ELCAS BV

- CAST IRON
- BRONZE
- ALUMINIUMBRONZE
- CONCAST
- BRASS
- COPPER

ELCAS BV

Elcas BV is a leading international stockholder in ferrous- and non-ferrous metals.
We are specialized in rectangles, round bars and tubes in cast iron, bronze, aluminium bronze, brass and copper.

Elcas is a family business and has a history over more than 65 years in this business.

We have the exclusive representations from one leading foundry in the USA and several foundries in Europe.

Our mission is to relieve you - our customer. Your order will be taken care of with the utmost precision and is delivered to you just in time. We are able to supply directly from our stocks of approximately 1600 metric tons. Elcas is also certified according ISO -9001.

In our modern warehouse we have a wide range of sawing machines. For example a block bandsaw machine (KASTO U5) suitable for cutting of blocks up to max. 580 mm high and max. 4.000 mm long, cutting depth max. 660 mm.
We are capable to cut small numbers or large series exactly to the size you require up to a diameter of Ø 700 mm.

Our trepanning department is specialized in cast iron tubes with inside diameters from Ø 28 mm up till Ø 597 mm including and a maximum length of 1200 mm. Please see the chapter Cast iron for more information.

This brochure offers you an overview of our possibilities. For every product you will find our delivery program and a size list of the stock program.

Our sales-team will be pleased to help you and to answer any additional questions.
Customer service is our dedication.

On our website you will find the latest information:

www.elcas.nl

ELCAS BV

Content

CAST IRON

BRONZE

ALUMINIUMBRONZE

CONCAST ALUMINIUMBRONZE

LEADED BRONZE

PHOSPHOR-BRONZE

BRASS

COPPER

ELCAS BV

Cast Iron

	DIN	EN
Grade	GG25	EN-GJL-250
comparable with	Meehanite GD250	
Standard	DIN 1691	EN 1561
Alloy number	0.6025	EN-JL 1040

Chemical composition		Mechanical properties	
C	2,90 - 3,65		
Si	1,80 - 2,90	**Rm**	155 - 275
Mn	0,50 - 0,70	**HB**	160 - 250
S	0,10 max.		
P	0,30 max.		

kg/dm^3 ca. 7,2

Characteristics GG25 is the most common flake cast iron grade. It offers a good combination of strength and wear resistance. It is recommended for uses where a balance is required between mechanical characteristics and machinability. Cast iron with flake graphite, predominant pearlitic structure. Heat treatment is not recommended.

	DIN	EN
Grade	GG30	EN-GJL-300
comparable with	Meehanite GB300	
Standard	DIN 1691	EN 1561
Alloy number	0.6030	EN-JL 1050

Chemical composition		Mechanical properties	
C	2,90 - 3,65		
Si	1,80 - 2,90	**Rm**	170 - 325
Mn	0,10 - 0,30	**HB**	190 - 260
S	0,10 max.		
P	0,30 max.		

kg/dm^3 ca. 7,2

Charactristics Offers a higher wear resistance, strength and heat treatment response compared to GG20 and GG25 while still possessing reasonable machinability and excellent surface finish. GG30 can be hardened by conventional methods to Rc 50 on the bar surface.

	DIN	EN
Grade	GG35	EN-GJL-350
comparable with	Meehanite GA350	
Standard	DIN 1691	EN 1561
Alloy number	0.6035	EN-JL 1060

Chemical composition		Mechanical properties	
C	2,90 - 3,65		
Si	1,80 - 2,90	**Rm**	210 - 375
Mn	0,50 - 0,70	**HB**	240 - 300
S	0,10 max.		
P	0,30 max.		

kg/dm^3 ca. 7,2

Characteristics GG35 is an excellent wear resistance cast iron grade while still possessing reasonable machinability characteristics. GG35 can be hardened by conventional methods to Rc 50 on the bar surface.

Cast Iron

	DIN	EN
Grade	GGG40	EN-GJS-400-15
comparable with	Meehanite SF400	
Standard	DIN 1693	EN 1563
Alloy number	0.7040	EN-JS 1030

Chemical composition		Mechanical properties	
C	3,40 - 3,85		
Si	2,30 - 3,10	**Rm**	400
Mn	0,10 - 0,30	**Rp 0,2**	250
S	0,02 max.	**A5**	15
P	0,10 max.	**HB**	130-180

kg/dm^3 ca. 7,2

Characteristics GGG40 is the most common used nodular cast iron. Nodular cast iron has predominately a ferritic structure. Offers superior machinability combined with optimal impact, fatigue, electrical conductivity and magnetic permeability. Fur use beneath 0°C a special grade (GGG40.3 or EN-GJC400-18-LT) can be produced with a very high inpacttest value.

	DIN	EN
Grade	GGG50	EN-GJS-500-7
comparable with	Meehanite SFP500	
Standard	DIN 1693	EN 1563
Alloy number	0.7050	EN-JS 1050

Chemical composition		Mechanical properties	
C	3,40 - 3,85		
Si	2,30 - 3,10	**Rm**	500
Mn	0,10 - 0,30	**Rp 0,2**	320
S	0,02 max.	**A5**	7
P	0,10 max.	**HB**	170-240

kg/dm^3 ca. 7,2

Characteristics Has a ferritic /pearlitic structure. Offers higher wear resistance, strength and heat treatment response compared with GGG40 while still possessing reasonable machinability and excellent surface finishing.

	DIN	EN
Grade	GGG60	EN-GJS-600-3
comparable with	Meehanite SP600	
Standard	DIN 1693	EN 1563
Alloy number	0.7060	EN-JS 1060

Chemical composition		Mechanical properties	
C	3,40 - 3,85		
Si	2,30 - 3,10	**Rm**	600
Mn	0,10 - 0,30	**Rp 0,2**	360
S	0,02 max.	**A5**	3
P	0,10 max.	**HB**	200-260

kg/dm^3 ca. 7,2

Characteristics Has a predominately pearlitic structure. Very good machinability combined with higher wear resistance, strength and less elongation than GGG50.

	DIN	EN
Grade	GGG70	EN-GJS-700-2
comparable with	Meehanite SP700	
Standard	DIN 1693	EN 1563
Alloy number	0.7070	EN-JS 1070

Chemical composition		Mechanical properties	
C	3,40 - 3,85		
Si	2,30 - 3,10	**Rm**	700
Mn	0,10 - 0,30	**Rp 0,2**	400
S	0,02 max.	**A5**	2
P	0,10 max.	**HB**	240-300

kg/dm^3 ca. 7,2

Characteristics Pearlitic structure with higher mechanical values than GGG50 and GGG60 with an even better wear resistance. Despite the high hardness still reasonable machinability and excellent surface finish.

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Cast Iron

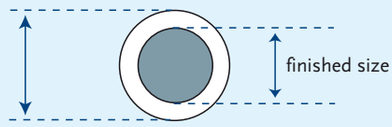
The material specification of cast iron is stated in DIN 1691/ EN 1561 for cast iron with a flake structure, (GG) and in DIN 1693/ EN 1563 for nodular cast iron (GGG). Both standards are very open and leave the exact composition of the material and the machining allowance over to the manufacturer. Many manufacturers have their own guidelines and references for production of cast iron. Machining allowances stated below are extracted from the specifications stated by our suppliers and can only be used as a guideline.

Explanation used abbreviations

Rm	Tensile strength N/mm^2
Rp 0,2	0.2 Yield strength N/mm^2
A5	Elongation at fracture in %
HB	Brinell Hardness
kg/dm^3	Density

Machining allowance for continuous cast iron

Machining allowance for continuous cast iron



Cast size in mm	minimum machining allowance	
	GG	GGG
25 - 50	2 mm	2 mm
55 - 75	2 mm	2,5 mm
80 - 100	2,5 mm	3 mm
105 - 150	3 mm	4 mm
155 - 200	4 mm	5 mm
210 - 280	5 mm	6 mm
290 - 350	8 mm	8 mm
360 - 430	10 mm	10 mm
440 - 500	10 mm	10 mm
510+	10 mm	10 mm

Machining allowance in mm per side

Cast size in mm	minimum machining allowance	
	GG	GGG
25 - 50	2 mm	2, 5 mm
55 - 75	3 mm	3 mm
80 - 100	4 mm	4 mm
105 - 150	4 mm	5 mm
155 - 200	5 mm	6 mm
210 - 280	5 mm	7 mm
290 - 350	7,5 mm	9 mm
360 - 430	10 mm	12 mm
440 - 500	12 mm	12 mm
510+	14 mm	14 mm

The machining allowance refers to the radius of the round bar or to each side of the square or rectangle bar.
For example, to obtain Ø100 mm as final dimension, you need Ø 105 as a minimum.
For a final dimension in square or rectangle of 150 x 150 you need at least 158 x 158 mm to start with.

Cast Iron

Delivery program cast iron

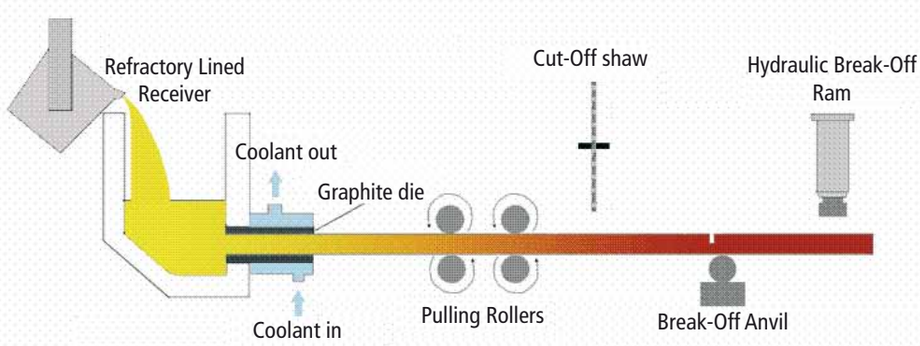
	round	square	rectangle	tube
EN-GJL-250	20 mm - 703 mm	25 mm - 510 mm	40 x 25 mm - 650 x 300 mm	50 x 30 mm - 703 x 597 mm
EN-GJL-300	on request	on request	on request	on request
EN-GJL-350	on request	on request	on request	on request
EN-GJS-400-15	30 mm - 703 mm	30 mm - 510 mm	50 x 45 mm - 650 x 300 mm	50 x 30 mm - 703 x 597 mm
EN-GJS-500-7	30 mm - 703 mm	30 mm - 510 mm	50 x 45 mm - 650 x 300 mm	50 x 30 mm - 703 x 597 mm
EN-GJS-600-3	30 mm - 703 mm	30 mm - 510 mm	50 x 45 mm - 650 x 300 mm	50 x 30 mm - 703 x 597 mm
EN-GJS-700-2	on request	on request	on request	on request

Standard lengths: ca. 3000 mm, 2000 mm en 1000 mm

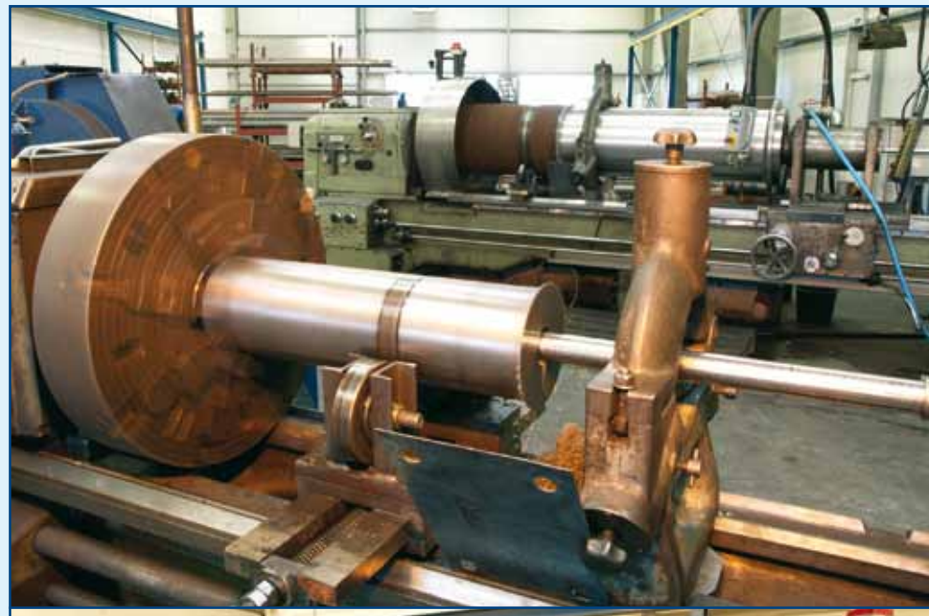
On request we can also supply:

- centrifugal and sand castings
- special grades and dimensions

Continuous Casting Process



Cast Iron



Trepanning is a hollow bore drilling process which leaves a solid core. The solid core can be used for the production of other parts.

This can amount to large savings when drilling large diameter bores.

Our large stock in EN-GJL-250, EN-GJS-400-15, EN-GJS-500-7 and EN-GJS-600-3 guarantees a short delivery time for your trepanned tubes which meet your exact specifications.

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Cast Iron

We supply tubes in the qualities EN-GJL-250, EN-GJS-400-15, EN-GJS-500-7 and EN-GJS-600-3

	Our total program of cast iron round bars is available for the trepanning of tubes.	
TUBES	**minimum**	**maximum**
Outside diameter	**50 mm**	**703 mm**
Inside diameter	**30 mm**	**597 mm**
	For an indication of the weight of the tube you can calculate: Weight of the outside diameter -/- weight of the inside diameter Check our website for a weight calculator: **www.elcas.nl**	
Standard lengths: Condition: Tolerance on the inside diameter:	500 mm en 1000 mm outside diameter as cast or proof machined, inside diameter trepanned. -2 -3 mm on the finished sizes Tubes with a larger diameter can be offered from centrifugal or static casting.	

