

भारत सरकार  
अंतरिक्ष विभाग  
सतीश धवन अंतरिक्ष केंद्र शार  
श्रीहरिकोटा रेंज डा.घ. 524 124  
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भारत सरकार GOVERNMENT OF INDIA :: अंतरिक्ष विभाग DEPARTMENT OF SPACE  
सतीश धवन अंतरिक्ष केंद्र शार SATISH DHAWAN SPACE CENTER SHAR  
श्रीहरिकोटा SRIHARIKOTA :: तिरुपति जिला (आ.प्र.) TIRUPATI DISTRICT (A.P)- 524 124

निविदा सूचना सं. TENDER NOTICE NO. SDSC SHAR/Sr.HPS/PT/RO-LSSSF/41/2023-2024

भारत के राष्ट्रपति की ओर से वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा निम्नलिखित वस्तुओं के लिए ऑनलाइन निविदाएं आमंत्रित करते हैं:- On behalf of President of India, Sr. Head Purchase and Stores, SDSC SHAR, SRIHARIKOTA invites on line quotations for the following.

क्र.सं. Sl No	संदर्भ सं. Ref. No.	विवरण Description	मात्रा Qty.
01.	SDSC SHAR /LSSF PURCHASE /LSSF/ 2024000060 [Public Tender - Two Part]	Supply of Phenolic Foam Thermal Insulation Material for Process Pipe Lines.	1600 Meters.

निविदा दस्तावेजों को डाउनलोड करने की अंतिम तिथि Last Date for downloading of tender documents : 16.04.2024 at 16:00 hrs.  
ऑनलाइन निविदा जमा करने की अंतिम तिथि Due Date for submission of bids online : 16.04.2024 at 16:00 hrs.  
निविदाएं खोलने की नियत तिथि Due Date for opening of tenders : 17.04.2024 at 14:30 hrs.

निविदाकार के लिए निर्देश Instructions to Tenderers:

निविदाएं ईजीपीएस के माध्यम से ही भेजी जाएं तथा कोई निविदा शुल्क लागू नहीं होगा।  
Bids shall be submitted on line through EGPS only and No tender fee shall be applicable.

- कार्य के सम्पूर्ण विवरण/जानकारी तथा नियम व शर्तों इत्यादि के लिए संलग्न अनुलग्नक को देखें। / For full details/scope of work and terms and conditions etc., please see the enclosed annexures.
- इच्छुक निविदाकार इसरो की ई-खरीद वेबसाइट इसरो न्यू ई-प्रोकुरमेंट [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) से ई-निविदा डाउनलोड और अपनी निविदा ई-खरीद पोर्टल पर ऑनलाइन जमा कर सकते हैं। डाक / वाहक / स्वयं द्वारा प्राप्त निविदाओं पर विचार नहीं किया जाएगा। / Interested tenderers can download the e-tender from ISRO NEW E-PROCUREMENT [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) and submit the offer on line in the e-procurement portal. Offers sent physically by post/courier/in person will not be considered.
- निविदा दस्तावेज इसरो की वेबसाइट [www.isro.gov.in](http://www.isro.gov.in) इसरो न्यू ई-प्रोकुरमेंट वेबसाइट [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) तथा सतीश धवन अंतरिक्ष केंद्र शार की वेबसाइट [www.shar.gov.in](http://www.shar.gov.in) पर भी उपलब्ध हैं। इन्हें केवल ई-खरीद पोर्टल से डाउनलोड और निविदा ऑनलाइन जमा कर सकते हैं। / Tender documents are also available on ISRO website [www.isro.gov.in](http://www.isro.gov.in) ISRO New e-procurement website [www.eproc.vssc.gov.in](http://www.eproc.vssc.gov.in) and SDSC SHAR, Sriharikota website [www.shar.gov.in](http://www.shar.gov.in). The same can be down loaded and offer submitted on line in the new e-procurement portal only.
- निर्धारित तिथि/समय के पश्चात प्राप्त बोलियों पर विचार नहीं किया जाएगा। / Quotations received after the due date/time will not be considered.
- निविदा दस्तावेज दिनांक 16.04.2024 को 16 00 बजे तक डाउनलोड करने के लिए उपलब्ध रहेंगे तथा निविदा ऑनलाइन जमा करने की अंतिम तिथि 16.04.2024 को 1600 बजे तक है। निविदाएं दिनांक 17.04.2024 को 14:30 बजे खोली जाएंगी। / The tender documents are available for download up to 16.04.2024 at 16 00 hrs. and last date for submission of tenders on line 16.04.2024 at 16 00 hrs. and Tender Opening on 17.04.2024 at 14:30 hrs.
- इच्छुक विक्रेता विवरण जानने के लिए निविदा खोले जाने वाले सत्र में शामिल हो सकते हैं। निविदा के मूल्यांकन पर विचार करने के लिए उनकी उपस्थिति अनिवार्य नहीं है। / Interested vendors can attend the Bid opening sessions to know the details. Presence not mandatory to consider the quote for evaluation.
- वरि. प्रधान क्रय एवं भंडार, सतीश धवन अंतरिक्ष केंद्र श्रीहरिकोटा के पास किसी भी या सभी निविदाओं को स्वीकार / अस्वीकार करने का अधिकार है। / Sr. Head, Purchase and Stores, SDSC-SHAR, Sriharikota reserves the right to accept or reject any/or all the quotations.
- GeM GARPTS Report ID: GEM/GARPTS /13032024/8VSQLGV2VSAS

