheets / bronze wires

EN			
Alloy	CuSn5Zn5Pb5-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC491K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	83,0–87,0	-	-
Sn	4,0–6,0	Rm	≥ 250
Zn	4,0–6,0	Rp <sub>0.2</sub>	≥ 110
Pb	4,0–6,0	A5	≥ 13
Ni	max. 2,0	HB	≥ 65
P	max. 0,10	-	-
kg/dm <sup>3</sup>	8,7	-	-
Condition	GC, GZ	-	-
Characteristics	Construction material. It is mainly used in steam and water valves with temperatures of up to 255 °C. Currently it is usually replaced by CuSn7Zn4Pb7.		

EN			
Alloy	CuSn7Zn4Pb7-C	-	-
Standard	EN 1982, DIN RG7	-	-
Alloy No.	CC493K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	81,0–85,0	-	-
Sn	6,0–8,0	Rm	≥ 260
Zn	2,0–5,0	Rp <sub>0.2</sub>	≥ 120
Pb	5,0–8,0	A5	≥ 12
Ni	max. 2,0	HB	≥ 70
P	max. 0,10	-	-
kg/dm <sup>3</sup>	8,8	-	-
Condition	GC, GZ	-	-
Characteristics	The most widely used bronze alloy, also known as bearing bronze. It is suitable for the manufacture of medium load bearings; it has good slide properties even for occasional dry running (during acceleration) and good machinability. Main applications: for bearings, sliding belts, valves and guide bushings. RG7 has very good lubricating structure. Not resistant to ammonium salts.		

## TIN BRONZE

EN			
Alloy	CuSn10-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC480K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	88,0–90,0	-	-
Sn	9,0–11,0	Rm	≥ 280
Zn	max. 0,5	Rp <sub>0,2</sub>	≥ 170
Pb	max. 1,0	A5	≥ 10
Ni	max. 2,0	HB	≥ 80
P	max. 0,2	-	-
kg/dm <sup>3</sup>	cca 8,7	-	-
Condition	GS, GC, GZ	-	-
Characteristics	A construction material with a higher degree of ductility and good resistance to corrosion, including from seawater. Utilised for components exposed to friction, impact and/or heat.		

EN			
Alloy	CuSn12-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC483K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	85,0–88,5	-	-
Sn	11,0–13,0	Rm	≥ 300
Zn	max. 0,5	Rp <sub>0,2</sub>	≥ 150
Pb	max. 0,7	A5	≥ 6
Ni	max. 2,0	HB	≥ 90
P	max. 0,6	-	-
kg/dm <sup>3</sup>	cca 8,7	-	-
Condition	GC, GZ	-	-
Characteristics	Resistance to corrosion and seawater, high resistance to wear, even at high sliding speeds. Mechanical values superior to those of RG7 due to its higher tin content and lower content of lead and zinc. Consequently its dry running and machinability are not as effective as those of RG7. Typical applications: for bearings with a high sliding speed, for highly stressed worm gears and spindles. Not recommended for long bearings.		

## TIN BRONZE

EN			
Alloy	CuSn12Ni2-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC484K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	84,5–87,5	-	-
Sn	11,0–13,0	Rm	≥ 300
Zn	max. 0,4	Rp <sub>0,2</sub>	≥ 180
Pb	max. 0,3	A5	≥ 10
Ni	1,5–2,5	HB	≥ 95
P	0,05–0,40	-	-
kg/dm <sup>3</sup>	8,6	-	-
Condition	GC, GZ	-	-
Characteristics	Typical of CuSn12Ni are its higher mechanical values in comparison with CuSn12. Typical applications: for highly stressed spindles, valves and worm gears		

EN			
Alloy	CuSn11Pb2-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC482K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	83,5–87,0	-	-
Sn	10,5–12,5	Rm	≥ 280
Zn	max. 2,0	Rp <sub>0,2</sub>	≥ 150
Pb	0,7–2,5	A5	≥ 5
Ni	max. 2,0	HB	≥ 90
P	max. 0,4	-	-
kg/dm <sup>3</sup>	8,7	-	-
Condition	GC, GZ	-	-
Characteristics	In comparison with CuSn12, CuSn12Pb due to its lead content it has better performance during intermittent dry running. Typically used when RG7 properties and mechanical values of CuSn12 are both required at the same time, because CuSn11Pb2 offers an ideal solution by its combination of the characteristics of these two alloys.		

### Explanation of the abbreviations utilised

Rm	Tensile strength N/mm <sup>2</sup>
Rp <sub>0,2</sub>	Yield strength expressed in N/mm <sup>2</sup> , when stretched by a factor of 0.2%
A5	Tensibility expressed as %
HB	Brinell hardness
kg/dm <sup>3</sup>	Specific weight

### Fabrication methods (conditions)

GC	Continuously cast
GZ	Centrifugally cast
G/GS	Cast in the sand
GK/GM	Statically cast

## TIN BRONZE

### Distribution Programme – BRONZE

	round bar	tube	square bar	flat bar	hexagonal bar
CuSn5Zn5Pb5	by request	by request	by request	by request	by request
CuSn7Zn4Pb7	13–454 mm	21 × 9 – 434 × 296 mm	22–202 mm	22 × 7 – 510 × 28 mm	17 mm–65 mm
CuSn10Zn	by request	by request	by request	by request	-
CuSn10-C	by request	by request	by request	by request	-
CuSn12-C	13–454 mm	21 × 9 – 434 × 296 mm	22–202 mm	22 × 7 – 312 × 62 mm	-
CuSn12Ni2-C	by request	by request	by request	by request	-
CuSn11Pb2-C	by request	by request	by request	by request	-

#### Standard lengths:

cca. 3000 mm, 2000 mm, 1000 mm.

Additionally, we can arrange the production of centrifugally cast (flanged) tubes of any size of up to Ø 2000 mm and in lengths of up to 3000 mm of any of these alloys listed. The weights indicated are for informational purposes only.

#### By request:

– (pre)machined parts in accordance with your requirements and drawings

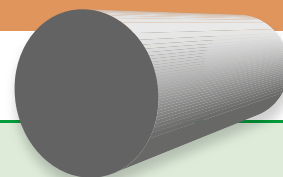
### The following tolerances are applicable to the dimensions listed

Outer diameter	Outer	Inner
up to 117 mm	+0 / +1 mm	-0 / -1 mm
122–202 mm	+0 / +1,5 mm	-0 / -1,5 mm
212–404 mm	+0 / +2 mm	-0 / -2 mm
square and flat bars	+0 / +2 mm	-

The machining allowance defined above is sufficient for products up to a final length  $l < 250$  mm. For finished parts with a length  $l > 250$  mm – specifically with a diameter  $D > 172$  mm – a higher machining allowance is required.

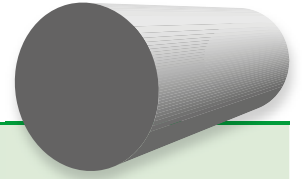


**TIN BRONZE**



ROUND BAR				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
13	12	•	•	1,2
15	14	•	•	1,5
16	15	•	–	1,8
17	16	–	•	2,0
19	18	•	•	2,5
21	20	•	•	3,0
23	22	•	•	3,6
26	25	•	•	4,8
29	28	•	–	5,9
31	30	•	•	6,6
33	32	•	–	7,6
36	35	•	•	9,0
41	40	•	•	11,7
46	45	•	•	14,7
51	50	•	•	18,1
56	55	•	•	22,0
61	60	•	•	26,0
66	65	•	•	30,4
71	70	•	•	35,2
76	75	•	•	40,3
81	80	•	•	45,8
86	85	•	•	51,6
91	90	•	•	57,8
96	95	•	•	64,4
102	100	•	•	73,0
107	105	•	–	80,0
112	110	•	•	88,0
117	115	•	–	95,5
122	120	•	•	104,0
127	125	•	–	112,5
132	130	•	•	122,0
142	140	•	•	141,0
152	150	•	•	161,5
162	160	•	•	183,4

**TIN BRONZE**



ROUND BAR				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
172	170	•	•	206,7
182	180	•	•	231,4
192	190	•	•	259,3
202	200	•	•	285,2
212	210	•	–	317,0
222	220	•	•	348,0
232	230	•	•	380,0
242	240	•	•	413,0
252	250	•	•	447,0
262	260	•	–	484,0
272	270	•	–	521,0
282	280	•	•	560,0
304	300	•	•	650,0
334	330	•	•	785,0
354	350	•	•	881,0
407	400	•	•	1 147,0

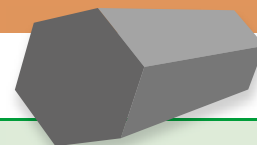
## TIN BRONZE

FLAT BAR				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
22 × 7	20 × 5	•	–	1,7
22 × 12	20 × 10	•	–	2,6
27 × 17	25 × 15	•	–	4,6
32 × 7	30 × 5	•	–	2,3
32 × 12	30 × 10	•	•	3,9
32 × 17	30 × 15	•	•	5,5
32 × 22	30 × 20	•	•	7,0
42 × 12	40 × 10	•	•	4,5
42 × 17	40 × 15	•	•	7,1
42 × 22	40 × 20	•	•	9,1
42 × 32	40 × 30	•	•	12,6
52 × 12	50 × 10	•	•	6,3
52 × 17	50 × 15	•	•	8,4
52 × 22	50 × 20	•	•	10,8
52 × 37	50 × 35	•	•	18,5
62 × 12	60 × 10	•	•	6,7
62 × 17	60 × 15	•	•	10,4
62 × 22	60 × 20	•	–	13,3
62 × 27	60 × 25	•	•	15,7
62 × 32	60 × 30	•	•	19,1
62 × 42	60 × 40	•	•	24,1
72 × 12	70 × 10	–	•	8,7
72 × 22	70 × 20	–	•	14,3
82 × 12	80 × 10	•	•	9,9
82 × 17	80 × 15	•	–	13,7
82 × 22	80 × 20	•	•	17,5
82 × 37	80 × 35	•	–	28,0
82 × 42	80 × 40	•	•	32,7
82 × 52	80 × 50	•	–	40,3
102 × 12	100 × 10	•	•	11,9
102 × 17	100 × 15	•	•	16,5
102 × 22	100 × 20	•	•	21,1
102 × 27	100 × 25	•	•	24,5
102 × 32	100 × 30	•	•	29,4

