

EMC FINGER CATAOLUGE 2021 - 2022





Contact Strips SOLIANIeme sete Made of Copper Beryllium



Application

Due to their outstanding material and electrical characteristics, copper beryllium fingers of different shapes and dimensions are used in the following industries: Broadcasting, telecommunication, industrial control, measuring and instrumentation, aerospace technology, nuclear physics and data processing. Contact fingers and rings made of copper beryllium are used at all radio and microwave frequencies, for instance as contacts to tubes and tuning components as well as for shielding.

Material Properties

The copper beryllium (CuBe2) used for our products is a quality tested quench hardening spring material. It is noteworthy for its yield point, tensile strength and elasticity, good electrical conductivity, high fatigue strength as well as its resistance to abrasion and corrosion. The good thermal conductivity coupled with hardness eliminates sparking. The raw material is non-magnetic and has an excellent temperature performance.

Material

Code designation: Alloy: Design: CuBe2 C17200 Strip material, heat treated after moulding, DIN EN 1654

Physical Characteristics

Specific weight: 8.4 g/cm³ Melting point: 900 °C Coefficient to expansion: (20-200°C) 17x10-6/°C Thermal conductivity: 0.27 cal/cm · s · °C 1.13 W/cm · °C Vickers hardness: 350-430 Tensile strength: 1200-1450 N/mm² Bending resistance at 108 Load cycles: 250-290 ±N/mm² Modulus of elasticity: 135000 N/mm² 47000 N/mm² Modulus of torsion: Spring bending limit: 820–950 N/mm² Electrical conductivity: 12.5–13 m/Ωmm²

Delivery Options

- As strips in standard length, endless, cut to length or formed into a ring
- Standard springs from stock at short notice available
- Finish: bright, silver-plated, gold-plated, tin-plated, nickel-plated or according to customer requirements

Disclaimer

All information in this catalogue has been compiled with care and done to the best of our knowledge. Measured data are in accordance with current MIL- or DIN standards. Because of the different fields of application and test methods it is recommended, however, to take your own measurements. In the end, this is the only way to test the suitability of our products for your special application. For electrical specifications there are no warranty.

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All length measurements are rounded. Change of technical data, error and misprints reserved.

Edition 20.9

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Contact Strips SOLIANIemc sele Made of Stainless Steel



(It material no. 1.4310). The material used is stainless strip steel for springs: a material with extraordinary toughness, good spring characteristics, and long service life. The anti-corrosion properties are excellent, with the result that the contact surfaces are always smooth and shiny. The shielding properties are very good, but the attenuation values that can be achieved are less than with CuBe.

Material

Material number: 1.4310 Characteristics: stainless steel, steel tape, cold-rolled DIN 17224, EN 10258

Mechanical Properties

 Tensile strength:
 1220 (RM N/mm²)

 Yield strength:
 987 (RP N/mm²)

 Strain:
 31.00 (L=80mm)

Chemical Composition: (Data given in Percent)

с	0.096	Si 0.63	Mn 0.89	P 0.029
S	0.005	Cr 17.12	Mo 0.22	Ni 7.29
Ti	0.000	AI 0.000	Cu 0.000	V 0.000
W	0.000	Cb/Ta 0.000	Fe 73.6	

Please note that the dimensions of the V2A-springs may vary from the CuBe- springs, due to the different material conditions. Contact our sales team for further information.

4 **Contact Strips**



b → 4 → a 4	
1,5	
< -8→ ' E	_{≪-8} -→ ' F

Form

Form	а	b	с	I	Part-No.
	mm	mm	mm	mm	
А	3	1	6.5	499	8101*
В	3	1	6.5	499	8102*
С	3	1	6.5	499	8103*
D	3	1	6.5	499	8104*

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*Available in CuBe and stainless steel Electroplating on request (see cover)

Form	а	b	I	Part-No.
	mm	mm	mm	
Е	3	1	499	8105*
F	3	1	499	8106*

*Available in CuBe and stainless steel Electroplating on request (see cover)

	b → ◄	_			
		66666			
	1,5 		4/2		
 ≮7,7 ►	4,7 + -0,2				
Form	G	н	I	К	

Form	a mm	b mm	c mm	l mm	Part-No.
G	3	1	6.5	499	8107*
Н	3	1	6.5	499	8108*
I	3	1	6.5	499	8109*
К	3	1	6.5	499	8110*

