



## **Round Mold Products**

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Lamina began as a lamination die manufacturer in 1938. During the years from 1938 to the present Lamina has evolved into a manufacturer and distributor of die and mold components. Even though we no longer make dies, we do understand the die and mold maker's needs and objectives.

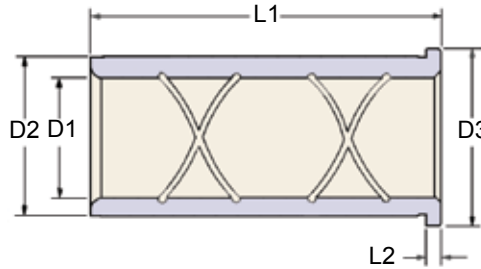
We have made it our business to supply quality products in a timely manner at reasonable prices. We know how to compete in the marketplace and supply you with the products you need when you need them.

We introduce this catalog featuring bronze-plated, hardened steel and self-lubricating bronze mold bushings and steel pins. It is our purpose to help you become more productive by helping to eliminate your downtime. With the products in stock, we will become your one-stop supplier and deliver the products you require each and every day.

Our catalog is presented in a easy-to-read format that displays the selection of products you need without a lot of extra data.



BORE SIZES FOR INCH BUSHINGS		BORE SIZES FOR METRIC BUSHINGS	
Nominal Pin Diameter	BORE LIMITS	Nominal Pin Diameter	BORE LIMITS
3/4	<u>1.1250</u> 1.1245	20	<u>26.000</u> 25.988
7/8	<u>1.2500</u> 1.2495	25	<u>32.000</u> 31.988
1	<u>1.3750</u> 1.3745	30	<u>38.000</u> 37.998
1-1/4	<u>1.6250</u> 1.6245	40	<u>50.000</u> 49.988
1-1/2	<u>2.0000</u> 1.9995	50	<u>60.000</u> 59.988
1-3/4	<u>2.2500</u> 2.2495	60	<u>70.000</u> 69.988
2	<u>2.5000</u> 2.4995		
2-1/4	<u>2.7500</u> 2.7495		
2-1/2	<u>3.2500</u> 3.2495		
3	<u>3.7500</u> 3.7495		



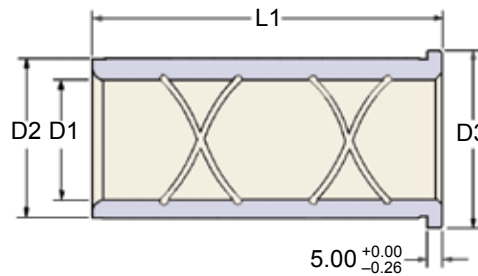
GENERAL DIMENSIONS				
NOM I.D.	D1 +0.005 -0.000	D2 +0.005 -0.000	D3 +0.000 -0.015	L2 +0.000 -0.005
3/4	.7505	1.1255	1.302	.187
7/8	.8755	1.2505	1.427	.187
1	1.0005	1.3755	1.552	.187
1-1/4	1.2505	1.6255	1.802	.187
1-1/2	1.5005	2.0005	2.177	.187
2	2.0005	2.5005	2.677	.187
2-1/2	2.5005	3.2505	3.427	.187
3	3.0005	3.7505	3.990	.500

### SHOULDER BUSHINGS – BRONZE PLATED – INCH

L1 LENGTH -.031/-062	INSIDE DIAMETER							
	3/4	7/8	1	1-1/4	1-1/2	2	2-1/2	3
7/8	LBB-06-07	LBB-07-07	LBB-08-07	LBB-10-07	LBB-12-07			
1-3/8	LBB-06-13	LBB-07-13	LBB-08-13	LBB-10-13	LBB-12-13	LBB-16-13	LBB-20-13	
1-7/8	LBB-06-17	LBB-07-17	LBB-08-17	LBB-10-17	LBB-12-17	LBB-16-17	LBB-20-17	
2-3/8	LBB-06-23	LBB-07-23	LBB-08-23	LBB-10-23	LBB-12-23	LBB-16-23	LBB-20-23	
2-7/8	LBB-06-27	LBB-07-27	LBB-08-27	LBB-10-27	LBB-12-27	LBB-16-27	LBB-20-27	
3-3/8	LBB-06-33	LBB-07-33	LBB-08-33	LBB-10-33	LBB-12-33	LBB-16-33	LBB-20-33	
3-7/8	LBB-06-37	LBB-07-37	LBB-08-37	LBB-10-37	LBB-12-37	LBB-16-37	LBB-20-37	LBB-24-37
4-3/8	LBB-06-43	LBB-07-43	LBB-08-43	LBB-10-43	LBB-12-43	LBB-16-43	LBB-20-43	
4-7/8	LBB-06-47	LBB-07-47	LBB-08-47	LBB-10-47	LBB-12-47	LBB-16-47	LBB-20-47	LBB-24-47
5-7/8	LBB-06-57	LBB-07-57	LBB-08-57	LBB-10-57	LBB-12-57	LBB-16-57	LBB-20-57	LBB-24-57
7-7/8								LBB-24-77

Precision-ground steel with exclusive Lamina Bronze plating. These are the only bushings that give you oil grooves and a true bushing surface that extends the full length of the bushing.

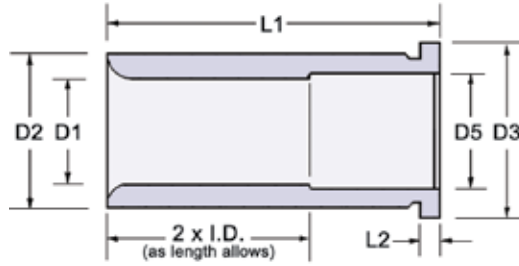
Lamina-Bronze bushings will operate smoother and longer than plain steel bushings ever could. Whatever lubricant is used, it is distributed throughout the bearing surface by the figure-8 oil groove system. The bronze surface will not gall.



