

LUB-MET® sliding bearing



Types	LMZ Cylindrical bushing	LMB Flanged bushing	LMA Thrust washer	LMS Strips
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TECHNICAL DATA

Description	Solid bronze sliding bearing with solid lubricant inserts. Maintenance-free
Properties	For high operational demands (also impact load), oscillating movements, wear-resistant, unsusceptible to dirt, corrosion resistant, long life capability. Details see Bearing properties data.
Material Properties	Standard material CuZn25Al5 / ASTM C86300. Additional metal alloy see LUB-MET® material list.
Solid Lubricants	Our solid lubricants are high density compounds of graphite, PTFE and metals. Lubricants are oriented to motion direction. Direction to be specified with order.
SL 1	Application for temperature up to 350°C, NOT for water and vapour
SL 4	Use for temp. up to 80°C. Designed for use in water and humidity Very low coefficient of friction

TOLERANCE DETAILS

Housing – Ø Bushing after mounting Shaft tolerance	H7 Information after consulting. Delivered bushings with tolerances: r6/E7 f7 / h6
Shaft material	The hardness difference to the bearing should be 100HB at least, preferably hardened and ground to size. Finish see properties data.

MOUNTING ADVISE

Housing – Ø Shaft Force fitting mandrel	Mounting chamfer, min. 1,5 mm x 15-45° Mounting chamfer, 5 mm x 15°, edges rounded The application of an adequate force fitting mandrel is advisable. Grease lubrication of outer surface may be necessary before assy.
Maintenance	LUB-MET® is a maintenance free sliding bearing, but initial lubrication is necessary ! None ageing lithium based grease should be used.

Cylindrical and flanged bushings, thrust washer and strips are standard fabrication.
Custom sizes are manufactured in a short term!

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Material list

Material description				Analysis		Physical properties (min)						Application	
ASTM	Alloy No	DIN	Material No.	Designation	ASTM	DIN	Density	Yield	UTS	Strain	E- module	Hardn.	
							kg/dm ³	N/mm ²	N/mm ²	%	x 10 ³	HB	
B584	C932 00	1705	2.1090.01	CuSn7ZnPB	Cu 81-85 Sn 6,3-7,5	Cu 81-85 Sn 5-6	8,8	120	240	15	106	65	Med.hard brg.alloy good antifrict. propert.
B271	C932 00		2.1090.03	CuSn7ZnPB	Zn 2-4	Zn 3-5	8,8	130	270	13	106	75	Seawater resistant
B505	C932 00		2.1090.04	CuSn7ZnPB	Pb 6-8 Ni 1 Sb 0,35	Pb 5-7 Ni 2 max Sb 3,3 max	8,8	120	270	16	106	70	Applicable for light edgeloads
no standard yet		1705	2.1061.01	CuSn12PB	Cu 85-88 Sn 10-12	Cu 84-88 Sn 11-13	8,7	140	260	10	112	80	Material for high loads Seawater resistant.
no standard yet			2.1061.03	CuSn12PB	Pb 1 -1,5	Pb 1-2	8,7	150	280	5	112	90	
B505	C925 00		2.1061.04	CuSn12PB	Ni 0,8-1,5	Ni 2 max Sb 0,2 max P 0,2 max	8,7	140	280	7	112	85	
B584	C955 00	1714	2.0975.01	CuAl10Ni	Cu 78	Cu 75 min	7,6	270	600	12	122	140	Hard Ni-AL bronze Very high strength
B584	C955 00		2.0975.02	CuAl10Ni	Al 10 -11,5	Al 8,5-11	7,6	300	600	14	122	150	Excell. wear resistance
B271	C955 00		2.0975.03	CuAl10Ni	Ni 3 -5,5	Ni 2-8,5	7,6	300	700	13	122	160	Resist fatigue corros.
B505	C955 00		2.0975.04	CuAl10Ni	Fe 3 - 5 Mn 3,5 max	Fe 3,5-5,5 Mn 3,3 max	7,6	300	800	13	122	160	Seawater resistant High temper. strenght
B584	C863 00	1709	2.0598.01	CuZn25Al5	Cu 60-66	Cu 60-67	8,2	450	750	8	115	180	Seawater resistant High strength brg. alloy. High fatigue resistance.
B584	C863 00		2.0598.02	CuZn25Al5	Al 5-7,5	Al 3-7	8,2	480	750	8	115	180	Not applicable for seawater applications
B271	C863 00		2.0598.03	CuZn25Al5	Fe 2 - 4 Mn 2,5 - 5 Zn 22-28 Ni 1 max	Fe 1,5-4 Mn 2,5-5 Zn balance Ni 3 max	8,2	480	750	5	115	190	

01=sand casting 02 = chill casting 03 = centrifugal casting 04 = continuous casting

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Bearing Property data *

Bronze Material	p stat. (N/mm ²) max.	p dyn (N/mm ²) max.	Friction dry	Friction wet	v (m/s) max.	P x v N/mm ² x m/s	Temp. C° max.	Shaft Hardness HB (min)	Shaft Finish Ra (my)	Solid Lubricant
CuSn7ZnPB	80	40	0,08 - 0,12	0,07 - 0,12	0,4	1,2	80	180	0,2 - 0,8	SL 4
	80	30	0,10 - 0,13	N / A	0,5	1,0	250	180	0,2 - 0,8	SL 1
CuSn12PB	100	70	0,08 - 0,12	0,07 - 0,12	0,4	2,0	80	180	0,2 - 0,8	SL 4
	100	25	0,10 - 0,13	N / A	0,15	1,6	250	180	0,2 - 0,8	SL 1
CuAl10Ni	150	90	0,08 - 0,12	0,07 - 0,12	0,4	1,5	80	300	0,2 - 0,8	SL 4
	150	80	0,10 - 0,14	N / A	0,4	1,5	350	300	0,2 - 0,8	SL 1
CuZn25Al5	150	90	0,10 - 0,14	0,07 - 0,12	0,4	1,5	80	300	0,2 - 0,8	SL 4
	150	50	0,12 - 0,15	N / A	0,15	1,0	300	300	0,2 - 0,8	SL 1

* The above stated bearings properties are valid for optimal operating conditions. Through changes of the application conditions as e.g. higher sliding speed or strain, these values are subject to change.