*Available in CuBe and stainless steel Electroplating on request (see cover)



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Twisted Contact Strips SOLIANIences



Form	а	b	с	l mm	Part-No.
X	3.8	0.4	4.8	407	8501**
	3.8	0.4	4.8	608	8502**
	3.8	0.4	4.8	499	8503**
	3.8	0.4	4.8	endless	8504**
X 1	3.8	0.4	4.8	499	8505**
X 2	3.8	0.4	4.8	499	8506**
Y	3.8	0.4	4.8	407	8511**
	3.8	0.4	4.8	608	8512**
	3.8	0.4	4.8	499	8513**
	3.8	0.4	4.8	endless	8514**

Other dimensions available

** Available in CuBe and stainless steel

Electroplating on request (see cover)



Form	а	b	А	В	D	l mm	Part-No.
Х 3	3.8	0.4	4.8	1.0	4.1	407	8601*
	3.8	0.4	4.8	1.5	3.6	407	8602*
	3.8	0.4	4.8	2.0	3.2	407	8603*
X 4	3.8	0.4	6.4	1.0	5.8	407	8604*
	3.8	0.4	6.4	1.5	5.3	407	8605*
	3.8	0.4	6.4	2.0	5.1	407	8606*

Form X 3, X 4

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*Available in CuBe and stainless steel Electroplating on request (see cover)

Mini-Twisted Contact Strips



Form	а	b	с	l mm	Part-No.
ХМ	2.0	0.4	3.1	500	8610**
	2.0	0.4	3.1	610	8611**
	2.0	0.4	3.1	endless	8613**
X 1 M	2.0	0.4	3.1	610	8614**
X 2 M	2.0	0.4	3.1	610	8615**

Other dimensions available

** Available in CuBe and stainless steel

Electroplating on request (see cover)



RFI/EMI-Shielding



Form	а	b	с	В	D	l mm	Part-No.
V1	8.5	1	6.45	9.5	4	502	8801*
	8.5	1	6.45	9.5	4	endless	8802*
V2	8.5	1	4.9	9.5	2.3	502	8803*
V3	11.7	1	8	12.7	4.8	507	8804
	11.7	1	8	12.7	4.8	endless	8805

*Available in CuBe and stainless steel Electroplating on request (see cover)

Electrical Properties

Excellent shielding values 110 dB at 100 MHz

Application

Shielding of doors and other movable parts in shielded rooms, cabins and cabinets

Mounting

By way of rivets, screws or soldering





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10 Clip-On Gaskets



Form	а	b	Α	В	D	1	Part-No.
	mm	mm	mm	mm	mm	mm	
CL11	8.5	1.0	26.8	2.0	7.8	493	8911.20*
CL11-1	8.5	1.0	26.5	3.0	7.2	493	8911.30*

*Available in CuBe and stainless steel Electroplating on request (see cover)

Form CL 11

 $0,127 \rightarrow || = 2$ $a \mid = b$ $3,5 \rightarrow || = c$ $a \mid = b$ $a \mid = b$ $3,5 \rightarrow || = c$ $a \mid = b$ $a \mid = b$ $a \mid$ Clamping leg with T lances

Form	a mm	b mm	A mm	D mm	l mm	Part-No.
CL12	8.5	1.0	26.8	7.8	493	8912.20*

*Available in CuBe and stainless steel Electroplating on request (see cover)

Form CL 12



Form CL 13 – CL 18 Material thickness: 0.10 mm

Form	a mm	b mm	A mm	B mm	D mm	H mm	l mm	Part-No.
CL 13	3.6	1.2	15.4	1.0	7.4	5.3	406	8630.10**
CL 14	3.6	1.2	15.4	1.5	6.9	5.3	406	8631.15**
CL 15	3.6	1.2	15.4	2.0	7.1	5.3	406	8632.20**
CL 16*	3.6	1.2	8.6	1.0	6.3	2.5	402	8633.10**
CL 17*	3.6	1.2	8.6	1.5	5.8	2.5	402	8634.15**
CL 18*	3.6	1.2	8.6	2.0	5.4	2.5	402	8635.20**