GENERAL DIMENSIONS			
Nom. I.D.	D1 +0.013 -0.000	D2 +0.013 -0.000	D3 +0.00 -0.13
20	20.013	26.013	28.00
25	25.013	32.013	35.00
30	30.013	38.013	41.00
40	40.013	50.013	53.00
50	50.013	60.013	63.00
60	60.013	70.013	73.00

### SHOULDER BUSHINGS – BRONZE PLATED – METRIC

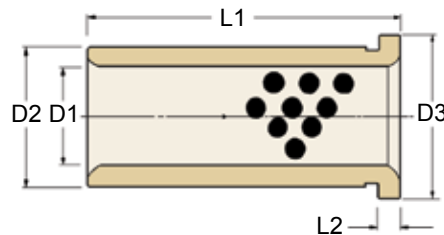
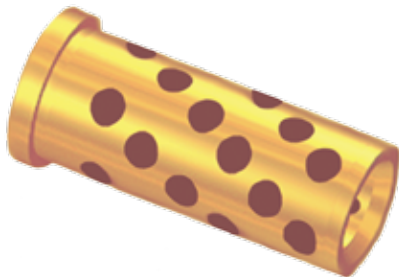
L1 LENGTH +0.00 -0.76	INSIDE DIAMETER					
	20mm	25mm	30mm	40mm	50mm	60mm
25.00	LBBM-20-x-25	LBBM-25-x-25	LBBM-30-x-25	LBBM-40-x-25		
30.00	LBBM-20-x-30	LBBM-25-x-30	LBBM-30-x-30	LBBM-40-x-30	LBBM-50-x-30	LBBM-60-x-30
40.00	LBBM-20-x-40	LBBM-25-x-40	LBBM-30-x-40	LBBM-40-x-40	LBBM-50-x-40	LBBM-60-x-40
50.00	LBBM-20-x-50	LBBM-25-x-50	LBBM-30-x-50	LBBM-40-x-50	LBBM-50-x-50	LBBM-60-x-50
65.00	LBBM-20-x-65	LBBM-25-x-65	LBBM-30-x-65	LBBM-40-x-65	LBBM-50-x-65	LBBM-60-x-65
80.00	LBBM-20-x-80	LBBM-25-x-80	LBBM-30-x-80	LBBM-40-x-80	LBBM-50-x-80	LBBM-60-x-80
100.00	LBBM-20-x-100	LBBM-25-x-100	LBBM-30-x-100	LBBM-40-x-100	LBBM-50-x-100	LBBM-60-x-100
120.00	LBBM-20-x-120	LBBM-25-x-120	LBBM-30-x-120	LBBM-40-x-120	LBBM-50-x-120	LBBM-60-x-120
140.00		LBBM-25-x-140	LBBM-30-x-140	LBBM-40-x-140	LBBM-50-x-140	LBBM-60-x-140
150.00		LBBM-25-x-150	LBBM-30-x-150	LBBM-40-x-150	LBBM-50-x-150	LBBM-60-x-150



GENERAL DIMENSIONS					
Nom. I.D.	D1 +.0005 -.0000	D2 +.0005 -.0000	D3 +.000 -.005	D5 +.015 -.000	L2 +.000 -.005
3/4	.7505	1.1255	1.250	.781	.187
7/8	.8755	1.2505	1.375	.906	.187
1	1.0005	1.3755	1.500	1.031	.187
1-1/4	1.2505	1.6255	1.750	1.281	.187
1-1/2	1.5005	2.0005	2.125	1.531	.187
2	2.0005	2.5005	2.625	2.031	.187
2-1/2	2.5005	3.2505	3.375	2.531	.187
3	3.0005	3.7505	3.937	3.031	.500

### SHOULDER BUSHING - SOLID STEEL - INCH

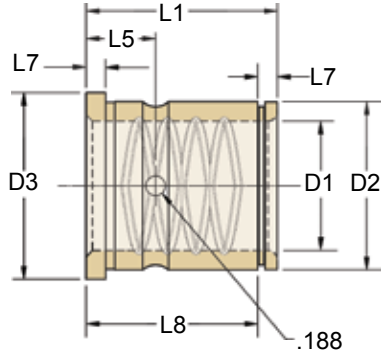
L1 LENGTH	D1 (INSIDE DIAMETER)							
	3/4	7/8	1	1-1/4	1-1/2	2	2-1/2	3
7/8	HLBB0607	HLBB0707	HLBB0807	HLBB1007	HLBB1207			
1-3/8	HLBB0613	HLBB0713	HLBB0813	HLBB1013	HLBB1213	HLBB1613	HLBB2013	
1-7/8	HLBB0617	HLBB0717	HLBB0817	HLBB1017	HLBB1217	HLBB1617	HLBB2017	
2-3/8	HLBB0623	HLBB0723	HLBB0823	HLBB1023	HLBB1223	HLBB1623	HLBB2023	
2-7/8	HLBB0627	HLBB0727	HLBB0827	HLBB1027	HLBB1227	HLBB1627	HLBB2027	
3-3/8	HLBB0633	HLBB0733	HLBB0833	HLBB1033	HLBB1233	HLBB1633	HLBB2033	
3-7/8	HLBB0637	HLBB0737	HLBB0837	HLBB1037	HLBB1237	HLBB1637	HLBB2037	HLBB2437
4-3/8	HLBB0643		HLBB0843	HLBB1043	HLBB1243	HLBB1643	HLBB2043	
4-7/8		HLBB0747	HLBB0847	HLBB1047	HLBB1247	HLBB1647	HLBB2047	HLBB2447
5-7/8		HLBB0757	HLBB0857	HLBB1057	HLBB1257	HLBB1657	HLBB2057	HLBB2457
7-7/8								HLBB2477



GENERAL DIMENSIONS				
Nom. I.D.	D1 +.0005 -.0000	D2 +.0005 -.0000	D3 +.000 -.005	L2 +.000 -.005
3/4	.7505	1.1255	1.302	.187
7/8	.8755	1.2505	1.427	.187
1	1.0005	1.3755	1.552	.187
1-1/4	1.2505	1.6255	1.802	.187
1-1/2	1.5005	2.0005	2.177	.187
2	2.0005	2.5005	2.677	.187
2-1/2	2.5005	3.2505	3.427	.187
3	3.0005	3.7505	3.990	.500

### SHOULDER BUSHINGS - SELF-LUBRICATING - INCH

L1 LENGTH -.031 -.062	D1 (INSIDE DIAMETER)							
	3/4	7/8	1	1-1/4	1-1/2	2	2-1/2	3
7/8	BGLB0607	BGLB0707	BGLB0807	BGLB1007	BGLB1207			
1-3/8	BGLB0613	BGLB0713	BGLB0813	BGLB1013	BGLB1213	BGLB1613	BGLB2013	
1-7/8	BGLB0617	BGLB0717	BGLB0817	BGLB1017	BGLB1217	BGLB1617	BGLB2017	
2-3/8	BGLB0623	BGLB0723	BGLB0823	BGLB1023	BGLB1223	BGLB1623	BGLB2023	
2-7/8	BGLB0627	BGLB0727	BGLB0827	BGLB1027	BGLB1227	BGLB1627	BGLB2027	
3-3/8	BGLB0633	BGLB0733	BGLB0833	BGLB1033	BGLB1233	BGLB1633	BGLB2033	
3-7/8	BGLB0637	BGLB0737	BGLB0837	BGLB1037	BGLB1237	BGLB1637	BGLB2037	BGLB2437
4-3/8	BGLB0643	BGLB0743	BGLB0843	BGLB1043	BGLB1243	BGLB1643	BGLB2043	
4-7/8	BGLB0647	BGLB0747	BGLB0847	BGLB1047	BGLB1247	BGLB1647	BGLB2047	BGLB2447
5-7/8	BGLB0657	BGLB0757	BGLB0857	BGLB1057	BGLB1257	BGLB1657	BGLB2057	BGLB2457
7-7/8								BGLB2477



