

**CORPORATE PURCHASE SPECIFICATION**

AA 123 52

Rev. No. 02

PREFACE SHEET

**ALUMINIUM ALLOY INGOTS, Gr: 4600**

**FOR INTERNAL USE ONLY**  
**REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS**

**Comparable Standards:**

- |            |                          |
|------------|--------------------------|
| 1. INDIAN  | : IS: 617-1994, Gr.:4600 |
| 2. BRITISH | : BS: 1490-1980, Gr: LM6 |

**Suggested/Probable Suppliers and Grades:**

- |                             |      |
|-----------------------------|------|
| 1. BALCO, KORBA             | : -- |
| 2. NALCO, ANGIL, ORISSA     | : -- |
| 3. HINDALCO, RENUKUT, U.P.  | : -- |
| 4. Use plant's vendor list. |      |

**User Plant References:**

- |                  |      |
|------------------|------|
| 1. BHOPAL        | : -- |
| 2. HYDERABAD     | : -- |
| 3. CFFP, HARDWAR | : -- |

**Revisions :**

CI 18.6.21 of MOM of MRC-FN

**APPROVED :****INTERPLANT MATERIAL  
RATIONALISATION COMMITTEE -MRC (FN)**

Rev. No. 02

Amd.No.

Reaffirmed

Prepared

Issued

Dt. of 1st Issue

Dt: 15-01-2004

Dt :

Year :

CFFP

Corp. R&amp;D

OCTOBER, 1977

**ALUMINIUM ALLOY INGOTS, Gr: 4600****1.0 GENERAL:**

This specification governs the quality requirements of Aluminium Alloy Ingots of Gr.:4600.

**2.0 APPLICATION:**

Used as raw material for the production of aluminium alloy castings.

**3.0 CONDITION OF DELIVERY:**

As cast.

**4.0 COMPLIANCE WITH NATIONAL STANDARDS:**

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

IS:617-1994 | Aluminium & Aluminium Alloy Ingots and Castings for General  
Gr: 4600 | Engineering Purpose

**5.0 SIZE AND SHAPE:**

The material shall be in the form of notched ingots each weighing not more than 15 kg.

**6.0 MANUFACTURE:**

Ingots shall be produced from primary metal producers only.

The ingots shall be manufactured from harmful defects like dross, slag and other oxide inclusions.

**7.0 FREEDOM FROM DEFECTS:**

The ingots shall be clean and free from harmful defects like dross, slag and other oxide inclusions.

**8.0 TEST SAMPLES:**

One test sample shall be selected from each melt for chemical analysis. Care shall be taken to discard the first drillings till a clear oxide-free surface is reached.

**Revisions :**

Cl. 18.6.21 of MOM of MRC-FN

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## 9.0 CHEMICAL COMPOSITION:

The chemical composition of the material, when analysed in accordance with IS:504 (Methods of chemical analysis of aluminium and its alloys) shall be as specified below:

Element	Percent, min	Percent, max.
*Copper	-	0.1
*Magnesium	-	0.1
Silicon	10.00	13.0
Iron	-	0.6
Manganese	-	0.5
*Nickel	-	0.1
*Zinc	-	0.1
*Lead	-	0.1
*Tin	-	0.05
*Titanium	-	0.2
Aluminium	Remainder	

- \* These elements need not be determined. However, the supplier shall ensure that the composition of the material lies within the limits specified above.

## 10.0 INSPECTION AT SUPPLIER'S WORKS:

BHEL reserves the right to inspect the material at site before despatch. The supplier shall intimate in advance enclosing a copy of test certificate of the material offered for inspection. If the material received is not found suitable to our requirements, it shall be replaced free of charge by the supplier. Final tests shall be carried out at BHEL and material will be accepted or rejected based on this result. For any deviation demanded by the supplier from the specification, prior approval of BHEL must be obtained in writing.



**11.0 TEST CERTIFICATES:**

Three copies of test certificates shall be supplied unless otherwise stated on BHEL order.

In addition, the supplier shall ensure to enclose one copy of the test certificate along with their despatch documents to facilitate quick clearance of the material.

The test certificate shall bear the following information:

BHEL order No

AA 123 52 (Rev.No. 02)- Aluminium Alloy Ingots, Gr: 4600

Supplier's reference and name:

Melt No.:

Results of Chemical analysis.

**12.0 PACKING AND MARKING**

The material shall be suitably packed to prevent damage during transit.

Each package shall be legibly identified by colour coding as per IS:2479 and marked with the following information:

AA 123 52: Aluminium Alloy Ingots, Gr.:4600

BHEL Order No.

Melt No.

Quantity supplied

Supplier's Name and reference, trade mark if any.

**13.0 REFERRED STANDARDS (Latest Publications Including Amendments):**

1. IS: 504

2. IS: 617

3. IS: 2479