

Technical Specification of 3D printer for ceramic and customized material

Sl no	Bidder Eligibility Criteria-I	Complied /Not Complied	Reference Page No.
1	The bidder/OEM should have supplied at least 3 similar items to IITs, NITs, IISERs, CSIR Labs or other Govt. other globally reputed R&D organizations in the last 5 years, PO copies or installation certificates along with contact details of end user need to be submitted as the proof of supply. IIT Madras reserves its right to verify the claims submitted by the bidder and the feedback from the previous customers will be part of technical evaluation		

Technical Specifications of 3D printer for ceramic and customized material			
Sl. No.	Specification	Complied/Not complied	Reference page no.
1	Technology: A 3D printer capable of printing ceramics and customized material like zeolite, activated carbon, Carbon Nanotube.		
2	Materials: Should be able to print wide range of ceramic material and Custom Material (like zeolite/activated carbon/MOFs with appropriate binders)		
3	Build Volume (X*Y*Z): 125x75x 100 mm or higher Layer thickness 25, 50, 100 µm		
4	Heated vat: Faster print time Accepts high load materials for improved part quality and strength, Controllable heat temperature Full liter capacity for full scale printing without adding resin Reduced separation force to facilitate part separation		
5	Calibration: Automatically/manually which should be performed directly on the machine without the need to connect to a computer		
6	Light Engine: Pixel size (X/Y) 57 µm or less Resolution FHD min 1920 x 1080 Provision for optimization for high load ceramic materials Provision for adjustable intensity for full range of materials		

7	Camera + app: Remote monitoring		
8	Remote monitoring: Interior Lights Allows for monitoring print status in dark after hours setting		
9	Memory: USB file loading 22GB HD internal storage Ethernet internet connectivity		
10	LCD screen: Easy to read large size 85x155 mm Fully adjustable print settings, attachments, lift height and speed Rapid file change		
11	Software support: Ability to design/fabricate any kind of porous structures like Foam Multiple view modes for optimal placement		
12	Hardware code should be Editable		
13	Processing Power: Accepts extremely large Mb files		
14	Consumables for a span of one year: enough consumable required for printing should be provided to start printing.		
15	Electrical: Power Supply Input: 100-240V AC, 50/60Hz 230V @3.3A Power Supply Output: 24V DC, 600 W		
16	All spares and accessories should be available for next 10 years		
17	All shipping related charges including Freight Forwarding, Insurance, Custom Duty, Custom clearance, and local transportation should be included in the quoted price		
18	The quoted price should be inclusive of GST		
19	All software upgrades should be provided free of cost for next 5 years.		
20	File Formats Supported: STL/OBJ/AMF		
21	Processing Software: Should be perpetual in nature and must be installed on a local computer and should be accessible offline without the need for an internet connection		
22	Documentary Evidence: The standard brochure and product website should contain all the specifications. Specifications and features not published in standard documentation will not be accepted as proof of compliance		
23	Connectivity: USB, SD Card. Printer should run as standalone, there should not be a need to keep computer connected after loading the file and during printing		

24	Operating System Support: Windows, MAC, Linux		
25	The instrument should come with a UPS with at least 30 min. power backup.		
26	IP Rating: IP10 or better		
27	Physical specifications: Closed Structure Frame with Chemical Resistant Powder Coated High Grade Steel or equivalent material Weight should not exceed >20 kg		
Vendor Qualification Terms			
28	1 year warranty to be included on all the above Quoted components		
29	Vendor should conduct workshop/training session as part of equipment		
30	installation for internal and external users and annually for the next 3 years.		
31	Bidder should provide support for periodic instrument calibration and troubleshooting		
32	The equipment must have one year warranty. Quote must include 2 years optional warranty and AMC for the 4th and 5 th year.		
33	Necessary training and installation to be provided		
34	Any additional spares replacement should be part of AMC		

(Note: It is mandatory for the bidders to provide the compliance statement (comply/not comply) for the Above points with document proof as required). If the compliance statement (comply/Not comply) is not furnished for the evaluation. Bidders will be disqualified.