

# INDIAN INSTITUTE OF TECHNOLOGY GOA

At Goa Engineering College Campus

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GSTIN: 30AABAI1653D1ZF

PAN: AABAI1653D

TAN: BLRI08261B

**Enquiry No: IITGOA/2021-22/041**

**Date: 03/11/2021**

IIT Goa invites sealed quotations in two bid form for the supply of below mentioned item.

Sl. No.	Description of Item	Qty
1	Photoresists & Ancillary for Photolithography (Detailed specifications attached)	01

## **Terms & Conditions**

1. Quotation must be valid for at least 90 days.
2. The GSTIN should invariably be mentioned in your offer.
3. Kindly attach a compliance certificate along with the technical quote.
4. Prices: Prices should be quoted in INR – F.O.R., IIT Goa basis only.
5. Payment terms: Within 30 days after the delivery of items at IIT Goa.
6. Delivery should be made within 4 weeks of getting a confirmed order.
7. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Department of Promotion of Industry and Internal Trade (DPIIT). This is also applicable for bidders bidding for finished goods procured directly/indirectly from the vendors from the countries sharing land border with India.
8. Kindly specify the country of origin of the goods offered in your quotation.
9. Quotations shall be submitted in two parts;
  - 1) **Part – I (Technical)** should contain all the technical details and specification of the product. It should contain unpriced bid along with terms and conditions, compliance certificates, proprietary certificates (if applicable), any other certificates/details etc. This envelope should be marked as “Technical Bid”
  - 2) **Part -II (Financial)** The financial bid of the above item should be in a sealed envelope marked as “Financial Bid” and should contain financial terms and conditions.
10. The suppliers shall provide the banking details along with their quote on their letterhead duly signed and stamped.

11. IIT Goa reserves the right to accept and/or reject any/all bids without assigning any reason in public interest.
12. For any clarification, you may kindly contact Dr. Bidhan Pramanick (E-mail: [bidhan@iitgoa.ac.in](mailto:bidhan@iitgoa.ac.in)) and Stores & Purchase Department (email: [purchase@iitgoa.ac.in](mailto:purchase@iitgoa.ac.in)) till 16/11/2021.
13. All sealed quotations must be super scribed with the tender enquiry number and should reach to the Assistant Registrar (Stores & Purchase), IIT Goa, at Goa College of Engineering Campus, Farmagudi, Ponda, Goa, 403 401 by 17.00 Hrs on or before 24/11/2021.

**Sd/-**  
**Asst. Registrar (S&P)**

## Specifications for photoresists & ancillary for Photolithography

Requirement:

Sr. No.	Name of Polymer/chemical	Pack/unit size	Qty.
1	Positive photoresist	250 ml/500 ml/1000 ml	01 No.
2	Developer for Positive photoresist	1000 ml /5000 ml	01 No.
3	Thinner for Positive photoresist	500 ml/1000 ml	01 No.
4	Negative photoresist	250 ml/500 ml/1000 ml	01 No.
5	Developer for Negative photoresist	1000 ml / 5000 ml	01 No.
6	Thinner for Negative photoresist	500 ml/1000 ml	01 No.

**Note: If minimum ordering quantity is larger than the specified volume then bidders are required to provide the pricing for minimum ordering quantity. In addition, the bidders should provide the pricing for different options mentioned in the above table. Individual item may be chosen to place the order based on the funds available.**

Detailed specifications:

Sr. No.	Name of Polymer/Chemical	Specifications
1	Positive photoresist	<p>This positive tone photoresist shall:</p> <ol style="list-style-type: none"> <li>a. Provide a thickness of 1,000 nm at a 3000 RPM spinning speed for 30 sec on a 6-inch substrate.</li> <li>b. Be suitable for direct-laser-writing.</li> <li>c. Be spectrally sensitive for exposure using UV light in the range of 355 – 445 nm.</li> <li>d. Produce side wall angle &lt;87.5 deg. When exposed using a mask aligner</li> <li>e. be suitable for development using Aqueous Alkaline Developers like               <ul style="list-style-type: none"> <li>- MIF (metal ion free) TMAH (Tetra Methyl Ammonium Hydroxide) based developers,</li> <li>- MIB (metal ion bearing) developers.</li> </ul> </li> <li>f. Be highly stable in wet etching processes</li> <li>g. Be highly stable in dry etch processes e.g. with CF<sub>4</sub>, SF<sub>6</sub>, etc.</li> <li>h. Shall work as mask for wet and dry etching processes.</li> <li>i. A possibility to dilute it using a suitable thinner for reducing its viscosity further</li> </ol>
2	Developer for positive photoresist	<ol style="list-style-type: none"> <li>a. It shall be an aqueous-alkaline &amp; surfactant-containing TMAH based developers.</li> <li>b. It shall be suitable for developing the positive tone photoresist described at Sr. No. 1 and other positive tone resist from the same series.</li> <li>c. It shall be suitable for puddle, immersion and spray developments.</li> </ol>
3	Thinner for positive photoresist	<ol style="list-style-type: none"> <li>a. It shall be an organic solvent based thinner.</li> <li>b. It shall be suitable to dilute the positive photoresist described at Sr. No. 1</li> </ol>

		<ul style="list-style-type: none"> <li>c. With an appropriate dilution level, it shall be able to produce a film thickness of &lt;500 nm.</li> </ul>
4	Negative photoresist	<p>This negative tone photoresist shall:</p> <ul style="list-style-type: none"> <li>a. Provide a thickness of 1,000 nm at a 3000 RPM spinning speed for 30 sec on a 6-inch substrate.</li> <li>b. Be suitable for direct-laser-writing.</li> <li>c. Be spectrally sensitive for exposure using UV light in the range of 305 – 410 nm.</li> <li>d. Produce tunable pattern profile (sidewall): from vertical to undercut.</li> <li>e. Work as a mask for lift-off processes even without a UV flood exposure</li> <li>f. be suitable for development using Aqueous Alkaline Developers like <ul style="list-style-type: none"> <li>- MIF (metal ion free) TMAH (Tetra Methyl Ammonium Hydroxide) based developers,</li> <li>- MIB (metal ion bearing) developers.</li> </ul> </li> <li>g. Be highly stable in wet etching processes</li> <li>h. Be highly stable in dry etch processes e.g. with CF<sub>4</sub>, SF<sub>6</sub>, etc.</li> <li>i. Shall work as mask for wet and dry etching processes.</li> <li>j. A possibility to dilute it using a suitable thinner for reducing its viscosity further</li> <li>k. Thermally stable up to 155 deg. C</li> </ul>
5	Developer for negative photoresist	<ul style="list-style-type: none"> <li>a. It shall be an aqueous-alkaline &amp; surfactant-containing TMAH based developers.</li> <li>b. It shall be suitable for developing the negative tone photoresist described at Sr. No. 4 and other negative tone resist from the same series.</li> <li>c. It shall be suitable for puddle, immersion and spray developments.</li> </ul>
6	Thinner for negative photoresist	<ul style="list-style-type: none"> <li>a. It shall be an organic solvent based thinner.</li> <li>b. It shall be suitable to dilute the negative photoresist described at Sr. No. 4</li> <li>c. With an appropriate dilution level, it shall be able to produce a film thickness of &lt;500 nm.</li> </ul>