

NTPC LTD

CC-OS

EOC NOIDA

Sub: Qualifying Requirement for Vendor Enlistment for supply of Alumina Castable Refractory

A)	MEG DETAILS		
	1.0	MEG NO.	04MEC-02
	2.0	MEG DESCRIPTION	Alumina Castable Refractory
	3.0	RESPONSIBILITY CENTRE	CC
B)	Technical Criteria of QR: 1. The applicant should be a manufacturer of refractory. 2. The applicant should have supplied refractory to any Thermal Power Plant. 3. The applicant should have in-house testing facilities for testing refractory as mentioned in the technical specifications		
C)	Other Documents to be submitted: In addition to the documents required in support of meeting technical requirements as stated above, following documents are required to be submitted by the Applicants applying for enlistment:- 1. Three POs of the highest executed values of similar work during previous five years from the date of application. Copy of Invoice / Completion certificate from the concerned buyer/s in support of successful execution of supply against the POs to be submitted. 2. Audited balance sheet including Profit & Loss statement for the previous three completed financial years reckoned from the date of application. In case the audited documents are not ready / available, then certified copy by a registered practicing Chartered accountant may be submitted. 3. Latest annual report OR NSIC / SSI / MSME registration certificate / BIS license / ISO certificate / Certificate of registration from the concerned excise department / any other statutory document as a proof of being manufacturer of the required material. 4. Any other documents in addition to the above which the applicant wants to submit.		
D)	NOTE-1	Similar works means: Supply of Alumina based Castable Refractory to Thermal Power Plants/ Steel Plants	
	NOTE-2	The executed value means Basic value of quantity of similar works executed/supplied against the reference PO(also applicable to partly executed POs as on date of application).Where PO value is composite(i.e. including Taxes etc.),the applicant to give item-wise break-up of Composite PO value mentioning Basic Value, Taxes etc.	

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Sub: Technical Specifications for Vendor Enlistment for supply of Alumina Castable Refractory

A)	MEG DETAILS		
	1.0	MEG NO.	04MEC-02
	2.0	MEG DESCRIPTION	Alumina Castable Refractory
	3.0	RESPONSIBILITY CENTRE	CC
B)	Technical Specifications: As per attached Annexure		

Technical Specification for Bottom Ash Hopper Refractory

TYPE: 45% ALUMINA CASTABLE
NATURE OF BOND: HYDRAULIC
INSTALLATION: VIBRATION CASTING

GENERAL PROPERTIES

RAW MATERIAL BASE: CALCINED CLAY
MAX. SERVICE TEMPERATURE: 1350°C
MAXIMUM GRAIN SIZE: 5 mm
WATER REQUIRED FOR CASTING: 10.5 – 11.5 %

CHEMICAL ANALYSIS, %

	VALUE	TEST PROCEDURE
Al ₂ O ₃	45 % Minimum	IS 12107 Part 3
CaO	8.5 % Maximum	IS 12107 Part 8
Fe ₂ O ₃	4 % Maximum	IS 12107 Part 6

PHYSICAL PROPERTIES

	VALUE	TEST PROCEDURE
Dry density, g/ cc After drying at 110°C/24 hrs	2.1 Minimum	IS 10570
CCS, kg/cm ² After drying at 110°C/24 hrs	400 Minimum	IS 10570
After heating at 1100°C/3 hrs	200 Minimum	IS 10570
After heating at 1350°C/3 hrs	300 Minimum	IS 10570
% Retained on maximum size	5 Maximum	IS 1528 PART 14

THERMAL PROPERTIES

	VALUE	TEST PROCEDURE
Refractoriness, Orton/°C	15-16 / 1430 - 1491	IS 1528 Part 1
PLC, % After heating at 1100°C/3 hrs	(- 0.30) to (+ 0.30)	IS 10570
After heating at 1350°C/3 hrs	(- 0.30) to (+ 1.15)	IS 10570

QA Requirements : Refractory shall be tested as per attached QP No : OS-QP-AHP-03

Marking : Following details are to be legibly written on the bags. Suppliers Name, Customer Name/
Project, Purchase order No./ date, Batch No, Material name, Net Weight in Kgs
Shelf life in months , Caution Note : " Do not use hooks for lifting "

OS-TS-AHP-03-R0

Handwritten signatures and initials:
A. S. S. /
R. S. S. /
S. S. S. /
V. /

Packing : The material shall be packed and sealed in polythene bags and the thickness of polythene bags shall be atleast 0.2 mm. Then the sealed bags shall be put inside the polythene lined HDPE or HDPP woven netting bags and sealed by machine stitching.

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OS-TS-AHP-03-RO

QUALITY PLAN FOR PROCUREMENT OF BOTTOM ASH HOPPER REFRACTORY

TECH SPEC REF: OS-TS-AHP-03 , REV 00



45% ALUMINA CASTABLES

Sl. No	Component & Operations	Characteristics	Class	Type of Check	Quantum of Check		Reference Document	Acceptance Norms	Format of Record	Agency			Remarks
					M	C/N				M	C	N	
1.	2.	3.	4.	5.	6.	7.	8.	9.	D*	**	10.	11.	
FINAL INSPECTION													
I	Castable Refractory	(a) Chemical Composition- Al ₂ O ₃ , CaO, Fe ₂ O ₃ (b) Dry density After drying at 110°C/curing for 24 hrs (c) Cold Crushing Strength (CCS) (i) After drying at 110°C/ curing for 24 hrs (ii) After heating at 1100°C/ holding for 3 hrs (iii) After heating at 1350°C/ holding for 3 hrs (d) Sieve Analysis (e) Pyrometric Cone Equivalent (PCE) (f) Permanent Linear Change (PLC) (i) After heating at 1100°C/ holding for 3 hrs (ii) After heating at 1350°C/ holding for 3 hrs (g) Marking & Packing	Major Major Critical Major Critical Major Major	Chemical Analysis Measurement Mechanical test Measurement Comparison Measurement Verification	IS 10570 IS 10570 IS 10570	IS 12107 Part 3, IS 12107 Part 8, S 12107 Part 6 IS 10570 & IS 1528 Part 12 IS 10570 & IS 1528 Part 4	NTPC Tech Spec NTPC Tech Spec NTPC Tech Spec	Test Report Test Report Test Report	√ √ √	P P P	- - -	V W W	See Note 1
<p>Note 1 : NTPC site shall randomly draw sample from the lot received at site for chemical composition (Al₂O₃, CaO, Fe₂O₃) check of the Castable Refractory, as per (a) above. If the randomly selected sample fails in testing, then re-testing will be allowed only once on double sampling basis (ie 2 more samples shall be drawn at random from the lot received)</p>													

LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN DOCUMENTATION.
**** M:** MANUFACTURER / SUB-SUPPLIER **C:** MAIN SUPPLIER, **N:** NTPC **P:** PERFORM **W:** WITNESS AND **V:** VERIFICATION.
CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'

[Handwritten signatures and initials]