**TIN BRONZE**

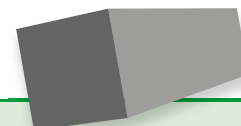
FLAT BAR				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
102 × 42	100 × 40	•	•	38,1
102 × 47	100 × 45		•	44,0
102 × 52	100 × 50	•	•	48,6
102 × 62	100 × 60	•	•	56,3
102 × 72	100 × 70	•		66,9
152 × 12	150 × 10	•	•	18,2
152 × 17	150 × 15	•	•	25,3
152 × 22	150 × 20	•	•	32,3
152 × 27	150 × 25		•	38,1
152 × 32	150 × 30	•	•	44,9
152 × 42	150 × 40	•	•	60,3
152 × 52	150 × 50	•	•	74,3
304 × 250	300 × 246	•	•	676,4
312 × 12	310 × 10	•	•	37,0
312 × 17	310 × 15	•	•	51,0
312 × 22	310 × 20	•	•	65,0
312 × 27	310 × 25	•	•	79,0
312 × 32	310 × 30	•	•	93,0
312 × 37	310 × 35	•	•	105,9
312 × 42	310 × 40	•	•	121,0
312 × 52	310 × 50	•	•	148,0
312 × 62	310 × 60	•	•	180,8
385 × 15	380 × 13	•	–	55,0
460 × 22	455 × 19	•	–	94,0
510 × 28	505 × 25	•	–	134,0

**TIN BRONZE**



**HEXAGONAL BAR**

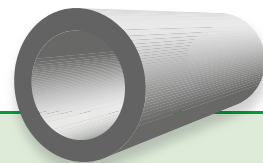
A/F [mm]	CuSn7Zn4Pb7	[kg/m] cca
17	•	2,2
19	•	2,8
22	•	3,7
24	•	4,4
27	•	5,6
30	•	6,9
32	•	7,8
36	•	9,9
41	•	12,9
46	•	16,2
50	•	19,2
55	•	23,2
60	•	27,7
65	•	32,5



**SQUARE BAR**

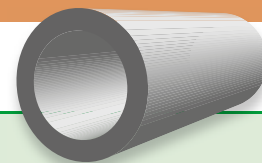
casting size [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
22	20	•	•	4,9
27	25	•	–	7,2
32	30	•	•	9,7
42	40	•	•	17,0
52	50	•	•	25,8
62	60	•	•	36,4
72	70	•	•	47,5
82	80	•	•	63,2
102	100	•	•	97,3
122	120	•	•	138,7
142	140	•	•	183,0
152	150	–	•	208,0
202	200	–	•	377,8

TIN BRONZE



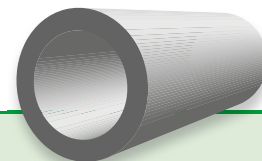
TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
26 × 14	25 × 15	•	•	3,3
26 × 17	25 × 18	•	–	2,7
31 × 14	30 × 15	•	•	5,4
31 × 19	30 × 20	•	–	4,4
33 × 19	32 × 20	•	•	5,4
33 × 23	32 × 24	•	–	3,9
36 × 14	35 × 15	•	•	7,9
36 × 19	35 × 20	•	•	6,4
36 × 24	35 × 25	•	•	5,4
41 × 14	40 × 15	•	•	10,5
41 × 19	40 × 20	•	•	9,2
41 × 24	40 × 25	•	•	8,1
41 × 29	40 × 30	•	•	6,3
46 × 14	45 × 15	•	•	13,5
46 × 19	45 × 20	•	•	12,5
46 × 24	45 × 25	•	•	11,0
46 × 29	45 × 30	•	•	9,3
46 × 34	45 × 35	•	•	7,2
51 × 19	50 × 20	•	•	15,9
51 × 24	50 × 25	•	•	14,5
51 × 29	50 × 30	•	•	12,7
51 × 34	50 × 35	•	•	10,6
51 × 39	50 × 40	•	•	8,1
56 × 19	55 × 20	•	•	20,5
56 × 24	55 × 25	•	•	18,5
56 × 29	55 × 30	•	•	17,0
56 × 34	55 × 35	•	•	14,5
56 × 39	55 × 40	•	•	12,0
56 × 44	55 × 45	•	•	9,2
61 × 19	60 × 20	•	•	23,7
61 × 24	60 × 25	•	•	23,0
61 × 29	60 × 30	•	•	20,5
61 × 34	60 × 35	•	•	18,0
61 × 39	60 × 40	•	•	16,0
61 × 44	60 × 45	•	•	13,0
61 × 49	60 × 50	•	•	10,0

**TIN BRONZE**



TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
66 × 24	65 × 25	•	•	26,7
66 × 29	65 × 30	•	•	25,0
66 × 34	65 × 35	•	•	22,8
66 × 44	65 × 45	•	•	17,5
66 × 49	65 × 50	•	•	14,3
66 × 54	65 × 55	•	–	11,0
71 × 18	70 × 20	•	–	33,0
71 × 23	70 × 25	•	–	31,6
71 × 28	70 × 30	•	•	30,0
71 × 33	70 × 35	•		28,6
71 × 38	70 × 40	•	•	25,0
71 × 43	70 × 45	•	•	22,5
71 × 48	70 × 50	•	•	19,0
71 × 53	70 × 55	•	•	15,5
71 × 58	70 × 60	•	•	11,7
76 × 23	75 × 25	•	•	36,7
76 × 28	75 × 30	•	•	35,0
76 × 33	75 × 35	•	–	32,9
76 × 38	75 × 40	•	•	31,3
76 × 43	75 × 45	•	–	28,0
76 × 48	75 × 50	•	•	25,0
76 × 53	75 × 55	•	–	20,5
76 × 58	75 × 60	•	•	17,5
76 × 63	75 × 65	•	–	12,6
81 × 28	80 × 30	•	•	41,5
81 × 33	80 × 35	•	–	38,3
81 × 38	80 × 40	•	•	37,0
81 × 43	80 × 45	•	–	32,9
81 × 48	80 × 50	•	•	31,0
81 × 53	80 × 55	•	–	26,4
81 × 58	80 × 60	•	•	23,5
81 × 63	80 × 65	•	–	18,3
81 × 68	80 × 70	•	•	14,8
86 × 28	85 × 30	•	•	46,2
86 × 38	85 × 40	•	•	42,5
86 × 43	85 × 45	•	•	38,8
86 × 48	85 × 50	•	•	35,8

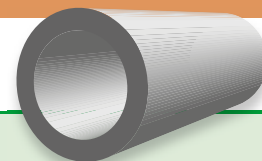
**TIN BRONZE**



TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
86 × 53	85 × 55	•	–	32,0
86 × 58	85 × 60	•	•	29,0
86 × 63	85 × 65	•	–	24,1
86 × 68	85 × 70	•	–	19,3
86 × 73	85 × 75	•	–	14,6
91 × 28	90 × 30	•	•	53,5
91 × 33	90 × 35	–	•	50,5
91 × 38	90 × 40	•	•	48,1
91 × 43	90 × 45	–	•	45,0
91 × 48	90 × 50	•	•	43,0
91 × 58	90 × 60	•	•	35,5
91 × 63	90 × 65	•	–	30,4
91 × 68	90 × 70	•	•	26,5
91 × 73	90 × 75	•	–	20,9
91 × 78	90 × 80	•	–	15,3
96 × 43	95 × 45	•	–	51,5
96 × 48	95 × 50	•	•	49,0
96 × 58	95 × 60	•	•	40,9
96 × 63	95 × 65	•	–	37,0
96 × 68	95 × 70	•	•	33,0
96 × 73	95 × 75	•	•	27,3
96 × 78	95 × 80	•	–	21,9
102 × 28	100 × 30	•	•	67,3
102 × 38	100 × 40	•	•	63,0
102 × 48	100 × 50	•	•	56,5
102 × 58	100 × 60	•	•	49,0
102 × 68	100 × 70	•	•	40,4
102 × 73	100 × 75	•	–	35,7
102 × 78	100 × 80	•	•	30,0
102 × 83	100 × 85	•	–	24,7
102 × 88	100 × 90	•	–	18,7
107 × 48	105 × 50	•	–	64,0
107 × 58	105 × 60	•	–	56,5
107 × 63	105 × 65	•	–	52,9
107 × 68	105 × 70	•	–	47,7
107 × 73	105 × 75	•	–	43,0

