



वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद्  
Council of Scientific & Industrial Research  
राष्ट्रीय वांतरिक्ष प्रयोगशालाएं  
National Aerospace Laboratories

**INVITATION FOR TENDERS**

**Tender No. NAL/PUR/SID/340/22-Y**

**Dated: 31/01/2023**

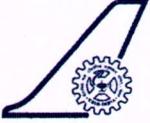
CSIR - National Aerospace Laboratories (NAL), Bengaluru, Republic of India, is one of the premier research laboratories under aegis of Council of Scientific and Industrial Research (CSIR), an autonomous body under the Department of Scientific and Industrial Research, Government of India, New Delhi. CSIR-NAL is a Science and Knowledge based Research, Development and Consulting Organisation. It is internationally known for its excellence in Scientific Research in Aerospace Engineering.

The Director, CSIR-NAL invites online quotation for procurement of the following item(s) for day to day research work.

Sl. No.	Description of Item(s)	Unit	Quantity
1	Strain Gages and Adhesives. (Please refer annexure for detailed specification and list of items)	Set	01

<b>Single / Double Bid Only</b>	Two	Tender Type	Open
<b>Bid Security (EMD) (in INR)</b>	Bid Security Declaration should be enclosed with quotation	Bid submission end date	23-Feb-2023 10.00 Hrs
<b>Performance Security</b>	Nil	Bid opening date	24-Feb-2023 11.00 Hrs

01. Tender Documents may be downloaded from Central Public Procurement Portal <https://www.etenders.gov.in>. Aspiring Bidders' who have not registered in e-procurement can register free of cost before participating through the website <https://www.etenders.gov.in>. Bidders are advised to go through instructions provided at 'Instructions for Online Bid Submission'.
02. Tenderers can access tender documents on the website (for searching in the NIC site <https://www.etenders.gov.in>, kindly go to Tender Search option, select tender type and select 'Council of Scientific and Industrial Research', in organisation tab and select NAL-Bengaluru-CSIR in department type. Thereafter, Click on "Search" button to view all CSIR-NAL, Bengaluru tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website <https://www.etenders.gov.in> as per the schedule given in the next page.
03. a. Global Tender Enquiry: Either the Indian Agent on behalf of the Foreign principal or the Foreign principal can bid directly in a tender but **not** both. However, the offer of the Indian Agent should also accompany the authorisation letter from their principal. To maintain sanctity of tendering system, one Indian Agent **cannot** represent two different Foreign principals in one tender



## CSIR-National Aerospace Laboratories, Bengaluru-560 017, INDIA

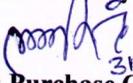
- b. Open Tender enquiry: Only Local suppliers with prescribed local content as detailed in DIPPT Order No. P-45021/2/2017-PP (BE-II) dated 16<sup>th</sup> Sep, 2020 and subsequent orders issued by Ministry of Finance (GoI) from time to time, are eligible for bidding. Bidders must enclose the certificate declaring the local content of supplies as per our standard form.

Note: Kindly refer to the first page (NIT) for tender type (i.e. Open Tender Enquiry / Global Tender Enquiry) and submit your bid accordingly.

04. Unsolicited / conditional / unsigned Quotations/Quotations received after the due date and time shall be summarily rejected. The Bidder shall comply the terms and conditions of the tender, failing which, the offer shall be liable for rejection.
05. The bids' failing to comply with the following clauses will be summarily rejected.
- a. The Bidders' proposing to supply finished products directly/indirectly from vendors' of countries sharing the land border with India should submit a copy of registration done with DPIIT.
- b. If the products supplied are not from vendors of countries sharing land border with India, the Bidders' have to enclose a declaration to that effect.
06. As per Govt. of India procurement policies,
- a. The purchaser intends to give purchase preference to local supplies (Preference to Make in India) in case the cost of procurement is up to Rs. 50.00 lakhs.
- b. The procuring entity intends to give purchase preference to products/goods manufactured by micro, small and medium enterprises.
07. Bidders' are requested to refer to the instructions regarding Procurement Policies for "Make in India", issued by Ministry of Commerce and Industry, Department of Industrial Policy and Promotion dated. 28-May-2018, and 4-Jun-2020 and guidelines as and when issued.
08. Kindly, note CSIR-NAL GST No. **29AAATC2716R1ZB**. And the bidders' are requested to furnish their GST No. in their invoice failing which we will **not** be able to make timely payment.
09. Printed conditions, if any, submitted along with your quotation shall not be binding on us.
10. The prospective bidders' are requested to refer to the Standard Terms and Conditions available on NAL Internet ([www.nal.res.in](http://www.nal.res.in)) under the icon Tender-Purchase before formulating and submitting their bids'.
11. The Director, CSIR- National Aerospace Laboratories, Bengaluru reserves the right to accept any or all the tenders either in part or in full or to split the order without assigning any reasons there for.