* With T lances ** Available in CuBe and stainless steel

Electroplating on request (see cover)

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Clip-On Gaskets





Form CL 19 - CL 21 Material thickness: 0.10 mm

Form	а	b	А	В	D	Н	1	Part-No.
	mm	mm	mm	mm	mm	mm	mm	
CL 19	3.6	1.2	11.4	1.0	6.8	2.5	407	8636.10*
CL 20	3.6	1.2	11.4	1.5	6.3	2.5	407	8637.15*
CL 21	3.6	1.2	11.4	2.0	5.9	2.5	407	8638.20*

*Available in CuBe and stainless steel Electroplating on request (see cover)



			•					
Form	а	b	А	В	D	н	1	Part-No.
	mm	mm	mm	mm	mm	mm	mm	
CL 22	5.84	0.51	11.7	1.0	6.1	3.0	458	8639.10
CL 23	5.84	0.51	11.7	1.5	5.6	3.0	458	8640.15
CL 24	5.84	0.51	11.7	2.0	5.1	3.0	458	8641.20
CL 25	9.02	0.51	19.3	1.0	7.4	6.4	457	8642.10
CL 26	9.02	0.51	19.3	1.5	6.9	6.4	457	8643.15
CL 27	9.02	0.51	19.3	2.0	6.4	6.4	457	8644.20
CL 28	9.02	0.51	19.3	3.0	5.3	6.4	457	8645.30

Form CL 22 - CL 28 Material thickness: 0.70 mm





Form CL 32 - CL 37 Material thickness: CL 32 - CL 35 : 0.15 mm CL 36 - CL 37 : 0.08 mm

Available with lances Electroplating on request (see cover)

Form	а	b	А	В	D	Н	I	Part-No.
	mm	mm	mm	mm	mm	mm	mm	
CL 32 *	3.2	1.55	12.2	1.0	8.25	7.2	402	8649.10**
CL 33 *	3.2	1.55	12.2	1.5	8.0	7.2	402	8650.15**
CL 34 *	3.2	1.55	12.2	2.0	7.25	7.2	402	8651.20**
CL 35 *	3.2	1.55	12.2	3.0	6.55	7.2	402	8652.30**
CL 36	2.8	0.4	4.6	1.0	3.8	2.3	307	8653.10**
CL 37	2.8	0.4	4.6	1.5	3.4	2.3	307	8654.15**

* Also available with D- lances

** Available in CuBe and stainless steel

Electroplating on request (see cover)

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Clip-On Gaskets 12



Form CL 38 – CL 46 Material thickness: CL 38 - CL 41 : 0.15 mm CL 42 - CL 44 : 0.127 mm CL 45 - CL 46 : 0.08 mm



*Available in CuBe and stainless steel Electroplating on request (see cover)



Form	а	b	А	В	D	н	1	Part-No.
	mm							
CL 47	3.8	0.4	4.8	0.8	3.0	1.3	306	8664.08*
CL 48	3.8	0.4	4.8	1.0	2.8	1.3	306	8665.10*
CL 49	3.8	0.4	4.8	1.5	2.3	1.3	306	8666.15*

Form CL 47 – CL 49 Material thickness: 0.08 mm

*Available in CuBe and stainless steel Electroplating on request (see cover)

Contact Fingers (Clip-On)



Form CL 53 Material thickness: 0.127 mm

Form	а	b	Part-No.
	mm	mm	
CL 53	3.6	1.2	8953.15*

*Available in CuBe and stainless steel Electroplating on request (see cover)



Contact Fingers (Clip-On)





Form CL 54 Material thickness: 0.127 mm



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*Available in CuBe and stainless steel Electroplating on request (see cover)



Part-No
Turt No.
8955.15*

*Available in CuBe and stainless steel Electroplating on request (see cover)

Form CL 55

Material thickness: 0.127 mm



a **i |** ← b

405

Form b а Part-No. mm mm CL 56 3.6 1.2 8956.15*

*Available in CuBe and stainless steel Electroplating on request (see cover)

