

## Procurement Specification for Isostatic Laminator

Isostatic Laminator machine will be used for laminating stacked screen printed green tapes. The system should possess features like water based isostatic pressurization system at particular temperature via touch screen based interface built in with the system along with independent or built-in Vacuum sealing system for stacked green tapes.

Sl. No.	Description	Specification
1	<b>Isostatic Laminator</b>	Shall be capable of laminating stacked green tapes for co-fired ceramic applications.
2	<b>Green Tape Stack:</b> System should be capable of laminating green tape stacks with following specifications:	
2.1	Green Tape part size	<ul style="list-style-type: none"> <li>• Upto 152.4 mm x 152.4 mm (6-inch x 6-inch)</li> <li>• Thickness: Upto 0.25 mm (0.01 inch)</li> <li>• Typical Green tape thickness are 1 mil, 2mil, 4mil, 6 mil, 8 mil and 10 mil</li> </ul>
2.2	Green Tape Stack Thickness	Upto 10mm (0.39 inch)
3	<b>Vacuum Sealing system for Green Tape</b>	Independent or built-in Vacuum sealing system for stacked Green Tape part in flexible laminating bags.
4	<b>Pressurization Vessel:</b> Pressure vessel should be based on sealed piston in tube principle, submerged in a heated water.	
4.1	Construction	Pressure vessel should be constructed of monoblock stainless steel and should be corrosion resistant.
4.2	Dimension	Inner Diameter: Minimum 203 mm (8 inch)  Depth: Minimum 203 mm (8 inch)  Vessel should be suitable for green tapes of dimension 152.4 mm x152.4 mm (6 inch x 6 inch)
4.3	Pressure Medium	Pressurization medium should be de-ionized and anti-corrosion water based.
4.4	Pressure Range	Max working pressure: 40 - 60 MPa
4.5	Pressurizing Time	Variable up to 50 minutes (Profile based)
4.6	Temperature	Maximum Operating Temperature : 85 °C (Typical)
4.7	Stable pressure during cycles should be maintained within $P \pm 1$ MPa, and temperature within $T \pm 2^\circ$ C.	

4.8	Pressure Release	Automatic after each cycle
5	<b>Safety</b>	Proper safety system built-in to system for human interface
6	<b>Power Supply</b>	220 V±10%, single phase, 50-60 Hz or 400V±10%, 3 phase ,50-60 Hz
7	<b>Dimension</b>	L ≤ 1550 mm W ≤ 1500 mm H ≤ 2000 mm
8	<b>Controller &amp; Software</b>	
8.1	HMI	Touch screen based user interface system
8.2	Parameter Control	All lamination related parameters such as temperature, pressure, time should be fully programmable.
8.3	Memory	Should be capable of storing 50+ recipes for easy retrieval and reuse.
9	<b>Safety</b>	Proper safety system build-in to system for human interface: <ul style="list-style-type: none"> <li>• The machine should not operate if the access door is open.</li> <li>• The access door to be safety interlocked during the operation.</li> <li>• Emergency shutdown button shall be provided.</li> </ul>
10	<b>All prices shall be quoted in Price Bid ONLY</b>	
11	<b>Warranty</b>	i. 2 years standard on-site warranty from the date of successful installation. ii. Once fault is flagged; vendor must respond within five days. <ul style="list-style-type: none"> <li>a. In case of major fault, such as one requiring part replacements, it must be rectified within one month after initial 5-day response period.</li> <li>b. For other faults, it must be rectified within 10 days after initial 5-day response period.</li> </ul> If the servicing period is extended beyond 1 month, warranty period shall be extended accordingly.
12	<b>Delivery Period</b>	Within 12 months from receipt of PO
13	<b>Local service</b>	There shall be certified engineer for service in India.
14	<b>Manuals</b>	i. Product catalogue shall be provided along with technical bid. ii. Two sets each of Operating manual and maintenance manual (hard & soft copy) of the system in English shall be provided along with the item free of cost.
15	<b>Training</b>	Adequate training should be provided to URSC engineers/technicians post installation.

16	<b>General Terms &amp; Conditions</b>
16.1	<b>Certificate of Origin:</b> Vendor shall provide the “Original Equipment Manufacturer” Dealership/Authorization certificate for the offered Isostatic Laminator along with the quote.
16.2	The system shall be installed in URSC by authorized supplier.
16.3	Systems from manufacturers for whom it is a regular/standard product only will be considered. References of offered system installed in India (if any) with contact details of end user must be provided.
16.4	Quote shall be for <b>new equipment only</b> . 2 <sup>nd</sup> hand or refurbished products will not be considered.
16.5	All the technical details shall be quoted by the supplier along with catalogue of the equipment. Point-to-point Compliance statement for all the above specifications to be provided along with the quote. Compliance statement should mandatorily mention Complied / Not-Complied along with details against each specification. Indicating merely ‘YES’, ‘NO’ or OKAY’ in the compliance statement will not be considered.