Thanking you,

Yours faithfully

  
31/01/2023

**Stores & Purchase Officer**  
**For and on behalf of CSIR-NAL**

## Tender specification for Strain Gage requirement

S.No.	Strain gage description	Resistance	Gage Length Variation	Gage Backing Size	Self Compensated for	Lead wire	No of gages
<b>Metallic materials usage</b>							
1	2 mm gage length, Uni-axial Strain Gage	120 $\Omega$	2-3 mm	LxW< 12.5*5 mm	Aluminum	>25 mm pre-attached lead wire	100
2	2 mm gage length, Uni-axial Strain Gage	120 $\Omega$	2-3 mm	LxW< 12.5*5 mm	Steel	>25 mm pre-attached lead wire	100
3	2 mm gage length, 0°/45°/90° Tri-axial Stacked Rosette Strain Gage	120 $\Omega$	2-3 mm	≈7.5 - 10 mm Dia/Square	Aluminum	>25 mm pre-attached lead wire	100
4	2 mm gage length, 0°/45°/90° Tri-axial Stacked Rosette Strain Gage	120 $\Omega$	2-3 mm	≈7.5 - 10 mm Dia/Square	Steel	>25 mm pre-attached lead wire	100
<b>Composite Materials usage</b>							
5	6 mm gage length, Uni-axial strain Gage with suitable base.	350 $\Omega$	6 mm	LxW< 12.5*5 mm	Composite CFRP/GFRP	>25 mm pre-attached lead wire	50
6	2 mm gage length, Uni-axial Strain Gage suitable base.	350 $\Omega$	2-3 mm	(L x W) < 7.5 x 5 mm	Composite CFRP/GFRP	>25 mm pre-attached lead wire	50
7	5 mm gage length, 0°/45°/90° Tri-axial Stacked Rosette Strain Gage with suitable round/ Square base.	350 $\Omega$	4-6 mm	≈7.5 - 10 mm Dia/ Square	Composite CFRP/GFRP	>25 mm pre-attached lead wire	50
8	2 mm gage length, 0°/45°/90° Tri-axial Stacked Rosette Strain Gage with suitable round/square base.	350 $\Omega$	2-3 mm	≈7.5 - 10 mm Dia/Square	Composite CFRP/GFRP	>25 mm pre-attached lead wire	50
9	5 mm gage length, 0°/90° Bi-axial Stacked Rosette Strain Gage with suitable round/square base.	350 $\Omega$	4-6 mm	≈7.5 - 10 mm Dia/Square	Composite CFRP/GFRP	>25 mm pre-attached lead wire	50
10	2 mm gage length, 0°/90° Bi-axial Stacked Rosette Strain Gage with suitable round/square base.	350 $\Omega$	2-3 mm	≈7.5 - 10 mm Dia/Square	Composite CFRP/GFRP	>25 mm pre-attached lead wire	50

*(Signature)*  
31/01/2023

11	6 mm gage length, Uni-axial Strain Gage with suitable base.	350 $\Omega$	6 mm	LxW < 12.5*5 mm	Composite CFRP/GFRP	1000 mm (1 meter) pre-attached lead wire	50
12	2 mm gage length, Uni-axial strain gage with suitable base.	350 $\Omega$	2-3 mm	(L x W) < 7.5 x 5 mm	Composite CFRP/GFRP	1000 mm (1 meter) pre-attached lead wire	50
13	5 mm gage length, 0°/45°/90° Tri-axial Stacked Rosette Strain Gage with suitable round/ Square base.	350 $\Omega$	4-6 mm	≈7.5 - 10 mm Dia/ Square	Composite CFRP/GFRP	1000 mm (1 meter) pre-attached lead wire	50
14	2 mm gage length, 0°/45°/90° Tri-axial Stacked Rosette Strain Gage with suitable round/square base.	350 $\Omega$	2-3 mm	≈7.5 - 10 mm Dia/Square	Composite CFRP/GFRP	1000 mm (1 meter) pre-attached lead wire	50
15	5 mm gage length, 0°/90° Bi-axial stacked rosette Strain Gage with suitable round/square base.	350 $\Omega$	4-6 mm	≈7.5 - 10 mm Dia/Square	Composite CFRP/GFRP	1000 mm (1 meter) pre-attached lead wire	50
16	2 mm gage length, 0°/90° Bi-axial Stacked Rosette Strain Gage with suitable round/square base.	350 $\Omega$	2-3 mm	≈7.5 - 10 mm Dia/Square	Composite CFRP/GFRP	1000 mm (1 meter) pre-attached lead wire	50
<b>Adhesives</b>							
17	Single component Cyanoacrylate adhesive tubes – ~2gms/tube						50 tubes

**Note:** Selection: The structural/Material testing needs multiple different types of strain gages (ie., linear, bi-axial etc.,) used in a single test. Hence for reliability and compatibility purpose, all the gages are to be from the single source along with the bonding agents. Hence, gages will be selected from the same manufacturer and as a single lot (Sl. No: 1 to 17) and not on the individual lowest quotes basis.

*Handwritten signature and date:*  
31/01/2023