- Lubrication ring with lubrication hole
- Press Fit Diameter ground to size
- Radii to serve as lead
- I.D. Oversize to accommodate expansion

### SHOULDER BUSHINGS – SOLID BRONZE – INCH

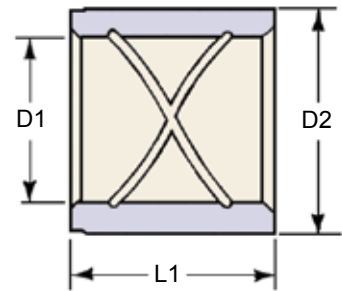
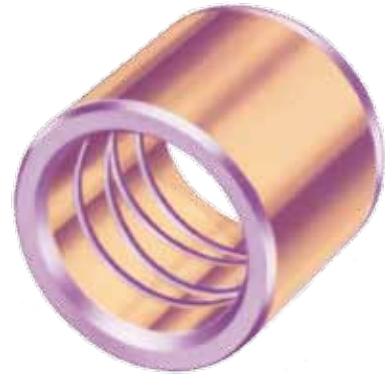
PART NUMBER	Nom I.D.	D1 +.0005 -.0000	D2 +.0005 -.0000	D3 +.000 -.015	L1 -.031 -.062	L2 +.000 -.005	L5 ±.01	L7	L8	PART NUMBER	Nom I.D.	D1 +.0005 -.0000	D2 +.0005 -.0000	D3 +.000 -.015	L1 -.031 -.062	L2 +.000 -.005	L5 ±.05	L7	L8																									
BFB0607	3/4"	.7505	1.1255	1.302	7/8	.187	1.56	.187	0.657	BFB1207	1 1/2"	1.5005	2.0005	2.177	7/8	.187	1.87	.187	0.657																									
BFB0613					1-3/8				1.157	BFB1213					1-3/8				1.157																									
BFB0617					1-7/8				1.657	BFB1217					1-7/8				1.657																									
BFB0623					2-3/8				2.157	BFB1223					2-3/8				2.157																									
BFB0627					2-7/8				2.657	BFB1227					2-7/8				2.657																									
BFB0633					3-3/8				3.157	BFB1233					3-3/8				3.157																									
BFB0637					3-7/8				3.657	BFB1237					3-7/8				3.657																									
BFB0643					4-3/8				4.157	BFB1243					4-3/8				4.157																									
BFB0647					4-7/8				4.657	BFB1247					4-7/8				4.657																									
BFB0657					5-7/8				5.657	BFB1257					5-7/8				5.657																									
BFB0707	7/8"	.8755	1.2505	1.427	7/8	.187	1.56	.187	0.657	BFB1607	2"	2.0005	2.5005	2.677	7/8	.187	1.87	.187	0.657																									
BFB0713					1-3/8				1.157	BFB1613					1-3/8				1.157																									
BFB0717					1-7/8				1.657	BFB1617					1-7/8				1.657																									
BFB0723					2-3/8				2.157	BFB1623					2-3/8				2.157																									
BFB0727					2-7/8				2.657	BFB1627					2-7/8				2.657																									
BFB0733					3-3/8				3.157	BFB1633					3-3/8				3.157																									
BFB0737					3-7/8				3.657	BFB1637					3-7/8				3.657																									
BFB0743					4-3/8				4.157	BFB1643					4-3/8				4.157																									
BFB0747					4-7/8				4.657	BFB1647					4-7/8				4.657																									
BFB0757					5-7/8				5.657	BFB1657					5-7/8				5.657																									
BFB0807	1"	1.0005	1.3755	1.552	7/8	.187	1.56	.187	0.657	BFB2007	2 1/2"	2.5005	3.2505	3.427	7/8	.187	1.87	.187	0.657																									
BFB0813					1-3/8				1.157	BFB2013					1-3/8				1.157																									
BFB0817					1-7/8				1.657	BFB2017					1-7/8				1.657																									
BFB0823					2-3/8				2.157	BFB2023					2-3/8				2.157																									
BFB0827					2-7/8				2.657	BFB2027					2-7/8				2.657																									
BFB0833					3-3/8				3.157	BFB2033					3-3/8				3.157																									
BFB0837					3-7/8				3.657	BFB2037					3-7/8				3.657																									
BFB0843					4-3/8				4.157	BFB2043					4-3/8				4.157																									
BFB0847					4-7/8				4.657	BFB2047					4-7/8				4.657																									
BFB0857					5-7/8				5.657	BFB2057					5-7/8				5.657																									
BFB1007	1 1/4"	1.2505	1.6255	1.802	7/8	.187	1.56	.187	0.657	BFB2437	3"	3.0005	3.7505	3.990	3/8	.500	1.56	.500	3.344																									
BFB1013					1-3/8				1.157	BFB2447					4-7/8				4.344																									
BFB1017					1-7/8				1.657	BFB2457					5-7/8				5.344																									
BFB1023					2-3/8				2.157	BFB2477					7-7/8				7.344																									
BFB1027					2-7/8				2.657	<b>RETAINING RINGS – (OPTIONAL)</b>																																		
BFB1033					3-3/8				3.157																	<b>PART NUMBER</b>			<b>NOMINAL DIAMETER</b>			<b>WIDTH</b>			<b>FREE I.D.</b>									
BFB1037					3-7/8				3.657																	MSC100019			3/4			0.050			1.041									
BFB1043					4-3/8				4.157																	MSC100020			7/8			0.050			1.156									
BFB1047					4-7/8				4.657																	MSC100021			1			0.050			1.272									
BFB1057					5-7/8				5.657																	MSC100022			1-1/4			0.062			1.503									
						MSC100023			1-1/2			0.062			1.850																													
						MSC100024			2			0.078			2.313																													
						MSC100025			2-1/2			0.093			3.006																													
						MSC100026			3			0.109			3.468																													

Retaining rings are used for slip fit applications.