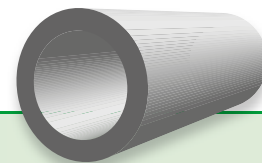


**TIN BRONZE**



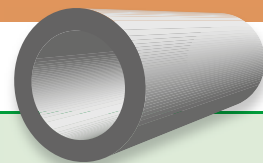
TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
107 × 78	105 × 80	•	–	37,5
107 × 83	105 × 85	•	–	32,0
107 × 93	105 × 95	•	–	19,6
112 × 38	110 × 40	•	•	77,1
112 × 48	110 × 50	•	•	70,9
112 × 53	110 × 50	•	–	68,0
112 × 58	110 × 60	•	•	64,0
112 × 68	110 × 70	•	–	55,4
112 × 78	110 × 80	•	•	45,0
112 × 88	110 × 90	•	•	33,5
112 × 98	110 × 100	•	–	20,6
117 × 58	115 × 60	•	–	72,2
117 × 73	115 × 75	•	–	58,9
117 × 78	115 × 80	•	–	55,5
117 × 83	115 × 85	•	–	47,6
117 × 88	115 × 90	•	•	41,5
117 × 93	115 × 95	•	–	35,3
117 × 98	115 × 100	•	–	28,6
122 × 38	120 × 40	•	•	94,0
122 × 48	120 × 50	•	•	87,9
122 × 58	120 × 60	•	•	80,5
122 × 68	120 × 70	•	–	71,7
122 × 78	120 × 80	•	•	61,5
122 × 88	120 × 90	•	•	49,9
122 × 98	120 × 100	•	•	36,9
122 × 108	120 × 110	•	–	22,5
127 × 43	125 × 45	•	–	99,8
127 × 78	125 × 80	•	–	71,0
127 × 83	125 × 85	•	–	64,7
127 × 88	125 × 90	•	–	58,6
127 × 93	125 × 95	•	–	52,3
127 × 98	125 × 100	•	•	45,6
127 × 108	125 × 110	•	–	31,2
132 × 58	130 × 60	•	•	99,0
132 × 68	130 × 70	•	•	89,5

**TIN BRONZE**



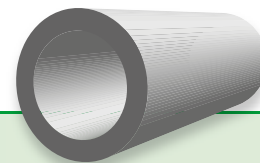
TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
132 × 78	130 × 80	•	•	79,3
132 × 88	130 × 90	•	•	67,7
132 × 98	130 × 100	•	•	54,7
132 × 108	130 × 110	•	•	40,3
132 × 113	130 × 115	•	–	32,5
137 × 118	135 × 120	•	–	34,0
142 × 58	140 × 60	•	•	118,0
142 × 68	140 × 70	•	–	108,7
142 × 78	140 × 80	•	•	98,5
142 × 88	140 × 90	•	•	86,9
142 × 98	140 × 100	•	•	74,0
142 × 108	140 × 110	•	•	59,4
142 × 118	140 × 120	•	•	43,6
142 × 123	140 × 125	•	–	37,0
152 × 48	150 × 50	–	•	146,0
152 × 58	150 × 60	•	–	138,0
152 × 68	150 × 70	•	•	129,2
152 × 78	150 × 80	•	–	119,0
152 × 88	150 × 90	•	•	107,5
152 × 98	150 × 100	•	•	94,5
152 × 108	150 × 110	•	•	80,0
152 × 118	150 × 120	•	•	64,2
152 × 128	150 × 130	•	•	47,1
152 × 133	150 × 135	•	–	37,8
157 × 123	155 × 125	•	–	67,0
157 × 138	155 × 140	•	–	39,4
162 × 78	160 × 80	•	–	141,0
162 × 88	160 × 90	•	•	130,0
162 × 98	160 × 100	•	•	116,2
162 × 108	160 × 110	•	–	101,9
162 × 118	160 × 120	•	•	86,1
162 × 128	160 × 130	•	•	68,7
162 × 138	160 × 140	•	•	50,7
167 × 148	165 × 150	•	–	42,0
172 × 68	170 × 70	•	•	174,5

**TIN BRONZE**



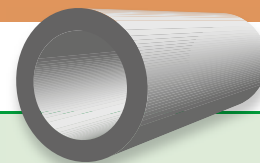
TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
172 × 88	170 × 90	•	•	152,6
172 × 98	170 × 100	•	•	140,0
172 × 108	170 × 110	•	–	125,5
172 × 118	170 × 120	•	•	109,5
172 × 128	170 × 130	•	•	92,3
172 × 138	170 × 140	•	•	74,0
172 × 148	170 × 150	•	•	53,9
182 × 78	180 × 80	•	–	189,0
182 × 88	180 × 90	–	•	177,4
182 × 98	180 × 100	•	–	167,0
182 × 118	180 × 120	•	•	134,1
182 × 128	180 × 130	•	•	117,0
182 × 138	180 × 140	•	–	99,0
182 × 148	180 × 150	•	•	79,0
182 × 158	180 × 160	•	–	57,5
192 × 78	190 × 80	–	•	217,1
192 × 98	190 × 100	•	–	191,0
192 × 108	190 × 110	•	•	176,4
192 × 118	190 × 120	•	•	161,0
192 × 128	190 × 130	•	–	143,2
192 × 148	190 × 150	•	•	105,0
192 × 158	190 × 160	•	•	84,0
192 × 168	190 × 170	•	•	64,0
202 × 98	200 × 100	•	•	217,9
202 × 118	200 × 120	•	•	187,8
202 × 128	200 × 130	•	–	171,0
202 × 138	200 × 140	•	•	153,0
202 × 148	200 × 150	•	•	133,0
202 × 158	200 × 160	•	•	111,0
202 × 168	200 × 170	•	•	88,0
202 × 178	200 × 180	•	–	64,0
212 × 108	210 × 110	•	–	237,0
212 × 128	210 × 130	•	–	204,0
212 × 148	210 × 150	•	•	166,0
212 × 158	210 × 160	•	•	145,0

**TIN BRONZE**



TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
212 × 168	210 × 170	•	•	122,0
212 × 178	210 × 180	•	•	98,0
212 × 188	210 × 190	•	–	73,0
222 × 98	220 × 100	•	•	282,0
222 × 118	220 × 120	•	–	252,0
222 × 138	220 × 140	•	•	216,0
222 × 148	220 × 150	•	–	197,0
222 × 158	220 × 160	•	•	175,0
222 × 168	220 × 170	•	•	153,0
222 × 178	220 × 180	•	•	129,0
222 × 188	220 × 190	•	–	103,0
227 × 198	225 × 200	•	–	92,0
232 × 118	230 × 120	•	•	281,4
232 × 138	230 × 140	•	•	248,0
232 × 148	230 × 150	•	•	228,0
232 × 158	230 × 160	•	–	207,0
232 × 168	230 × 170	•	•	185,0
232 × 178	230 × 180	•	–	161,0
232 × 188	230 × 190	•	•	135,0
242 × 138	240 × 140	•	–	282,0
242 × 158	240 × 160	•	•	241,0
242 × 168	240 × 170	•	–	218,0
242 × 178	240 × 180	•	–	194,0
242 × 188	240 × 190	•	•	168,0
252 × 148	250 × 150	•	•	296,0
252 × 158	250 × 160	•	–	275,0
252 × 178	250 × 180	•	•	228,0
252 × 188	250 × 190	•	•	203,0
252 × 198	250 × 200	•	•	176,0
262 × 158	260 × 160	•	•	311,0
262 × 178	260 × 180	•	–	265,0
262 × 188	260 × 190	•	–	239,0
262 × 198	260 × 200	•	•	212,0
262 × 208	260 × 210	•	–	184,0
262 × 218	260 × 220	•	–	154,0

**TIN BRONZE**



TUBE				
casting dimensions [mm]	final dimensions [mm]	CuSn7Zn4Pb7	CuSn12-C	[kg/m] cca
272 × 168	270 × 170	•	•	326,0
272 × 198	270 × 200	•	–	250,0
272 × 208	270 × 210	•	–	221,0
272 × 218	270 × 220	•	•	192,0
282 × 138	280 × 140	•	–	426,7
282 × 178	280 × 180	•	•	341,0
282 × 198	280 × 200	•	–	289,0
282 × 208	280 × 210	•	–	260,0
282 × 218	280 × 220	•	–	231,0
282 × 228	280 × 230	•	•	199,0
285 × 245	283 × 247	•	–	149,0
292 × 208	290 × 210	•	–	301,0
292 × 218	290 × 220	•	–	271,0
292 × 238	290 × 240	•	–	207,5
304 × 146	300 × 150	•	•	503,0
304 × 196	300 × 200	•	•	385,0
304 × 246	300 × 250	•	•	231,0
309 × 224	304 × 228	•	–	228,6
321 × 262	317 × 260	•	–	239,2
334 × 250	330 × 254	•	–	355,0
332 × 273	330 × 275	•	•	250,0
354 × 196	350 × 200	•	•	615,0
354 × 246	350 × 250	•	•	461,0
354 × 296	350 × 300	•	•	273,0
384 × 327	381 × 330	•	–	300,0
404 × 246	400 × 250	•	–	727,0
404 × 296	400 × 300	•	•	538,0
404 × 346	400 × 350	•	–	315,0

## ALUMINIUM BRONZE

EN			
Alloy	CuAl10Fe5Ni5-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC333G	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	76,0–83,0	-	-
Al	8,5–10,5	Rm	≥ 650
Ni	4,0–6,0	Rp <sub>0,2</sub>	≥ 280
Fe	4,0–5,5	A5	≥ 13
Mn	max. 3,0	HB	≥ 150
kg/dm <sup>3</sup>	cca 7,6	-	-
Condition	GC, GK, GZ	-	-
Characteristics	<p>Aluminium bronzes are characterised by their high mechanical values. In practice, should the properties of conventional lead or red bronzes not meet your requirements, in many instances aluminium bronzes will be satisfactory. The combining of aluminium and copper ensures very high mechanical values. Due to the absence of lead and zinc the bearings made from aluminium bronze require excellent lubrication. Aluminium bronze can be supplied either continuously cast or drawn. The drawn material can be supplied in a diameter of up to 60 mm and with h9 or h11 tolerances.</p>		

EN			
Alloy	CuAl11Fe6Ni6-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC334G	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	72,0–78,0	-	-
Al	10,0–12,0	Rm	≥ 750
Ni	4,0–7,5	Rp <sub>0,2</sub>	≥ 380
Fe	4,0–7,0	A5	≥ 5
Mn	max. 2,5	HB	≥ 185
kg/dm <sup>3</sup>	cca 7,6	-	-
Condition	GZ	-	-
Characteristics	<p>Comparable to CuAl10Ni; this alloy, however, has better resistance to wear and cavitation. Typical applications are for highly loaded bearings and machine parts and for components exposed to corrosion in the chemical industry.</p>		

## ALUMINIUM BRONZE

EN				
Alloy	CuAl10Fe2-C	-	-	-
Standard	EN 1982	-	-	-
Alloy No.	CC331G	-	-	-
Chemical composition		Mechanical values in accordance with EN		
Cu	83,0–89,5	-	-	-
Al	8,5–10,5	Rm		≥ 550
Ni	max. 1,5	Rp <sub>0,2</sub>		≥ 200
Fe	1,5–3,5	A5		≥ 15
Mn	max. 1,0	HB		≥ 130
kg/dm <sup>3</sup>	cca 7,5	-	-	-
Condition	GC, GZ			
Characteristics	Aluminium bronze with a higher tensile strength, good resistance to wear and with a fine microstructure. Due to its low content of nickel, this alloy is corrosion resistant.			