Form CL 56

Material thickness: 0.127 mm

orm	а	b	Part-No.
	mm	mm	
CL 57	5.31	1.04	8669.15*

Form CL 57

Material thickness: 0.08 mm

Electroplating on request (see cover)

Contact Fingers (Clip-On)



Form	а	b	В	Part-No.
	mm	mm	mm	
CL 58	3.6	1.2	1.5	8918.15*
CL 58-1	3.6	1.2	2.0	8918.20*

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Form CL 58

14

Material thickness: 0.127 mm



Form	а	b	Part-No.
	mm	mm	
CL 59	3.6	1.2	8917.15*

Form CL 59 Material thickness: 0.127 mm



Form	а	b	Part-No.

 mm
 mm

 CL 60
 9
 0.8
 8913.20*

b

mm

0.8

B**

mm

1.5

Part-No.

8914.15*

*Available in CuBe and stainless steel Electroplating on request (see cover)

Form

CL 61

*Available in CuBe and stainless steel

D-lances standard, without lances optional *Available in CuBe and stainless steel

Electroplating on request (see cover)

Electroplating on request (see cover)

Form CL 60 Material thickness: 0.10 mm

Form CL 61

Material thickness: 0.127 mm



*Available in CuBe and stainless steel **Clip width in mounted condition Electroplating on request (see cover)

а

mm

5.6

4,3 • | ← b B** Form а b Part-No. mm mm mm CL 62 12.68 1.14 1.8 8915.18* →2 303 *Available in CuBe and stainless steel **Clip width in mounted condition Form CL 62 Electroplating on request (see cover) Material thickness: 0.08 mm

Contact Fingers (Clip-On)





Form	а	b	Н	Α	B**	D	1	Part-No.
	mm	mm	mm	mm	mm	mm	mm	
CL 63	3.0	1.0	2.8	6.1	1.5	3.85	407	8916.15*
CL 63-1	3.0	1.0	2.8	6.0	2.0	3.5	407	8916.20*
CL 63-2	4.0	1.0	7.2	11.9	1.5	7.5	409	8919.15*/***
CL 63-3	4.0	1.0	7.2	20.0	1.75	7.5	409	8919.18*/***

В

2

mm

D

mm

8.6

Part-No.

8924.20*

*Available in CuBe and stainless steel **Clip width in mounted condition

***Optionally available with lances

Electroplating on request (see cover)

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Form CL 63 Material thickness: CL63 - CL63-1 : 0.08 mm CL63-2 - CL63-3 : 0.127 mm



Form CL 64 Material thickness: 0.127 mm



Contact Fingers with Hole/Pins 16



Form

3





Form	Number	А	Part-No.
	of Fingers	mm	
EL - 3	3	-	8920*
EL - 2	2	-	8921*
EP - 3	3	10	8925*
EP - 2	2	5	8926*

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Material thickness: 0.2 mm *Available in CuBe and stainless steel

Electroplating on request (see cover)



3,6

→15,5+ 7,3 |-

→15.5

Form

C 8,4

J5L

J5P

₹7.5 OL - 4 Ĩ**-**- A-

CL 5L

I**∢** A →

CL 5P

Form	Number	А	Part-No.
	of Fingers	mm	
OL	10	-	8930*
	4	-	8931*
ОР	10	17.5	8935*
	4	5	8936*

Form	Number of Fingers	A mm	Part-No.
J 5 L	2	-	8940*
J 5 P	2	5	8941*
CL 5 L	2	-	8945*
CL 5 P	2	5	8946*

Material thickness: 0.127 mm *Available in CuBe and stainless steel Electroplating on request (see cover)



Form	Number	А	Part-No.
	of Fingers	mm	
CL 6 L	2	-	8950*
CL 6 P	2	5	8955*

Material thickness: 0.127 mm *Available in CuBe and stainless steel Electroplating on request (see cover)

Material thickness: 0.15 mm *Available in CuBe and stainless steel OP - 4 OP - 10 Electroplating on request (see cover) 3.6 Ø 2,6 - 8,4 -







b D Н Α S L. Form Part-No. а mm mm mm mm mm mm mm NP 2 2.54 0.64 2.0 2001 6.0 11.4 0.05 406 NP 3 15.2 2.54 0.64 8.2 3.0 0.05 406 2002 With adhesive tape