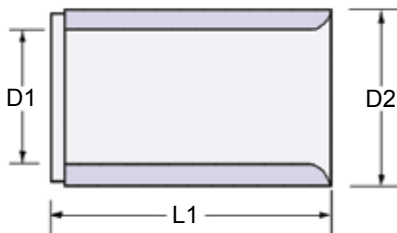
Bronze-plated bushings offer the lubricity of bronze and the strength of steel in one complete component.

<b>STRAIGHT BUSHING – BRONZE PLATED – INCH</b>				
PART NUMBER	Nom. I.D.	D1	D2	L1 LENGTH
		+ .0005	– .0000	– .031 – .062
STB-06-07	3/4	.7505	1.1255	.875
STB-06-13				1.375
STB-07-13	7/8	.8755	1.2505	1.375
STB-08-13	1	1.0005	1.3755	1.375
STB-10-13	1-1/4	1.2505	1.6255	1.375
STB-10-17				1.875
STB-12-13	1-1/2	1.5005	2.0005	1.375
STB-12-17				1.875
STB-16-37	2	2.0005	2.5005	3.875
STB-20-47	2-1/2	2.5005	3.2505	4.875
STB-24-47	3	3.0005	3.7505	4.875

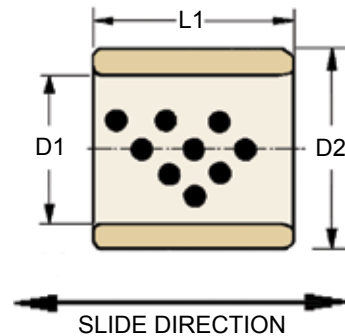


Bronze-plated and solid steel bushings should be lubricated with high-pressure lithium grease.

Solid steel bushings are economical in short run applications.



<b>STRAIGHT BUSHINGS – SOLID STEEL – INCH</b>				
PART NUMBER	Nom. I.D.	D1	D2	L1 LENGTH
		+ .0005	– .0000	– .031 – .062
HSTB0607	3/4	.7505	1.1255	.875
HSTB0613				1.375
HSTB0713	7/8	.8755	1.2505	1.375
HSTB0813	1	1.0005	1.3755	1.375
HSTB1013	1-1/4	1.2505	1.6255	1.375
HSTB1017				1.875
HSTB1213	1-1/2	1.5005	2.0005	1.375
HSTB1217				1.875
HSTB1637	2	2.0005	2.5005	3.875
HSTB2047	2-1/2	2.5005	3.2505	4.875



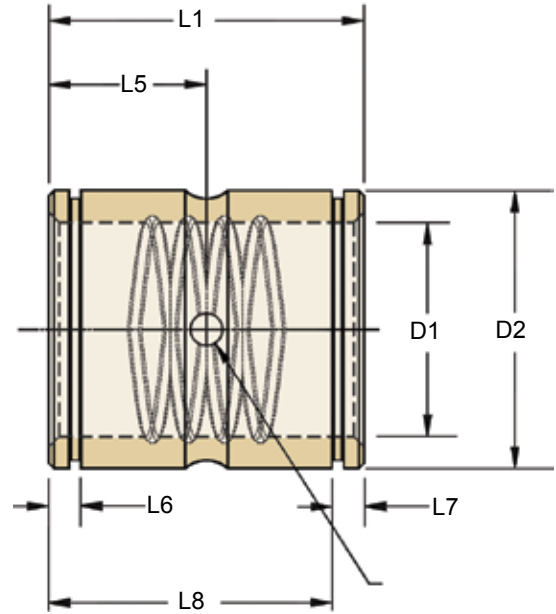
- Self-Lubricating
- Consistent quality control
- Resists abrasion
- Excellent wear characteristics

Oil-impregnated graphite plugs cover 20-30% of the wear surface, providing a self-lubricating film of graphite on the wear surface.

Lamina recommends using a light machine oil at the time of installation. Regular lubrication will enhance the life of self-lubricating bushings featuring oil-impregnated graphite plugs.

<b>STRAIGHT BUSHINGS SELF-LUBRICATING - INCH</b>							
PART NUMBER	Nom. I.D.	D1 I.D.		D2 O.D.		L1 LENGTH	
		+0.0005	-0.0000	+0.000	-0.030		
BGST0607	3/4	0.7505	1.1255	.875			
BGST0611				1.375			
BGST0612				1.500			
BGST0710	7/8	0.8755	1.2505	1.250			
BGST0711				1.375			
BGST0712				1.500			
BGST0810	1	1.0005	1.3755	1.250			
BGST0811				1.375			
BGST0812				1.500			
BGST0814				1.750			
BGST0816				2.000			
BGST0824				3.000			
BGST1010	1-1/4	1.2505	1.6255	1.250			
BGST1011				1.375			
BGST1012				1.500			
BGST1014				1.750			
BGST1015				1.875			
BGST1016				2.000			
BGST1024	3.000						
BGST1210	1-1/2	1.5005	2.0005	1.250			
BGST1211				1.375			
BGST1212				1.500			
BGST1214				1.750			
BGST1215				1.875			
BGST1216				2.000			
BGST1224	3.000						
BGST1410	1-3/4	1.7505	2.2505	1.250			
BGST1412				1.500			
BGST1414				1.750			
BGST1416				2.000			
BGST1420				2.500			
BGST1424				3.000			
BGST1428	3.500						
BGST1432	4.000						
BGST1610	2	2.0005	2.5005	1.250			
BGST1612				1.500			
BGST1616				2.000			
BGST1620				2.500			
BGST1624				3.000			
BGST1631				3.875			
BGST1639	4.875						
BGST1812	2-1/4	2.2505	2.7505	1.500			
BGST1816				2.000			
BGST1820				2.500			
BGST1824				3.000			
BGST2012	2-1/2	2.5005	3.2505	1.500			
BGST2016				2.000			
BGST2024				3.000			
BGST2039				4.875			
BGST2416				2.000			
BGST2420	3	3.0005	3.7505	2.500			
BGST2424				3.000			
BGST2428				3.500			
BGST2439				4.875			

Solid bronze bushings are the first choice among many plastics injection molders.