EN				
Alloy	CuAl10Ni5Fe4	-	-	-
Standard	EN 12163, 12167, 12420, 1653	-	-	-
Alloy No.	CW307G	-	-	-
Chemical composition		Mechanical values in accordance with EN <sup>1)</sup>		
Cu	remainder of the content	-	-	-
Al	8,5–11,0	Rm		≥ 680
Ni	4,0–6,0	Rp <sub>0,2</sub>		≥ 480
Fe	3,0–5,0	A5		≥ 10
Mn	max. 1,0	HB		-
kg/dm <sup>3</sup>	cca 7,5	-	-	-
Condition	In accordance with the dimensions drawn or pressed	-	-	-
Characteristics	A structural and bearing material with good resistance to corrosion, cavitation and mechanical wear, even at elevated temperatures.			

<sup>1)</sup> The mechanical values in accordance with EN are related, for example, to the dimensions and the specifications of the alloy. These values are applicable to the most common standards.

## ALUMINIUM BRONZE

EN			
Alloy	CuAl10Fe3Mn2	–	–
Standard	EN 12163, 12167, 12420	–	–
Alloy No.	CW306G	–	–
Chemical composition		Mechanical values in accordance with EN <sup>1)</sup>	
Cu	remainder of the content	–	–
Al	9,0–11,0	Rm	≥ 590
Ni	2,0–4,0	Rp <sub>0,2</sub>	≥ 330
Fe	1,5–3,5	A5	≥ 12
Mn	max. 1,0	HB	–
kg/dm <sup>3</sup>	cca 7,6	–	–
Condition	Drawn or pressed, in accordance with dimensions.	–	–
Characteristics	Construction material used in the construction of machinery for the chemical industry and refractories. Fully replaces lead bronzes.		

EN			
Alloy	CuAl11Fe6Ni6	–	–
Standard	EN 12163, 12167, 12420	–	–
Alloy No.	CW308G	–	–
Chemical composition		Mechanical values in accordance with EN <sup>1)</sup>	
Cu	remainder of the content	–	–
Al	10,5–12,5	Rm	≥ 750
Ni	5,0–7,0	Rp <sub>0,2</sub>	≥ 450
Fe	5,0–7,0	A5	≥ 10
Mn	max. 1,5	HB	–
kg/dm <sup>3</sup>	cca 7,4	–	–
Condition	Drawn or pressed, in accordance with dimensions.	–	–
Characteristics	Comparable with CuAl10Ni5Fe4, though with higher mechanical values. Typical applications: for highly loaded bearings and machine parts.		

<sup>1)</sup> The mechanical values in accordance with EN are related, for example, to the dimensions and specifications of the alloy. These values are applicable for the most common standards.



## ALUMINIUM BRONZE

### Differences between aluminium bronze in accordance with EN 1982 and with EN 12163, 12167, 12420

#### Aluminium bronze in accordance with with EN 12163, 12167, 12420

These standards apply to all aluminium bronzes which are produced by extrusion or co-extrusion and cold drawing. This type of production is used mainly for round bars, hexagonal bars, square bars and flat bars. The material produced in accordance with these standards does not have machining allowance. Tubes can be produced only in accordance with DIN 1714

#### Aluminium bronze in accordance with EN 1982

These standards apply to all aluminium bronzes which are produced by continuous casting and centrifugal casting. Listed machining allowances are used for maximum lengths of the final parts of 250 mm. For larger lengths of parts higher machining allowance is required. Tolerances of castings dimensions are mostly -0 / +2 mm for a wall thickness of 12 mm and higher. Deviations are always possible.

#### Fabrication methods (status)

GC	Continuously cast
GZ	Centrifugally cast
G/GS	Cast in the sand
GK/GM	Statically cast

Distribution Programme – Aluminium Bronze						
	round bar	tube	square bar	flat bar	sheet	hexagonal bar
CuAl10Fe5Ni5-C	17–304 mm	32 × 18 mm – 222 × 178 mm	32–152 mm	32 × 22 mm – 384 × 105 mm	–	–
CuAl11Fe6Ni6-C	by request	by request	–	–	–	–
CuAl10Fe2-C (= Concast 954)	14–385 mm	33 × 17 mm – 232 × 174 mm	14–154 mm	26 × 8 mm – 384 × 105 mm	–	–
	14–385 mm	33 × 17 mm – 232 × 174 mm	14–154 mm	26 × 8 mm – 384 × 105 mm	–	–
CuAl10Ni5Fe4	8–363 mm	–	20–160 mm	20 × 10 mm – 160 × 25 mm	2–130 mm	10–70 mm

#### Standard lengths:

cca 3000 mm, 2000 mm, 1000 mm and 500 mm.

Our foundry can deliver centrifugally cast (also flanged) tubes of any size, up to a diameter of 2000 mm, and in lengths of up to 3000 mm made from any of the alloys offered.

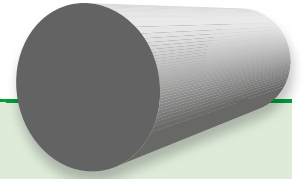
The weights listed are for informational purposes only.

The following tolerances are applicable to the dimensions listed			
		Outer	Inner
CuAl10Fe5Ni5-C	bars	+0/ +2 mm	–
CuAl10Fe5Ni5-C	tubes <150 mm	+0/ +2 mm	-0/ -2 mm
CuAl10Ni5Fe4	bars Ø 12–20 mm	h11	–
–	bars Ø 21–30 mm	+0,5 mm	–
–	bars Ø 31– 80 mm	+1 mm	–
–	bars Ø 81–100 mm	+1,5 mm	–
–	bars Ø 101–162 mm	+2,5 mm	–

The above machining allowance is sufficient for products up to a final length  $l < 250$  mm.

For finished parts with a length  $l > 250$  mm – specifically with diameters  $D > 172$  mm – higher machining allowance is required.

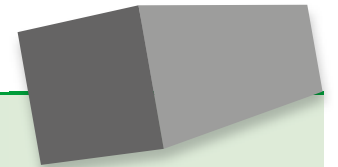
**ALUMINIUM BRONZE**



**ROUND BAR**  
CuAl10Fe5Ni5-C  
EN 1982

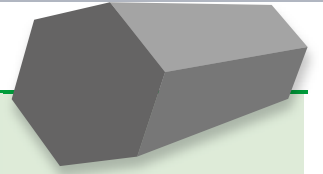
casting size [mm]	final size [mm]	[kg/m] cca	casting size [mm]	final size [mm]	[kg/m] cca	casting size [mm]	final size [mm]	[kg/m] cca
16	15	1,6	77	75	37,0	172	170	183,0
20	19	3,1	82	80	42,0	182	180	205,0
26	25	4,7	87	85	47,0	192	190	228,0
31	30	6,5	92	90	52,5	203	200	253,0
36	35	8,6	97	95	58,5	213	210	281,0
42	40	11,0	102	100	64,5	223	220	307,0
47	45	13,8	112	110	77,5	233	230	335,0
52	50	17,0	122	120	92,0	243	240	365,0
57	55	20,3	132	130	108,0	253	250	395,0
62	60	24,0	142	140	125,0	283	280	491,0
67	65	28,0	152	150	143,0	303	300	566,0
72	70	32,3	162	160	163,0	323	320	645,4

**SQUARE BAR**  
CuAl10Fe5Ni5-C  
EN 1982



42 × 42	40 × 40	14,9
52 × 52	50 × 50	22,6
62 × 62	60 × 60	30,0
82 × 82	80 × 80	52,5
102 × 102	100 × 100	81,2
122 × 122	120 × 120	116,1
152 × 152	150 × 150	180,2
202 × 202	200 × 200	324,6

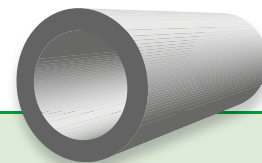
**ALUMINIUM BRONZE**



**HEXAGONAL BAR**  
CuAl10Ni5Fe4  
EN 12163

size [mm]	[kg/m] cca
10	0,6
12	0,9
13	1,0
14	1,3
17	1,9
19	2,3
22	3,2
24	3,8
27	5,0
30	5,9
32	6,1
36	8,5
41	11,1
46	13,9
50	16,5
55	19,9

