

hi-bond[®]
Bearings & Bushes

Playing a meaningful role in your engine...

www.hibond.com



BRONZE / BI-METAL BUSH



CAST ALUMINUM TIN



TRI-METAL BEARINGS



COPPER LEAD BEARING & BUSHING



HALF BEARING



FLANGE THRUST BEARING

ABOUT US

Hi-bond Bearings Pvt. Ltd was founded in 1990 and began making high quality Bi-metal Plain Shaft Engine Bearings and Bushings in Steel Backed, Copper/Lead Lining Material. The Company is ISO 9001-2015 Certified by TUVNORD Germany. Hi-bond Bearings Pvt. Ltd. is in possession of the complete process, from the raw material to the finished product and combines to the maximum quality a large flexibility to offer to the customer a more and more efficient service. The company has its own modern and highly sophisticated bi-metal strips manufacturing as well as powder plant.

THIN & THICK-WALLED JOURNAL BEARINGS, THRUST PLAIN BEARINGS, THRUST WASHERS AND BUSHINGS

- For universal application in engine and machine manufacturing, in thin or thick-walled designs, available in various combinations of materials and dimensions.
- Raw material in the form of steel tube, centrifugally lined with the relevant grade of steel/copper lead-bronze or steel/white metal also made of steel/copper lead or steel/aluminium bi-metal strip with clinch type as well as split type joint.
- With specially shaped grooves for oscillating movement
- With special supporting cradle for cross-head bushings without lift
- These Bearings are produced either in halves or complete rings using a combination of turning, lapping, milling and facing operations.
- For normal duty made of the material combination steel/Babbitt for special duty made of steel/lead bronze with or without electroplated sliding layer.
- Made in exchangeable halves. When arbitrarily assembled, the pair of bearing shells always fits in such a way that, when installed, the seat complies with the specified pre-stress level.
- Tested with special crush height measuring machines. The crush height is the characteristic required to achieve the necessary pre-stress in installed condition.

