

NTPC LTD
Vendor Development Cell
CPG-1 RAIPUR

MEG No.:	04-MEG-04
MEG Description:	Plastic Refractory
Responsibility centre:	VDC

A) Technical Criteria of QR

- 1.The applicant should be a manufacturer of Plastic refractory in India.
2. The applicant should have supplied Plastic refractory as per IS 10570 – 1983 or its latest edition with Al₂O₃(Min):90 % to any Thermal Power Plant in India in last five years from the date of application.

B) 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.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 as per QR.
- 2.The PO (issued within last five years from the date of application for enlistment) in support of award and completion certificate/copies of invoice to establish successful execution as per QR.
- 3.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 are to be submitted.
- 4.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.
- 5.Standard Published catalogue.
- 6.Any other documents in addition to the above which the applicant wants to submit.

C) NOTE:

- i) **Similar Works:** The applicant should have supplied Plastic Refractory (Al₂O₃(Min):90 %) to any Thermal Power Plants in India.
- ii) 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.

PLASTIC REFRACTORY WITH LIQUID BINDER

Technical Specification: - **PLASTIC REFRACTORY** (M0440560003)

1. Chemically bonded plastic refractory (Two component system: Powder & liquid to be supplied separately)
- 2) Service Temp.Deg.Cel. (Max) - 1650
- 3) Refractoriness Deg.Cel.(min)- 1785
- 4) Bulk Density, g/cc (min)
Sample dried at 110 Deg.Cel. for 24 hr. - 2.7
- 5) Modulus of Rupture, Kg/Cm² (Min)
110 Deg Cel/24 hr. - 100
1300 Deg Cel/ 5 hr - 160
- Or
Cold Crushing Strength, Kg/Cm² (Min)
110 Deg Cel/24 hr. - 650
1300 Deg.Cel/ 5 hr. - 875
- 6) Permanent Linear Change, % (Max)
1300 Deg.Cel./5 hr % -0.60
- 7) Chemical Analysis % :-
Al₂O₃ (Nominal) - 90
Fe₂O₃ (max) - 0.3
SiO₂: (max) - 4
- 8) Abrasion loss, CC (Max)
(ASTM:C-704-93)
Prefired at 110 Deg.Cel/24 hr - 5.0
at 1300 Deg.Cel/5 hr - 3.5
- 9) Binder Requirement, Wt.% - 9.5 to 10%
- 10) Thermal Conductivity at 1000 Degree C (HFT)
Kcal / M / Hr / deg.Cel - 2.0 - 2.2
- 11) MAXIMUM GRAIN SIZE (95 % PASSING THROUGH) = 5 MM
- 12) Method of application - Ramming (Hand/Machine).
- 13) Self life should be more than 08 months (Powder & binder) from the date of supply. Vendor has to supply recently manufactured material and not the materials manufactured two months before the date of supply.
- 14) Agency has to supply the Refractory in 50 KG polythene/HDPE bags with extra liner. The thickness of polythene bags shall be at least 0.2mm. Then the sealed bags shall be put inside the HDPE bags and these HDPE bags are to be sealed by machine stitching and lamination. Liquid binder free of cost supplied by vendor and to be supplied in 20 liters to 50 liters drums/package only.
- 15) Party should submit the Procedure for Application of supplied Refractory incorporating the Water Ratio.
- 14) Packing sizes: Loose; Batch no, Manufacturing date and self life to be recorded on the packing bags.
- 15) Party has to submit the test certificate as per specification along with materials from NTPC approved lab.
- 16) Qty. mentioned (MT) is of powder only.
- 17) All the TEST to be done as per IS 10570 – 2011 & IS: 1528- PART-I.
- 18) Party has to submit the test certificates as per specification along with materials.
- 19) PDI will be carried out as per the technical specifications & Approved Quality Plan.

NTPC

MANUFACTURING QUALITY PLAN

Name & Address of Manufacturer :		Item: Plastic Refractory					QP No		Project :		ER2				
							Rev No.		Package :						
							Date		Contract No :						
							Sub-system:					Page	1 of 1	Main-Supplier :	
S.No	Component & Operation	Characteristics	Classification	Type of Check	Quantum of Check		Reference Document	Acceptance Norm	Record		Agency			Remark	
					M	C/N			Format	D	M	C	N		
1.0	Raw Material; Refractory	Chemical Properties	Critical	Chemical Analysis	Sample as per IS 10570	Sample as per IS 10570	MFR;s specification	MFR;s specification	TC	Y	P		V		
2.1	Final Inspection	Cold Crushing Strength	Critical	Physical test	- Do -	- Do -	IS 10570 & IS 1528 Part 4	PO Spec/ Apvd Datasheet	IR	Y	P		W		
2.2		Bulk Density	Critical	Physical test	- Do -	- Do -	IS 10570 & IS 1528 Part 12	- Do -	IR	Y	P		W		
2.3		Maximum Grain Size	Critical	Physical test	- Do -	- Do -	IS 10570 & IS 1528 Part 14	- Do -	IR	Y	P		W		
2.4		Refractoriness (PCE)	Critical	Physical test	- Do -	- Do -	IS 10570 & IS 1528 Part 1	- Do -	IR	Y	P		W		
2.5		Permanent Linear Change	Critical	Physical test	- Do -	- Do -	IS 10570 & IS 1528 Part 6	- Do -	IR	Y	P		W		
2.6		Abrasion Loss	Critical	Physical test	1 Sample/ Offered lot	1 Sample/ Offered lot	IS 1528 Part-23/ ASTM C 704	- Do -	TC	Y	P		V		
2.7		Binder Requirement	Major	Visual	100%	---	MFR;s specification	MFR;s specification	-	Y	P		V		
Remarks :															
D-Documents. Records identified with 'Y' mark shall be included by supplier in QA Documentation. M-Manufacturer / Sub-supplier, C-Supplier, N-NTPC, P-Perform, V-Verify, W-Witness															
Manufacturer/ Sub-supplier		Main Supplier		CHP - Customer Hold Point, CHPs are to be witnessed and cleared by NTPC authorised representative, IR - Inspection report, TC-Test Certificate				For NTPC Use		NTPC Doc No.					
Signature & Seal										Reviewed by		Approved by		Approval Seal	

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