ALUMINIUM BRONZE



TUBE  
CuAl10Fe5Ni5-C  
EN 1982

casting size [mm]	final size [mm]	[kg/m] cca	casting size [mm]	final size [mm]	[kg/m] cca	casting size [mm]	final size [mm]	[kg/m] cca
32 × 18	30 × 20	5,0	87 × 33	85 × 35	39,7	132 × 98	130 × 100	50,0
42 × 18	40 × 20	8,8	87 × 48	85 × 50	33,1	132 × 108	130 × 110	39,0
42 × 23	40 × 25	8,0	87 × 53	85 × 55	30,1	142 × 68	140 × 70	96,5
42 × 28	40 × 30	6,4	87 × 58	85 × 60	26,6	142 × 78	140 × 80	87,6
47 × 23	45 × 25	10,7	87 × 63	85 × 65	22,2	142 × 88	140 × 90	77,5
47 × 28	45 × 30	9,1	87 × 68	85 × 70	19,0	142 × 98	140 × 100	67,7
52 × 18	50 × 20	15,0	92 × 38	90 × 40	43,8	142 × 108	140 × 110	57,0
52 × 28	50 × 30	12,3	92 × 48	90 × 50	38,6	142 × 118	140 × 120	38,2
52 × 38	50 × 40	8,3	92 × 58	90 × 60	32,2	152 × 78	150 × 80	105,7
57 × 28	55 × 30	15,6	92 × 68	90 × 70	24,5	152 × 88	150 × 90	95,6
57 × 33	55 × 35	13,8	92 × 78	90 × 80	15,6	152 × 98	150 × 100	84,2
57 × 38	55 × 40	11,6	97 × 33	95 × 35	51,0	152 × 108	150 × 110	71,7
57 × 43	55 × 45	8,6	97 × 38	95 × 40	48,8	152 × 118	150 × 120	58,0
62 × 18	60 × 20	22,1	97 × 43	95 × 45	46,3	152 × 128	150 × 130	43,6
62 × 28	60 × 30	19,3	97 × 58	95 × 60	37,3	162 × 78	160 × 80	124,5
62 × 38	60 × 40	15,3	102 × 38	100 × 40	55,8	162 × 88	160 × 90	114,4
62 × 48	60 × 50	10,1	102 × 48	100 × 50	50,5	162 × 98	160 × 100	103,5
67 × 28	65 × 30	23,3	102 × 58	100 × 60	44,1	162 × 108	160 × 110	92,6
67 × 33	65 × 35	20,8	102 × 68	100 × 70	36,5	162 × 118	160 × 120	77,2
67 × 38	65 × 40	19,3	102 × 78	100 × 80	27,6	162 × 128	160 × 130	62,2
67 × 48	65 × 50	14,1	112 × 48	110 × 50	63,7	163 × 137	160 × 140	53,0
72 × 28	70 × 30	27,6	112 × 58	110 × 60	57,3	172 × 78	170 × 80	144,9
72 × 38	70 × 40	23,6	112 × 68	110 × 70	49,6	172 × 108	170 × 110	111,1
72 × 43	70 × 45	21,1	112 × 78	110 × 80	40,7	172 × 118	170 × 120	96,0
72 × 48	70 × 50	18,4	112 × 88	110 × 90	30,6	182 × 98	180 × 100	145,8
72 × 53	70 × 55	15,3	122 × 48	120 × 50	78,1	182 × 108	180 × 110	136,8
72 × 58	70 × 60	12,0	122 × 58	120 × 60	71,7	182 × 118	180 × 120	118,0
77 × 28	75 × 30	32,0	122 × 68	120 × 70	64,0	182 × 128	180 × 130	104,5
77 × 33	75 × 35	30,3	122 × 73	120 × 75	58,5	182 × 138	180 × 140	90,6
77 × 43	75 × 45	26,7	122 × 78	120 × 80	56,3	192 × 138	190 × 140	110,0
77 × 58	75 × 60	16,5	122 × 88	120 × 90	45,0	192 × 148	190 × 150	93,5
82 × 28	80 × 30	37,1	122 × 98	120 × 100	33,7	202 × 138	200 × 140	135,0
82 × 38	80 × 40	33,1	132 × 58	130 × 60	86,1	202 × 148	200 × 150	116,0
82 × 48	80 × 50	27,9	132 × 68	130 × 70	79,6	213 × 157	210 × 160	129,2
82 × 58	80 × 60	21,4	132 × 78	130 × 80	72,5	–	–	–
82 × 68	80 × 70	13,8	132 × 88	130 × 90	60,7	–	–	–

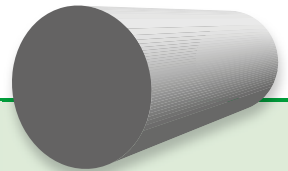
## ALUMINIUM BRONZE

### FLAT BAR CuAl10Fe5Ni5-C EN 1982



casting size [mm]	final size [mm]	[kg/m] cca	casting size [mm]	final size [mm]	[kg/m] cca
312 × 12	310 × 10	29,5	384 × 19	380 × 16	55,5
312 × 17	310 × 15	42,0	384 × 24	380 × 21	72,0
312 × 22	310 × 20	54,0	384 × 29	380 × 26	87,0
312 × 27	310 × 25	66,0	384 × 34	380 × 31	102,0
312 × 32	310 × 30	78,0	384 × 39	380 × 36	117,0
312 × 42	310 × 40	108,1	384 × 44	380 × 41	131,8
312 × 52	310 × 50	126,6	384 × 54	380 × 51	161,8
612 × 62	310 × 60	150,9	384 × 64	380 × 61	191,7
312 × 72	310 × 70	175,2	384 × 74	380 × 71	221,6
312 × 82	310 × 80	202,6	384 × 84	380 × 80	251,6
312 × 92	310 × 90	223,9	384 × 94	380 × 90	281,6
312 × 102	310 × 100	251,5	384 × 104	380 × 100	317,6

### ROUND BAR CuAl10Ni5Fe4 EN 12163



size [mm]	[kg/m] cca	size [mm]	[kg/m] cca	size [mm]	[kg/m] cca
8	0,4	36	7,7	112	71,0
10	0,6	38	8,7	116	79,0
12	0,9	41	9,9	123	88,0
13	1,0	46	12,5	125	93,0
14	1,2	51	15,7	133	105,0
15	1,3	57	19,4	143	122,0
16	1,5	61	22,2	153	137,8
17	1,7	64	24,8	163	165,4
18	1,9	66	27,0	253	386,0
20	2,4	71	31,0	273	438,8
21	2,9	77	38,2	283	494,0
23	3,1	83	43,0	303	566,0
26	4,1	86	45,0	323	635,0
28	5,0	91	50,0	343	702,3
30	5,4	98	57,0	363	786,5
32	6,1	103	62,1		

## LEAD BRONZE

### Characteristics

Lead-bronze alloys have a higher lead content than RG7 does. If the application requires very good dry running properties and the bearing has a low load, it is advisable to use lead bronzes. Their high lead content ensures good to excellent properties when run dry and the material is also softer. Because of the lead content the maximum working temperature of lead-bronze must be kept lower, since the lead alters the mechanical characteristics of the alloy even at cca. 200 °C. Good sliding and dry running features; suitable for bearings with a higher circumferential speed and that are resistant to acids.

EN			
Alloy	CuSn10Pb10-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC495K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	78,0–82,0	-	-
Pb	8,0–11,0	Rm	≥ 220
Sn	9,0–11,0	Rp <sub>0,2</sub>	≥ 110
Ni	max. 2,0	A5	≥ 8
Zn	max. 2,0	HB	≥ 70
Sb	max. 0,5	-	-
kg/dm <sup>3</sup>	9,0	-	-
Condition	GC	-	-

EN			
Alloy	CuSn7Pb15-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC496K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	74,0–80,0	-	-
Pb	13,0–17,0	Rm	≥ 200
Sn	6,0–8,0	Rp <sub>0,2</sub>	≥ 90
Ni	0,5–2,0	A5	≥ 8
Zn	max. 2,0	HB	≥ 65
Sb	max. 0,5	-	-
kg/dm <sup>3</sup>	9,1	-	-
Condition	GC	-	-

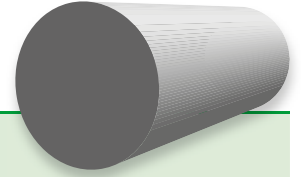
## LEAD BRONZE

EN			
Alloy	CuSn5Pb20-C	-	-
Standard	EN 1982	-	-
Alloy No.	CC497K	-	-
Chemical composition		Mechanical values in accordance with EN	
Cu	70,0–78,0	-	-
Pb	18,0–23,0	R <sub>m</sub>	≥ 180
Sn	4,0–6,0	R <sub>p0,2</sub>	≥ 90
Ni	0,5–2,5	A5	≥ 7
Zn	max. 2,0	HB	≥ 50
Sb	max. 0,75	-	-
kg/dm <sup>3</sup>	9,3	-	-
Condition	GC	-	-

### Distribution Programme – Lead Bronze

	round bar	tube	flat bar
CuSn10Pb10-C	21–152 mm	31 × 19 mm – 202 × 158 mm	by request
CuSn7Pb15-C	17–202 mm	31 × 14 mm – 282 × 218 mm	by request
CuSn5Pb20-C	by request	by request	-

## LEAD BRONZE

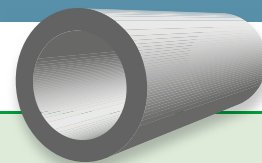


ROUND BAR				
casting dimensions [mm]	final dimensions [mm]	CuSn7Pb15-C	CuSn10Pb10-C	[kg/m] cca
22	20	•	•	3,5
27	25	•	•	5,3
32	30	•	•	7,4
37	35	•	•	9,9
42	40	•	•	12,8
47	45	•	–	16,0
52	50	•	•	19,5
57	55	•	•	23,5
62	60	•	•	37,8
67	65	•	•	32,4
72	70	•	•	37,5
77	75	•	–	42,8
82	80	•	•	48,6
86	85	•	–	53,4
92	90	•	–	61,1
102	100	•	•	75,2
112	110	•	–	90,6
122	120	•	•	107,6
132	130	•	–	125,9
142	140	•	–	145,7
152	150	•	•	167,0
162	160	•	–	189,6

In addition to providing the standard sizes, we can also implement the calculation of your required size of continuously and centrifugally cast bars and tubes made from any of these listed alloys.