Inside diameters for trepanned tubes

(This list contains often used diameters but is not limited to these, please send your enquiry to our sales department)

28	103	208	308	408
33	108	217	318	417
38	113	228	328	428
43	118	237	338	438
48	122	248	348	447
53	128	252	358	467
58	133	258	368	497
63	138	268	378	518
68	142	278	388	522
73	148	288	398	547
78	152	298		573
83	158			597
88	162			
93	168			
98	172			
	177			
	182			
	188			
	193			
	197			

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Cast Iron

ROUND BAR

(mm)	EN-GJL-250	EN-GJS-400-15	EN-GJS-500-7	EN-GJS-600-3	ca. kg/m
20	•				2,5
25	•				4
30	•	•	•		5
35	•	•	•	•	7
40	•	•	•	•	9
45	•	•	•	•	12
50	•	•	•	•	15
55	•	•	•	•	18
60	•	•	•	•	21
65	•	•	•	•	25
70	•	•	•	•	29
75	•	•	•	•	33
80	•	•	•	•	38
85	•	•	•	•	43
90	•	•	•	•	48
95	•	•	•	•	53
100	•	•	•	•	59
105	•	•	•	•	65
110	•	•	•	•	72
115	•	•	•	•	78
120	•	•	•	•	85
125	•	•	•	•	92
130	•	•	•	•	100
135	•	•	•	•	108
140	•	•	•	•	116
145	•	•	•	•	124
150	•	•	•	•	133
160	•	•	•	•	151
170	•	•	•	•	171
180	•	•	•	•	191
190	•	•	•	•	213
200	•	•	•	•	236
210	•	•	•	•	260
220	•	•	•	•	286
230	•	•	•	•	312
240	•	•	•	•	340
250	•	•	•	•	369
260	•	•	•	•	399
270	•	•	•	•	431
280	•	•	•	•	463
290	•	•	•	•	497
300	•	•	•	•	532
310	•	•	•	•	568
320	•	•	•	•	605
330	•	•	•	•	643
340	•	•	•	•	683
350	•	•	•	•	723
360	•	•	•	•	765
370	•	•	•	•	809
380	•	•	•	•	853
390	•	•	•	•	898
400	•	•	•	•	945
410	•	•	•	•	993
420	•	•	•	•	1042
430	•	•	•	•	1092
440	•	•	•		1143
450	•	•	•	•	1196
480	•	•	•		1361
510	•	•			1536
530	•	•	•	•	1659
550	•	•	•	•	1786
600	•	•	•	•	2126

Cast Iron

ROUND BAR proof machined

(mm)	EN-GJL-250	EN-GJS-400-15	EN-GJS-500-7	EN-GJS-600-3	kg/m
463	•	•	•	•	1260
473	•	•	•	•	1320
483	•	•	•		1380
493	•	•	•		1440
513	•	•	•	•	1560
523	•				1620
533	•	•	•		1680
543	•				1707
553	•	•	•	•	1800
563	•				1872
573	•	•	•	•	1950
583	•	•			1968
603	•	•	•	•	2150
613	•	•			2176
623	•				2248
633	•	•	•	•	2375
653	•	•	•	•	2469
673	•	•	•	•	2623
683	•				2701
703	•	•	•	•	2862

SQUARE

(mm)	EN-GJL-250	EN-GJS-400-15	EN-GJS-500-7	EN-GJS 600-3*	kg/m
25	•				5
30	•	•	•		7
35	•	•	•		9
40	•	•	•		12
45	•				15
50	•	•	•		19
55	•				23
60	•	•	•		27
65	•	•	•		32
70	•	•	•		37
75	•	•			42
80	•	•	•		48
85	•	•	•		54
90	•	•	•		61
100	•	•	•	•	75
110	•	•	•		91
120	•	•	•		108
130	•	•	•		127
140	•	•	•	•	147
150	•	•	•	•	169
160	•	•	•		192
170	•	•	•		217
180	•	•	•		244
190	•	•	•		271
200	•	•	•		301
210	•	•	•		332
220	•	•	•		364
230	•	•	•		398
240	•	•	•		433
250	•	•	•		470
260	•	•	•	•	508
270	•	•	•		548
280	•	•	•		589
300	•	•	•	•	677
310	•	•	•		723
330	•	•	•	•	819
360	•	•	•		974
410	•	•	•	•	1264
450	•	•	•		1523
510	•	•	•	•	1955

* EN-GJS-600-3 on request. We hold a wide range of sizes in stock. EN-GJS-600-3 squares and rectangles are being cut from larger stock sizes.

Cast Iron

Is your required size not in our list? Please call our sales team. We can cut almost any size for you. Our Kasto Blockbandsaw is perfect to cut all sizes plates or rectangles.

RECTANGLE

(mm)	EN-GJL-250	EN-GJS-400-15 EN-GJS-500-7	EN-GJS-600-3*	kg/m
40 x 30	•			9
50 x 30	•			11
50 x 40	•			15
60 x 30	•			14
60 x 40	•			18
60 x 50	•			23
70 x 40	•	•		21
70 x 50	•	•		26
70 x 60	•	•		31
80 x 30	•	•		18
80 x 40	•	•		24
80 x 50	•	•		30
80 x 60	•			36
90 x 40	•			27
90 x 50	•	•		34
90 x 60	•	•		41
90 x 70	•	•		47
90 x 80	•			54
100 x 30	•			23
100 x 40	•	•		30
100 x 50	•	•		38
100 x 60	•	•		45
100 x 70	•	•		53
100 x 80	•	•		60
110 x 30	•			25
110 x 40	•			33
110 x 50	•			41
110 x 60	•	•		50
110 x 70	•	•		58
110 x 80	•	•		66
110 x 90	•	•		74
120 x 40	•			36
120 x 50	•	•		45
120 x 60	•			54
120 x 70	•			63
120 x 80	•			72
120 x 90	•			81
130 x 50	•			49
130 x 60	•	•		59
130 x 70	•	•		68
130 x 80	•			78
130 x 90	•	•		88
130 x 100	•	•		98

*EN-GJS-600-3 on request. We hold a wide range of sizes in stock. EN-GJS-600-3 and rectangles are being cut from larger stock sizes.

RECTANGLE

(mm)	EN-GJL-250	EN-GJS-400-15 EN-GJS-500-7	EN-GJS-600-3*	kg/m
130 x 110	•			108
140 x 50	•	•		51
140 x 70	•	•		74
140 x 100	•			105
140 x 120	•			125
150 x 60	•			68
150 x 70	•			79
150 x 80	•	•		90
150 x 90	•			102
150 x 110	•			124
150 x 120	•			135
160 x 40	•			48
160 x 50	•			60
160 x 80	•			96
160 x 130	•	•		159
170 x 50	•	•		64
170 x 90	•	•		115
170 x 110	•			141
170 x 130	•			166
180 x 60	•			81
180 x 90	•			122
180 x 100	•			135
180 x 130	•			176
180 x 140		•		189
190 x 150	•			214
200 x 100	•			150
200 x 160		•		241
205 x 100		•		154
210 x 160		•		253
220 x 50	•	•		83
220 x 150	•	•		248
240 x 160		•		289
270 x 70	•			142
300 x 210	•			474
320 x 65	•			156
410 x 210		•		647
480 x 430		•	•	1552
520 x 360			•	1408
550 x 380	•	•	•	1571
575 x 255		•		1102
620 x 370	•	•		1725
650 x 300	•	•	•	1466

Is your required size not in the list? Please call! We can cut almost every size.

Cast Iron

Comparable specifications table for grades of continuous cast iron

Grey Iron					Ductile Iron			
Country	Standard (Grey Iron)	GG20	GG25	GG30	Standard (Ductile Iron)	GGG40	GGG50	GGG60
Australia	AS 1830: 2002	T-220	T-260	T-300	AS 1831: 2002	400-15	500-7	600-3
Austria	Onorm EN 1561: 1997	GJL-200	GJL-250	GJL-300	Onorm EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Belgium	NBN EN 1561: 1997	GJL-200	GJL-250	GJL-300	NBN EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
United Kingdom	BS EN 1561: 1997	GJL-200	GJL-250	GJL-300	BS EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Denmark	DS EN 1561: 1997	GJL-200	GJL-250	GJL-300	DS EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Finland	SFS 4855	GRS 200	GRS 250	GRS 300	SFS 2113	GRP400	GRP500	GRP600
France	NF EN 1561: 1997	GJL-200	GJL-250	GJL-300	NF EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Germany	DIN EN 1561: 1997	GJL-200	GJL-250	GJL-300	DIN EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Hungary	MSZ 8280	öv 200	öv 250	öv 300	MSZ 8277	Göv 400	Göv 500	Göv 600
I.S.O 1961	R 185	Gr. 20	Gr. 25	Gr. 30	R 1083	Gr.400-12	Gr.500-7	Gr.600-3
Italy	UNI EN 1561: 1997	GJL-200	GJL-250	GJL-300	UNI EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Japan	JIS G 5501: 1995	FC 200	FC 250	FC 300	JIS G 5502: 2001	FCD 400-15	FCD 500-7	FCD 600-3
Yugoslavia (former)	JuscC.J2020	SL 20	SL 25	SL 30	JuscC.J2022	NL 42	NL 50	NL 60
The Netherlands	NEN EN 1561: 1997	GJL-200	GJL-250	GJL-300	EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Norway	NS EN 1561: 1997	GJL-200	GJL-250	GJL-300	NS EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Poland	PNH-83101	ZI 200	ZI 250	ZI 300	PNH-82123	Zs40012	Zs50007	Zs60003
Portugal	NP 1758	FGL 200	FGL 250	FGL 300	NP 17959	FGE400/12	FGE500/7	FGE600/3
Romania	S T A S 568	FC 200	FC 250	FC 300	S T A S 6071	FGN400-15	FGN500-7	FGN600-3
Russia	GOST 1412	SC 20	SC 25	SC 30	GOST 7293	Vch40	Vch50	Vch60
Spain	UNE EN 1561: 1997	GJL-200	GJL-250	GJL-300	UNE EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
USA	ASTM A 48: 2003	Class 25	Class 35	Class 40	ASTM A 536: 1999	65-45-12	70-50-05	80-60-03
Sweden	SS EN 1561: 1997	GJL-200	GJL-250	GJL-300	SS EN 1563: 1997	GJS-400-15	GJS-500-7	GJS-600-3
Switzerland	VSM 10691				VSM 10693			
Meehanite		GE 200	GD 250	GB 300	Meehanite	SF400	SFP500	SPF600

Bronze

	DIN	EN
Alloy	CuSn5ZnPb RG5	CuSn5Zn5Pb5-C
Standard	DIN 1705	EN 1982
Alloy number	2.1096	CC491K

Chemical composition		
Cu	84,0 - 86,0	83,0 - 87,0
Sn	4,0 - 6,0	4,0 - 6,0
Zn	4,0 - 6,0	4,0 - 6,0
Pb	4,0 - 6,0	4,0 - 6,0
Ni		2,0 max.
P		0,10 max.

Mechanical properties	DIN	EN
Rm	≥ 220	≥ 250
Rp 0,2	≥ 90	≥ 110
A5	≥ 16	≥ 13
HB	≥ 60	≥ 65

kg/dm^3	8,7	
Condition	GS	GC, GZ
Characteristics	Construction material. Mainly used in water and steam armatures up to 255 °C. Nowadays mostly replaced by RG7.	

	DIN	EN
Alloy	CuSn7ZnPb RG7	CuSn7Zn4Pb7-C
Standard	DIN 1705	EN 1982
Alloy number	2.1090	CC493K

Chemical composition		
Cu	81,0 - 85,0	81,0 - 85,0
Sn	6,0 - 8,0	6,0 - 8,0
Zn	3,0 - 5,0	2,0 - 5,0
Pb	5,0 - 7,0	5,0 - 8,0
Ni	2,0 max.	2,0 max.
P	0,2 max.	0,10 max.

Mechanical properties	DIN	EN
Rm	≥ 270	≥ 260
Rp 0,2	≥ 120	≥ 120
A5	≥ 16	≥ 12
HB	≥ 70	≥ 70

kg/dm^3	8,8	
Condition	GC	GC, GZ
Characteristics	Most common used bronze alloy, also called bearing bronze. Suitable for bearings with middle duty load, good sliding and dry running properties and good machinability. Main purposes: bearings, slide strips and valves. RG7 has a very good lubricant structure.	

	DIN	EN
Alloy	CuSn10	CuSn10-C
Standard	DIN 1705	EN 1982
Alloy number	2.1050	CC480K

Chemical composition		
Cu	88,0 - 90,0	88,0 - 90,0
Sn	9,0 - 11,0	9,0 - 11,0
Zn	0,5 max.	0,5 max.
Pb	1,0 max.	1,0 max.
Ni	2.0 max.	2,0 max.
P	0,2 max.	0,2 max.

Mechanical properties	DIN	EN
Rm	≥ 270	≥ 280
Rp 0,2	≥ 130	≥ 170
A5	≥ 18	≥ 10
HB	≥ 70	≥ 80

kg/dm^3	ca 8,7	
Condition	GS	GS, GC, GZ
Characteristics	Construction material with higher elongation and good corrosion- and seawater resistance.	

ELCAS BV

Bronze

	DIN	EN
Alloy	CuSn12 Gbz12	CuSn12-C
Standard	DIN 1705	EN 1982
Alloy number	2.1052	CC483K

Chemical composition

Cu	84,0 - 88,5	85,0 - 88,5
Sn	11,0 - 13,0	11,0 - 13,0
Zn	1,0 max.	0,5 max.
Pb	1,0 max.	0,7 max.
Ni	2,0 max.	2,0 max.
P	0,4 max.	0,6 max.

Mechanical properties

	DIN	EN
Rm	≥ 280	≥ 300
Rp 0,2	≥ 140	≥ 150
A5	≥ 8	≥ 6
HB	≥ 90	≥ 90

kg/dm^3	ca. 8,7	
Condition	GC	GC, GZ
Characteristics	Corrosion and seawater resistance, high wear resistance suitable even at high sliding speeds. Better mechanical values then RG7 because of a higher content of tin and a less content of lead and zinc. Because of that the dry running properties and the machinability are not as good as for RG7. Typical use: bearings with high sliding speed, heavy duty worm wheels and spindles.	

