



CORPORATE PURCHASING SPECIFICATION

AA11317

Rev No.02

PREFACE SHEET

HIGH ALUMINA POWDER – CASTABLE (GRADES – A, B, C)

FOR INTERNAL USE ONLY

REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Comparable Standards

Probable Suppliers and Grades

As per respective Plant's PMD

User Plant References:

- | | | |
|-------------------|---|---|
| 1) BHOPAL | : | - |
| 2) HYDERABAD | : | - |
| 3) CFFP, HARIDWAR | : | - |

Revisions:
Clause No. 25.03 of MOM of MRC–FN

APPROVED:
INTERPLANT MATERIAL RATIONALISATION
COMMITTEE – MRC(FN)

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HIGH ALUMINA POWDER – CASTABLE (GRADES – A, B, C)

1.0 GENERAL:

This specification governs the quality requirements of high alumina powder – castable for use in foundry.

2.0 APPLICATION:

Used for casting of doors for reheating furnaces, repair of burner hood for ladle pre-heating, repair of heat treatment furnace bogie and for filling the gap between the bricks during lining of ladle and for making the spouts of melting furnaces.

3.0 CONDITION OF DELIVERY:

The material shall be supplied in dry powder form with grain size of 0 to 5 mm and shall be free from lumps.

General conditions for supply of material shall be as laid down in IS: 1387.

Supply of material to grade A, B or C shall be clearly stated in BHEL order.

4.0 COMPLIANCE WITH NATIONAL STANDARDS:

There is no national standard covering this type of material. However, assistance has been derived from the following national standards.

- i) IS: 1335–1979: Methods for direct determination of aluminium in refractory material
- ii) IS: 1387–1993: General requirements for the supply of metallurgical materials
- iii) IS: 1526–1960: Sizes and shapes for firebricks

5.0 TEST SAMPLES:

Representative samples shall be drawn as per mutual agreement between the supplier and BHEL.

6.0 PROPERTIES:

6.1 CHEMICAL COMPOSITION:

When tested as per IS: 1335, the material shall conform to the following composition:

Grade	Al ₂ O ₃	Fe ₂ O ₃
A	90% min	0.8% max
B	60% min	1.0% max
C	45% min	4.0% max

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6.2 PHYSICAL PROPERTIES:

When determined in accordance with the method given in IS: 1528, the material shall possess the following properties

Characteristic	Grade		
	A	B	C
a) Recommended Temp, °C	1750	1600	1350
b) Refractoriness, °C	1820	1683	1450
c) Dry density, kg/m ³	2800	2200	2250
d) Linear change	+1.0% at 1500°C for 3hrs	+1.5% at 1550°C for 3hrs	+0.8% at 1350°C for 2hrs
e) C.C.S at 110°C, N/mm ²	60	35	40
f) C.C.S. at 135°C, N/mm ²	—	—	30

7.0 INSPECTION AT SUPPLIER'S WORKS:

- 7.1 BHEL reserves the right to witness the testing of the material at supplier works and therefore the supplier shall notify BHEL in advance about the readiness of the material for inspection and testing.
- 7.2 BHEL may also opt for third party inspection. If so, BHEL may either specify a third party or else give a list of third party inspection agencies, out of which supplier may select one of his choice.
- 7.3 The supplier shall offer BHEL'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 arrangements for carrying out the prescribed tests elsewhere.
- 7.4 BHEL may, at its discretion, test the material after receipt and acceptance of the material will be based on the BHEL's test results.
- 7.5 Supplier shall ensure that the material is free from extraneous material. The material shall be rejected if it is not free from extraneous material.
- 7.6 For result of analysis and properties of material the decision of BHEL shall be final and binding on the supplier.
- 7.7 If the material received is not found suitable according to the requirements, it shall be replaced free of cost by the supplier.
- 7.8 For any deviation, demanded by the supplier from the specification, prior approval of BHEL must be obtained.

8.0 TEST CERTIFICATES:

Unless and otherwise stated, one original and three copies of certificates from the original manufacturer shall be supplied along with each consignment.

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



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Manufacturer supplying material directly to BHEL should include BHEL PO No. in the Test Certificate. Any other supplier should provide a covering letter along with original manufacturer Test Certificate as above mentioning BHEL PO No.

The test certificates shall bear the followings information:

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BHEL Order No.

Manufacturer's/ Supplier's Name.

Trade mark, if any.

Batch No.

Quantity Supplied.

Test Results of clause 6.0

9.0 PACKING AND MARKING:

The material shall be packed in polyethylene lined gunny bags of 50 kg each. Each bag shall be legibly marked or labelled with the following information.

AA11317: HIGH ALUMINA POWDER – CASTABLE (GRADES – A, B, C)

BHEL Order No.

Manufacturer's/ Supplier's Name.

Trade mark, if any

Batch/ Lot No.

Quantity supplied

10.0 REJECTION AND REPLACEMENT:

If the material does not comply with the requirements of this specification during receipt inspection at BHEL or if any defect is found during further processing of the material, BHEL reserves the right to reject the whole consignment not withstanding any previous certification of satisfactory testing and / or inspection. The supplier shall undertake to replace the rejected material at his own cost and the rejected material shall be taken back by the supplier after fulfilling the commercial terms and conditions.

11.0 Referred Standards (Latest publications including amendments):

1) IS: 1335

2) IS: 1528