## LEAD BRONZE



TUBE			
casting dimensions [mm]	final dimensions [mm]	CuSn7Pb15-C	[kg/m] cca
31 × 14	30 × 15	•	5,9
42 × 23	40 × 25	•	9,3
47 × 18	45 × 20	•	14,3
52 × 18	50 × 20	•	17,7
57 × 28	50 × 30	•	13,9
52 × 38	50 × 40	•	10,0
62 × 28	60 × 30	•	22,8
62 × 38	60 × 40	•	18,2
66 × 34	65 × 35	•	24,6
67 × 48	65 × 50	•	17,3
72 × 33	70 × 35	•	30,3
72 × 38	70 × 40	•	27,9
72 × 43	70 × 45	•	25,0
82 × 28	80 × 30	•	43,6
82 × 38	80 × 40	•	38,2
82 × 48	80 × 50	•	31,9
82 × 58	80 × 60	•	24,3
82 × 63	80 × 65	•	19,9
87 × 63	85 × 65	•	27,4
92 × 28	90 × 30	•	55,5
92 × 38	90 × 40	•	50,7
92 × 68	90 × 70	•	27,8
97 × 58	95 × 60	•	46,0
102 × 58	100 × 60	•	50,9
112 × 48	110 × 50	•	74,0
112 × 68	110 × 70	•	57,3
112 × 78	110 × 80	•	51,6
132 × 48	130 × 50	•	111,0
132 × 88	130 × 90	•	72,2
142 × 78	140 × 80	•	103,8
152 × 98	150 × 100	•	97,6
162 × 118	160 × 120	•	92,1

## PHOSPHOR BRONZE

### Characteristics

Phosphor bronzes are popular because of their purity, together with their very low levels of contaminants. Resulting from this the material has very favourable mechanical characteristics. Phosphorus binds to copper and therefore this alloy scarcely reacts to oxygen. Additionally, phosphorus also improves the resistance of the material to corrosion. Phosphor bronzes are most commonly available in either a drawn or a rolled form. Since they are free of heavy metals, phosphor bronzes are used in the food industry for certain purposes.

	EN
Alloy	CuSn6
Standard	EN 12163
Alloy No.	CW452K
Chemical composition	
Cu	remainder of the content
Sn	5,5–7,0
P	0,01–0,4
Fe	max. 0,1
Ni	max. 0,2
Pb	max. 0,02
Zn	max. 0,2
kg/dm <sup>3</sup>	cca 8,8
Condition	drawn (bar) or rolled (sheet)

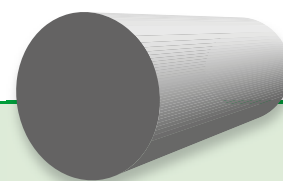
	EN
Alloy	CuSn8
Standard	EN 12163
Alloy No.	CW453K
Chemical composition	
Cu	remainder of the content
Sn	7,5–8,5
P	0,01–0,4
Fe	max. 0,1
Ni	max. 0,2
Pb	max. 0,02
Zn	max. 0,2
kg/dm <sup>3</sup>	cca 8,8
Condition	drawn (bar) or rolled (sheet)

## PHOSPHOR BRONZE

### Distribution Programme – Phosphor Bronze

	round bar	square bar	flat bar	sheet	hexagonal bar	tube
CuSn6	-	-	-	0,1 mm – 25 mm	-	-
CuSn8	2 mm – 150 mm	8 mm – 60 mm	20 × 3 mm – 80 × 30 mm	by request	14 mm – 50 mm	8 × 4 mm – 220 × 200 mm

Standard lengths: cca 3000 mm, 2000 mm a 1000 mm.



### ROUND BAR CuSn8

[mm]	[kg/m] cca	[mm]	[kg/m] cca	[mm]	[kg/m] cca
8	0,4	28	5,5	60	25,1
9	0,6	30	6,4	65	29,5
10	0,7	32	7,1	70	31,0
12	1,1	35	8,6	80	45,0
14	1,3	36	10,0	90	58,5
15	1,6	38	10,0	95	63,0
16	1,7	40	11,2	100	69,1
18	2,3	42	12,3	110	87,5
20	2,8	45	14,2	120	99,5
22	3,4	50	17,5	-	-
25	4,5	55	22,0	-	-



### SHEET CuSn6

[mm]	cca kg/sheet	[mm]	cca kg/sheet	[mm]	cca kg/sheet
0,15	0,8	1,2	6,4	12	126,7
0,2	1,1	1,5	8,0	15	160,3
0,25	1,3	2	10,7	20	105,6
0,3	1,6	2,5	13,4	25	132,0
0,4	2,2	3	16,0	30*	317,0
0,5	2,6	4	21,4	40*	428,0
0,6	3,2	5	26,4	-	-
0,7	3,7	6	31,7	-	-
0,8	4,3	8	42,3	-	-
1	5,4	10	105,6	-	-

Standard sheet dimensions: 300 × 2000 mm.  
600 × 2000 mm size available by request.

\*Standard dimensions: 600 × 2000 mm.



United  
Cast Bar  
Limited

**BRASS**



## BRASS

brass round bars / brass flat bars / brass square bars / brass hexagonal bars /  
brass tubes / brass strips / brass sheets / brass wires

### Characteristics

Brass is present in a number of different alloys, which are all based on copper and zinc. By adding one or more elements to the alloy it is possible to have an effect on certain properties, such as corrosion resistance, hardness, tensile strength, colour, finish, etc. Brass is frequently used as a conventional construction material in many areas of industry. It can be produced with high tolerances and is therefore suited to precision CNC machining on production lines, for such components as screws and the lubricators. In addition to this application in which the production is implemented in series, in some cases brass is also used in hydraulic systems as a valve block or as a component that, subject to wear and tear, can also easily be replaced.

	EN
Alloy	CuZn39Pb3
	MS58
Standard	EN 12164
Alloy No.	CW614N
Chemical composition	
Cu	57,0–59,0
Pb	2,5–3,5
Zn	remainder of the content
kg/dm <sup>3</sup>	cca 8,5
Characteristics	Brass for easy high speed machining (free cutting). The most widely used alloy. Very good machinability and thermoforming properties – forgings, stampings.

	EN
Alloy	CuZn37
	MS63
Standard	EN 12163
Alloy No.	CW508L
Chemical composition	
Cu	62,0–64,0
Zn	remainder of the content
kg/dm <sup>3</sup>	cca 8,4
Characteristics	The brass most commonly used for plates and suitable for simple forming.

## BRASS

		EN
Alloy		CuZn37Mn3Al2PbSi
		SoMs58Al2
Standard		EN 12164
Alloy No.		CW713R
Chemical composition		
Cu		57,0–59,0
Si		0,3–1,3
Zn		remainder of the content
Al		1,3–2,3
Mn		1,5–3,0
Ni		max. 1,0
Pb		0,2–0,8
kg/dm <sup>3</sup>		cca 8,1
Characteristics	A special brass with excellent corrosion resistance and good wear resistance at high loads. Used for sliding bearings and for valve guides.	

		EN		
Alloy	CuZn35Ni3Mn2AlPb	–	–	–
Standard	EN 12163	–	–	–
Alloy No.	CW710R	–	–	–
Chemical composition				
Cu	58,0–60,0	–	–	–
Ni	2,0–3,0	–	–	–
Zn	remainder of the content	–	–	–
Al	0,3–1,3	–	–	–
Mn	1,5–2,5	–	–	–
Pb	0,2–0,8	–	–	–
kg/dm <sup>3</sup>	cca 8,3	–	–	–
Characteristics	A special brass with medium to high tensile strength and excellent corrosion resistance. It is used in the manufacture of machinery and equipment and in shipbuilding.			

## BRASS

EN			
Alloy	CuZn25Al5Mn4Fe3-C	–	CuZn25Al5Mn4Fe3-C
Standard	EN 1982	–	EN 1982
Alloy No.	CC762S	–	CC762S
Chemical composition		Mechanical values in accordance with EN	
Cu	60,0–67,0	–	–
Zn	remainder of the content	Rm	≥ 750
Al	3,0–7,0	Rp <sup>0.2</sup>	≥ 480
Fe	1,5–4,0	A5	≥ 5
Mn	2,5–5,0	HB	≥ 190
Ni	max. 3,0	–	–
kg/dm <sup>3</sup>	cca 8,2	–	–
Condition	GZ/GC	–	–
Characteristics	Brass with a high tensile strength suitable for high static load (also for low circumferential speed).		

EN			
Alloy	CuZn34Mn3Al2Fe1-C	–	–
Standard	EN 1982	–	–
Alloy No.	CC764S	–	–
Chemical composition		Mechanical values in accordance with EN	
Cu	55,0–66,0	–	–
Zn	remainder of the content	Rm	≥ 620
Al	1,0–3,0	Rp <sup>0.2</sup>	≥ 260
Fe	0,5–2,5	A5	≥ 14
Mn	1,0–4,0	HB	≥ 150
Ni	max. 3,0	–	–
kg/dm <sup>3</sup>	cca 8,6	–	–
Condition	GZ	–	–
Characteristics	Brass with a high tensile strength suitable for high static load (also for low circumferential speed).		