दिनांक DT: 13.03.2024

भारतीय अंतरिक्ष अनुसंधान संगठन



वरि. प्रधान क्रय एवं भंडार  
Sr. HEAD PURCHASE AND STORES  
Indian Space Research Organisation

**TENDER SPECIFICATION FOR SUPPLY OF PHENOLIC FOAM  
INSULATION MATERIAL FOR PIPES**

**1. SCOPE OF SUPPLY:**

The scope of supply includes Production, testing and supply of phenolic foam thermal insulation material of required thickness for Process pipe lines as per the enclosed specifications **in Annexure-1**.

**2. DOCUMENTS COMPRISING THE BID:**

Suppliers shall submit the bids in **TWO-PART** bid basis. **Part-I** shall be techno-commercial bid and **Part-II** shall be price bid. Bids shall be submitted in the following order.

**2.1: Part-1: Techno- Commercial Bid:**

2.1.1 Techno commercial bid shall be filled in the techno-commercial bid format. ***Schedule of prices shall not be filled in this format.*** If any deviations against the tender specification, bidder shall clearly spell out in specified format as per Sl.no:4

2.1.2 ***“Technical bid received with prices” will be invalid Offer and shall not be considered for further evaluation.***

**2.1.3 Vendor Evaluation by a Technical Team:**

2.1.3.1 ***“Vendor evaluation”*** by Technical team of SDSC SHAR will be carried out, to the bidder factory/Company with prior intimation. However, Purchaser can decide the Vendor evaluation requirement on existing ISRO/SDSC SHAR Supplier. “Vendor evaluation by Technical team of SDSC SHAR” visit has to be accepted by the bidder. If the bidder not accepted for “Vendor Evaluation visit” means the bidder offers will be rejected. ***The vendor evaluation will be done after the opening of technical bid and before the opening of price bid, if required.***

2.1.3.2 The ***“bidder shall be Submit the type test certificates/Reports”*** for phenolic foam, tested from the Government/NABL approved laboratory for properties like water absorption, Water vapour Permeability, smoke index, punking behaviour, thermal range, thermal conductivity, toxicity index, fire propagation, surface spread

of flame, Critical Oxygen index, Dimensional Stability, Compressive Strength test, Acid & Alkali resistance reports to SDSC SHAR technical team in advance ,before the vendor evaluation visit itself. ***Vendor evaluation Team shall be review the type test reports and based on review only, purchaser will decide the vendor evaluation visit. If the type test certificates/ results are not meeting as per “Applicable standards” means, the offer will be rejected. SDSC SHAR reserves the right to reject*** any bid if not meeting the technical requirements and terms & conditions.

2.1.3.3 If the ***bidders “type test certificates /results” are meeting as per “Applicable standards”, vendor evaluation will be carried out by “Technical team of SDSC SHAR”, if required.***

2.1.3.4 The ***bidder shall carryout the following tests on Phenolic foam sample in the presence of SDSC SHAR technical team during the vendor evaluation visit.*** No extra charges shall be paid for these tests and to be done free of cost. (All the testing Charges is Bidder Scope)

- ✓ Compression strength
- ✓ Density
- ✓ Thermal Conductivity
- ✓ Closed cell content
- ✓ Ignitibility
- ✓ Dimensional Stability
- ✓ Critical Oxygen Index

Test above test shall be carried out in Government/NABL /approved laboratory for phenolic foam sample.