### STRAIGHT BUSHINGS – SOLID BRONZE – INCH

PART NUMBER	Nom. I.D.	D1 I.D.	D2 O.D.	L1 LENGTH	L5	L6	L7	L8
		+ .0005	– .0000	– .031 – .062	± .010	± .005	Ref.	± .010
BSB0607	3/4	0.7500	1.1255	.875	0.92	.187	.187	0.657
BSB0613				1.375				1.157
BSB0617				1.875				1.357
BSB0713	7/8	0.8750	1.2505	1.375	0.67			1.157
BSB0813	1	1.0000	1.3755	1.375	0.67			1.157
BSB0817				1.875	0.92			1.357
BSB0827				2.875	1.42			2.657
BSB1013				1.375	0.67			1.157
BSB1017	1-1/4	1.2500	1.6255	1.875	0.92			1.657
BSB1027				2.875	1.42			2.657
BSB1213	1-1/2	1.5000	2.0005	1.375	0.67			1.157
BSB1217				1.875	0.92			1.657
BSB1227				2.875	1.42			2.657
BSB1637	2	2.0000	2.5005	3.875	1.92	3.657		
BSB2047	2-1/2	2.5000	3.2505	4.875	2.42	4.657		
BSB2447	3	3.0000	3.7505	4.875	2.42	.5	.5	4.344

### RETAINING RINGS – (OPTIONAL)

PART NUMBER	NOMINAL DIAMETER	WIDTH	FREE I.D.
MSC100019	3/4	0.050	1.041
MSC100020	7/8	0.050	1.156
MSC100021	1	0.050	1.272
MSC100022	1-1/4	0.062	1.503
MSC100023	1-1/2	0.062	1.850
MSC100024	2	0.078	2.313
MSC100025	2-1/2	0.093	3.006
MSC100026	3	0.109	3.468

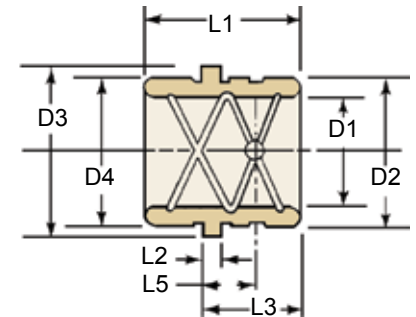
Retaining rings are used for slip fit applications.





### EJECTOR BUSHINGS – BRONZE-PLATED – INCH

PART NUMBER	Nom I.D.	D1	D2	D3	D4	L1	L2	L3	L5
		+0.0005 -0.0000	+0.0005 -0.0000	+0.000 -0.010	+0.000 -0.001	+0.000 -0.030	+0.000 -0.005	+0.000 -0.015	±.005
ELB-750	3/4	.7510	1.1255	1.302	1.124	1.500	.187	1.000	.560
ELB-875	7/8	.8760	1.2505	1.427	1.249	1.500		1.000	.560
ELB-100	1	1.0010	1.3755	1.552	1.374	1.750		1.120	.620
ELB-125	1-1/4	1.2510	1.6255	1.802	1.624	1.750		1.120	.620
ELB-150	1-1/2	1.5010	2.0005	2.177	1.999	1.750		1.120	.620
ELB-200	2	2.0010	2.5005	2.687	2.499	2.250		1.620	.800

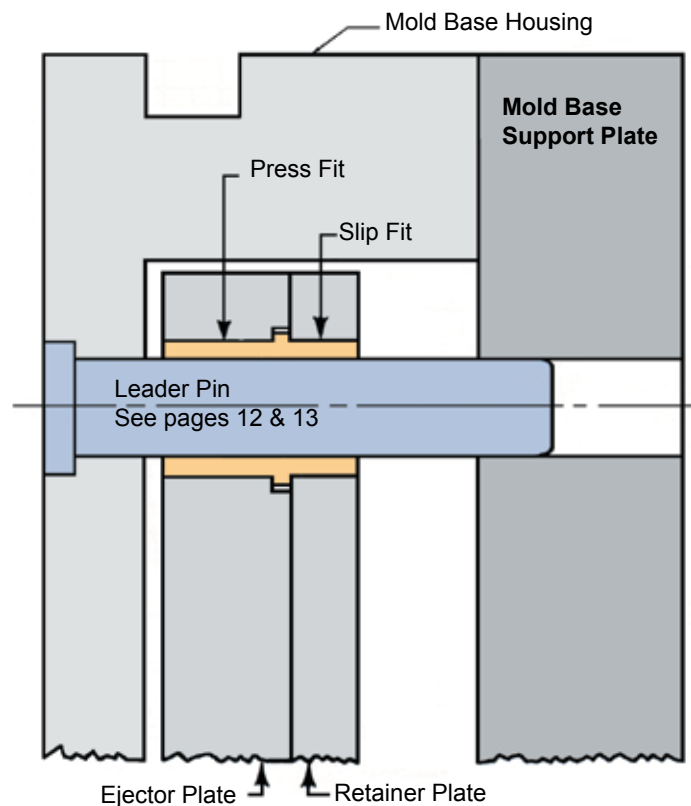


### EJECTOR BUSHINGS – BRONZE-PLATED – METRIC

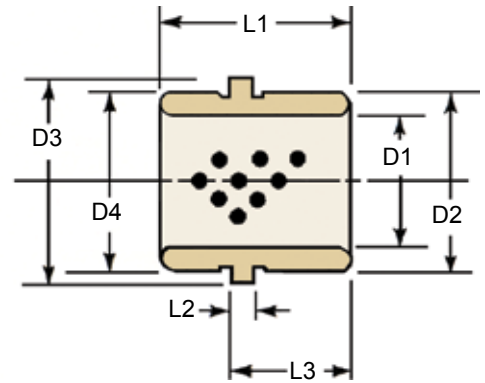
PART NUMBER	Nom I.D.	D1	D2	D3	D4	L1	L2	L3	L5
		+0.013 -0.000	+0.013 -0.000	+0.00 -0.13	+0.000 -0.026	+0.00 -0.76	+0.00 -0.26	+0.00 -0.38	±0.13
EJM-20	20	20.063	26.013	28.00	26.00	37.00	5.00	25.00	15.00
EJM-25	25	25.063	32.013	35.00	32.00	45.00		29.00	16.00
EJM-30	30	30.063	38.013	41.00	38.00	45.00		29.00	16.00

#### FEATURES:

- Lubrication ring with lubrication hole
- Press-Fit Diameter ground to size
- Opposite end ground for ejector plate removal
- Lamina Bronze-plated I.D.
- Radii to serve as lead
- I.D. Oversize to accommodate expansion
- Plating thickness .004 - .005 per side



- Self Lubricating
- Consistent quality control
- Resists abrasion
- Excellent wear characteristics



