



संस्थान क्रय विनिर्देश (सी.एफ.एफ.पी. - हरिद्वार)

FF06010 Rev 03

PLANT PURCHASE SPECIFICATION
(CFFP - HARDWAR)

पृष्ठ का
Page 1 of 3

FOUNDRY REFRACTORIES
(SLEEVES, KNEES, REDUCERS, TEES, POURING CUP)

1. General

This specification covers the requirement of Foundry refractory items to be used in foundries for making Steel Castings.

2. Application

The refractory items will be used in making gating system in the moulds for entry of liquid steel at temperature in the range of 1570 °C to 1620 °C.

3. Compliance with national standard.

This specification is based on IS:8-1994

4. Physical Properties

- 4.1 The sleeve should be made of High Heat Duty fire clay suitable to withstand the metalostatic erosion, which is equivalent to Type 2 of specification IS:8 – 1994
- 4.2 Refractory sleeves are to be manufactured by wet process using grain size 2 mm max.
- 4.3 The refractories shall be compact, of homogeneous texture and free from cracks, voids, surface roughness, (felt by rubbing with finger), low melting spots and inclusions. Sampling may be done as per IS1528
- 4.4 These refractories shall be burnt evenly throughout without any soft spots and inclusions.
- 4.5 The refractories should be suitable for cutting with refractory cutting disc without excess heating/emission of sparks.
- 4.6 The properties when tested in laboratory as per IS-1528 should be as per the following table.

Apparent porosity	23 max
Cold crushing strength	20 Mpa. Min
Permanent linear change after heating at 1450°C for 2 hrs	±1.0%
Alumina , Iron Oxide	38% min, 2.2% max

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स्वत्वाधिकार एवं गोपनीयता
इस दस्तावेज में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की सम्पत्ति है इसका प्रयोग एवं प्रसारण तब से किस्ती भी तब तक प्रयोग, जो कि कंपनी के हित में हानिकारक हो न किया जाए ।

हस्ताक्षर एवं दिनांक	RMI	SN GHOSH	अनुवादक	TRANSLATED BY	
	MPIC	SHANTANU	विनिर्माकता	WORKED BY	T DAVE
	CHAIRMAN PPSC	R PARTHASARTHY	जांचकर्ता	CHECKED BY	AKC
सहमत विभाग AGREED DEPT.	नाम NAME	दिनांक एवं हस्ताक्षर DATE & SIGNATURE	SECRETARY PPSC	DR. MS RAWAT	
संज्ञक INVENTORY NO.	स्वीकृति : संस्थान मानक समिति APPROVED : PLANT STANDARDS COMMITTEE				
	विभाग PREPARED : FOUNDRY TECH	प्राप्ति : फाउण्ड्री टेक्नालॉजी ISSUED : FOUNDRY TECHNOLOGY	दिनांक DATE	03.08.10	

SUPERSEDES INVENTORY NO.
 भारतीय सूची संख्या को अधिप्रेक्षित करना

5. Acceptance

For supplies from approved vendors, each consignment shall be accepted on the basis of supplier's TC and GC. Material shall be checked as per Clause 4.3 and 4.5 on random sample basis.

Surveillance checking shall be done for properties mentioned in Clause 4.6

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6. Test certificate

6.1 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 / trade mark
- d. Test results as per Clause 4.6
- e. Any other specific information which the supplier would like to convey.

6.2 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.

स्वत्वाधिकार एवं गोपनीयता
 इस प्रलेख में दी गई सूचना भारत की सुरक्षा के हित में गोपनीय है। इसका प्रसारण एवं उपयोग केवल से बिना की जा सकता है। इसकी प्रतिलिपि के बिना ही यह प्रलेख, जो कि कंपनी के हित में तैयार किया गया है, प्रसारित नहीं किया जाएगा।

7. Packing and Marking

- a) The supplier will ensure the supply of refractories to CFFP in dry condition without breakage or damage.
- b) Each piece of refractory item should have supplier's identification mark, and size as mentioned in the consignment document.

हस्ताक्षर एवं दिनांक
SIGN & DATE

8. Inspection, Deviation and Replacement:


8.1 BHEL reserves the right to inspect material at site before despatch. The supplier shall intimate in advance about readiness of material enclosing a copy of test certificate of the material offered for inspection. However inspection at BHEL shall be final. The supplier shall offer BHEL representative all reasonable test facilities without charge to satisfy the latter that the material being furnished is 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.

8.2 If the material received at CFFP is not found in accordance with the requirements, it shall be 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.


भारतीय सूची संख्या		निर्माणकर्ता WORKED BY	T DAVE	
		जांचकर्ता CHECKED BY	AKC	

सारणी सूची SUPERSEDES INVENTORY NO.	<h2 style="margin: 0;">RECORD OF CHANGES</h2>
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REV CODE	NO. OF CHANGES	NATURE OF CHANGE	SIGN	DATE
01		Comments of French expert Mr. Dumas incorporated in Clause No. 4 & 8		28.3.02
02		Clause 6 & 7 modified to incorporate original manufacturer's test certificate and packing conditions		29.8.09
03		Individual packing of sleeves deleted. Clause 4 modified for removal of deletion of Pyrometric Cone equivalent. Acceptance clause modified to introduce surveillance checking of clause 4.6		03.08.2010

स्वत्वधिकार एवं गोपनीयता इस प्रलेख में की गई सूचना भारत हेतु इलेक्ट्रिकल की सम्पत्ति है इसका प्रयोग एवं अप्रत्यक्ष रूप से किसी भी तरह प्रयोग, जो कि कंपनी के हित में हानिकारक हो न सके।	<h3 style="margin: 0;">DISTRIBUTION OF PRINTS</h3>
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हस्ताक्षर एवं तिथि SIGN & DATE	RMI	✓	
	STANDARD SECTION	✓	
	MPIC	✓	

सारणी सूची संख्या		निर्माणकर्ता WORKED BY T DAVE		
		जांचकर्ता CHECKED BY AKC	