



84% TIN BASED ANTIFRICTION BEARING ALLOY

1.0 GENERAL:

This specification governs the quality of 84 % tin based antifriction bearing alloy.

2.0 APPLICATION:

For lining of bearing used at high speeds.

3.0 CONDITION OF DELIVERY:

As cast ingots.

4.0 COMPLIANCE WITH NATIONAL STANDARDS:

The material shall comply with the requirements of the following national standards and also meet the requirements of this specification.

IS: 25 – 1979, Gr: 84 : “ Antifriction Bearing Alloys.”

5.0 DIMENSIONS AND TOLERANCES:

As per IS : 25.

6.0 WEIGHT:

The weight of each ingot shall approximately be 10 kg.

7.0 FREEDOM FROM DEFECTS :

The ingots shall be homogeneous and free from non-metallic inclusions and have a clean appearance.

8.0 CHEMICAL COMPOSITION :

The chemical composition of the material when analyzed in accordance with IS : 1409 or any other suitable instrumental/chemical method shall be as follows :

Revisions :			APPROVED :		
Cl: 20.10.26 of MOM of MRC-NFCW+HE			INTERPLANT MATERIAL RATIONALISATION COMMITTEE-MRC (NFCW+HE)		
Rev. No. 02	Amd.No.	Reaffirmed	Prepared HARDWAR	Issued Corp. R&D	Dt. of 1st Issue October, 1977
D :15.02.2006	Dt :	Year :			



Element	Percent	
	Min	Max.
Tin	84.0	--
Antimony	9.0	11.0
Copper	5.0	6.0
Lead	--	0.3
* Iron	--	0.08
*Arsenic	--	0.10
*Aluminum	--	0.005
*Bismuth	--	0.05
*Zinc	--	0.008
*Cadmium	--	0.10
*Total Impurities	--	0.17

***Note:** These elements need not be determined. However, if required, the same shall be specified in the BHEL order.

9.0 TEST SAMPLES: One sample per melt shall be taken for testing.

10.0 FRACTURE TEST:

The fractured surfaces of the ingots when broken at the notches shall not show segregation, drosses, dirt spots, overheated metal or any other type of non-metallic inclusions and shall show a fine grain structure.

11.0 INSPECTION AT SUPPLIER'S WORKS

Tests and inspection are to be conducted in the presence of the customer's representative. The representative shall have free access at all times while the work on the contract is being performed, to all parts of the manufacturer's works. The supplier shall offer the purchaser's representative all reasonable facilities, without charge, to satisfy the latter that the material is being furnished in accordance with this specification. The supplier shall prepare and provide necessary test specimens for testing to be carried out at his premises. If facilities are not available at his works, the supplier shall make necessary arrangement for carrying out the prescribed test elsewhere.

12.0 TEST CERTIFICATES:

The supplier shall submit three copies of test certificates giving the following information: In addition, the supplier shall make sure to enclose one copy of the test certificate along with dispatch documents for quick clearance of the material.

BHEL Order No,

AA 12802 (Rev.02) : 84% Tin Based Antifriction Bearing Alloy.

Supplier's name :

Results of chemical analysis

Heat No.

Consignment/Identification No.



13.0 PACKING AND MARKING:

The ingots shall be clearly marked with the maker's brand either stamped or cast in with the with following details.

BHEL Order No.

AA 12802

Supplier's reference and name.

Heat No,

Weight

Consignment/Identification No.

14.0 REFERRED STADARDS (Latest Publications Including Amendments):

1. IS:25 2. IS: 1409