### EJECTOR BUSHINGS – SELF LUBRICATING – INCH

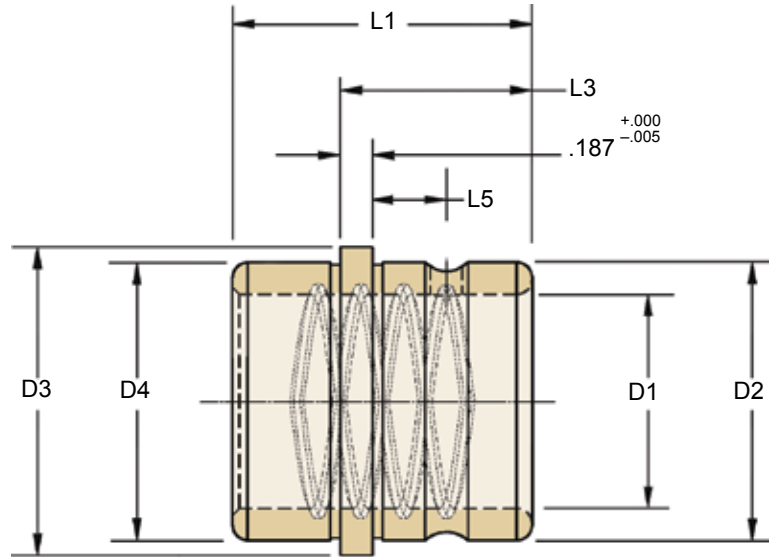
PART NUMBER	Nom. I.D.	D1	D2	D3	D4	L1	L2	L3
		+0.005 -0.000	+0.005 -0.000	+0.00 -0.010	+0.00 -0.001	+0.00 -0.030	+0.00 -0.005	+0.00 -0.015
BGEL0612	3/4	0.7510	1.1255	1.302	1.124	1.50	.187	1.000
BGEL0712	7/8	0.8760	1.2505	1.427	1.249	1.50		1.000
BGEL0814	1	1.0010	1.3755	1.552	1.374	1.75		1.120
BGEL0816						2.00		1.620
BGEL1014	1-1/4	1.2510	1.6255	1.802	1.624	1.75		1.120
BGEL1020						2.50		1.870
BGEL1214	1-1/2	1.5010	2.0005	2.177	1.999	1.75		1.120
BGEL1220						2.50		1.870
BGEL1618	2	2.0010	2.5005	2.687	2.499	2.25		1.620

### EJECTOR BUSHINGS – SELF LUBRICATING – METRIC

PART NUMBER	Nom. I.D.	D1	D2	D3	D4	L1	L2	L3
		+0.013 -0.000	+0.013 -0.000	+0.00 -0.13	+0.000 -0.026	+0.00 -0.76	+0.00 -0.26	+0.00 -0.38
BGELM2037	20	20.063	26.013	28.00	26.00	37.00	5.00	25.00
BGELM2545	25	25.063	32.013	35.00	32.00	45.00		29.00
BGELM3045	30	30.063	38.013	41.00	38.00	45.00		29.00

Oil-impregnated graphite plugs cover 20-30% of the wear surface, providing a self-lubricating film of graphite on the wear surface.

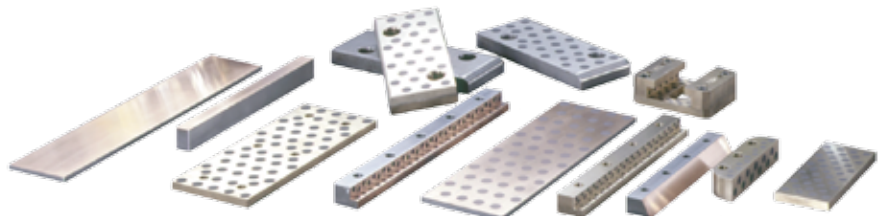
- Lubrication ring with lubrication hole
- Press-Fit Diameter ground to size
- Opposite end ground for ejector plate removal
- Radii to serve as lead
- I.D. Oversize to accommodate expansion

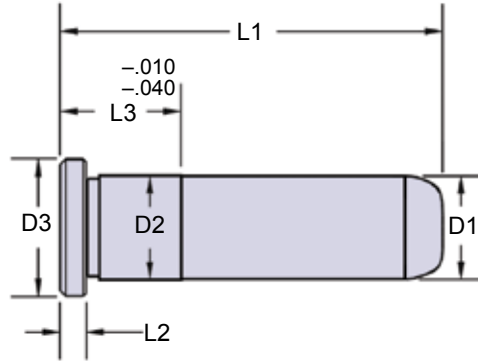


**EJECTOR BUSHINGS – SOLID BRONZE – INCH**

PART NUMBER	Nom. I.D.	D1	D2	D3	D4	L1	L3	L5
		+0.0005 -0.0000	+0.0005 -0.0000	+0.000 -0.015	+0.000 -0.001	+0.000 -0.030	+0.000 -0.015	±.01
<b>BEB0612</b>	3/4	.7510	1.1255	1.302	1.124	1.500	1.000	.56
<b>BEB0712</b>	7/8	.8760	1.2505	1.427	1.249	1.500	1.000	.56
<b>BEB0814</b>	1	1.0010	1.3755	1.552	1.374	1.750	1.120	.62
<b>BEB1014</b>	1-1/4	1.2510	1.6255	1.802	1.624	1.750	1.120	.62
<b>BEB1214</b>	1-1/2	1.5010	2.0005	2.177	1.999	1.750	1.120	.62
<b>BEB1618</b>	2	2.0010	2.5005	2.687	2.499	2.250	1.620	.80

Lamina wear strips and gibs complement our line of round mold components. See our Flat Products Catalog.



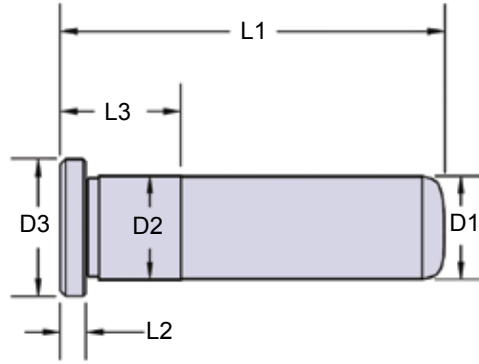


Not all pins are ground on centers.

GENERAL DIMENSIONS				
NOM. PIN DIA.	D1 +0.000 -0.005	D2 +0.005 -0.000	D3 +0.000 -0.010	L2 +0.000 -0.005
3/4	.7490	.7510	.990	.187
7/8	.8740	.8760	1.115	.250
1	.9990	1.0010	1.240	.250
1-1/4	1.2490	1.2510	1.490	.312
1-1/2	1.4990	1.5010	1.740	.312
2	1.9990	2.0010	2.240	.312
2-1/2	2.4990	2.5010	2.740	.312
3	2.9990	3.0010	3.365	.500

Precision-ground steel construction. Lamina has produced hundreds of thousands of these pins. No finer quality will be found anywhere.