	DIN	EN
Alloy	CuSn12Ni Gbz12Ni	CuSn12Ni2-C
Standard	DIN 1705	EN 1982
Alloy number	2.1060	CC484K

Chemical composition

Cu	84,0 - 87,0	84,5 - 87,5
Sn	11,0 - 13,0	11,0 - 13,0
Zn	0,4 max.	0,4 max.
Pb	0,3 max.	0,3 max.
Ni	1,5 - 2,5	1,5 - 2,5
P	0,2 max.	0,05 - 0,40

Mechanical properties

	DIN	EN
Rm	≥ 300	≥ 300
Rp 0,2	≥ 170	≥ 180
A5	≥ 10	≥ 10
HB	≥ 90	≥ 95

kg/dm^3	8,6	
Condition	GC	GC,GZ
Characteristics	Typical for CuSn12Ni are its higher mechanical values in comparison with CuSn12. Typical use: heavy duty spindles, valves or worm wheels.	

	DIN	EN
Alloy	CuSn12Pb Gbz12Pb	CuSn11Pb2-C
Standard	DIN 1705	EN 1982
Alloy number	2.1061	CC482K

Chemical composition

Cu	84,0 - 87,0	83,5 - 87,0
Sn	11,0 - 13,0	10,5 - 12,5
Zn	1,0 max.	2,0 max.
Pb	1,0 - 2,0	0,7 - 2,5
Ni	2,0 max.	2,0 max.
P	0,2 max.	0,4 max.

Mechanical properties

	DIN	EN
Rm	≥ 280	≥ 280
Rp 0,2	≥ 140	≥ 150
A5	≥ 7	≥ 5
HB	≥ 85	≥ 90

kg/dm^3	8,7	
Condition	GC	GC, GZ
Characteristics	CuSn12Pb has in comparison with CuSn12 better dry running properties due to its lead content. Typical use is often where the dry running properties of RG7 are necessary, and the mechanical values of CuSn12 are needed. CuSn12Pb offers in this context a nice solution between those two alloys.	

Explanation used abbreviations

Rm	Tensile strength N/mm^2
Rp 0,2	0.2 Yield strength N/mm^2
A5	Elongation at fracture in %
HB	Brinell Hardness
kg/dm^3	Density

Production methods (Condition)

GC	Continuous cast
GZ	Centrifugally cast
G / GS	Sand cast
GK / GM	Static cast

Bronze

Delivery program bronze

	round bar	tube	square	rectangle	hexagon
CuSn5Zn5Pb7	on request	on request	on request	on request	on request
CuSn7Zn4Pb7	13 mm - 454 mm	21 x 9 mm - 434 x 296 mm	22 mm - 202 mm	22 x 7 mm - 510 x 28 mm	17 mm - 65 mm
CuSn10Zn	on request	on request	on request	on request	-
CuSn10-C	on request	on request	on request	on request	-
CuSn12-C	13 mm - 454 mm	21 x 9 mm - 434 x 296 mm	22 mm - 202 mm	22 x 7 mm - 312 x 102 mm	-
CuSn12Ni2-C	on request	on request	on request	on request	-
CuSn11Pb2-C	on request	on request	on request	on request	-

Standard lengths: ca. 3000 mm, 2000 mm, 1000 mm en 500 mm.

Our foundries are able to centrifugally cast (flanged) tubes in any size, up to a diameter of Ø 2000 mm and length up to 3000 mm in all current alloys.

On request:
- Finished machined components to your requirements
- Pattern casting

The given weights are theoretical.

On the stated cast sizes a tolerance is applicable:

Outside diameter	Outside	Inside
t/m Ø 117 mm	+ 0 / + 1 mm	- 0 / -1 mm
Ø 122 - Ø 202 mm	+ 0 / + 1,5 mm	- 0 / - 1,5 mm
Ø 212 - Ø 404 mm	+ 0 / + 2 mm	- 0 / - 2 mm
square and rectangle	+ 0 / + 2 mm	

The machining allowance on the finished sizes is sufficient for lengths < 250 mm.
For finished part lengths > 250 mm - especially diameters > 172 mm- a higher machining allowance is necessary.

Bronze

ROUND BAR

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
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
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
324	320	•	•	735,0
334	330	•	•	785,0
354	350	•	•	881,0
404	400	•	•	1147,0

HEXAGON

A/F (mm)		CuSn7Zn4Pb7		ca. kg/m
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

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
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

Is your required size not on our stock list? Please contact our sales office.
Continuous cast round bars, tubes, shapes and rectangles in any common alloy can be produced up to a size of approx. 404 mm outside and a length of 4000 mm.

Bronze

TUBE

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
26 x 14	25 x 15	•	•	3,3
26 x 17	25 x 18	•		2,7
31 x 14	30 x 15	•	•	5,4
31 x 19	30 x 20	•	•	4,4
33 x 19	32 x 20	•	•	5,4
33 x 23	32 x 24	•		3,9
36 x 14	35 x 15	•	•	7,9
36 x 19	35 x 20	•	•	6,4
36 x 24	35 x 25	•	•	5,4
41 x 14	40 x 15	•	•	10,5
41 x 19	40 x 20	•	•	9,2
41 x 24	40 x 25	•	•	8,1
41 x 29	40 x 30	•	•	6,3
46 x 14	45 x 15	•	•	13,5
46 x 19	45 x 20	•	•	12,5
46 x 24	45 x 25	•	•	11,0
46 x 29	45 x 30	•	•	9,3
46 x 34	45 x 35	•	•	7,2
51 x 19	50 x 20	•	•	15,9
51 x 24	50 x 25	•	•	14,5
51 x 29	50 x 30	•	•	12,7
51 x 34	50 x 35	•	•	10,6
51 x 39	50 x 40	•	•	8,1
56 x 19	55 x 20	•	•	20,5
56 x 24	55 x 25	•	•	18,5
56 x 29	55 x 30	•	•	17,0
56 x 34	55 x 35	•	•	14,5
56 x 39	55 x 40	•	•	12,0
56 x 44	55 x 45	•		9,2
61 x 19	60 x 20	•	•	23,7
61 x 24	60 x 25	•	•	23,0
61 x 29	60 x 30	•	•	20,5
61 x 34	60 x 35	•	•	18,0
61 x 39	60 x 40	•	•	16,0
61 x 44	60 x 45	•	•	13,0
61 x 49	60 x 50	•	•	10,0
66 x 24	65 x 25	•	•	26,7
66 x 29	65 x 30	•	•	25,0
66 x 34	65 x 35	•	•	22,8
66 x 39	65 x 40	•	•	20,3
66 x 44	65 x 45	•	•	17,5
66 x 49	65 x 50	•	•	14,3
66 x 54	65 x 55	•		11,0
71 x 18	70 x 20	•		33,0
71 x 23	70 x 25	•	•	31,6
71 x 28	70 x 30	•	•	30,0
71 x 33	70 x 35	•	•	28,6
71 x 38	70 x 40	•	•	25,0
71 x 43	70 x 45	•	•	22,5
71 x 48	70 x 50	•	•	19,0
71 x 53	70 x 55	•	•	15,5
71 x 58	70 x 60	•	•	11,7
76 x 23	75 x 25	•	•	36,7
76 x 28	75 x 30	•	•	35,0
76 x 33	75 x 35	•		32,9
76 x 38	75 x 40	•	•	31,3
76 x 43	75 x 45	•		28,0

TUBE

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
76 x 48	75 x 50	•	•	25,0
76 x 53	75 x 55	•		20,5
76 x 58	75 x 60	•	•	17,5
76 x 63	75 x 65	•		12,6
81 x 28	80 x 30	•	•	41,5
81 x 33	80 x 35	•		38,3
81 x 38	80 x 40	•	•	37,0
81 x 43	80 x 45	•		32,9
81 x 48	80 x 50	•	•	31,0
81 x 53	80 x 55	•		26,4
81 x 58	80 x 60	•	•	23,5
81 x 63	80 x 65	•		18,3
81 x 68	80 x 70	•	•	14,8
86 x 28	85 x 30	•	•	46,2
86 x 38	85 x 40	•	•	42,5
86 x 43	85 x 45	•	•	38,8
86 x 48	85 x 50	•	•	35,8
86 x 53	85 x 55	•		32,0
86 x 58	85 x 60	•	•	29,0
86 x 63	85 x 65	•		24,1
86 x 68	85 x 70	•		19,3
86 x 73	85 x 75	•		14,6
91 x 28	90 x 30	•	•	53,5
91 x 33	90 x 35		•	50,5
91 x 38	90 x 40	•	•	48,1
91 x 48	90 x 50	•	•	43,0
91 x 58	90 x 60	•	•	35,5
91 x 63	90 x 65	•		30,4
91 x 68	90 x 70	•	•	26,5
91 x 73	90 x 75	•	•	20,9
91 x 78	90 x 80	•		15,3
96 x 43	95 x 45	•		51,5
96 x 48	95 x 50	•	•	49,0
96 x 58	95 x 60	•	•	40,9
96 x 63	95 x 65	•		37,0
96 x 68	95 x 70	•	•	33,0
96 x 73	95 x 75	•	•	27,3
96 x 78	95 x 80	•		21,9
102 x 28	100 x 30	•	•	67,3
102 x 38	100 x 40	•	•	63,0
102 x 48	100 x 50	•	•	56,5
102 x 58	100 x 60	•	•	49,0
102 x 68	100 x 70	•	•	40,4
102 x 73	100 x 75	•		35,7
102 x 78	100 x 80	•	•	30,0
102 x 83	100 x 85	•		24,7
102 x 88	100 x 90	•		18,7
107 x 58	105 x 60	•	•	56,5
107 x 63	105 x 65	•		52,9
107 x 68	105 x 70	•		47,7
107 x 73	105 x 75	•		43,0
107 x 78	105 x 80	•	•	37,5
107 x 83	105 x 85	•	•	32,0
107 x 93	105 x 95	•		19,6
112 x 38	110 x 40	•	•	77,1

Bronze

TUBE

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
112 x 48	110 x 50	•	•	70,9
112 x 58	110 x 60	•	•	64,0
112 x 68	110 x 70	•	•	55,4
112 x 78	110 x 80	•	•	45,0
112 x 88	110 x 90	•	•	33,5
112 x 98	110 x 100	•		20,6
117 x 73	115 x 75	•		58,9
117 x 78	115 x 80	•	•	55,5
117 x 83	115 x 85	•		47,6
117 x 88	115 x 90	•	•	41,5
117 x 93	115 x 95	•		35,3
117 x 98	115 x 100	•	•	28,6
122 x 38	120 x 40		•	94,0
122 x 48	120 x 50	•	•	87,9
122 x 58	120 x 60	•	•	80,5
122 x 68	120 x 70	•	•	71,7
122 x 78	120 x 80	•	•	61,5
122 x 88	120 x 90	•	•	49,9
122 x 98	120 x 100	•	•	36,9
122 x 108	120 x 110	•		22,5
127 x 43	125 x 45	•		99,8
127 x 73	125 x 75	•		75,8
127 x 83	125 x 85	•		64,7
127 x 93	125 x 95	•		52,3
127 x 98	125 x 100	•	•	45,6
127 x 108	125 x 110	•		31,2
132 x 58	130 x 60	•	•	99,0
132 x 68	130 x 70	•	•	89,5
132 x 78	130 x 80	•	•	79,3
132 x 88	130 x 90	•	•	67,7
132 x 98	130 x 100	•	•	54,7
132 x 108	130 x 110	•	•	40,3
137 x 118	135 x 120	•		34,0
142 x 58	140 x 60	•	•	118,0
142 x 68	140 x 70	•		108,7
142 x 78	140 x 80	•	•	98,5
142 x 88	140 x 90	•	•	86,9
142 x 98	140 x 100	•	•	74,0
142 x 108	140 x 110	•	•	59,4
142 x 118	140 x 120	•	•	43,6
142 x 123	140 x 125	•		37,0
152 x 48	150 x 50		•	146,0
152 x 58	150 x 60	•		138,0
152 x 68	150 x 70	•	•	129,2
152 x 78	150 x 80	•		119,0
152 x 88	150 x 90	•	•	107,5
152 x 98	150 x 100	•	•	94,5
152 x 108	150 x 110	•	•	80,0
152 x 118	150 x 120	•	•	64,2
152 x 128	150 x 130	•	•	47,1
152 x 133	150 x 135	•		37,8
157 x 123	155 x 125	•		67,0
157 x 138	155 x 140	•		39,4

TUBE

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
162 x 78	160 x 80	•		141,0
162 x 88	160 x 90	•	•	130,0
162 x 98	160 x 100	•	•	116,2
162 x 108	160 x 110	•	•	101,9
162 x 118	160 x 120	•	•	86,1
162 x 128	160 x 130	•	•	68,7
162 x 138	160 x 140	•	•	50,7
172 x 68	170 x 70	•	•	174,5
172 x 88	170 x 90	•	•	152,6
172 x 98	170 x 100	•	•	140,0
172 x 108	170 x 110	•		125,5
172 x 118	170 x 120	•	•	109,5
172 x 128	170 x 130	•	•	92,3
172 x 138	170 x 140	•	•	74,0
172 x 148	170 x 150	•	•	53,9
182 x 78	180 x 80	•		189,0
182 x 88	180 x 90		•	177,4
182 x 98	180 x 100	•		167,0
182 x 118	180 x 120	•	•	134,1
182 x 128	180 x 130	•	•	117,0
182 x 138	180 x 140	•		99,0
182 x 148	180 x 150	•	•	79,0
182 x 158	180 x 160	•		57,5
192 x 78	190 x 80		•	217,1
192 x 98	190 x 100	•		191,0
192 x 108	190 x 110	•	•	176,4
192 x 118	190 x 120	•	•	161,0
192 x 128	190 x 130	•		143,2
192 x 148	190 x 150	•	•	105,0
192 x 158	190 x 160	•	•	84,0
192 x 168	190 x 170	•	•	64,0
202 x 88	200 x 90	•	•	231,0
202 x 98	200 x 100	•	•	217,9
202 x 118	200 x 120	•	•	187,8
202 x 128	200 x 130	•		171,0
202 x 138	200 x 140	•	•	153,0
202 x 148	200 x 150	•	•	133,0
202 x 158	200 x 160	•	•	111,0
202 x 168	200 x 170	•	•	88,0
202 x 178	200 x 180	•	•	64,0
212 x 108	210 x 110	•		237,0
212 x 128	210 x 130	•	•	204,0
212 x 148	210 x 150	•	•	166,0
212 x 158	210 x 160	•	•	145,0
212 x 168	210 x 170	•	•	122,0
212 x 178	210 x 180	•	•	98,0
222 x 98	220 x 100	•	•	282,0
222 x 118	220 x 120	•		252,0
222 x 138	220 x 140	•	•	216,0
222 x 148	220 x 150	•	•	197,0
222 x 158	220 x 160	•	•	175,0
222 x 168	220 x 170	•	•	153,0
222 x 178	220 x 180	•	•	129,0
222 x 188	220 x 190	•		103,0
227 x 198	225 x 200	•		92,0
232 x 118	230 x 120	•	•	281,4

