



CORPORATE PURCHASING SPECIFICATION

AA53622

Rev No.02

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EXOTHERMIC POWDER

1.0 GENERAL:

This specification governs the quality requirements of Exothermic powder for use in the risers of steel and cast iron castings.

2.0 APPLICATION:

Used on the top of sand or sleeved risers to effect feeding of shrinkages, for iron and steel castings.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

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

IS: 10504–1983 : Exothermic feeding aid for foundry

4.0 Shape and Size:

The material shall be supplied in dry powder form, free from lumps etc. General condition for supply of material shall be as laid down in IS: 1387.

5.0 TEST SAMPLES:

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

6.0 PROPERTIES:

The material shall comply with the following properties when tested as per the methods given in Appendices of IS: 10504.

i)	Ignition time (start of burn or glow)	50 sec., max for cast iron and 60 sec., max for steel.
ii)	Temp. drop before start of reaction	20° C max.
iii)	Effective rise over max. Temp. after addition	50° C max.
iv)	Time for completion of burning	3-4 minutes. Porous slag should form simultaneously to insulate the riser top from heat loss by radiation.
v)	Efficiency of powder	Heat generated should be sufficient enough to keep the metal molten for a minimum of 8 min. upon completion of combustion
vi)	Metal yield	Shall not be less than 35%

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

APPROVED:
INTERPLANT MATERIAL RATIONALISATION
COMMITTEE – MRC(FN)

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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 the readiness of the material in advance.
- 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.

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 / Lot No.

Quantity Supplied

Test results as per clause 6.0



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9.0 PACKING AND MARKING:

Material shall suitably be packed in polyethylene lined gunny bags of 50 kg each.

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BHEL Order No.

Manufacturer's/ Supplier's Name and 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 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 the commercial terms and conditions.

11.0 Referred Standards (Latest publications including amendments):

- 1) IS: 1387