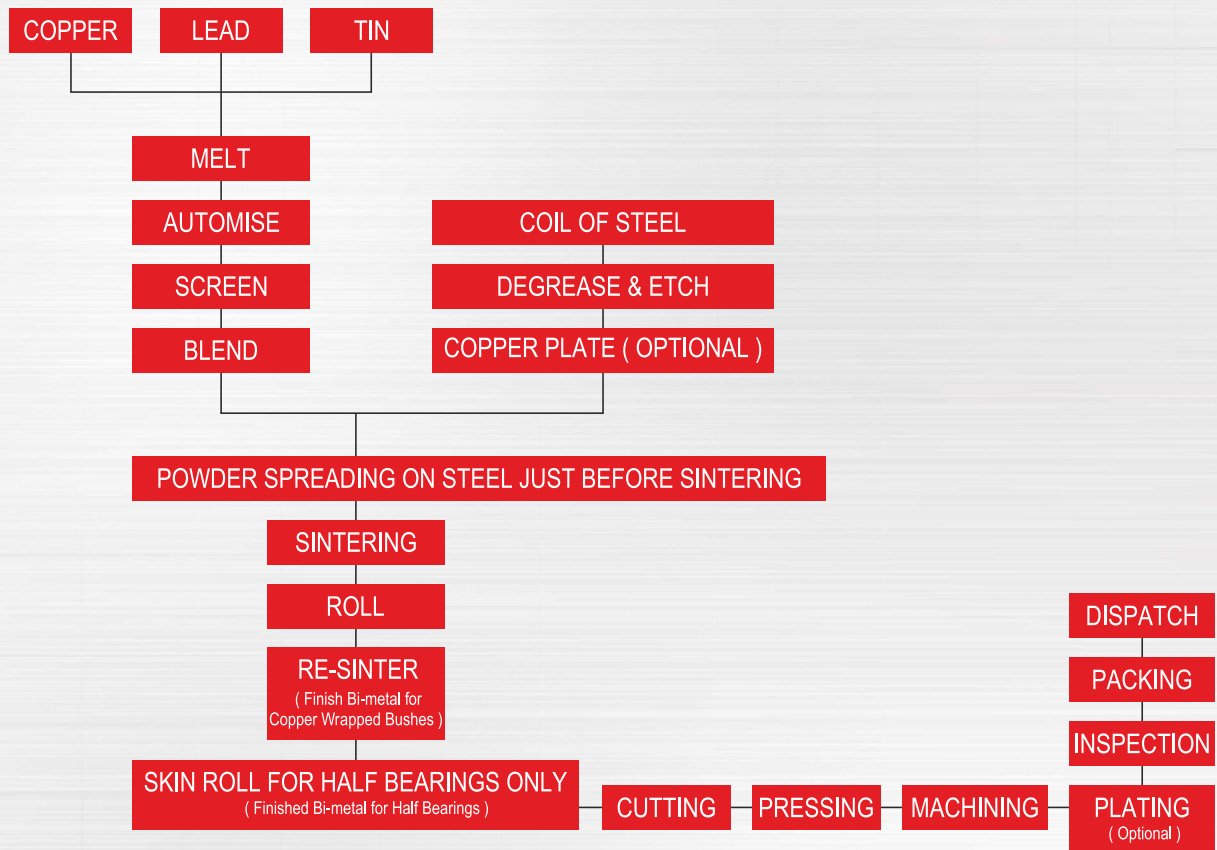
APPLICATIONS

With wide range of Bearings and Bushes, Hi-bond covers all applications and purposes in the area of :

- Cars ➤ Trucks ➤ Tractors ➤ Air Compressors ➤ Pumps ➤ Diesel Engines ➤ Agricultural – Machineries ➤ Marine Engines
- Locomotive Engines ➤ Heavy Earth Movers ➤ Light Commercial Vehicles ➤ Refrigerator Compressors ➤ Building and Construction Machineries ➤ General Engineering

MANUFACTURING TECHNOLOGY / PROCESS

Hi-bond Bearings Pvt. Ltd, is committed to continually investing in the latest manufacturing technology, material specifications and bearing designs. This supports the future development of all applications, whilst retaining the experience and traditional methods gained over many years involvement in the industry.



CAST ALUMINUM TIN FLANGE BUSH



CAST COPPER LEAD BEARING & BUSH

MATERIALS TECHNOLOGY / REFERENCE

As engine ratings continue to rise, and component designs are refined, creating more severe loading conditions on the bearings, the need for improved materials increases. A wide range of materials is available for your requirement.

MATERIAL REFERENCE

ALLOY REFERENCE

ALLOY FORM	SAE REFERENCE	Pb (LEAD)	Sn (TIN)	Cu (COPPER)	Sb (ANTIMONY)	As (ARSENIC)	Ni (NICKEL)	Al (ALUMINIUM)	Si (SILICON)	Zn (ZINC)	Fe (IRON)
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CAST BABBITT

LEAD BASED WHITE METAL	SAE -14	BALANCE	8.0 - 10.0	0.8 - 1.20	13.0 - 15.0	0.4 - 0.7	0.05 - 0.15				
LEAD BASED WHITE METAL	SAE -15	BALANCE	0.9 - 1.25	0.6 MAX	14.5 - 15.5	0.8 - 1.2					
TIN BASED WHITE METAL	SAE -12	0.35 MAX	BALANCE	2.5 - 3.5	6.5 - 7.5						

CAST / SINTERED COPPER LEAD

COPPER LEAD	SAE -792	9 - 11	9 - 11	BALANCE	0.5 MAX		0.5 MAX			0.5 MAX	0.7 MAX
COPPER LEAD	SAE - 49	19 - 24	1.8 - 2.8	BALANCE	0.5 MAX		0.5 MAX			0.5 MAX	0.7 MAX
COPPER LEAD	SAE - 794	23 - 27	2 - 4	BALANCE	0.5 MAX		0.5 MAX			0.5 MAX	0.7 MAX

CLAD ALUMINIUM

ALUMINIUM TIN	SAE - 783		17.5 - 22.5	0.7 - 1.3				BALANCE	0.5 MAX		0.7 MAX
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CAST ALUMINIUM (SOLID)