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with adhesive tape

Low Profile Gaskets, Hook-On Type



Form	а	b	D	Н	А	S	1	Part-No.
	mm	mm	mm	mm	mm	mm	mm	
NPH 1	2.54	0.64	6.0	1.5	11.4	0.05	406	2003
NPH 2	2.54	0.64	8.2	2.3	15.2	0.05	406	2004

Curved Fingers

▶||← 0,08

V 10





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Form

Form	а	b	с	F	1	Part-No.
	mm	mm	mm	mm	mm	mm
V 10	4.32	0.46	3.85	5.5	406	9001*
					endless	9002*
V 11	5.8	0.56	3.85	7.5	406	9003*
					endless	9004*
V 12	8.71	0.81	10.00	12.60	608	9005*
					endless	9006*
V 13	8.51	1.02	10.00	12.00	609	9007*
V 14	11.68	1.02	17.00	19.9	304	9009*

*CuBe as standard. Allso available in stainless steel on request

Electroplating on request (see cover)

With adhesive tape



V 15

V 15-1





V 17



V 18

Form

Form	а	b	I	Part-No.
	mm	mm	mm	
V 15 <i>-</i> 1	4.32	0.46	406	9019*
V 15	5.79	0.56	406	9020*
V 16	8.72	0.81	609	9021*
V 17	8.51	1.02	305	9022*
V 18	11.68	1.02	304	9023*

V 16

*CuBe as standard. Allso available in stainless steel on request Electroplating on request (see cover)

With adhesive tape

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Slippy Fingers





Form	а	b	ø	1	Part-No.
	mm	mm	mm	mm	
V 19	4.3	0.46	1.5	409	9030*
V 20	4.32	0.46	1.5	406	9032*
V 21	5.79	0.56	1.57	406	9034*
V 22	8.71	0.81	2	610	9036*

* Only available in CuBe Electroplating on request (see cover) With adhesive tape

Description

Form

Curved fingers and slippy fingers are versatile shields that can be used to very effectively shield enclosures, cabinets and panels against interference radiation. The space requirement is minimal and the assembly is extremely simple, as the underside of the spring is equipped with adhesive tape.

Extensive soldering, riveting or bolting is therefore not necessary.

The measured attenuation values are excellent. Magnetic field: at 14 KHz more than 46 dB. Plane waves: at 10 GHz approx. 108 dB.

Slippy fingers are a further development of the curved fingers, whereby the free part of the finger is retained within a flap and is therefore protected against damage. As compression increases, the fingers will slide further into the flap.

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Contact Strips

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²⁰ Grounding and Shield Strips



Slot-Mount Shields in Strips or as Single Contacts ²¹





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Form	а	b	Α	Н	S	I	Part-No.
	mm	mm	mm	mm	mm	mm	
HR 1	4.3	0.5	9.1	2.8	0.08	383	9760*
HR 2	5.8	0.6	11.4	3.6	0.08	383	9761*
HR 3	8.7	0.8	15.8	5.5	0.10	379	9762*

*Available in CuBe and stainless steel Electroplating on request (see cover)

Form	а	b	Α	Н	S	I	Rivet	Part-No.
	mm	mm	mm	mm	mm	mm	Numbe	r
HR 6	4.3	0.5	9.1	2.8	0.08	383	10	9763*
HR 7	5.8	0.6	11.7	3.6	0.08	383	10	9764*
HR 8	8.7	0.8	15.8	5.5	0.10	379	10	9765*

For mounting tracks *Available in CuBe and stainless steel Electroplating on request (see cover)

Mounting tracks						
Form	Α	I	Part-No.			
	mm	mm				
MS 6	8.6	383	9766*			
MS 7	11.4	383	9767*			
MS 8	15.2	381	9768*			

Material: brass, bright finish

Mounting examples

Contact Rings

Contact Strips



Manufacturing of customized rings is possible, suitable spring geometry provided. Rings from contact springs are available either closed (spot-welded) or open.