Bronze

TUBE

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
232 x 138	230 x 140		•	248,0
232 x 148	230 x 150	•	•	228,0
232 x 158	230 x 160	•		207,0
232 x 168	230 x 170	•	•	185,0
232 x 178	230 x 180	•		161,0
232 x 188	230 x 190		•	135,0
242 x 138	240 x 140	•		282,0
242 x 158	240 x 160		•	241,0
242 x 168	240 x 170	•		218,0
242 x 178	240 x 180	•	•	194,0
242 x 188	240 x 190	•	•	168,0
242 x 198	240 x 200	•	•	142,0
252 x 98	250 x 100	•		382,0
252 x 148	250 x 150	•	•	296,0
252 x 158	250 x 160	•		275,0
252 x 178	250 x 180	•	•	228,0
252 x 198	250 x 200	•	•	176,0
252 x 208	250 x 210	•		148,0
262 x 158	260 x 160	•	•	311,0
262 x 168	260 x 170	•		300,0
262 x 188	260 x 190	•		239,0
262 x 198	260 x 200	•	•	212,0
262 x 208	260 x 210	•		184,0
262 x 218	260 x 220	•		154,0
272 x 168	270 x 170	•	•	326,0
272 x 198	270 x 200	•		250,0
272 x 208	270 x 210	•		221,0
272 x 218	270 x 220	•	•	192,0
272 x 238	270 x 240	•		124,0
282 x 138	280 x 140	•		426,7
282 x 178	280 x 180	•		341,0
282 x 198	280 x 200	•	•	289,0
282 x 208	280 x 210	•		260,0
282 x 218	280 x 220	•		231,0
282 x 228	280 x 230	•	•	199,0
285 x 245	283 x 247	•		149,0
287 x 147	285 x 150		•	424,7
292 x 208	290 x 210	•		301,0
292 x 218	290 x 220	•		271,0
292 x 238	290 x 240	•		207,5
303 x 265	300 x 268	•		150,8
304 x 146	300 x 150	•	•	503,0
304 x 196	300 x 200	•	•	385,0
304 x 246	300 x 250	•	•	231,0
309 x 224	304 x 228	•		228,6
312 x 198	310 x 200	•		406,4
322 x 218	320 x 220	•		408,0
332 x 273	330 x 275	•		250,0
354 x 196	350 x 200	•	•	615,0
354 x 246	350 x 250	•	•	461,0
354 x 296	350 x 300	•	•	273,0
363 x 307	360 x 310	•	•	264,9
404 x 246	400 x 250	•		727,0
404 x 296	400 x 300	•	•	538,0
404 x 346	400 x 350	•		315,0
434 x 296	430 x 300	•	•	730,0

RECTANGLE

cast size (mm)	finished size (mm)	CuSn7Zn4Pb7	CuSn12-C	ca. kg/m
22 x 12	20 x 10	•		2,6
27 x 17	25 x 15	•		4,6
32 x 12	30 x 10	•	•	3,9
32 x 17	30 x 15	•	•	5,5
32 x 22	30 x 20	•	•	7,0
42 x 12	40 x 10	•	•	4,5
42 x 17	40 x 15	•	•	7,1
42 x 22	40 x 20	•	•	9,1
42 x 32	40 x 30	•	•	12,6
52 x 12	50 x 10	•	•	6,3
52 x 17	50 x 15	•	•	8,4
52 x 22	50 x 20	•	•	10,8
52 x 37	50 x 35	•	•	18,5
62 x 12	60 x 10	•	•	6,7
62 x 17	60 x 15	•	•	10,4
62 x 22	60 x 20	•	•	13,3
62 x 27	60 x 25	•	•	15,7
62 x 32	60 x 30	•	•	19,1
62 x 42	60 x 40	•	•	24,1
72 x 12	70 x 10	•	•	8,7
72 x 22	70 x 20	•	•	14,3
82 x 12	80 x 10	•	•	9,9
82 x 17	80 x 15	•	•	13,7
82 x 22	80 x 20	•	•	17,5
82 x 37	80 x 35	•		28,0
82 x 42	80 x 40	•	•	32,7
82 x 52	80 x 50	•	•	40,3
82 x 62	80 x 60	•	•	45,2
102 x 12	100 x 10	•	•	11,9
102 x 17	100 x 15	•	•	16,5
102 x 22	100 x 20	•	•	21,1
102 x 27	100 x 25	•	•	24,5
102 x 32	100 x 30	•	•	29,4
102 x 42	100 x 40	•	•	38,1
102 x 47	100 x 45		•	44,0
102 x 52	100 x 50	•	•	48,6
102 x 62	100 x 60	•	•	56,3
102 x 72	100 x 70	•		66,9
122 x 22	120 x 20	•	•	25,9
142 x 12	142 x 10	•	•	15,2
152 x 12	150 x 10	•	•	18,2
152 x 17	150 x 15	•	•	25,3
152 x 22	150 x 20	•	•	32,3
152 x 27	150 x 25	•	•	38,1
152 x 32	150 x 30	•	•	44,9
152 x 42	150 x 40	•	•	60,3
152 x 52	150 x 50	•	•	74,3
312 x 12	310 x 10	•	•	37,0
312 x 17	310 x 15	•	•	51,0
312 x 22	310 x 20	•	•	65,0
312 x 27	310 x 25	•	•	79,0
312 x 32	310 x 30	•	•	93,0
312 x 37	310 x 35	•	•	105,9
312 x 42	310 x 40	•	•	121,0
312 x 47	310 x 45	•	•	137,7
312 x 52	310 x 50	•	•	148,0
312 x 62	310 x 60	•	•	180,8
312 x 72	310 x 70	•	•	199,9
312 x 82	310 x 80	•	•	227,7
312 x 102	310 x 100	•	•	283,2
460 x 22	455 x 19	•		94,0
510 x 28	505 x 25	•		134,0

ELCAS BV

Aluminiumbronze

Characteristics

Aluminiumbronzes are characterized by its high mechanical properties. In situations where the properties of regular leaded-bronzes and gunmetals do not meet your demands anymore, the aluminiumbronzes do many times fit in your design. The aluminium copper combination guarantees very high mechanical values. Because of the absence of lead and zinc, bearings of aluminiumbronze have to be very well lubricated. We can supply continuous cast and extruded aluminiumbronze. Extruded material is drawn for diameters up to Ø 60 mm and can be supplied with tolerances of h9 or h11.

	DIN	**EN**
Alloy	CuAl10Ni NiAlBz-F60	CuAl10Fe5Ni5-C
Standard	DIN 1714	EN 1982
Alloy number	2.0975	CC333G
Chemical composition		
Cu	76,0 min.	76,0 - 83,0
Al	8,5 - 11,0	8,5 - 10,5
Ni	4,0 - 6,5	4,0 - 6,0
Fe	3,5 - 5,5	4,0 - 5,5
Mn	3,0 max.	3,0 max.
kg/dm^3	ca. 7,6	
Condition	GC, GK, GZ	GC, GK, GZ

Mechanical properties	**DIN**	**EN**
Rm	≥ 700	≥ 650
Rp 0,2	≥ 300	≥ 280
A5	≥ 13	≥ 13
HB	≥ 160	≥ 150

	DIN	**EN**
Alloy	CuAl11Ni NiAlBz-F68	CuAl11Fe6Ni6-C
Standard	DIN 1714	EN 1982
Alloy number	2.0980	CC334G
Chemical composition		
Cu	73,0 min.	72,0 - 78,0
Al	9,0 - 12,3	10,0 - 12,0
Ni	5,0 - 7,5	4,0 - 7,5
Fe	4,0 - 7,0	4,0 - 7,0
Mn	2,5 max.	2,5 max.
kg/dm^3	ca. 7,6	
Condition	GC	GZ
Characteristics	Comparable with CuAl10Ni, but this alloy has better cavitation and wear resistance properties. Typical use for heavy duty bearings or machine parts.	

Mechanical properties	**DIN**	**EN**
Rm	≥ 750	≥ 750
Rp 0,2	≥ 400	≥ 380
A5	≥ 5	≥ 5
HB	≥ 185	≥ 185

	DIN	**EN**
Alloy	CuAl10Fe FeAlBz-F50	CuAl10Fe2-C
Standard	DIN 1714	EN 1982
Alloy number	2.0940	CC331G
Chemical composition		
Cu	83,0 min	83,0 - 89,5
Al	8,0 - 11,0	8,5 - 10,5
Ni	3,0 max.	1,5 max.
Fe	2,0 - 4,0	1,5 - 3,5
Mn	1,0 max.	1,0 max.
kg/dm^3	ca. 7,5	
Condition	GZ	GC, GZ
Characteristics	Aluminiumbronze with higher tensile strength, good wear resistance and a fine microstructure. Due to the lower nickel content this alloy is not corrosion resistant. See also **Concast 954**.	

Mechanical properties	**DIN**	**EN**
Rm	≥ 550	≥ 550
Rp 0,2	≥ 200	≥ 200
A5	≥ 15	≥ 15
HB	≥ 115	≥ 130

Aluminiumbronze

	DIN	EN
Alloy	CuAl10Ni5Fe4	CuAl10Ni5Fe4
Standard	DIN 17665, 17672	EN 12163, 12167, 12420, 1653
Alloy number	2.0966	CW307G

Chemical composition		
Cu	rest	rest
Al	8,5 - 11,0	8,5 - 11,0
Ni	4,0 - 6,0	4,0 - 6,0
Fe	2,0 - 5,0	3,0 - 5,0
Mn	1,5 max.	1,0 max.

Mechanical properties 1)	DIN	EN
Rm	≥ 640	≥ 680
Rp 0,2	≥ 270	≥ 480
A5	≥ 15	≥ 10
HB	≥ 180	

kg/dm^3 ca. 7,5
Condition Drawn or pressed depending on the size
Characteristics Construction and bearing material with good corrosion resistance, cavitation and mechanical wear, also at higher temperatures.

	DIN	EN
Alloy	CuAl10Fe3Mn2	CuAl10Fe3Mn2
Standard	DIN 17665, 17672	EN 12163, 12167, 12420
Alloy number	2.0936	CW306G

Chemical composition		
Cu	rest	rest
Al	8,5 - 11,0	9,0 - 11,0
Fe	2,0 - 4,0	2,0 - 4,0
Mn	1,5 - 3,5	1,5 - 3,5
Ni	1,0 max.	1,0 max

Mechanical properties 1)	DIN	EN
Rm	≥ 590	≥ 590
Rp 0,2	≥ 250	≥ 330
A5	≥ 12	≥ 12
HB	≥ 150	

kg/dm^3 ca. 7,6
Condition Drawn or pressed depending on the size
Characteristics Construction material used in chemical machine building and fire resistant parts.

	DIN	EN
Alloy	CuAl11Ni6Fe5	CuAl11Fe6Ni6
Standard	DIN 17665, 17672	EN 12163, 12167, 12420
Alloynumber	2.0978	CW308G

Chemical composition		
Cu	rest	rest
Al	10,5 - 12,5	10,5 - 12,5
Ni	5,0 - 7,5	5,0 - 7,0
Fe	4,8 - 7,3	5,0 - 7,0
Mn	1,5 max.	1,5 max.

Mechanical properties 1)	DIN	EN
Rm	≥ 730	≥ 750
Rp 0,2	≥ 440	≥ 450
A5	≥ 5	≥ 10
HB	≥ 210	

kg/dm^3 ca. 7,4
Condition Drawn or pressed depending on the size
Characteristics Comparable with CuAl10Ni5Fe4 though with higher mechanical values.
Typical use heavy duty bearings and machine parts.

Remarks
1) Mechanical properties are for instance depending on the size and specification of the alloy. The given values are from the most common standards.

Aluminiumbronze

The differences between aluminiumbronze according EN 1982 and EN 12163, 12167, 12420

Aluminiumbronze according EN 1982

These standards are applicable for all aluminiumbronzes which are produced by continuous casting and centrifugally casting. The given machining allowances are in use for maximum part lengths of 250 mm. For longer part lengths more machining allowance is necessary. The tolerances on the cast sizes are mostly -0/+2 mm for wallthicknesses of 12 mm and more. Deviations are always possible.

Aluminiumbronze according EN 12163, 12167, 12420

These standards are applicable for all aluminiumbronzes which are produced by extrusion or extrusion and cold drawing. This production form mainly produces round bars, hexagons, squares and rectangles. Material produced according these standards does not have a machining allowance. Tubes can only be produced according DIN 1714(see above).

Production methods (condition)

GC	Continuous cast
GZ	Centrifugally cast
G / GS	Sand cast
GK / GM	Static cast

We can cut almost any size for you. With our Kasto Blockbandsaw we can cut plates and rectangles in all sizes horizontally as well as vertcally.

Aluminiumbronze

Delivery program aluminiumbronze

	round bar	tube	square	rectangle	sheet	hexagon
CuAl10Fe5Ni5-C	17 - 304 mm	32 x 18 mm - 222 x 178 mm	32 - 152 mm	32 x 22 mm - 384 x 105 mm		
CuAl11Fe6Ni6-C	on request	on request				
CuAl10Fe2-C (=Concast 954)	14 - 385 mm	33 x 17 mm - 232 x 174 mm	14 - 154 mm	26 x 8 mm - 384 x 105 mm		
CuAl10Ni5Fe4	8 - 363 mm	-	20 - 160 mm	20 x 10 mm - 160 x 25 mm	2 - 130 mm	10 - 70 mm

Standard lengths: ca. 3000 mm, 2000 mm, 1000 mm en 500 mm.
Our foundries are able to centrifugally cast (flanged) tubes in any size, up to a diameter of Ø 2000 mm and length up to 3000 mm in all current alloys.

On request:

- Finished machined components to your requirements
- Pattern casting

The given weights are theoretical.

