



CORPORATE PURCHASING SPECIFICATION

AA53305

Rev No.02

PREFACE SHEET

FIRECLAY MORTAR

FOR INTERNAL USE ONLY
REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

Equivalent / Comparable Standards

INDIAN : IS: 195-1991

Suggested / 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)

Rev No.02	Amd No.	Reaffirmed	Prepared	Issued	Dt. of 1 st Issue
Dt:19-03-2014	Dt:	Year:	HEP, Bhopal	Corp.R&D	01-04-1995

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FIRECLAY MORTAR

1.0 GENERAL:

This specification governs the quality requirements of Fireclay Mortar used for laying of fireclay refractories in furnaces and ladles. Fireclay mortar is mainly a suitable mixture of plastic fireclay and fireclay grog (calcined fireclay or broken fireclay refractories).

2.0 APPLICATION:

Used as a lining material for joining and repair of fireclay refractory bricks in furnaces and ladles.

3.0 COMPLIANCE WITH NATIONAL STANDARD:

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

IS: 195-1991, Gr.:1: Fireclay Mortars For Laying Fireclay Refractory Bricks

4.0 TEST SAMPLES: As per IS: 1528.

5.0 PROPERTIES:

When Tested in accordance with the relevant clauses of IS: 1527 and IS: 1528, mentioned against each, the test sample shall show the following values:

5.1 CHEMICAL COMPOSITION

The material, when analysed in accordance with IS: 1527, shall conform with the following composition.

Element	Percent
Al ₂ O ₃	37 minimum
Fe ₂ O ₃	3 maximum

5.2 PHYSICAL:

5.2.1 DRYING AND FIRING SHRINKAGE (IS: 1528):

Drying and firing shrinkage shall be measured on hand moulded briquettes made after through mixing of mortar with 10–20% of water. Samples shall be prepared by casting in to a size of 160 mm X 40 mm X 40 mm.

5.2.1.1 DRYING SHRINKAGE: 2% maximum, at 110°C

5.2.1.2 FIRING SHRINKAGE: 0.5% maximum, at 1400°C for 2 hours

5.2.2 FIRENESS: 95% passing through IS sieve: 150 micron, minimum

No particle of fireclay powder shall be so large as to be retained on IS sieve 1.6 mm.

Revisions:
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5.3 REFRACTORINESS (IS: 1528):

Pyrometric Cone Equivalent ASTM Cone No. (Min): 31, minimum

6.0 INSPECTION AT SUPPLIER'S WORKS:

- 6.1** BHEL reserves the right to witness the testing of the material at supplier works and therefore the supplier shall notify the readiness of the material in advance.
- 6.2** 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.
- 6.3** 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.
- 6.4** BHEL may, at its discretion, test the material after receipt and acceptance of the material will be based on the BHEL's test results.
- 6.5** Supplier shall ensure that the material is free from extraneous material. The material shall be rejected if it is not free from extraneous material.
- 6.6** For result of analysis and properties of material the decision of BHEL shall be final and binding on the supplier.
- 6.7** If the material received is not found suitable according to the requirements, it shall be replaced free of cost by the supplier.
- 6.8** For any deviation, demanded by the supplier from the specification, prior approval of BHEL must be obtained.

7.0 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.

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 certificate shall bear the following information:

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BHEL order no.

Manufacturer's / Supplier's name.

Trade mark, if any.

Batch / Lot no.

Quantity Supplied.

Test results of clause 5.0.



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8.0 PACKING AND MARKING:

The material shall be packed in air tight, moisture and tamper proof steel drums of 50 kg each. Original Manufacturer packing is acceptable. Each container shall be legibly marked or labeled with the following information.

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BHEL Order No.

Manufacturer's / Supplier's name.

Trade mark, if any

Batch / Lot No.

Quantity supplied

9.0 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 notwithstanding 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 all the commercial terms and conditions.

10.0 REFERRED STANDARDS (Latest Publications Including Amendments):

- 1) IS: 1527
- 2) IS: 1528