## BRASS

### Distribution Programme – Brass

	round bar	square bar	flat bar	sheet	hexagonal bar	tube
CuZn39Pb3	2–300 mm	3–100 mm	8 × 2 – 120 × 40 mm	-	4–90 mm	-
CuZn39Pb2	-	-	-	1–100 mm	-	-
CuZn37	-	-	-	0,2–20 mm	-	-
CuZn37Mn3Al2PbSi	6–250 mm	10–100 mm	20 × 10 – 60 × 20 mm	-	-	-
CuZn35Ni3Mn2AlPb	8–160 mm	-	-	-	14–60 mm	-
CuZn25Al5Mn4Fe3-C	27–183 mm	22–102 mm	42 × 22 – 312 × 32 mm	-	-	31 × 14 – cca Ø 800 mm centrifugally cast

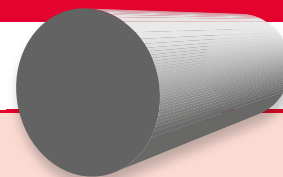
### EN standard information for brass alloys

#### EN STANDARD

round bar	EN 12164
square bar	EN 12164
hexagonal bar	EN 12164
flat bar	EN 12164
tube	EN 12449
sheet	EN 1652



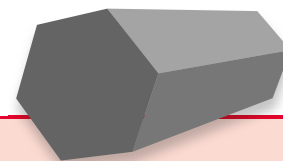
**BRASS**



**ROUND BAR**  
CuZn39Pb3

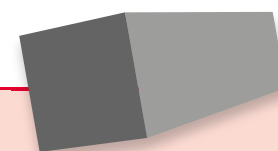
[mm]	[kg/m] cca	[mm]	[kg/m] cca	[mm]	[kg/m] cca
2	0,03	25	4,07	70	31,93
3	0,06	26	4,40	75	36,65
4	0,10	27	4,75	80	41,70
5	0,16	28	5,11	85	47,07
6	0,23	29	5,48	90	52,78
7	0,32	30	5,86	100	65,15
8	0,42	31	6,48	105	71,83
9	0,53	31	6,67	110	78,84
10	0,65	33	7,10	115	86,17
11	0,79	34	7,53	120	93,82
12	0,94	35	7,98	125	101,80
13	1,10	36	8,44	130	110,11
14	1,28	38	9,41	140	127,70
15	1,47	40	10,42	150	146,60
16	1,67	42	11,49	155	156,53
17	1,88	45	13,19	160	166,80
18	2,11	46	13,79	170	188,30
19	2,35	48	15,01	180	211,10
20	2,61	50	16,29	185	222,99
21	2,87	52	17,62	203	268,50
22	3,15	55	19,71	223	329,85
23	3,45	60	23,46	230	353,15
24	3,75	65	27,53	254	420,35

**BRASS**



**HEXAGONAL BAR**  
CuZn39Pb3

A/F [mm]	[kg/m] cca	A/F [mm]	[kg/m] cca	A/F [mm]	[kg/m] cca
5	0,18	21	3,17	45	14,56
6	0,26	22	3,48	46	15,21
7	0,35	23	3,80	50	17,97
8	0,46	24	4,14	55	21,74
9	0,58	25	4,49	60	25,88
10	0,72	27	5,24	65	30,37
11	0,87	28	5,64	70	35,22
12	1,04	30	6,47	75	40,43
13	1,21	32	7,36	80	46,00
14	1,41	34	8,31	-	-
15	1,62	35	8,81	-	-
16	1,84	36	9,32	-	-
17	2,08	38	10,38	-	-
18	2,33	40	11,50	-	-
19	2,59	41	12,08	-	-
20	2,88	42	12,68	-	-



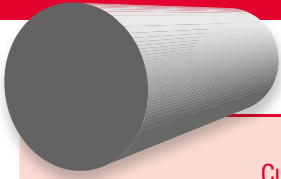
**SQUARE BAR**  
CuZn39Pb3

[mm]	[kg/m] cca	[mm]	[kg/m] cca
4	0,13	22	4,02
5	0,21	25	5,19
6	0,30	30	7,47
7	0,41	32	8,50
8	0,53	35	10,17
9	0,67	40	13,28
10	0,83	45	16,81
12	1,20	50	20,75
14	1,63	60	29,88
15	1,87	65	35,07
16	2,12	70	40,67
18	2,69	80	54,0
20	3,32	90	69,0

## BRASS

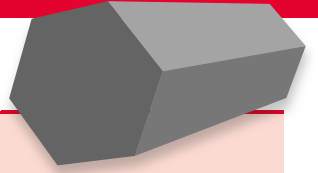
FLAT BAR CuZn39Pb3					
[mm]	[kg/m] cca	[mm]	[kg/m] cca	[mm]	[kg/m] cca
8 × 2	0,13	30 × 2	0,50	50 × 10	4,15
8 × 3	0,20	30 × 3	0,75	50 × 12	4,98
10 × 2	0,17	30 × 4	1,00	50 × 15	6,23
10 × 3	0,25	30 × 5	1,25	50 × 20	8,30
10 × 4	0,33	30 × 6	1,49	50 × 25	10,38
10 × 5	0,42	30 × 8	1,99	50 × 30	12,45
10 × 6	0,50	30 × 10	2,49	50 × 40	16,60
12 × 3	0,30	30 × 12	2,99	60 × 3	1,49
12 × 4	0,40	30 × 15	3,74	60 × 4	1,99
12 × 5	0,50	30 × 20	4,98	60 × 5	2,49
12 × 8	0,80	30 × 25	6,38	60 × 6	2,99
15 × 2	0,25	35 × 3	0,87	60 × 10	4,98
15 × 3	0,37	35 × 4	1,16	60 × 15	7,47
15 × 4	0,50	35 × 5	1,45	60 × 20	9,96
15 × 5	0,62	35 × 6	1,74	60 × 25	12,45
15 × 6	0,75	35 × 8	2,32	60 × 30	14,94
15 × 8	1,00	35 × 10	2,91	60 × 40	19,92
15 × 10	1,25	35 × 15	4,36	70 × 20	11,62
20 × 2	0,33	35 × 20	5,81	70 × 40	23,80
20 × 3	0,50	35 × 25	7,44	70 × 50	29,05
20 × 4	0,66	40 × 2	0,66	80 × 8	5,31
20 × 5	0,83	40 × 3	1,00	80 × 10	6,64
20 × 6	1,00	40 × 4	1,33	80 × 15	9,96
20 × 8	1,33	40 × 5	1,66	80 × 20	13,28
20 × 10	1,66	40 × 6	1,99	80 × 25	16,60
20 × 12	1,99	40 × 8	2,66	80 × 40	26,56
20 × 15	2,49	40 × 10	3,32	100 × 5	4,15
25 × 2	0,42	40 × 15	4,98	100 × 10	8,30
25 × 3	0,62	40 × 20	6,64	100 × 15	12,45
25 × 4	0,83	40 × 25	8,30	100 × 20	16,60
25 × 5	1,04	40 × 30	9,96	100 × 30	24,90
25 × 6	1,25	50 × 3	1,25	100 × 50	41,50
25 × 8	1,66	50 × 4	1,66	120 × 15	14,94
25 × 10	2,08	50 × 5	2,08	120 × 20	19,92
25 × 12	2,49	50 × 6	2,49	–	–
25 × 15	3,11	50 × 8	3,32	–	–

**BRASS**



<b>ROUND BAR</b> CuZn35Ni3Mn2AlPb		<b>ROUND BAR</b> CuZn37Mn3Al2PbSi	
[mm]	[kg/m] cca	[mm]	[kg/m] cca
8	0,40	16	1,63
10	0,70	18	2,10
12	0,90	20	2,50
16	1,60	22	3,10
18	2,00	25	4,00
20	2,50	26	4,50
22	3,10	30	6,10
25	4,20	35	8,20
28	5,30	38	9,20
30	6,00	40	10,70
32	6,50	45	13,60
35	7,80	50	16,70
36	8,30	55	20,20
40	10,20	60	24,50
42	11,80	65	28,20
45	12,90	70	33,00
50	16,70	75	35,80
55	19,20	80	43,00
60	24,00	90	54,10
70	33,00	100	67,00
75	36,00	110	81,50
80	41,70	120	92,00
85	47,10	130	108,00
90	54,10	140	131,00
100	64,00	150	143,20

**BRASS**



**HEXAGONAL BAR**  
CuZn35Ni3Mn2AlPb

A/F [mm]	[kg/m] cca	A/F [mm]	[kg/m] cca
14	1,40	32	7,20
17	2,20	36	9,10
19	2,60	41	12,10
22	3,40	46	15,20
24	4,10	50	18,40
27	5,40	55	21,70
30	6,70	60	25,30

COPPER



## COPPER

copper round bars / copper flat bars / copper square bars / copper hexagonal bars /  
copper tubes / copper strips / copper sheets / copper wires

	EN
Alloy	Cu-ETP
Standard	EN 1977
Alloy No.	CW004A
	Chemical composition
Cu	≥ 99,90
Oxygen	max. 0,040
kg/dm <sup>3</sup>	cca 8,9
Characteristics	Oxidised copper with electrical conductivity of at least 58 m/ohm.mm <sup>2</sup> .

	EN
Alloy	Cu-PHC, Cu-HCP
Standard	EN 1977
Alloy No.	CW020A, CW021A
	Chemical composition
Cu	≥ 99,95
P	0,001–0,006 0,002–0,007
kg/dm <sup>3</sup>	cca 8,9
Characteristics	Oxygen-free copper, phosphorus-deoxidised with high electrical conductivity. It contains low residual amounts of phosphorus. It is used primarily in the electronics industry.