2.1.3.5 After completion of Vendor evaluation and acceptance, the foam samples have to be sent Purchaser /SDSC SHAR for Propellants compatibility tests. Purchaser will conduct the compatibility tests at SDSC SHAR over the foam Sample's with Propellants - Di Nitrogen tetroxide(N<sub>2</sub>O<sub>4</sub>) & Unsymmetrical Dimethyl Hydrazine hydrate (UH-25). Based on the satisfactory performance in compatibility tests only the Bidder's offer will be accepted for Price Bid Opening, otherwise offer will be Rejected. Conducting compatibility tests is the Purchaser Scope with Free Of Cost.

2.1.4 The bid and all correspondence incidentals to and concerning the bid shall be in the English Language. For supporting document and printing literature submitted in any other language, an accurate English Translation shall also be submitted. Responsibility for correctness in translation shall lie with the Bidder. All the measurements shall be given in metric system

## **2.2: Part-2: Price Bid:**

2.2.1 Prices shall be filled in the price bid format only. The price bids will be opened only ***after evaluation and acceptance of the technical bid*** of the respective tenderer.

2.2.2 SDSC SHAR reserves the right to reject any or all the Bids without assigning any reasons thereof.

2.2.3 All direct and indirect costs associated with the preparation and submission of bid shall be to Bidder's account and SDSC SHAR will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bid process

2.2.4 The Bidder shall not be entitled during the said period to revoke or revise his Bid or to vary the Bid except and to the extent required by SDSC SHAR in writing. Bid shall be revalidated for extended period as required by SDSC SHAR in writing. In such cases, unless otherwise specified, it is understood that validity is sought and provided without varying either the quoted price or any other terms & conditions of Bid finalized till that time

## **3. BID EVALUATION:**

3.1 During evaluation, SDSC SHAR may request bidder for any clarification on the bid (or) additional documents.

3.2 Bidder must provide the point by point compliance to the technical specifications as per ***Annexure- A***. If any deviations against the tender specification, bidder shall be clearly spell out in specified format as per Sl.no:4.

3.3 Bidder's offer will be accepted only based on the Successful completion with all the necessary supporting documents along with Bid as per Sl.no 1 to 14 as per ***Annexure B***.

3.4 **Techno commercial bid evaluation** will be carried out as per **Annexure-1:**

3.4.1 **Successful Completion of the** bidder's offer **as per Sl.no:2.1**, the qualified offer will be accepted for Part:2 Price- bid opening.

3.4.2 **Unsuccessful Completion of the bidder's offer as per Sl.no:2.1** the unqualified offer will be rejected and further it will not be accepted for Part:2 Price- bid opening.

3.4.3 **SDSC SHAR reserves the right to reject** any bid if not meeting the technical/commercial requirements and terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision.

#### **4. DEVIATIONS:**

4.1 In line with tender document, Bidder may stipulate Exceptions and Deviations to the proposed conditions if considered unavoidable.

4.2 Only deviations are to be written in the above form.

4.3 Any deviations taken by the Bidder to the stipulations of the Proposal document shall be brought out strictly as per this format and enclosed along with the bid.

4.4 Any deviations not brought out in this Proforma and written elsewhere in the Proposal document shall not be recognized and the same is treated as null and void.

<b>Annexure No/ Sl No</b>	<b>Reference in Specification</b>	<b>Tender Specification</b>	<b>Offered Specification</b>	<b>Deviation</b>
	<b>Point No</b>			

## **A. TECHNICAL SPECIFICATIONS**

### **1. Scope of the supply:**

Production, Testing and Supply of Phenolic foam thermal insulation material of required thickness for Process Pipe lines as per enclosed specifications in Annexure-A.

### **2. Specifications:**

#### **2.1. Material: Phenolic Foam**

The basic insulation material shall have the following features:

- Fire Resistance
- Non-flammable retains its shape and does not soften, melt or drip, when subject to fire.
- No deterioration with time.
- Good adhesion to facings
- No emission of toxic fumes in the event of fire. Toxicity index shall be < 1 (NCD1409)
- Negligible smoke generation. Smoke index < 5 as per NCD-1411
- Anti-static properties.