LEADER PINS - INCH																	
L1 Overall Length	NOMINAL DIA. 3/4"		NOMINAL DIA. 7/8"		NOMINAL DIA. 1"		NOMINAL DIA. 1-1/4"		NOMINAL DIA. 1-1/2"		NOMINAL DIA. 2"		NOMINAL DIA. 2-1/2"		NOMINAL DIA. 3"		
	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	
1-3/4	06-16-LP	7/8	07-16-LP	7/8	08-16-LP	7/8											
2-1/4	06-22-LP	7/8	07-22-LP	7/8	08-22-LP	7/8											
2-3/4	06-26-LP	7/8	07-26-LP	7/8	08-26-LP	7/8	10-26-LP	7/8									
3-1/4	06-32-LP	7/8	07-32-LP	7/8	08-32-LP	7/8	10-32-LP	7/8									
3-3/4	06-36-LP	7/8	07-36-LP	7/8	08-36-LP	7/8	10-36-LP	7/8	12-36-LP	1-3/8							
4-1/4	06-42-LP	1-3/8	07-42-LP	1-3/8	08-42-LP	1-3/8	10-42-LP	7/8	12-42-LP	1-3/8							
4-3/4	06-46-LP	1-3/8	07-46-LP	1-3/8	08-46-LP	1-3/8	10-46-LP	1-3/8	12-46-LP	1-3/8							
5-1/4	06-52-LP	1-3/8	07-52-LP	1-3/8	08-52-LP	1-3/8	10-52-LP	1-3/8	12-52-LP	1-3/8							
5-3/4	06-56-LP	1-7/8	07-56-LP	1-3/8	08-56-LP	1-3/8	10-56-LP	1-3/8	12-56-LP	1-3/8	16-56-LP	1-7/8	20-56-LP	2-3/8			
6-1/4	06-62-LP	1-7/8	07-62-LP	1-7/8	08-62-LP	1-3/8	10-62-LP	1-3/8	12-62-LP	1-3/8							
6-3/4	06-66-LP	1-7/8	07-66-LP	1-7/8	08-66-LP	1-7/8	10-66-LP	1-7/8	12-66-LP	1-3/8	16-66-LP	1-7/8	20-66-LP	2-3/8			
7-1/4	06-72-LP	1-7/8	07-72-LP	1-7/8	08-72-LP	1-7/8	10-72-LP	1-7/8									
7-3/4	06-76-LP	1-7/8	07-76-LP	1-7/8	08-76-LP	1-7/8	10-76-LP	1-7/8	12-76-LP	1-7/8	16-76-LP	1-7/8	20-76-LP	2-3/8			
8-1/4			07-82-LP	1-7/8	08-82-LP	1-7/8	10-82-LP	1-7/8									
8-3/4			07-86-LP	1-7/8	08-86-LP	1-7/8	10-86-LP	1-7/8	12-86-LP	1-7/8	16-86-LP	1-7/8	20-86-LP	2-3/8	24-86-LP	2-7/8	
9-1/4	06-92-LP	1-7/8	07-92-LP	1-7/8	08-92-LP	1-7/8	10-92-LP	1-7/8									
9-3/4					08-96-LP	1-7/8	10-96-LP	1-7/8	12-96-LP	1-7/8	16-96-LP	1-7/8	20-96-LP	2-3/8			
10-1/4					08-102-LP	1-7/8	10-102-LP	1-7/8									
10-3/4			07-106-LP	1-7/8	08-106-LP	1-7/8	10-106-LP	1-7/8	12-106-LP	1-7/8	16-106-LP	1-7/8	20-106-LP	2-3/8	24-106LP	2-7/8	
11-1/4					08-112-LP	1-7/8	10-112-LP	1-7/8									
11-3/4					08-116-LP	1-7/8	10-116-LP	1-7/8	12-116-LP	1-7/8	16-116-LP	1-7/8	20-116-LP	2-3/8			
12-1/4			07-122-LP	1-7/8	08-122-LP	1-7/8	10-122-LP	1-7/8									
12-3/4							10-126-LP	1-7/8	12-126-LP	1-7/8	16-126-LP	1-7/8	20-126-LP	2-3/8	24-126-LP	2-7/8	
13-3/4							10-136-LP	1-7/8	12-136-LP	1-7/8	16-136-LP	1-7/8	20-136-LP	2-3/8			
14-3/4							10-146-LP	1-7/8	12-146-LP	1-7/8	16-146-LP	1-7/8	20-146-LP	2-3/8	24-146-LP	2-7/8	
15-3/4							10-156-LP	1-7/8	12-156-LP	1-7/8	16-156-LP	1-7/8	20-156-LP	2-3/8			
16-3/4											16-166-LP	2-3/8	20-166-LP	2-3/8	24-166-LP	2-7/8	
18-3/4											16-186-LP	2-3/8	20-186-LP	2-3/8	24-186-LP	2-7/8	



20mm through 60mm  
Not all pins are ground on centers.

GENERAL DIMENSIONS				
NOM. PIN DIA.	D1 +0.000 -0.013	D2 +0.013 -0.000	D3 +0.00 -0.26	L2 +0.00 -0.05
20	19.975	20.025	25.00	5.00
25	24.975	25.025	31.00	6.00
30	29.975	30.025	36.00	8.00
40	39.975	40.025	46.00	8.00
50	49.975	50.025	56.00	8.00
60	59.975	60.025	66.00	8.00