	EN
Alloy	Cu-DHP
Standard	EN 1653
Alloy No.	CW024A
	Chemical composition
Cu	≥ 99,90
P	0,015–0,040
kg/dm <sup>3</sup>	cca 8,9
Characteristics	Oxygen-free copper, phosphorus-deoxidised. It contains low residual amounts of phosphorus. It is used primarily in the construction and engineering industries.

## COPPER

	EN
Alloy	CuCr1Zr
Standard	EN 12163, 12166, 12420
Alloy No.	CW106C
	Chemical composition
Cu	remainder of the content
Cr	0,5–1,2
Zr	0,03–0,3
kg/dm <sup>3</sup>	cca 8,9
Characteristics	CuCr1Zr has an extreme degree of electrical and thermal conductivity and can withstand high temperatures. CuCr1Zr is used, for example, for resistance welding and in components for electrical equipment.

	EN
Alloy	CuNi2Si
Standard	EN 12163, 12166, 12420
Alloy No.	CW111C
	Chemical composition
Cu	remainder of the content
Ni	1,6–2,5
Si	0,4–0,8
Mn	max. 0,1
kg/dm <sup>3</sup>	cca 8,8
Characteristics	CuNi2Si provides a high level of electrical conductivity and of tensile strength. CuNi2Si is used, for example, for the manufacture of cores and ejector pins (for moulds and tools). At 20 °C its thermal conductivity is between 67 to 120 W/mK and its electrical conductivity is between 10 to 23 m/ohm.mm <sup>2</sup> .

	EN
Alloy	CuCo2Be
Standard	EN 12163, 12166, 12420
Alloy No.	CW104C
	Chemical composition
Cu	remainder of the content
Co	2,0–2,8
Be	0,4–0,7
kg/dm <sup>3</sup>	cca 8,8
Characteristics	CuCo2Be provides a high level of electrical conductivity and tensile strength and is resistant to high temperatures. CuCo2Be is used, for example, for resistance welding. At 20 °C its thermal conductivity is between 192 and 239 W/mK and its electrical conductivity is between 25 and 32 m/ohm.mm <sup>2</sup> .



## COPPER

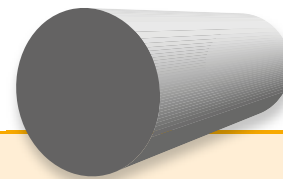
	EN
Alloy	CuCo1Ni1Be
Standard	EN 12420, 1652
Alloy No.	CW 103C
	Chemical composition
Cu	remainder of the content
Co	0,8–1,3
Ni	0,8–1,3
Be	0,4–0,7
kg/dm <sup>3</sup>	cca 8,8
Characteristics	See CuCo2Be

	EN
Alloy	CuBe2
Standard	EN 12163, 12166, 12420
Alloy No.	CW101C
	Chemical composition
Cu	remainder of the content
Ni + Co	0,3 max.
Be	1,8–2,1
kg/dm <sup>3</sup>	cca 8,3
Characteristics	When heat-treated this alloy has extremely high mechanical properties: i.e. hardness and tensile strength. This material is resistant to temperatures as low as -200 °C and also to high temperatures of up to cca. 350 °C. CuBe2 is also used, for example, in non-magnetic and non-sparking environments and for the production of wear resistant parts. At 20 °C its thermal conductivity is between 92 and 125 W/mK and its electrical conductivity is between 8 and 18 m/ohm.mm <sup>2</sup> .

### Distribution Programme – Copper

	round bar	square bar	flat bar	sheet
Cu-ETP	3–250 mm	4–120 mm	10 × 3 – 200 × 20 mm	8–100 mm
Cu-DHP	-	-	-	0,3–6 mm
Cu-HCP	-	-	-	12–100 mm
CuCr1Zr	6–300 mm	10–200 mm	20 × 6 – 200 × 80 mm	10–100 mm
CuNi2Si	10–132 mm	-	-	40–100 mm
CuCo2Be	10–300 mm	15–60 mm	20 × 10 – 100 × 30 mm	30–100 mm
CuBe2	12–100 mm	-	-	40–100 mm

**COPPER**

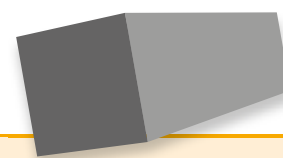


**ROUND BAR**

size [mm]	Cu-ETP	CuCr1Zr	[kg/m] cca	size [mm]	Cu-ETP	CuCr1Zr	[kg/m] cca
5	•		0,2	35	•	•	8,7
6	•		0,3	40	•	•	11,4
8	•	•	0,5	45	•	•	14,0
10	•	•	0,8	50	•	•	17,5
12	•	•	1,0	55	•		21,1
14	•	•	1,4	60	•	•	25,2
15	•		1,6	65	•		29,5
16	•	•	1,8	70	•	•	34,3
18	•	•	2,3	75	•	–	40,0
20	•	•	2,8	80	•	–	45,2
22	•	•	3,4	90	•	–	56,6
25	•	•	4,4	100	•	–	69,0
28	•	•	5,5	110	•	–	85,0
30	•	•	6,4	120	•	–	101,0
32	•	•	7,2	150	•	–	157,3

**SQUARE BAR**

size [mm]	Cu-ETP	[kg/m] cca	size [mm]	Cu-ETP	[kg/m] cca
15	•	2,0	50	•	22,2
20	•	3,6	60	•	32,0
25	•	5,7	80	•	57,0
30	•	8,0	100	•	89,0
40	•	14,2	–	–	–

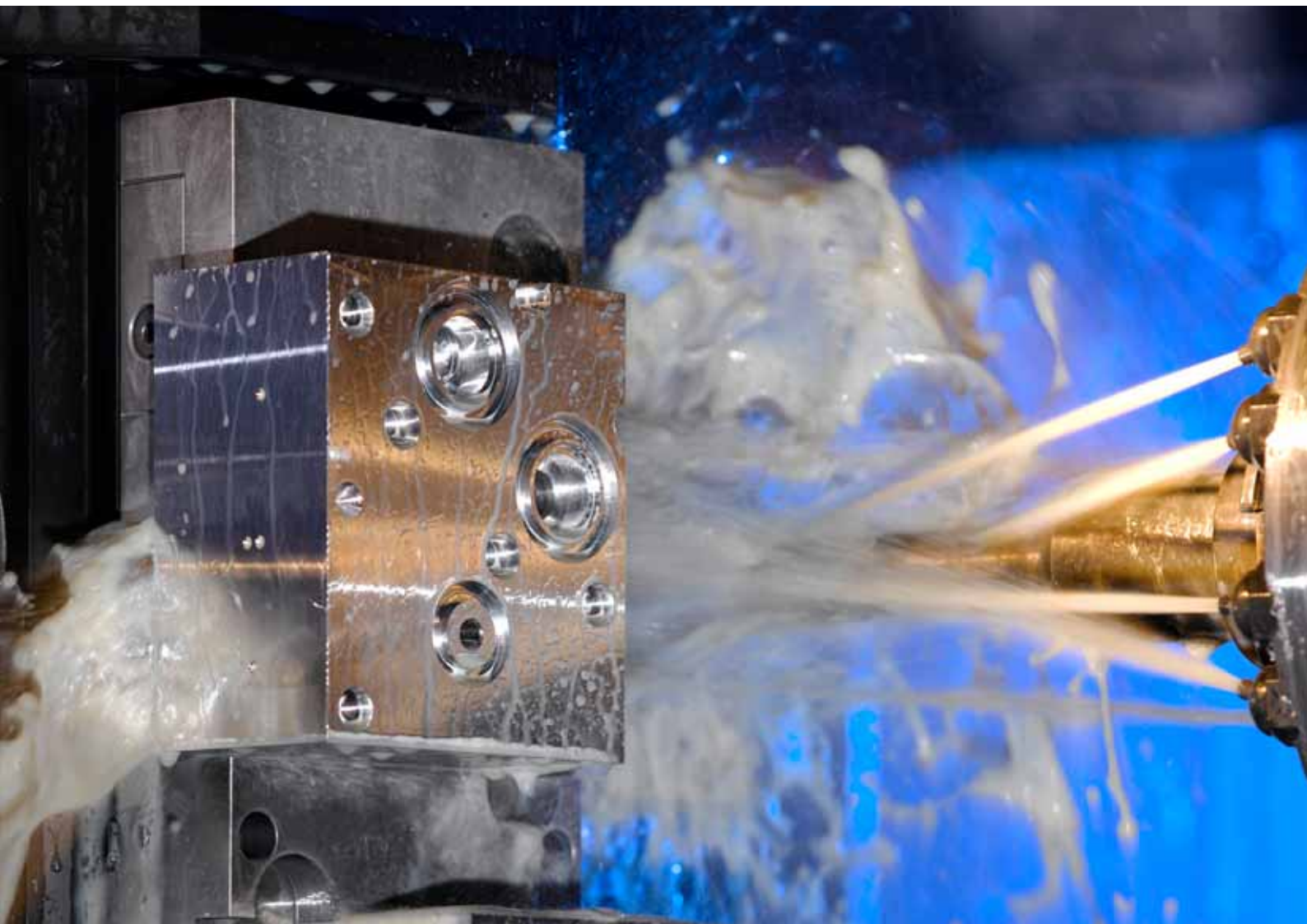


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In all orders, UCB will provide transport to ensure the product is delivered in a timely and safe condition.





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UCB Sweden AB	Oxelösund	Sweden
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