ANTIPIPING COMPOUND (GRANULAR & EXPANDABLE) FOR USE IN FOUNDRY AND STEEL MELTING

1. General

This specification governs the technical requirements of Antipiping compound for covering of risers in moulds of steel castings and hot tops of steel ingots to reduce the heat loss from the liquid metal surface in the riser/hot top.

2. Application

The antipiping compound material will be used for covering of open risers in the moulds for steel castings and hot top of steel ingots to reduce heat loss from top liquid metal surface in the riser/ingots. The antipiping compound shall be added immediately after completion of pouring.

3. Compliance with national standard

This specification is related to IS 10469 - 1983 and IS 1387 - 1967

4. Size

The material shall be in granular form of size ranging from 2 to 15 mm. 90% of the material size should fall in this range. It shall burn uniformly without explosion.

5. Properties

5.1 The heat generated during burning of antipiping compound shall nullify the cooling tendency of the top metal layer in the riser/hot top of steel ingots. The burnt material, in turn shall form a soft thick - fluffy insulating layer to reduce the heat loss.

5.2

A. Bulk density	0.7-1.5 g/cc
B. Moisture	2.5% max.
C. Thermal Expansion	6-8 cc/gm
D. Calorific Value	1599 cal/gm - minimum
E. Temperature attained on burning	1600 °C minimum
F. Ignition time after addition	30 sec. Maximum
G. Thermal conductivity	0.10-0.15 Wm/K at 1500 °C

6. Addition level and storage

6.1 The supplier shall give the addition quantity related to riser size and condition for storage. The addition quantity should be related to size of riser and ingot hot top diameter.

6.2 When stored as recommended by the supplier, the material shall not fail to meet the requirement as per Cl. No. 5

7. Test Certificates

7.1 Unless otherwise specified, one original and three copies of original manufacturer's test certificates shall be supplied with each consignment bearing the following information. In order to facilitate quick clearance of material, the supplier shall ensure to send a copy of test certificate along with despatch document.

a. BHEL PO No. with Date
b. Specification No.
c. Supplier reference
d. Identification No. / Batch No.
e. Date of manufacture
f. The properties as per Clause 4 and 5
g. Storage conditions, if any.
h. Any other specific information which the supplier would like to convey.

7.2 Suppliers other than the original manufacturer shall ensure providing original manufacturer's test certificates with linkage to supplier's invoice stating the batch No., lot No., etc of the supply.

8. Inspection, Deviation and Replacement

8.1 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. The supplier shall extend all test facilities at their works to BHEL representative free of cost for verification of properties at Clause No. 5.2. However acceptance of the material shall be based on receipt inspection at CFFP and the decision of CFFP shall be final and binding.

8.2 If the material received is not found in accordance with the requirements, it is liable to be rejected and the supplier will have to replace it free of cost at the earliest.

8.3 For any deviation from the specification sought by the supplier prior approval of BHEL must be obtained in writing.

9. Packing and Marking

The material shall be packed in 5 kg polypacks. These polypacks shall be further packed in 50 kg polythene lined gunny bags. The packing should be that of original manufacturer. Each gunny bag shall bear the following

(a) Supplier's name and trade mark, if any.
(b) Name of the product
(c) Date of manufacture
(d) Batch No.
(d) Net Weight & Gross Weight