



PLANT PURCHASE SPECIFICATION (CFFP - HARDWARE)

FF 05013 Rev02

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EXOTHERMIC POWDER FOR HOT TOPS

1. SCOPE

This specification governs the quality of exothermic powder used for generating heat on hot tops of vacuum teemed ingots.

2. APPLICATION

The material will be used on the liquid steel surface of hot tops in order to keep the liquid steel surface molten for longer duration.

3. CONDITION OF DELIVERY

The size shall be in dry powder form, free from lumps etc. It should burn uniformly without explosion.

4. COMPLIANCE WITH NATIONAL STANDARDS

There is no national standard covering this type of material.

5. FREEDOM FROM CONTAMINATION

The material shall be free from extraneous contamination..

6. PROPERTIES

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

- | | |
|--|---|
| 1- Ignition time | : 50 sec, max |
| 2- Temp drop before start of reaction | : 20°C, max |
| 3- Effective rise over max temp after addition | : 50°C, min |
| 4- Time for completion of burning | : 3-4 minutes |
| 5- Efficiency of powder | : heat generated should be sufficient enough to keep the metal molten for minimum of 8 minutes upon completion of burning |

PHYSICAL PROPERTIES

The material shall conform to the requirement given below.

ELEMENT	REQUIREMENT	REFERENCE FOR TESTING
Bulk Density	1.0 -1.2 gm/cc	
Moisture	1% max	
Size(100%)	-60 mesh no to +12 mesh no	ASTM

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MPIC	SHYAM BABU	CHECKED BY	RANJAN
CHAIRMAN CPSC	K.B.SUBRAMANYAM	SUPERVISED BY	S.V.S.NARAYANA
APPROVED : PLANT STANDARDS COMMITTEE			
PREPARED : SMS TECH		ISSUED : Steel Melting Shop	DATE : 07/09/07



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7. INSPECTION

- CFFP 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.
- CFFP may, at its discretion, test the material after receipt and acceptance of the material will be based on the CFFP's test results.
- For any deviation from this specification prior approval shall be taken by the supplier.
- For result of analysis and properties of material the decision of CFFP shall be final and binding on the supplier.
- If the material is not conforming to this specification, it is liable to be rejected and the supplier shall replace the same.

8. TEST CERTIFICATES

One Original and three copies of Test Certificate from the **original manufacturer** containing the following information should be provided.

Manufacturer's Name
Name of the material
Batch/Lot No.
Quantity.

Note:

- a) A manufacturer supplying directly to BHEL should include BHEL'S P.O. No. and Challan No. also in the TC.
- b) Any other supplier should provide a covering letter along with **original Manufacturer's TC** as above mentioning BHEL'S P.O. No. and Challan No.

9. PACKING AND MARKING

Packing should be such as to prevent loss / deterioration in quality during handling, transport and storage. It should be in the **original manufacturer's packing**. Each package should be marked with the following details.

Name of the material
Manufacturer's Name / Trade mark
Batch/Lot No.
Net weight.

WORKED BY

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CHECKED BY

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REVISION RECORD SHEET

SN	Revision No.	Revision date	Nature of Changes
01.	01	25.03.09	Format changed, packing amended , chemical composition deleted desired properties mentioned
02	02	07.09.2009	-Clauses 8 and 9 revised incorporating requirement of manufacturer's packing and Test certificate.

ISSUED BY:	SMS	WORKED	M.K.SAHU 
REVISION	02	CHECKED	RANJAN 
DATE: 07.09.2009	PLANT PUR. SPEC.COMMTTEE	APPROVED	P.P.S.C.