#### **2.2. Properties of Insulation Material:**

##### **2.2.1. Thermal Properties:**

- Thermal Conductivity:  $\leq 0.02$  W/m-K as per BS-4370: Part-2
- Thermal Range = -180 °C to +130 °C

##### **2.2.2. Mechanical Properties:**

- Density 40-50 kg/m<sup>3</sup> as per BS-3927 of 1986
- Compressive strength: Not less than 150 kPa as per BS-4370 Part-2
- Tensile Strength, cross breaking strength, dimensional stability and closed cell contents as per BS-4370

##### **2.2.3. Moisture Properties:**

- Water absorption = <4% by volume or as per ISO 2896
- Water Vapour transmission < 3per Inch as per BS4370: Part-2

##### **2.2.4. Fire Performance:**

- Surface spread of flame BS-476 part 7, 1971 class-I
- Ignitability: BS 476 Part5:1979-Class P
- Critical Oxygen Index:  $55 \pm 5\%$

- Obscuration: < 5%
- Building regulation (1976 Classifications) - Class 0
- Fire propagation in accordance with BS 476 part 6
- Punking Behaviour as per BS-5946 – Non punking

### **2.3 Specification of insulation material for Pipes:**

2.3.1 Pipe insulation suitable for stainless steel pipes as per ANSI B36.19

2.3.2 Phenolic foam material has to confirm the Specifications as per IS 13204.

2.3.3 Facing of pipe section: Aluminium foil, with 25 mm overlap along the length and Circumference.

**2.3.4** The sections shall be supplied in 2 halves for each unit length of pipe. The length of each section shall be preferably 1m i.e., ***each running meter pipe insulation comprises 2 halves of 1m each to suit for each meter of pipe.***

2.3.5 The Inner dimensions of Insulation Material should perfectly match with the outer dimensions of the specified pipe lines without any gap. This Insulation Material will be fixed over pipelines with GI strapping and provision to remove & inspect the pipelines periodically. Since no adhesive material will be used for fixing insulation material over pipe lines, gap between pipeline and insulation material should be avoided. The same should be confirmed while quoting offer.

2.3.6 The phenolic foam insulation shall be compatible with Strong Acid and Hydrocarbon Fluids.

### **3. Testing and Inspection:**

3.1 Bidder has to submit the manufacturing drawings of the insulation slabs and quality assurance plan (QAP) for manufacturing & testing of the material within 07 days from the date of receipt of Purchase Order.

3.2 Insulation material shall be Inspected and tested as per standard practice/QAP and witnessed by the purchaser's representative /CLIP Member at the supplier's premises.

- 3.3 Bidder has to inform the purchaser, the readiness of the materials for inspection well in advance for arranging the purchaser's representative for inspection at works. The items shall be dispatched only after the Pre delivery inspection, completed by the Engineers /Representative of purchasers at Factory location with the dispatch clearance given by the purchaser.
- 3.4 The Bidder shall test the insulation material for the various properties like compressive strength, density, dimensional stability, closed cell content, fire resistance etc.,
- 3.5 Test certificates/Reports from the Government/NABL approved laboratory shall be furnished for properties like water absorption, thermal conductivity, toxicity index, Critical oxygen index, smoke index, tensile strength, cross breaking strength, fire propagation, surface spread of flame and punking behaviour.

#### **4. General terms & Conditions:**

- 4.1 The slabs shall fit for the pipes without gaps or clearances.
- 4.2 Supplier shall confirm all the points of the indent specifications and general conditions in the offer and bring out the deviations if any. If no deviations are indicated in the offer it will be deemed that all the tender specifications are accepted.
- 4.3 The materials shall be packed as per standard practice, to avoid damage during transportation and handling.
- 4.4 The material shall be guaranteed for performance for a period of 12 months from the date of dispatch.
- 4.5 The purchaser reserves the right to procure/not procure the insulation material after receiving the quote from supplier.
- 4.6 **All the items shall be delivered to SDSC SHAR within 6 months from the date of release of PO.**
- 4.7 100% payment will be made after receipt, inspection and acceptance of the material at SDSC SHAR, Sriharikota.
- 4.8 At the time of dispatch along with material, TWO sets of documents comprising all the type test certificates, material test & inspection reports.