LEADER PINS – METRIC												
L1 Overall Length	NOMINAL DIA. 20mm		NOMINAL DIA. 25mm		NOMINAL DIA. 30mm		NOMINAL DIA. 40mm		NOMINAL DIA. 50mm		NOMINAL DIA. 60mm	
	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3	PART NUMBER	L3
50mm	MLP-20-x-50	25mm	MLP-25-x-50	25mm								
60mm	MLP-20-x-60	25mm	MLP-25-x-60	25mm								
70mm	MLP-20-x-70	25mm	MLP-25-x-70	25mm	MLP-30-x-70	25mm						
80mm	MLP-20-x-80	25mm	MLP-25-x-80	25mm	MLP-30-x-80	25mm						
90mm	MLP-20-x-90	25mm	MLP-25-x-90	25mm	MLP-30-x-90	25mm	MLP-40-x-90	35mm				
100mm	MLP-20-x-100	25mm	MLP-25-x-100	25mm	MLP-30-x-100	25mm	MLP-40-x-100	35mm				
120mm	MLP-20-x-120	35mm	MLP-25-x-120	35mm	MLP-30-x-120	35mm	MLP-40-x-120	35mm				
140mm	MLP-20-x-140	35mm	MLP-25-x-140	35mm	MLP-30-x-140	35mm	MLP-40-x-140	35mm				
150mm									MLP-50-x-150	45mm	MLP-60-x-150	60mm
160mm	MLP-20-x-160	45mm	MLP-25-x-160	35mm	MLP-30-x-160	35mm	MLP-40-x-160	35mm				
175mm									MLP-50-x-175	45mm	MLP-60-x-175	60mm
180mm	MLP-20-x-180	45mm	MLP-25-x-180	45mm	MLP-30-x-180	45mm	MLP-40-x-180	45mm				
200mm	MLP-20-x-200	45mm	MLP-25-x-200	45mm	MLP-30-x-200	45mm	MLP-40-x-200	45mm	MLP-50-x-200	45mm	MLP-60-x-200	60mm
220mm	MLP-20-x-220	45mm	MLP-25-x-220	45mm	MLP-30-x-220	45mm	MLP-40-x-220	45mm				
225mm									MLP-50-x-225	45mm	MLP-60-x-225	60mm
240mm	MLP-20-x-240	45mm	MLP-25-x-240	45mm	MLP-30-x-240	45mm	MLP-40-x-240	45mm				
250mm									MLP-50-x-250	45mm	MLP-60-x-250	60mm
260mm			MLP-25-x-260	45mm	MLP-30-x-260	45mm	MLP-40-x-260	45mm				
275mm									MLP-50-x-275	45mm	MLP-60-x-275	60mm
280mm			MLP-25-x-280	45mm	MLP-30-x-280	45mm	MLP-40-x-280	45mm				
300mm			MLP-25-x-300	45mm	MLP-30-x-300	45mm	MLP-40-x-300	45mm	MLP-50-x-300	45mm	MLP-60-x-300	60mm
325mm									MLP-50-x-325	45mm	MLP-60-x-325	60mm
350mm									MLP-50-x-350	45mm	MLP-60-x-350	60mm
375mm									MLP-50-x-375	45mm	MLP-60-x-375	60mm
400mm									MLP-50-x-400	45mm	MLP-60-x-400	60mm

### CONVERSION TABLES

#### INCHES TO MILLIMETERS .03937" = 1mm

Inches		mm		Inches		mm		Inches		mm	
	0.001		0.0254	11/64	0.1718		4.3660		3/4	0.7500	19.050
	0.002		0.0508	3/16	0.1875		4.7630	15/32	49/64	1.7656	19.447
	0.003		0.0762		0.1900		4.8260	31/64		0.7700	19.558
	0.004		0.1016	13/64	0.2031		5.1590		25/32	0.7810	19.844
	0.005		0.1270	7/32	0.2187		5.5560	1/2	51/64	0.7968	20.241
	0.006		0.1524	15/64	0.2343		5.9630			0.8000	20.320
	0.007		0.1778		0.2400		6.0960	33/64	13/16	0.8125	20.638
	0.008		0.2032		0.250		6.3500			0.8200	20.828
	0.009		0.2286	17/64	0.2656		6.7470	17/32	53/64	0.8280	21.034
	0.010		0.2540		0.2700		6.8580			0.8400	21.336
1/64	0.0156		0.3970	9/32	0.2812		7.1440	35/64	27/32	0.8437	21.431
	0.020		0.5080		0.290		7.3660	9/16		0.8500	21.590
	0.030		0.7620	19/64	0.2968		7.5410	37/64	55/64	0.8594	21.828
1/32	0.0312		0.7940	5/16	0.3125		7.9380	19/32		0.8700	22.098
	0.040		1.0160		0.3200		8.1280		7/8	0.8750	22.225
3/64	0.0469		1.1910	21/64	0.3280		8.3340	39/64		0.8800	22.352
	0.050		1.2700	11/32	0.3437		8.7310			0.8900	22.606
	0.060		1.5240		0.350		8.8900	5/8	57/64	0.8906	22.622
1/16	0.0625		1.5880	23/64	0.3590		9.1280			0.9000	22.860
	0.070		1.7780		0.3600		9.1440		29/32	0.9060	23.019
5/64	0.0781		1.9840		0.3700		9.3980	41/64	59/64	0.9218	23.416
	0.080		2.0320	3/8	0.3750		9.5250			0.9300	23.622
	0.090		2.0860		0.3800		9.6520	21/32	15/16	0.9375	23.813
3/32	0.094		2.3810		0.3900		9.9060	43/64		0.9500	24.130
	0.100		2.5400	25/64	0.3906		9.9220		61/64	0.9530	24.209
7/64	0.1093		2.7760		0.4000		10.1600	11/16		0.9600	24.384
	0.120		3.0480	13/32	0.4062		10.3190	45/64	31/32	0.9687	24.606
1/8	0.125		3.1750	27/64	0.4218		10.7160			0.9800	24.892
9/64	0.1406		3.5720	7/16	0.4375		11.1130	23/32	63/64	0.9843	25.003
	0.150		3.8100		0.4500		11.4300			0.9900	25.146
5/32	0.1562		3.9690	29/64	0.4530		11.5090	47/64		1.0000	25.400

#### MILLIMETERS TO INCHES .03937" = 1mm

mm		Inches		mm		Inches	
1	0.03937	26	1.02362	51	2.00787	76	2.99213
2	0.07874	27	1.06299	52	2.04724	77	3.03150
3	0.11811	28	1.10236	53	2.08661	78	3.07087
4	0.15748	29	1.14173	54	2.12598	79	3.11024
5	0.19685	30	1.18110	55	2.16535	80	3.14961
6	0.23622	31	1.22047	56	2.20472	81	3.18898
7	0.27559	32	1.25984	57	2.24409	82	3.22835
8	0.31496	33	1.29921	58	2.28346	83	3.26772
9	0.35433	34	1.33858	59	2.32283	84	3.30709
10	0.39370	35	1.37795	60	2.36220	85	3.34646
11	0.43307	36	1.41732	61	2.40157	86	3.38583
12	0.47244	37	1.45669	62	2.44094	87	3.42520
13	0.51181	38	1.49606	63	2.48031	88	3.46457
14	0.55118	39	1.53543	64	2.51969	89	3.50394
15	0.59055	40	1.57480	65	2.55906	90	3.54331
16	0.62992	41	1.61417	66	2.59843	91	3.58268
17	0.66929	42	1.65354	67	2.63780	92	3.62205
18	0.70866	43	1.69291	68	2.67717	93	3.66142
19	0.74803	44	1.73228	69	2.71654	94	3.70079
20	0.78740	45	1.77165	70	2.75591	95	3.74016
21	0.82677	46	1.81102	71	2.79528	96	3.77953
22	0.86614	47	1.85039	72	2.83465	97	3.81890
23	0.90551	48	1.88976	73	2.87402	98	3.85827
24	0.94488	49	1.92913	74	2.91339	99	3.89764
25	0.98425	50	1.96850	75	2.95276	100	3.93701

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