Tolerances on the cast size

		Outside	Inside
CuAl10Fe5Ni5-C	bars	+ 0 / +2 mm	
CuAl10Fe5Ni5-C	tubes < 150 mm	+ 0 / +2 mm	- 0 / - 2 mm
CuAl10Ni5Fe4	bars Ø 12 up till Ø 20 mm	h11	
	bars Ø 21 up till Ø 30 mm	+ 0,5 mm	
	bars Ø 31 up till Ø 80 mm	+ 1 mm	
	bars Ø 81 up till Ø 100 mm	+ 1,5 mm	
	bars Ø 101 up till Ø 162 mm	+ 2,5 mm	

The machining allowance on the finished sizes is sufficient for lengths < 250 mm.
For finished part lengths > 250 mm - especially diameters > 172 mm - a higher machining allowance is necessary. .

Aluminiumbronze

ROUND BAR CuAl10Fe5Ni5-C EN 1982

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

SQUARE CuAl10Fe5Ni5-C EN 1982

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

TUBE CuAl10Fe5Ni5-C EN 1982

cast size (mm)	finished size (mm)	ca. kg/m
32 x 18	30 x 20	5,0
42 x 18	40 x 20	8,8
42 x 23	40 x 25	8,0
42 x 28	40 x 30	6,4
47 x 23	45 x 25	10,7
47 x 28	45 x 30	9,1
52 x 18	50 x 20	15,0
52 x 28	50 x 30	12,3
52 x 38	50 x 40	8,3
57 x 28	55 x 30	15,6
57 x 33	55 x 35	13,8
57 x 38	55 x 40	11,6
57 x 43	55 x 45	8,6
62 x 18	60 x 20	22,1
62 x 28	60 x 30	19,3
62 x 38	60 x 40	15,3
62 x 48	60 x 50	10,1
67 x 28	65 x 30	23,3
67 x 33	65 x 35	20,8
67 x 38	65 x 40	19,3
67 x 48	65 x 50	14,1
72 x 28	70 x 30	27,6
72 x 38	70 x 40	23,6
72 x 43	70 x 45	21,1
72 x 48	70 x 50	18,4
72 x 53	70 x 55	15,3
72 x 58	70 x 60	12,0
77 x 28	75 x 30	32,0
77 x 33	75 x 35	30,3
77 x 43	75 x 45	26,7
77 x 58	75 x 60	16,5
82 x 28	80 x 30	37,1
82 x 38	80 x 40	33,1
82 x 48	80 x 50	27,9
82 x 58	80 x 60	21,4
82 x 68	80 x 70	13,8
87 x 33	85 x 35	39,7
87 x 48	85 x 50	33,1
87 x 53	85 x 55	30,1
87 x 58	85 x 60	26,6
87 x 63	85 x 65	22,2
87 x 68	85 x 70	19,0
92 x 38	90 x 40	43,8
92 x 48	90 x 50	38,6
92 x 58	90 x 60	32,2
92 x 68	90 x 70	24,5
92 x 78	90 x 80	15,6
97 x 33	95 x 35	51,0
97 x 38	95 x 40	48,8
97 x 43	95 x 45	46,3
97 x 58	95 x 60	37,3
102 x 38	100 x 40	55,8
102 x 48	100 x 50	50,5
102 x 58	100 x 60	44,1
102 x 68	100 x 70	36,5
102 x 78	100 x 80	27,6
112 x 48	110 x 50	63,7

TUBE CuAl10Fe5Ni5-C EN 1982

cast size (mm)	finished size (mm)	ca. kg/m
112 x 58	110 x 60	57,3
112 x 68	110 x 70	49,6
112 x 78	110 x 80	40,7
112 x 88	110 x 90	30,6
122 x 48	120 x 50	78,1
122 x 58	120 x 60	71,7
122 x 68	120 x 70	64,0
122 x 73	120 x 75	58,5
122 x 78	120 x 80	56,3
122 x 88	120 x 90	45,0
122 x 98	120 x 100	33,7
132 x 58	130 x 60	86,1
132 x 68	130 x 70	79,6
132 x 78	130 x 80	72,5
132 x 88	130 x 90	60,7
132 x 98	130 x 100	50,0
132 x 108	130 x 110	39,0
142 x 68	140 x 70	96,5
142 x 78	140 x 80	87,6
142 x 88	140 x 90	77,5
142 x 98	140 x 100	67,7
142 x 108	140 x 110	57,0
142 x 118	140 x 120	38,2
152 x 78	150 x 80	105,7
152 x 88	150 x 90	95,6
152 x 98	150 x 100	84,2
152 x 108	150 x 110	71,7
152 x 118	150 x 120	58,0
152 x 128	150 x 130	43,6
162 x 78	160 x 80	124,5
162 x 88	160 x 90	114,4
162 x 98	160 x 100	103,5
162 x 108	160 x 110	92,6
162 x 118	160 x 120	77,2
162 x 128	160 x 130	62,2
163 x 137	160 x 140	53,0
172 x 78	170 x 80	144,9
172 x 108	170 x 110	111,1
172 x 118	170 x 120	96,0
182 x 98	180 x 100	145,8
182 x 108	180 x 110	136,8
182 x 118	180 x 120	118,0
182 x 128	180 x 130	104,5
182 x 138	180 x 140	90,6
192 x 138	190 x 140	110,0
192 x 148	190 x 150	93,5
202 x 138	200 x 140	135,0
202 x 148	200 x 150	116,0
213 x 157	210 x 160	129,2

Different sizes in tubes and rings can be supplied in centrifugally cast.

Aluminiumbronze

CuAl10Fe5Ni5-C
EN 1982
RECTANGLE

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

CuAl10Ni5Fe4
EN 12163
ROUND BAR

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

CuAl10Ni5Fe4
EN 12163
HEXAGON

size (mm)	ca. kg/m
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	6,7
36	8,5
41	11,1
46	13,9
50	16,5
55	19,9

FOR MORE ALUMINIUMBRONZE SEE CONCAST

Concast® aluminiumbronze

Elcas has the exclusive representation of Concast Metal Products Co. USA, for all products, in Europe. Concast Metal Products Co. is the largest manufacturer of continuous cast bronzes in the USA.

Together with our German partner Albromet HandelsgesellschaftmbH, we are able to offer you an extensive program in high hardness aluminiumbronzes from stock in Germany.
A separate brochure with technical details is available.

Chemical composition	Cu	Fe	Ni	Al	Mn	Co
Concast 954	83,0 min.	3,0 - 5,0	0 - 1,5	10 - 11,5	0 - 0,5	-
Concast 959	rest	3,0 - 5,0	0 - 0,5	12 - 13,5	0 - 1,5	-
Concast 380	rest	4,5 - 6,5	-	14,0 - 16,0	0 - 3,25	0 - 2.5

Mechanical Properties	954	959	380
		indication only	
Norm	ASTM B505 - C95400	ASTM B505 - C95900	-
Tensile strength	586 N/mm^2(min.)	703 N/mm^2 (Typical)	
0,2% Yield strength	221 N/mm^2(min.)	407 N/mm^2 (Typical)	
Elongation	12% (min.)	1% (Typical)	
Hardness Brinell (3000 Kg)	170 (typical)	241 (minimum)	375 (typical) / 340 (minimum)
Physical Properties			
Density	7,45 Kg/dm^3	7,20 Kg/dm^3	6,93 Kg/dm^3
Coefficient of Thermal Expansion	16,2 10^{-6}/ °C	16,2 10^{-6}/ °C	16,2 10^{-6} /°C
Magnetic Permeability as cast (F.S. = 16 KA/m)	1,27		
Thermal Conductivity	63 W/m.K	42 W/m.K	33 W/m.K
Electrical Conductivity	14 % IACS	6m/Ω.mm^2	4m/Ω.mm^2/ 8% IACS
Specific Heat Capacity	0,42 J/g.K	0,42 J/g.K	0,42 J/g.K
Modules of Elasticity in Tension	107 GPa		110 GPa

Heat Treatment

Stress Relieving	316 xC (wallthickness / 25 mm) x 60 min
Solution Anneal	870 / 910 xC for 1 hr / WQ
Tempering	620 / 660 xC for 1 hr / AC

Machinability Rating: 60 (C36000, Free Cutting Brass = 100)

Joining Technique	Suitability
Soldering	Good
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Good
Coated Metal Arc Welding	Good

Concast® aluminiumbronze

Typical Uses Concast 954	
954	Concast 954 Aluminiumbronze is an excellent material for the production of bearings and bushings, spur gears, pickling hooks and baskets, worms and valve components. Concast 954 may be used safely for pressing tools for foodstuffs and may stand in direct contact with them.
Typical Uses Concast 959	
959	Concast 959 is an excellent material for the production of wear strips and guide port bushings, die- rings, inserts, forming rolls especially when stainless steel is being processed. Concast 959 is widely used as work support blades for centreless grinding.
Typical Uses Concast 380	
380	Concast 380, is an excellent alloy for forming rolls and bending tools. This alloy provides an extreme hardness, compressive strength and sliding properties. The elongation of this alloy is very low and therefore not shock resistant.

Delivery program CONCAST Aluminiumbronze

	round bar	tube	square	rectangle
CONCAST 954	14 - 385 mm	33 x 17 - 232 x 174 mm	14 - 154 mm	26 x 8 - 384 x 105 mm
CONCAST 959	27 - 385 mm	on request	on request	39 x 17 - 384 x 105 mm
CONCAST 380	27 - 130 mm	on request	on request	on request

Standard lengths: ca. 3650 mm, 2440 mm en 1220 mm.
The given weights are theoretical.
Standard Concast 954, 959 and 380 is produced oversized to finish machine to the nominal size.

Tubes and solids	**Allowance** on finished size	**Tolerance** cast size	**Allowance** on finished size	**Tolerance** cast size
	O.D.	**O.D.**	**I.D.**	**I.D.**
0 - 76 mm	1,3 mm	+ 0 / + 0,6 mm	- 1,3 mm	- 0 / - 1,1 mm
76 - 114 mm	2,0 mm	+ 0 / + 0,8 mm	- 2,3 mm	- 0 / - 1,4 mm
114 - 140 mm	2,7 mm	+ 0 / + 1,0 mm	- 2,5 mm	- 0 / - 1,7 mm
140 - 229 mm	4,1 mm	+ 0 / + 1,3 mm	- 3,4 mm	- 0 / - 1,9 mm

Rectangles	**Allowance** on finished size	**Tolerance** cast size	**Allowance** on finished size	**Tolerance** cast size
	Thickness	**Thickness**	**Width**	**Width**
0 - 140 mm	1,7 mm	+ 0 / + 1,0 mm	1,1 mm	+ 0 / + 1,0 mm
140 - 304 mm	2,2 mm	+ 0 / + 1,0 mm	1,6 mm	+ 0 / + 1,3 mm
> 304 mm	4,1 mm	+ 0 / + 2,5 mm	3,2 mm	+ 0 / + 2,5 mm

Concast® aluminiumbronze

CONCAST ROUND BAR

cast size (mm)	finished size (mm)	ca. kg/m	954	959
14,1	12,7	1,2	•	
17,3	15,9	1,8	•	
20,4	19,1	2,6	•	
23,6	22,2	3,4	•	
26,8	25,4	4,3	•	•
33,1	31,8	6,7	•	•
39,5	38,1	9,4	•	•
42,6	41,3	11,0	•	
45,8	44,5	12,7	•	•
52,2	50,8	16,4	•	
58,5	57,2	20,6	•	•
64,9	63,5	25,2	•	•
71,2	69,9	30,4	•	•
77,6	76,2	36,0	•	
84,6	82,6	42,8	•	•
90,9	88,9	49,5	•	
97,3	95,3	57,1	•	•
103,6	101,6	64,4	•	
110,6	108,0	72,2	•	•
117,0	114,3	80,7	•	
123,3	120,7	88,4	•	•
129,7	127,0	100,3	•	
142,4	139,7	120,3	•	•
156,5	152,4	146,2	•	
169,2	165,1	171,0	•	
181,9	177,8	193,9	•	
207,3	203,2	252,9	•	•
232,7	228,6	318,5	•	

CONCAST SQUARE

cast size (mm)	finished size (mm)	ca. kg/m	954
14,4 x 14,4	12,7 x 12,7	1,7	•
20,8 x 20,8	19,1 x 19,1	3,3	•
27,1 x 27,1	25,4 x 25,4	5,7	•
33,5 x 33,5	31,8 x 31,8	8,7	•
39,8 x 39,8	38,1 x 38,1	12,3	•
52,5 x 52,5	50,8 x 50,8	21,1	•
65,2 x 65,2	63,5 x 63,5	32,1	•
77,9 x 77,9	76,2 x 76,2	46,3	•
105,7 x 105,7	101,6 x 101,6	80,8	•
154,6 x 154,6	152,4 x 152,4	179,0	•