### 5. Quality Assurance Plan (QAP):

S.No	Characteristics / type of check	Ref. Document.	Method of check	Quantum of check	
				Supplier's Q.C	Purchaser's rep.
1.	Material of construction	As per PO specification.	Verification of Material test certificates.	V 100%	R 100%
2.	Review of Type Test certificates for listed below. a. Water vapour absorption. b. Water vapour transmission c. Surface Spread of flame. d. Thermal range e. Smoke emission	As per PO specification		H 100%	R 100%
3.	Dimensional and visual inspection	As per PO specification & Approved QAP.	Measurement / visual	R 100%	W (RN)- 10%
4.	Sample selection & Testing for confirming the following on finished product. a. Compression strength b. Density c. Thermal Conductivity d. Closed cell content e. Critical O <sub>2</sub> Index f. Ignitibility g. Dimensional Stability		Verification / Witness	R 100%	W 100%
5.	Final Documentation	As per PO specification & Approved QAP	Verification of Documents/ Certificates	H 100 %	R 100%
6.	Packing & Dispatch			P 100%	DC 100%

**V-** Verify

**R-** Review

**W** -Witness

**H**-Hold

**P**-Perform

**RN**-Random

**DC**- Dispatch Clearance

**B. Tender check list for “Bidder Acceptance Criteria”**

Bidder's offer will be Accepted only based on the Successful completion of following criteria. Bidder is requested to provide copy of all the necessary supporting documents along with Bid as per Sl.no 1 to 14.

<b>Sl.No</b>	<b>Description</b>	<b>Bidder Compliance</b>
1	Mention <b>Name</b> of the company	<b>Mention</b>
2	Mention <b>Address</b> of Company	<b>Mention</b>
3	<b>Type of Company</b> (Pvt.Ltd /Public Ltd/Joint Venture/Consortium)	<b>Mention</b>
4	<b>Name &amp; Designation of the officer of the Bidder</b> to whom all correspondence shall be made for expeditious technical/ commercial co-ordination.  Telephone number, Fax number, E-mail address	<b>Mention</b>
5	<b>Confirm Bidder is manufacturer and having Own Manufacturing facility in India.</b> <b>Note:</b> Only manufacturers shall quote. Dealers, Stockists/agents not allowed to quote.	<b>Yes / No</b>
	Bidder shall attach the following documents along with Bid Submission. a) Profile of the company b) Product Specifications and catalogue, if any, c) Details of test facilities and equipment's d) Documents of registration for manufacturing e) Document indicating that bidder is in the field of manufacturing /supplying of similar type of <b>phenolic foam thermal insulation material</b> the past 3 years e) bidder should have manufactured and supplied the <b>phenolic foam thermal insulation material</b> for pipe sizes from 1” to 6”.	<b>Yes / No</b>  Documents to be Uploaded
6	Bidder shall provide the <b>phenolic foam thermal insulation material type test</b> certificates of similar as per the BS/ISO/IS standards of previous supplies.	<b>Yes / No</b>  Documents to be Uploaded
	Bidder should have executed a “Supply of phenolic foam insulation material” purchase order of value not less than Rs19.0.Lakhs (in the last 3 years) as a single order (or) at	<b>Yes / No</b>  Documents to be

Sl.No	Description	Bidder Compliance
7	least two purchase orders of worth Rs15.0Lakhs Copies of purchase orders to be submitted along with the quotation. failing which the offer will not be considered	Uploaded
8	Bid validity: <b>120 days</b> from due date of bid submission	<b>Yes/No</b>
9	Technical proposal of the bidder, has to substantiate/satisfy the claims made by them with respect to the technical requirements laid down in this tender.	<b>Yes/No</b>
10	<b>SDSC SHAR reserves the right to reject</b> any bid if not meeting the technical/commercial requirements and terms & conditions. Such decisions by the SDSC SHAR shall bear no liability whatsoever consequent upon such decision.	<b>Yes/No</b>
11	Bidder shall <b>confirm quote is including of all the testing charges.</b>	<b>Yes/No</b>
12	<b>Bidder has to give acceptance to all the tender specifications</b> as mentioned in Annexure -1.  As a confirmation, all the tender documents ( <b>Annexure-1, Annexure-A, Annexure-B</b> ) has to be <b>signed and stamped</b> by the bidder and to be submitted along with the offer.  If there is no deviation, <b>each page</b> of this tender documents has to be <b>signed, stamped</b> and submitted along with offer.  If <b>any deviations</b> against the tender specification, bidder shall be clearly spell out in specified format as per Sl.no:4.4 in <b>Annexure-1</b>	<b>Yes/No</b>  Signed Documents to be uploaded
13	<b>Purchaser representative will inspect the Bidder facility towards evaluation of technical, manufacturing and testing capability, before awarding of Purchase Order.</b>	<b>Accepted / Not Accepted</b>
14	Bidder shall upload the filled checklist provided in <b>Annexure -B</b> from Sl.no 1 to 14 with all relevant document's	<b>Yes / No</b> Signed copy of check list to be uploaded

**Signature of Authorized Person with Seal**