ALUMINIUM TIN	SAE - 770		5.5 - 7.0	0.7 - 1.3		0.7 - 1.3	BALANCE		0.7 MAX		0.7 MAX
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OVERLAY PLATING

LEAD TIN	SAE - 191	BALANCE	8 - 12							1.0 - 2.0	
LEAD TIN COPPER	SAE - 192	BALANCE	8 - 12	2 - 3						0.5 - 1.0	

STEEL REFERENCE

STEEL	SAE REFERENCE	C	Mn	P	S
MILD STEEL	SAE - 1008	0.1 MAX	0.3 - 0.5	0.04 MAX	0.05 MAX
MILD STEEL	SAE - 1010	0.05 - 0.13	0.05 MAX	0.04 MAX	0.05 MAX

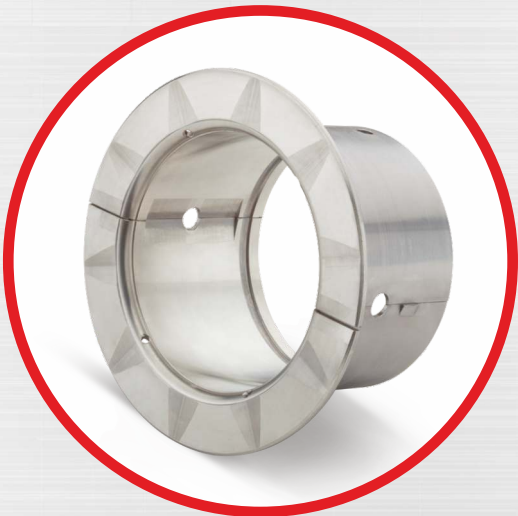


BI-METAL BRONZE WASHERS



STEEL HALF SHELL

THRUST PAD BEARING (BABBITT)



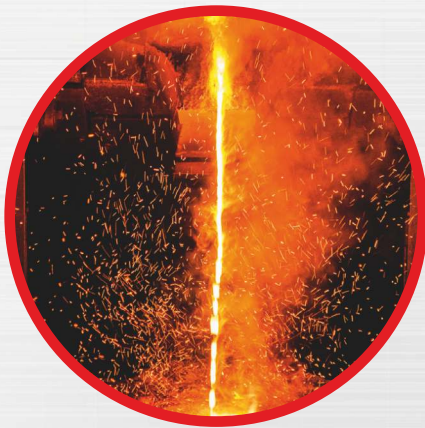
CAST BABBITT (Sn) TIN BASE



BRONZE BI-METAL BUSH



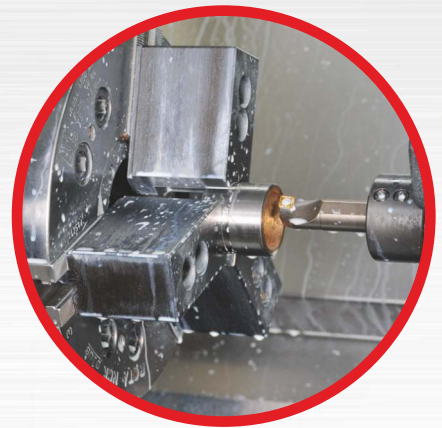
ALLOY MELTING



AUTOMATIC FINE BORING



CNC TURNING & MILLING



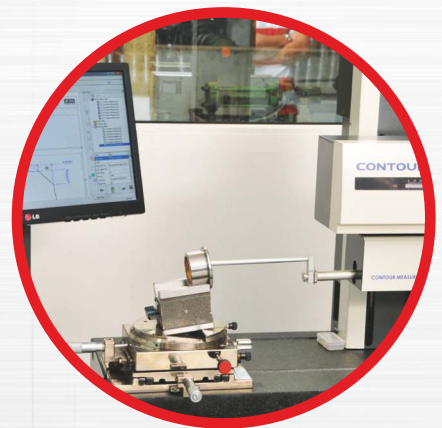
SPECTRO ANALYSIS



MICROSCOPIC ANALYSIS



CONTOUR MEASURING





hi-bond[®]
Bearings & Bushes

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