Concast® aluminiumbronze

CONCAST 954 TUBE

cast size (mm)	finished size (mm)	ca. kg/m
33,1 x 17,8	31,8 x 19,1	5,0
33,1 x 20,9	38,1 x 22,2	4,3
36,3 x 24,1	34,9 x 25,4	4,8
39,5 x 17,8	38,1 x 19,1	7,8
39,5 x 24,1	38,1 x 25,4	6,2
45,8 x 17,8	44,5 x 19,1	11,2
45,8 x 24,1	44,5 x 25,4	9,6
45,8 x 30,5	44,5 x 31,8	7,4
49,0 x 36,8	47,6 x 38,1	6,8
52,2 x 17,8	50,8 x 19,1	14,9
52,2 x 24,1	50,8 x 25,4	13,3
52,2 x 30,5	50,8 x 31,8	11,3
52,2 x 36,8	50,8 x 38,1	8,7
55,3 x 43,2	54,0 x 44,5	7,9
58,5 x 24,1	57,2 x 25,4	17,5
58,5 x 30,5	57,2 x 31,8	15,5
58,5 x 36,8	57,2 x 38,1	13,0
58,5 x 43,2	57,2 x 44,5	9,9
61,7 x 49,5	60,3 x 50,8	8,8
64,9 x 24,1	63,5 x 25,4	22,3
64,9 x 30,5	63,5 x 31,8	20,2
64,9 x 36,8	63,5 x 38,1	17,7
64,9 x 43,2	63,5 x 44,5	14,6
64,9 x 49,5	63,5 x 50,8	11,3
68,0 x 55,9	66,7 x 57,2	9,8
71,2 x 24,1	69,9 x 25,4	26,8
71,2 x 30,5	69,9 x 31,8	24,8
71,2 x 36,8	69,9 x 38,1	22,9
71,2 x 43,2	69,9 x 44,5	20,0
71,2 x 49,5	69,9 x 50,8	16,4
71,2 x 55,9	69,9 x 57,2	12,3
77,6 x 24,1	76,2 x 25,4	33,0
77,6 x 30,5	76,2 x 31,8	31,4
77,6 x 36,8	76,2 x 38,1	28,7
77,6 x 43,2	76,2 x 44,5	25,7
77,6 x 49,5	76,2 x 50,8	22,1
77,6 x 55,9	76,2 x 57,2	18,2
77,6 x 62,2	76,2 x 63,5	13,6
84,6 x 42,2	82,6 x 44,5	33,6
84,6 x 48,5	82,6 x 50,8	29,9
84,6 x 54,9	82,6 x 57,2	26,0
84,6 x 61,2	82,6 x 63,5	21,6
84,6 x 67,6	82,6 x 69,9	16,7
90,9 x 23,1	88,9 x 25,4	45,9
90,0 x 30,5	88,9 x 31,8	44,8
90,9 x 35,8	88,9 x 38,1	42,7
90,9 x 42,2	88,9 x 44,5	39,9
90,9 x 48,5	88,9 x 50,8	36,5
90,9 x 54,9	88,9 x 57,2	32,9
90,9 x 61,2	88,9 x 63,5	28,4
90,9 x 67,6	88,9 x 69,9	23,3
90,9 x 73,9	88,9 x 76,2	18,1
97,3 x 35,8	95,3 x 38,1	48,2
97,3 x 42,2	95,3 x 44,5	45,5
97,3 x 48,5	95,3 x 50,8	42,2
97,3 x 54,9	95,3 x 57,2	39,9
97,3 x 61,2	95,3 x 63,5	36,0
97,3 x 67,6	95,3 x 69,9	33,1
97,3 x 73,9	95,3 x 76,2	25,4
97,3 x 80,3	95,3 x 82,6	19,2

cast size (mm)	finished size (mm)	ca. kg/m
103,6 x 23,1	101,6 x 25,4	61,6
103,6 x 35,8	101,6 x 38,1	55,8
103,6 x 42,2	101,6 x 44,5	53,0
103,6 x 48,5	101,6 x 50,8	51,2
103,6 x 54,9	101,6 x 57,2	47,1
103,6 x 61,2	101,6 x 63,5	42,5
103,6 x 67,6	101,6 x 69,9	39,1
103,6 x 73,9	101,6 x 76,2	33,0
103,6 x 80,3	101,6 x 82,6	27,3
103,6 x 86,6	101,6 x 88,9	20,7
110,6 x 67,3	108,0 x 69,9	45,8
110,6 x 73,7	108,0 x 76,2	40,4
110,6 x 80,0	108,0 x 82,6	34,7
110,6 x 86,4	108,0 x 88,9	28,5
117,0 x 36,8	114,3 x 38,1	73,8
117,0 x 48,3	114,3 x 50,8	67,2
117,0 x 61,0	114,3 x 63,5	59,0
117,0 x 67,3	114,3 x 69,9	54,3
117,0 x 73,7	114,3 x 76,2	49,0
117,0 x 80,0	114,3 x 82,6	43,3
117,0 x 86,4	114,3 x 88,9	37,0
117,0 x 99,1	114,3 x 101,6	23,1
123,3 x 61,0	120,7 x 63,5	68,8
123,3 x 92,8	120,7 x 95,3	41,3
123,3 x 99,1	120,7 x 101,6	35,2
129,7 x 48,3	127,0 x 50,8	87,8
129,7 x 61,0	127,0 x 63,5	80,5
129,7 x 73,7	127,0 x 76,2	71,2
129,7 x 80,0	127,0 x 82,6	63,8
129,7 x 86,4	127,0 x 88,9	59,4
129,7 x 99,1	127,0 x 101,6	45,0
129,7 x 105,4	127,0 x 108,0	35,2
129,7 x 111,8	127,0 x 114,3	30,5
136,0 x 111,8	133,4 x 114,3	38,9
142,4 x 73,7	139,7 x 76,2	91,2
142,4 x 86,4	139,7 x 88,9	79,4
142,4 x 99,1	139,7 x 101,6	65,6
142,4 x 111,8	139,7 x 114,3	49,9
142,4 x 124,5	139,7 x 127,0	32,5
150,2 x 123,6	146,1 x 127,0	44,8
156,5 x 47,4	152,4 x 50,8	131,2
156,5 x 60,1	152,4 x 63,5	123,4
156,5 x 72,8	152,4 x 76,2	117,6
156,5 x 85,5	152,4 x 88,9	102,2
156,5 x 98,2	152,4 x 101,6	92,5
156,5 x 110,9	152,4 x 114,3	76,5
156,5 x 123,6	152,4 x 127,0	59,3
169,2 x 110,9	165,1 x 114,3	101,6
169,2 x 123,6	165,1 x 127,0	80,9
169,2 x 136,3	165,1 x 139,7	64,9
175,6 x 142,7	171,5 x 146,1	65,8
181,9 x 72,8	177,8 x 76,2	168,3
181,9 x 98,2	177,8 x 101,6	141,3
181,9 x 123,6	177,8 x 127,0	110,6
181,9 x 149,0	177,8 x 152,4	69,6
194,6 x 110,9	190,5 x 114,3	156,0
194,6 x 161,7	190,5 x 165,1	72,2
207,3 x 98,2	203,2 x 101,6	201,6
207,3 x 123,6	203,2 x 127,0	168,7
207,3 x 149,0	203,2 x 152,4	128,1
207,3 x 174,4	203,2 x 177,8	77,1
232,7 x 149,0	228,6 x 152,4	189,3
232,7 x 174,4	228,6 x 177,8	142,6

Concast® aluminiumbronze

CONCAST RECTANGLE

cast size (mm)	finished size (mm)	ca. kg/m	954	959
26,5 x 8,1	25,4 x 6,4	1,9	•	•
26,5 x 11,2	25,4 x 9,5	2,5	•	•
26,5 x 14,4	25,4 x 12,7	3,1	•	•
26,5 x 17,6	25,4 x 15,9	3,8	•	
26,5 x 20,6	25,4 x 19,1	4,5	•	•
32,9 x 8,1	31,8 x 6,4	2,2	•	
32,9 x 14,4	31,8 x 12,7	4,0	•	
32,9 x 27,1	31,8 x 25,4	7,2	•	
39,2 x 8,1	38,1 x 6,4	2,6	•	
39,2 x 11,2	38,1 x 9,5	3,6	•	
39,2 x 14,4	38,1 x 12,7	4,6	•	
39,2 x 17,6	38,1 x 15,9	5,6	•	•
39,2 x 20,8	38,1 x 19,1	6,6	•	
39,2 x 27,1	38,1 x 25,4	8,4	•	
39,2 x 33,5	38,1 x 31,8	10,3	•	
45,6 x 14,4	44,5 x 12,7	5,4	•	
45,6 x 27,1	44,5 x 25,4	9,7	•	
45,6 x 33,5	44,5 x 31,8	11,9	•	
45,6 x 39,8	44,5 x 38,1	14,3	•	
51,1 x 21,7	50,0 x 20,0	8,8		•
51,9 x 8,1	50,8 x 6,4	3,5	•	•
51,9 x 11,2	50,8 x 9,5	4,7	•	•
51,9 x 14,4	50,8 x 12,7	6,0	•	•
51,9 x 17,6	50,8 x 15,9	7,3	•	
51,9 x 20,8	50,8 x 19,1	8,6	•	•
51,9 x 27,1	50,8 x 25,4	11,0	•	•
51,9 x 33,5	50,8 x 31,8	13,5	•	
51,9 x 39,8	50,8 x 38,1	16,1	•	
51,9 x 46,2	50,8 x 44,5	18,7	•	
64,6 x 8,1	63,5 x 6,4	4,2	•	
64,6 x 11,2	63,5 x 9,5	5,8	•	
64,6 x 14,4	63,5 x 12,7	7,4	•	
64,6 x 17,6	63,5 x 15,9	8,9	•	
64,6 x 20,8	63,5 x 19,1	10,5	•	
64,6 x 27,1	63,5 x 25,4	13,6	•	•
64,6 x 33,5	63,5 x 31,8	16,9	•	
64,6 x 39,8	63,5 x 38,1	19,7	•	
64,6 x 46,2	63,5 x 44,5	23,2	•	•
64,6 x 52,5	63,5 x 50,8	26,2	•	
71,0 x 8,1	69,9 x 6,4	2,4	•	
77,3 x 8,1	76,2 x 6,4	5,1	•	•
77,3 x 11,2	76,2 x 9,5	7,1	•	•
77,3 x 14,4	76,2 x 12,7	8,9	•	•
77,3 x 17,6	76,2 x 15,9	10,7	•	•
77,3 x 20,8	76,2 x 19,1	12,7	•	•
77,3 x 27,1	76,2 x 25,4	16,2	•	•
77,3 x 33,5	76,2 x 31,8	20,0	•	
77,3 x 39,8	76,2 x 38,1	23,9	•	
77,3 x 46,2	76,2 x 44,5	27,8	•	
77,3 x 52,5	76,2 x 50,8	31,3	•	
77,3 x 65,2	76,2 x 63,5	38,9	•	
81,1 x 21,7	80,0 x 20,0	13,9		•
90,0 x 8,1	88,9 x 6,4	5,7	•	
90,0 x 11,2	88,9 x 9,5	7,9	•	
90,0 x 14,4	88,9 x 12,7	10,3	•	
90,0 x 20,8	88,9 x 19,1	14,8	•	
90,0 x 27,1	88,9 x 25,4	19,0	•	
90,0 x 33,5	88,9 x 31,8	23,4	•	
90,0 x 39,8	88,9 x 38,1	26,9	•	
90,0 x 52,5	88,9 x 50,8	36,3	•	

Concast® aluminiumbronze

CONCAST RECTANGLE

cast size (mm)	finished size (mm)	ca. kg/m	954	959
101,1 x 21,7	100,0 x 20,0	17,2		•
102,7 x 8,1	101,6 x 6,4	6,8	•	•
102,7 x 11,2	101,6 x 9,5	9,2	•	•
102,7 x 14,4	101,6 x 12,7	11,5	•	•
102,7 x 17,6	101,6 x 15,9	14,3	•	
102,7 x 20,8	101,6 x 19,1	16,6	•	•
102,7 x 27,1	101,6 x 25,4	20,8	•	•
102,7 x 33,5	101,6 x 31,8	26,5	•	
102,7 x 39,8	101,6 x 38,1	31,6	•	•
102,7 x 46,2	101,6 x 44,5	35,6	•	
102,7 x 52,5	101,6 x 50,8	41,3	•	
102,7 x 65,2	101,6 x 63,5	51,3	•	•
102,7 x 77,9	101,6 x 76,2	61,1	•	
126,1 x 21,7	125,0 x 20,0	21,3		•
128,1 x 8,1	127,0 x 6,4	8,2	•	•
128,1 x 11,2	127,0 x 9,5	11,5	•	•
128,1 x 14,4	127,0 x 12,7	14,5	•	•
128,1 x 17,6	127,0 x 15,9	17,6	•	
128,1 x 20,8	127,0 x 19,1	20,5	•	•
128,1 x 27,1	127,0 x 25,4	26,9	•	•
128,1 x 33,5	127,0 x 31,8	33,1	•	•
128,1 x 39,8	127,0 x 38,1	38,9	•	
128,1 x 46,2	127,0 x 44,5	44,4	•	
128,1 x 65,2	127,0 x 63,5	63,9	•	
154,0 x 8,1	152,4 x 6,4	10,4	•	•
154,0 x 11,7	152,4 x 9,5	14,3	•	•
154,0 x 14,9	152,4 x 12,7	18,0	•	•
154,0 x 18,1	152,4 x 15,9	21,6	•	
154,0 x 21,3	152,4 x 19,1	25,3	•	•
154,0 x 27,6	152,4 x 25,4	32,9	•	•
154,0 x 40,3	152,4 x 38,1	47,4	•	
154,0 x 46,7	152,4 x 44,5	54,9	•	
154,0 x 52,5	152,4 x 50,8	61,7	•	
154,0 x 65,7	152,4 x 63,5	76,8	•	
154,0 x 78,4	152,4 x 76,2	91,9	•	
161,6 x 22,2	160,0 x 20,0	27,4		•
179,4 x 27,6	177,8 x 25,4	37,6	•	•
204,8 x 11,7	203,2 x 9,5	18,8	•	•
204,8 x 14,9	203,2 x 12,7	23,4	•	•
204,8 x 18,1	203,2 x 15,9	28,6	•	
204,8 x 21,3	203,2 x 19,1	33,4	•	
204,8 x 27,6	203,2 x 25,4	42,5	•	•
257,2 x 16,8	254,0 x 12,7	34,1	•	
257,2 x 35,9	254,0 x 31,8	66,0	•	
257,2 x 45,6	254 x 44,5	87,9	•	
257,2 x 54,9	254,0 x 50,8	110,3	•	
308,0 x 8,1	304,8 x 6,4	20,6	•	•
308,0 x 11,7	304,8 x 9,5	27,5	•	•
308,0 x 16,8	304,8 x 12,7	35,2	•	•
308,0 x 23,2	304,8 x 19,1	48,5	•	
308,0 x 29,5	304,8 x 25,4	63,3	•	
308,0 x 42,2	304,8 x 38,1	92,9	•	
308,0 x 54,9	304,8 x 50,8	124,5	•	
308,0 x 67,6	304,8 x 63,5	153,0	•	
308,0 x 80,3	304,8 x 76,2	181,3	•	
308,0 x 93,3	304,8 x 88,9	211,0	•	
384,2 x 29,5	381,0 x 25,4	89,2	•	•
384,2 x 42,2	381,0 x 38,1	125,2	•	•
384,2 x 54,9	381,0 x 50,8	164,7	•	•
384,2 x 67,6	381,0 x 63,5	201,9	•	•
384,2 x 80,3	381,0 x 76,2	239,1	•	•
384,2 x 93,3	381,0 x 88,9	277,2	•	•
384,2 x 105,7	381,0 x 101,6	312,4	•	•

Leaded Bronze

Characteristics

Leaded bronze alloys have a higher lead content then RG7. When there is a demand for very good dry running properties and the bearing has a low load then leaded bronzes are a good alloy to use. The high lead content provides good to excellent dry running properties and the material is softer. The maximum working temperature of leaded bronze has to be lower because of its lead content which changes the mechanical properties of the alloy already at about 200 °C. Good sliding and dry running properties, appropriate for bearings with higher circumferential velocity and acid resistant.

