



BHARAT HEAVY ELECTRICALS LIMITED
HEEP: HARDWAR-249 403 (UA)
Phone : 01334 – 28 5203/5479
E-mail : agoyal@bhel.in

Due Date: 31.08.2020

Ref: PPX/EM/EOI/20-21/Thermosetting Epoxy Glass Fleece Sheet

Notice Inviting Expression of Interest for empanelment of New Vendors

The Heavy Electrical Equipment Plant (HEEP) located in Haridwar, is one of the major manufacturing plants of BHEL. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators, hydro turbines and generators and so on. **We are looking for reputed Vendors having capability to supply thermosetting epoxy glass fleece sheet comprises of a single layer of cured epoxy glass fabric sandwiched between the two layer of glass fleece and hot setting epoxy resin that melts and cures when exposed to heat. the material is used as vertical separator in manufacturing of generator winding bar.**

The specification of these items may be obtained from BHEL after submission of Ink Signed Non-Disclosure Agreement (Annexure-2). The Non-Disclosure Agreement is to be submitted to the following person (s) for obtaining Specifications:

Contact Person 1:

Mr Ankur Goyal
Designation: Dy. Manager (PPX/EM)
Email ID: agoyal@bhel.in
Tel: +91 1334 28 5203

Contact Person 2:

Mr Ashim Dalui
Designation: Engineer (PPX/EM)
Email ID: ashim.dalui@bhel.in
Tel: +91 1334 28 5203

The offers received will be technically evaluated by BHEL & successful short listed parties will be asked to submit their detailed Techno-Commercial offers through formal NIT/Enquiry, for our future requirements. Vendors shall confirm that there is no deviation with respect to BHEL Specifications. However, deviations, if any, are to be listed as a separate attachment. The offers that do not meet the substantial requirements of our specifications are liable to be ignored.

Following documents are to be necessarily filled and submitted along with the technical offer:

1. Details/ Documents in support of Pre-Qualification Requirement (**Annexure-1**)
2. Non-Disclosure Agreement (**Annexure-2**)
3. Company registration certificates (PAN card/D&B/ROC/CBEC etc)
4. Quality control documents / procedure.
5. Details of Manufacturing Facility
6. Company Profile.
7. Financial report of the company.
8. Past experience along with documentary proof.
9. Details such as technical features, experience details, product catalogues, reference lists or any other relevant information.
10. List of equipment manufactured in-house.
11. List of Bought out items along with vendor's list equipment with experience details with respect to size rating and year of operations.

Only Technical BID along with the documents mentioned above should be sent & the envelope containing the offer shall be duly sealed and super scribed as **"Technical Offer for (ITEM NAME) AGAINST Reference No. PPX/EM/EOI/20-21/ Thermosetting Epoxy Glass Fleece Sheet SUBMITTED BY (Name of company)"**



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The last date for submission of Technical offers is 31.08.2020.

- The Technical Offers complete in all respect must be addressed to “Shri S. Bajpai, AGM (BL-1&PPX-EM)” **and should reach before 13:45 Hrs (IST) on 31.08.2020.** Tenders will be opened on the same day at 14:00 Hrs (IST) in the Tender Room.
- Late offers will not be considered in any case. BHEL will not be responsible for any type of postal delay / incomplete information from vendor.
- EMD & Tender fee are not applicable.
- The Quotation should be from the Principle / Original Manufacturer, falling which the Quotation is likely to be ignored. In case the quotation is submitted through agent, the quotation must accompany original authorization letter from Principle / Original Manufacturer.
- Amendments / Corrigendum, if any, will be hosted on our website only.
- For any further clarifications, feel free to contact the undersigned or log on to www.bhel.com or www.bhelhwr.co.in or www.tenders.gov.in

(Anil Kumar)
DGM (PPX-EMI)



Due Date: 31.08.2020

ANNEXURE-1

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Date: 29.06.2020

PRE-QUALIFICATION REQUIREMENTS (TECHNICAL) FOR EOI OF THERMOSETTING EPOXY GLASS FLEECE SHEET

- ITEM DESCRIPTION:** Thermosetting Epoxy Glass Fleece sheet comprises of a single layer of cured epoxy glass fabric sandwiched between the two layers of glass fleece, and hot setting epoxy resin that melts and cures when exposed to heat. The material is supplied in 'B'-stage. It shall be impregnated uniformly, flexible and free from folds, breaks and foreign particle inclusions. The surface of the sheets must not be sticky. The layers shall be bonded such that the layers do not separate when cut into 50 mm wide strips. The bonding agent shall liquefy when heated, fully cure in 3 hours at 160 °C and reach a glass transition temperature of 150 °C or more. The material is used as vertical separator in manufacturing of generator winding bars.
- EXPERIENCE:** The vendor should have manufactured and supplied Thermosetting Epoxy Glass Fleece sheet for Turbo-generators to reputed power plant equipment manufacturers world-wide during the last 7 years. The supplied material should have following properties:

Sl No	Materials	Requirement
1	Glass Fleece	E-Glass as per VDE 0334-1 with adhesive agent suitable for epoxy Resin
2	Epoxy resin Glass Fabric sheet	It is single-layer glass fabric impregnated with epoxy resin in completely cured stage.
3	Bonding Agent	Epoxy Novolak or epoxy resin as agreed with a glass transition temperature (measured with DMA Thermo analysis equipment) ≥ 150 °C and a limit temperature (as per DIN EN 60216-1) of ≥ 155 °C. The glass transition temperatures shall be ≥ 150 °C after curing of 3 hours at 160 °C.

Thickness, Specified Dimension(mm)	Pressed Thickness, pressed (mm)	Composition in g/m ²			Weight in g/m ²
		Glass Fleece	Epoxy Resin Glass Fabric	Bonding Agent	
1 $\pm$ 0.2	0.5 (-0.1)	2*(50 $\pm$ 5)	250 $\pm$ 25	490 $\pm$ 50	840 $\pm$ 85

Sheet dimension: 800 to 1000 * 1000 to 1500 and length as stated in order. (All dimensions are in mm)

In support of which, vendor to submit the following documents:

- Vendor should have manufactured and supplied the above material against at least 2 Purchase Orders in last 7 years from the date of enquiry. Vendor to furnish copies of Purchase Orders of the same.
 - Vendor to furnish Test Certificates (for dimensional, mechanical and electrical test, etc.) for the Purchase Orders furnished against Clause a).
 - End User Certificate: Vendor to furnish at least one Certificate from End User or Generator Manufacturer certifying that the Thermosetting Epoxy Glass Fleece Sheet supplied by the vendor has been successfully used as a vertical separator in manufacturing of winding bars of Turbo-generator and the said Turbo-generator has been in operation for at least 1 year. The End User Certificate should be pertaining to any one of the above Purchase Orders.
- MANUFACTURING FACILITY:** The Vendor to confirm that they have all the in-house facilities for manufacturing this item.
 - TESTING FACILITIES:** The Vendor to confirm that they have all the in-house facilities for testing this item. If the vendor intends to outsource any testing activity, particulars of the same along with details of the laboratory to be furnished to BHEL.

Notes:

- BHEL reserves the right to verify the information submitted by the vendor. In case the information is found to be false or incorrect, the offer shall be rejected.
- All the documents should be furnished in English language only. If the documents are not in English, then they must be accompanied by duly certified English translations of the same.