	DIN	EN
Alloy	CuPb10Sn SnPbBz10	CuSn10Pb10-C
Standard	DIN 1716	EN 1982
Alloy number	2.1176	CC495K
Chemical composition		
Cu	78,0 - 82,0	78,0 - 82,0
Pb	8,0 - 11,0	8,0 - 11,0
Sn	9,0 - 11,0	9,0 - 11,0
Ni	1,5 max.	2,0 max.
Zn	2,0 max.	2,0 max.
Sb	0,50 max.	0,5 max.
kg/dm^3	9,0	
Condition	GC	GC

Mechanical properties

	DIN	EN
Rm	≥230	≥220
Rp 0,2	≥110	≥110
A5	≥12	≥8
HB	≥70	≥70

	DIN	EN
Alloy	CuPb15Sn SnPbBz15	CuSn7Pb15-C
Standard	DIN 1716	EN 1982
Alloy number	2.1182	CC496K
Chemical composition		
Cu	75,0 - 79,0	74,0 - 80,0
Pb	13,0 - 17,0	13,0 - 17,0
Sn	7,0 - 9,0	6,0 - 8,0
Ni	2,0 max.	0,5 - 2,0
Zn	3,0 max.	2,0 max.
Sb	0,5 max.	0,5 max.
kg/dm^3	9,1	
Condition	GC	GC

Mechanical properties

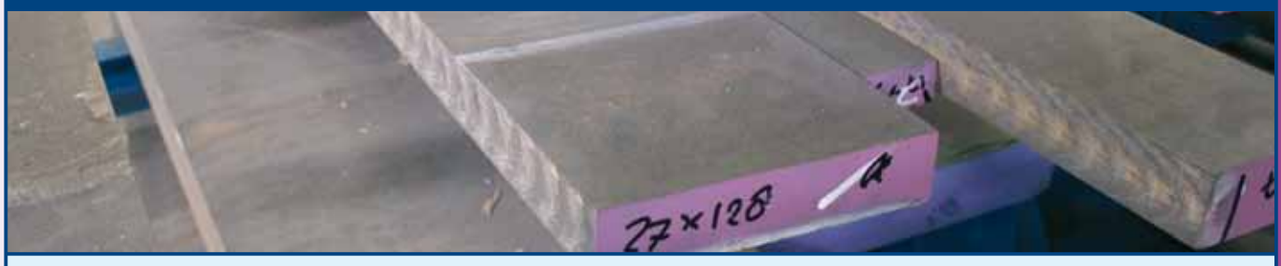
	DIN	EN
Rm	≥220	≥200
Rp 0,2	≥110	≥90
A5	≥8	≥8
HB	≥65	≥65

	DIN	EN
Alloy	CuPb20Sn SnPbBz20	CuSn5Pb20-C
Standard	DIN 1716	EN 1982
Alloy number	2.1188	CC497K
Chemical composition		
Cu	69,0 - 76,0	70,0 - 78,0
Pb	18,0 - 23,0	18,0 - 23,0
Sn	4,0 - 6,0	4,0 - 6,0
Ni	2,5 max.	0,5 - 2,5
Zn	3,0 max.	2,0 max.
Sb	0,5 max.	0,75 max.
kg/dm^3	9,3	
Condition	GS	GC

Mechanical properties

	DIN	EN
Rm	≥160	≥180
Rp 0,2	≥90	≥90
A5	≥6	≥7
HB	≥50	≥50

Leaded Bronze



Delivery Program of Leaded Bronze

	round bar	tube	rectangle
CuSn10Pb10-C	21 - 152 mm	31 x 19 mm - 202 x 158 mm	on request
CuSn7Pb15-C	17 - 202 mm	31 x 14 mm - 282 x 218 mm	on request
CuSn5Pb20-C	on request	on request	

ROUND BAR

cast size (mm)	finished size (mm)	CuSn7Pb15-C	CuSn10Pb10-C	ca.kg/m
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

TUBE

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

Next to our stock sizes we can quote your required size in continuous- and centrifugally cast bars and tubes in all current alloys.

Phosphor bronze

Characteristics
Phosphor bronzes are known for their pureness of the alloy with very less impurities. Because of this the material has very good mechanical properties. The element phosphorus binds itself to the copper and therefore this alloy will hardly not react to oxygen. Next to that it improves the wear resistance of the material. Phosphor bronzes are predominantly available in drawn or rolled condition. In some cases phosphor bronzes are used in the food production industry because of the absence of heavy metals.

	DIN	**EN**
Alloy	CuSn6	CuSn6
Standard	DIN 17662, 17672	EN 12163
Alloy number	2.1020	CW452K
Chemical composition		
Cu	rest	rest
Sn	5,5 - 7,0	5,5 - 7,0
P	0,01 - 0,35	0,01 - 0,4
Fe	0,1 max.	0,1 max.
Ni	0,3 max.	0,2 max.
Pb	0,05 max.	0,02 max.
Zn	0,3 max.	0,2 max.
kg/dm^3	ca 8,8	
Condition	drawn (bar) or rolled (sheet)	

	DIN	**EN**
Alloy	CuSn8	CuSn8
Standard	DIN 17662, 17672	EN 12163
Alloy number	2.1030	CW453K
Chemical composition		
Cu	rest	rest
Sn	7,5 - 8,5	7,5 - 8,5
P	0,01 - 0,35	0,01 - 0,4
Fe	0,1 max.	0,1 max.
Ni	0,3 max.	0,2 max.
Pb	0,05 max.	0,02 max.
Zn	0,3 max.	0,2 max.
kg/dm^3	ca 8,8	
Condition	drawn (bar) or rolled (sheet)	

Delivery program phosphor bronze

	round	square	rectangle	sheet	hexagon	tube
CuSn6	-	-	-	0,1 mm - 25 mm	-	-
CuSn8	2 mm - 150 mm	8 mm - 60 mm	20 x 3 mm - 80 x 30 mm	on request	14 mm - 50 mm	8 x 4 mm - 220 x 200 mm

Standard lengths: ca. 3000 mm, 2000 mm en 1000 mm

Phosphor bronze

CuSn8 ROUND BAR	
mm	ca.kg/m
8	0,4
9	0,6
10	0,7
12	1,1
14	1,3
15	1,6
16	1,7
18	2,3
20	2,8
22	3,4
25	4,5
28	5,5
30	6,4
32	7,1
35	8,6
36	10,0
38	10,0
40	11,2
42	12,3
45	14,2
50	17,5
55	22,0
60	25,1
65	29,5
70	31,0
80	45,0
90	58,5
95	63,0
100	69,1
110	87,5
120	99,5

CuSn6 SHEET	
mm	ca.kg/sheet
0,15	0,8
0,2	1,1
0,25	1,3
0,3	1,6
0,4	2,2
0,5	2,6
0,6	3,2
0,7	3,7
0,8	4,3
1	5,4
1,2	6,4
1,5	8,0
2	10,7
2,5	13,4
3	16,0
4	21,4
5	26,4
6	31,7
8	42,3
10	105,6
12	126,7
15	160,3
20	105,6
25	132,0
30*	317,0
40*	428,0

Standard sizes sheet : 300 x 2000 mm.

The size 600 x 2000 mm on request.

*Standard size: 600 x 2000 mm.

Brass

Characteristics
Brass varies in many different alloys which all have copper and zinc as basis. By adding one or more alloy elements certain characteristics can be influenced, for example corrosion proof, hardness, tensile strength, color, surface, etc.
Brass is often used as a common construction material in a wide range of applications. It can be produced with high tolerances and is therefore perfectly suitable for processing on CNC machines in a production line, for example for bolts, nipples, etc.
Next to the above mentioned applications which are mainly produced in series/ranges, brass in some instances is also used in the hydraulics branch as valve block or as part that can wear out and can be easily replaced afterwards.

	DIN	**EN**
Alloy	CuZn39Pb3 MS58	CuZn39Pb3
Standard	DIN 17660	EN 12164
Alloy number	2.0401	CW614N
Chemical composition		
Cu	57,0 - 59,0	57,0 - 59,0
Pb	2,5 - 3,5	2,5 - 3,5
Zn	rest	rest
kg/dm^3	ca. 8,5	
Characteristics	High speed free machining brass. Most common used alloy. Very good machinability. Hot working good.	

	DIN	**EN**
Alloy	CuZn37 MS63	CuZn37
Standard	DIN 17660	EN 12163
Alloy number	2.0321	CW508L
Chemical composition		
Cu	62,0 - 64,0	62,0 - 64,0
Zn	rest	rest
kg/dm^3	ca. 8,4	
Characteristics	Most common brass for plates, suitable for simple forming.	

	DIN	**EN**
Alloy	CuZn40Al2 SoMs58Al2	CuZn37Mn3Al2PbSi
Standard	DIN 17660	EN 12164
Alloy number	2.0550	CW713R
Chemical composition		
Cu	56,5 - 59,0	57,0 - 59,0
Si	0,3 - 1,0	0,3 - 1,3
Zn	rest	rest
Al	1,3 - 2,3	1,3 - 2,3
Mn	1,4 -2,6	1,5 - 3,0
Ni	2,0 max.	1,0 max.
Pb	0,8 max.	0,2 - 0,8
kg/dm^3	ca. 8,1	
Characteristics	Special brass with excellent corrosion resistance. Used for sliding bearings and valve guides.	

Brass

	DIN	EN
Alloy	CuZn35Ni2 SoMs59	CuZn35Ni3Mn2AlPb
Standard	DIN 17660	EN 12163
Alloy number	2.0540	CW710R
Chemical composition		
Cu	58,0 - 61,0	58,0 - 60,0
Ni	2,0 - 3,0	2,0 - 3,0
Zn	rest	rest
Al	0,3 - 1,5	0,3 - 1,3
Mn	1,5 - 2,5	1,5 - 2,5
Pb	0,8 max	0,2 - 0,8
kg/dm^3	ca. 8,3	
Characteristics	Special brass with medium to high tensile strength and excellent corrosion resistance. Used in machine and apparatus construction and shipbuilding.	

	DIN	EN
Alloy	CuZn25Al5 SoMs75	CuZn25Al5Mn4Fe3-C
Standard	DIN 1709	EN 1982
Alloy number	2.0598	CC762S
Chemical composition		
Cu	60,0 - 67,0	60,0 - 67,0
Zn	rest	rest
Al	3,0 - 7,0	3,0 - 7,0
Fe	1,5 - 4,0	1,5 - 4,0
Mn	2,5 - 5,0	2,5 - 5,0
Ni	3,0 max	3,0 max
kg/dm^3	ca. 8,2	
Condition	GZ	GZ / GC
Characteristics	High tensile brass with a high static duty (also at low circumferential velocity).	

Mechanical properties

	DIN	EN
Rm	≥ 750	≥ 750
Rp 0,2	≥ 480	≥ 480
A5	≥ 5	≥ 5
HB	≥ 190	≥ 190

	DIN	EN
Alloy	CuZn34Al2 SoMsF60	CuZn34Mn3Al2Fe1-C
Standard	DIN 1709	EN 1982
Alloy number	2.0596	CC764S
Chemical composition		
Cu	55,0 - 66,0	55,0 - 66,0
Zn	rest	rest
Al	1,0 - 3,0	1,0 - 3,0
Fe	0,5 - 2,5	0,5 - 2,5
Mn	0,3 - 4,0	1,0 - 4,0
Ni	3,0 max	3,0 max
kg/dm^3	ca. 8,6	
Condition	GZ	GZ
Characteristics	High tensile brass with a high static duty (also at low circumferential velocity).	

Mechanical properties

	DIN	EN
Rm	≥ 620	≥ 620
Rp 0,2	≥ 260	≥ 260
A5	≥ 14	≥ 14
HB	≥ 150	≥ 150

Brass

Delivery Program Brass

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

Standard information on brass alloys for DIN and EN

	DIN STANDARD			EN STANDARD
	alloy	properties	tolerances	Alloy, properties and tolerances
round bars	DIN 17660	DIN 17672	DIN 1756	EN 12164
square	DIN 17660	DIN 17672	DIN 1761	EN 12164
hexagon	DIN 17660	DIN 17672	DIN 1763	EN 12164
rectangle	DIN 17660	DIN 17672	DIN 1759	EN 12164
tube	DIN 17660	DIN 17671	DIN 1755	EN 12449
sheet	DIN 17660	DIN 17670	DIN 1751	EN 1652

Brass

CuZn39Pb3 ROUND BAR

(mm)	ca. kg/m
2	0,03
3	0,06
4	0,10
5	0,16
6	0,23
7	0,32
8	0,42
9	0,53
10	0,65
11	0,79
12	0,94
13	1,10
14	1,28
15	1,47
16	1,67
17	1,88
18	2,11
19	2,35
20	2,61
21	2,87
22	3,15
23	3,45
24	3,75
25	4,07

CuZn39Pb3 ROUND BAR

(mm)	ca. kg/m
26	4,40
27	4,75
28	5,11
29	5,48
30	5,86
31	6,48
31	6,67
33	7,10
34	7,53
35	7,98
36	8,44
38	9,41
40	10,42
42	11,49
45	13,19
46	13,79
48	15,01
50	16,29
52	17,62
55	19,71
60	23,46
65	27,53
70	31,93
75	36,65

CuZn39Pb3 ROUND BAR

(mm)	ca. kg/m
80	41,70
85	47,07
90	52,78
95	58,80
100	65,15
105	71,83
110	78,84
115	86,17
120	93,82
125	101,80
130	110,11
140	127,70
150	146,60
155	156,53
160	166,80
170	188,30
180	211,10
185	222,99
203	268,50
223	329,85
230	353,15
254	420,35

CuZn39Pb3 HEXAGON

A/F (mm)	ca. kg/m
5	0,18
6	0,26
7	0,35
8	0,46
9	0,58
10	0,72
11	0,87
12	1,04
13	1,21
14	1,41
15	1,62
16	1,84
17	2,08
18	2,33
19	2,59
20	2,88
21	3,17
22	3,48
23	3,80
24	4,14
25	4,49
27	5,24
28	5,64
30	6,47
32	7,36
34	8,31
35	8,81

CuZn39Pb3 HEXAGON

A/F (mm)	ca. kg/m
36	9,32
38	10,38
40	11,50
41	12,08
42	12,68
45	14,56
46	15,21
50	17,97
55	21,74
60	25,88
65	30,37
70	35,22
75	40,43
80	46,00

CuZn39Pb3 SQUARE

(mm)	ca. kg/m
4	0,13
5	0,21
6	0,30
7	0,41
8	0,53
9	0,67
10	0,83
12	1,20
14	1,63
15	1,87
16	2,12
18	2,69
20	3,32
22	4,02
25	5,19
30	7,47
32	8,50
35	10,17
40	13,28
45	16,81
50	20,75
60	29,88
65	35,07
70	40,67
75	46,69
80	53,12
90	67,23

Brass

CuZn39Pb3 RECTANGLE	
(mm)	ca. kg/m
8 x 2	0,13
8 x 3	0,20
10 x 2	0,17
10 x 3	0,25
10 x 4	0,33
10 x 5	0,42
10 x 6	0,50
12 x 3	0,30
12 x 4	0,40
12 x 5	0,50
12 x 8	0,80
15 x 2	0,25
15 x 3	0,37
15 x 4	0,50
15 x 5	0,62
15 x 6	0,75
15 x 8	1,00
15 x 10	1,25
20 x 2	0,33
20 x 3	0,50
20 x 4	0,66
20 x 5	0,83
20 x 6	1,00
20 x 8	1,33
20 x 10	1,66
20 x 12	1,99
20 x 15	2,49
25 x 2	0,42
25 x 3	0,62
25 x 4	0,83
25 x 5	1,04
25 x 6	1,25
25 x 8	1,66
25 x 10	2,08
25 x 12	2,49
25 x 15	3,11

CuZn39Pb3 RECTANGLE	
(mm)	ca. kg/m
30 x 2	0,50
30 x 3	0,75
30 x 4	1,00
30 x 5	1,25
30 x 6	1,49
30 x 8	1,99
30 x 10	2,49
30 x 12	2,99
30 x 15	3,74
30 x 20	4,98
30 x 25	6,38
35 x 3	0,87
35 x 4	1,16
35 x 5	1,45
35 x 6	1,74
35 x 8	2,32
35 x 10	2,91
35 x 15	4,36
35 x 20	5,81
35 x 25	7,44
40 x 2	0,66
40 x 3	1,00
40 x 4	1,33
40 x 5	1,66
40 x 6	1,99
40 x 8	2,66
40 x 10	3,32
40 x 15	4,98
40 x 20	6,64
40 x 25	8,30
40 x 30	9,96
50 x 3	1,25
50 x 4	1,66
50 x 5	2,08
50 x 6	2,49
50 x 8	3,32

CuZn39Pb3 RECTANGLE	
(mm)	ca. kg/m
50 x 10	4,15
50 x 12	4,98
50 x 15	6,23
50 x 20	8,30
50 x 25	10,38
50 x 30	12,45
50 x 40	16,60
60 x 3	1,49
60 x 4	1,99
60 x 5	2,49
60 x 6	2,99
60 x 10	4,98
60 x 15	7,47
60 x 20	9,96
60 x 25	12,45
60 x 30	14,94
60 x 40	19,92
70 x 20	11,62
70 x 40	23,80
70 x 50	29,05
80 x 8	5,31
80 x 10	6,64
80 x 15	9,96
80 x 20	13,28
80 x 25	16,60
80 x 40	26,56
100 x 5	4,15
100 x 10	8,30
100 x 15	12,45
100 x 20	16,60
100 x 30	24,90
100 x 50	41,50
120 x 15	14,94
120 x 20	19,92

Brass

CuZn37Mn3Al2PbSi ROUND BAR

(mm)	ca. kg/m
16	1,63
18	2,10
20	2,50
22	3,10
25	4,00
26	4,50
30	6,10
35	8,20
38	9,20
40	10,70
45	13,60
50	16,70
55	20,20
60	24,50
65	28,20
70	33,00
75	35,80
80	43,00
90	54,10
100	67,00
110	81,50
120	92,00
130	108,00
140	131,00
150	143,20
120	97,00

CuZn35Ni3Mn2AlPb ROUND BAR

(mm)	ca. kg/m
8	0,40
10	0,70
12	0,90
16	1,60
18	2,00
20	2,50
22	3,10
25	4,20
28	5,30
30	6,00
32	6,50
35	7,80
36	8,30
40	10,20
42	11,80
45	12,90
50	16,70
55	19,20
60	24,00
70	33,00
75	36,00
80	41,70
85	47,10
90	54,10
100	64,00

CuZn35Ni3Mn2AlPb HEXAGON

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

Copper

	DIN	EN
Alloy	E-Cu57 copper	Cu-ETP
Standard	DIN 1787	EN 1977
Alloynumber	2.0060	CW004A
Chemical composition		
Cu	≥ 99,90	≥ 99,90
Oxygen	0,005 till 0,040	0,040 max.
kg/dm^3	ca. 8,9	
Characteristics	Oxidized copper with an electrical conductivity of at least 58 m/ohm.mm2	

	DIN	EN	EN
Alloy	SE-Cu	Cu-PHC	Cu-HCP
Standard	DIN 1787	EN 1977	EN 1977
Alloynumber	2.0070	CW020A	CW021A
Chemical composition			
Cu	≥ 99,90	≥ 99,95	≥ 99,95
P	≈ 0.003	0,001 - 0,006	0,002 - 0,007
kg/dm^3	ca. 8,9		
Characteristics	Oxygen-free copper, deoxidized with phosphorus with a high electrical conductivity. Contains a low residual of phosphorus. Mainly used in the electro- technical industries.		

	DIN	EN
Alloy	SF-Cu	Cu-DHP
Standard	DIN 1787	EN 1653
Alloynumber	2.0090	CW024A
Chemical composition		
Cu	≥ 99,90	≥ 99,90
P	0,015 - 0,040	0,015 - 0,040
kg/dm^3	ca. 8,9	
Characteristics	Oxygen-free copper, deoxidized with phosphorus. Contains a low residual of phosphorus. Mainly used in construction industry and machine building.	

	DIN	EN
Alloy	CuCrZr	CuCr1Zr
Standard	DIN 17666, 17672	EN 12163, 12166, 12420
Alloynumber	2.1293	CW106C
Chemical composition		
Cu	rest	rest
Cr	0,3 - 1,2	0,5-1,2
Zr	0,03 - 0,3	0,03-0,3
kg/dm^3	ca. 8,9	
Characteristics	CuCrZr has extremely high electrical and thermal conductivity and is resistant to high temperatures. CuCrZr is for instance used for resistance welding and electrical equipment components. The thermal conductivity at 20 °C is 167 till 320 W/m K and the electrical conductivity at 20 °C from 26 till m/ohm.mm2.20. CuCrZr has a good wear resistance.	

Copper

	DIN	EN
Alloy	CuNi2Si	CuNi2Si
Standard	DIN 17666, 17672	EN 12163, 12166, 12420
Alloynumber	2.0855	CW111C
Chemical composition		
Cu	rest	rest
Ni	1,6 - 2,5	1,6 - 2,5
Si	0,4 - 0,8	0,4 - 0,8
Mn	0,8 max.	0,1 max.
kg/dm^3	ca. 8,8	
Characteristics	CuNi2Si offers a high electrical conductivity and tensile strength. CuNi2Si is for instance used as core and ejector pins in the mould industry. The thermal conductivity at 20 °C is 67 till 120 W/m.K and the electrical conductivity at 20 °C from 10 till 23 m/ohm.mm2.	

	DIN	EN
Alloy	CuCo2Be	CuCo2Be
Standard	DIN 17666	EN 12163, 12166, 12420
Alloynumber	2.1285	CW104C
Chemical composition		
Cu	rest	rest
Co	2,0 - 2,8	2,0 - 2,8
Be	0,4 - 0,7	0,4 - 0,7
kg/dm^3	ca. 8,8	
Characteristics	CuCo2Be offers a high electrical conductivity and tensile strength and is resistant to high temperatures. CuCo2Be is for instance used for resistance welding. The thermal conductivity at 20 °C is 192 till 239 W/m.K and the electrical conductivity at 20 °C from 25 till 32 m/ohm.mm2.	

	EN
Alloy	CuCo1Ni1Be
Standard	EN 12420, 1652
Alloynumber	CW 103C
Chemical composition	
Cu	rest
Co	0,8 - 1,3
Ni	0,8 - 1,3
Be	0,4 - 0,7
kg/dm^3	ca. 8,8
Characteristics	See CuCo2Be

	DIN	EN
Alloy	CuBe2	CuBe2
Standard	DIN 17666, 17672	EN 12163, 12166, 12420
Alloy number	2.1247	CW101C
Chemical composition		
Cu	rest	rest
Ni+Co	0,2-0,6	0,3 max.
Be	1,8-2,1	1,8-2,1
kg/dm^3	ca. 8,3	
Characteristics	In heat treated condition this alloy contains extremely high mechanical values: hardness and tensile strength. This material is resistant to low temperatures from -200 °C as well as high temperatures till approx 350 °C. CuBe2 is for instance used for non-sparking and non magnetic applications and wear resistant parts. The thermal conductivity at 20 °C is 92 till 125 W/m.K and the electrical conductivity at 20 °C from 8 till 18 m/ohm .mm2.	

Copper

Delivery program copper

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

ROUND BAR

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

SQUARE

size (mm)	Cu-ETP	ca. kg/m
15	•	2,0
20	•	3,6
25	•	5,7
30	•	8,0
40	•	14,2
50	•	22,2
60	•	32,0
80	•	57,0
100	•	89,0

Location map and directions

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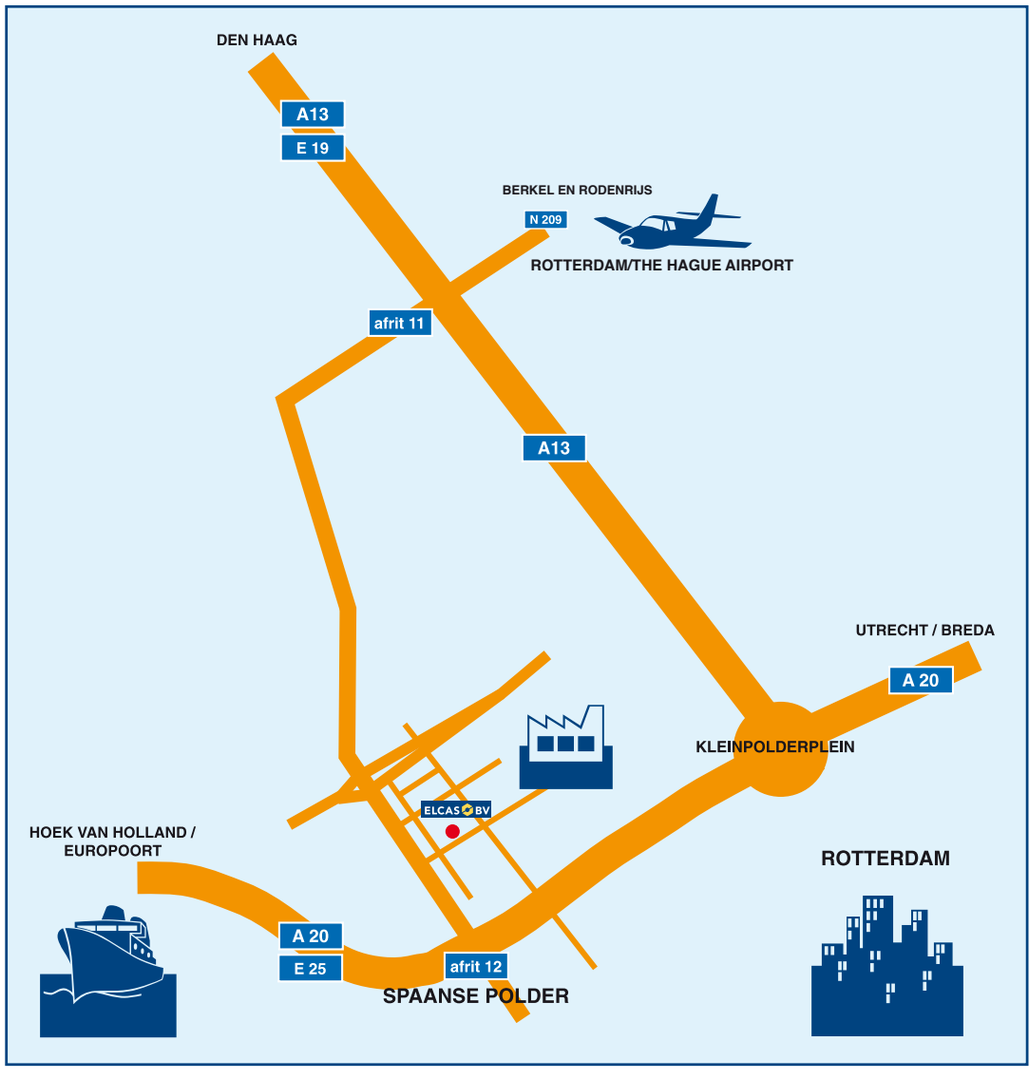
Linschotenstraat 59
3044 AV Rotterdam

phone +31 (0)10-4627799
fax +31 (0)10-2623611

Coming from 'Den Haag' (route A13)
- Take A20 direction Hoek van Holland
- Take Exit 12 Rotterdam Spaanse Polder (industrial estate)
- Turn left at the end of exit (traffic lights)
- First right is Linschotenstraat

Coming from 'Utrecht' (route A12)
- Near Gouda take A20 direction Rotterdam
- Take Exit 12 Rotterdam Spaanse Polder (industrial estate)
- Turn left at the end of exit (traffic lights)
- First right is Linschotenstraat

Coming from 'Hoek van Holland' (route A20)
- Take Exit 12 Rotterdam Spaanse Polder (industrial estate)
- Turn left at the end of exit (traffic lights)
- First right is Linschotenstraat



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