PUNJAB ENGINEERING COLLEGE

(Deemed to be University), Sector 12, Chandigarh - 160012

ADDITIONAL TERMS & CONDITIONS (ATC)

GeM Bid — Supply of Spark Plasma Sintering

Department: Metallurgical & Materials Engineering

Quantity Required: 1 (One) Unit

Annexure A

Vice Chancellor,

Punjab Engineering College (Deemed to be University), Sector 12, Chandigarh-160012

Sir,

Subject: Undertaking for the participation in the bid No. _____

Dear Sir,

I/We ..... do hereby submit the above bid in prescribed formats duly completed in all respects in accordance with the conditions applicable. If this bid is accepted, I/We agree to abide by and fulfill all the terms and conditions in the bid documents.

I/We hereby distinctly and expressly declare and acknowledge that before the submission of this bid, I/We have carefully followed the instructions and I/We have understood the existing system of supply at the location(s) of purchaser including the scope and nature of duties expected from the Bidder.

I/We distinctly agree that I/We would hereafter make no claim or demand upon the purchaser based upon or arising out of any alleged misunderstanding or misconceptions or mistake on my/our part of the said stipulations, restrictions and conditions.

I/We declare that our unit has never made any default in supplying the Spark Plasma Sintering/equipment to Government/Semi Government/Central or State Public sector enterprise(s) in terms of quality and financial agreed supply conditions.

I/We fully understand the terms and conditions in the bid documents.

I/We understand that the purchaser is not bound to accept any proposal that it may receive without assigning any reason.

Dated this.....day of 2026

Authorized Signatory

Seal:

Annexure B

Acceptance of Technical Specifications for the supply of Spark Plasma Sintering (1 Unit)

— Department of Metallurgical & Materials Engineering

FORMAT & REQUIREMENTS FOR SUBMITTING TECHNICAL BID

1. Bid Ref. No: .....
2. Name of Bidder: .....
3. Complete office address of Bidder: .....
4. Confirmation of acceptance of Technical Specifications for the supply of Spark Plasma Sintering with the following specifications. Bidders need to explicitly mention, deviations if any.

1. **Sintering Unit**

(a) Sintering Press System: Vertical single axis servo motor
(b) Pressure (force) control: Closed-loop control system
(c) Maximum Pressure: 60 kN or higher, Minimum Pressure: 0.5 kN or lower with Control Accuracy: ±1.5 kN or better
(d) Sintering Stroke: 150 mm or higher
(e) Pressure Control System: Servo motor control with manual and automatic control
(f) Sintering Electrode Rods; with special sealed cooling arrangement to work for operating temperatures
(g) Z axis position display resolution: Minimum 0.001 mm or lower
(h) Safety devices: Emergency stop system and warning alarm system

2. **Sintering DC Pulse Generator and Energizing System** appropriately designed for easy manual and automatic control with PID programmable temperature controller. The SPS power supply should provide pulsed DC current with a maximum current, voltage, and power rating clearly declared by the manufacturer and sufficient to achieve the operating temperature with the largest specified graphite tooling under vacuum.

3. **Vacuum Chamber and Vacuum Unit**

(a) Vacuum Chamber: Should have cooling arrangement with working vacuum of 0.06 mbar or lower,
(b) Material: Stainless steel or another appropriate to sustain the sintering conditions and sintering environment
(c) Exhaust Speed: Necessary provisions for exhaust to meet lowest vacuum limit within 10 minutes or lesser
(d) Maximum temperature of chamber 2,400°C or higher with a minimum working temperature of 2200 °C.
(e) Heating rate under standard operating conditions: ~~50~~ °C/min or higher 100°C/min Leak_10/9/22
(f) Sintering Atmospheres: Facility for both Vacuum and inert gas (Argon). An easy to operate system for conversion from Vacuum to controllable and measurable partial pressure inert gas (Argon) backfill
(g) Viewing Windows: Ø50mm quartz glass or better
(h) Automatic Temperature control: PID Digital Programmable Temperature Controller
(i) Temperature Detector: 2-way system with separate detectors appropriate for range, with resolution: 1°C or lower
  i) From room temperature to 1,000°C (K-type thermocouple)
  ii) 600 to 3,000°C (Digital radiation thermometer) Accuracy of the temperature measurement at high temperatures (greater than 800 °C): ± 1 % of the measured value or lower
(j) Sheathed Thermocouple should detect and digitally display sintering temperature of die and/or punches.
Optional feature: Separate thermocouples for temperature measurement of die and punch.
(k) Provision to automatically stop the machine when cooling water temperature exceeds the predetermined safe value without hampering the working parts of the machine.

4. **Sintering Operation and Control Unit**

(a) Separate power on/off button switch with Emergency stop button switch
(b) Touch Panel with
  i) Control for Pressure and Vacuum devices.
  ii) Control of digital Pressure and Temperature PID programs.
  iii) Digital readout indication of SPS Current, Voltage, Temperature, Pressure, Displacement and Vacuum.
  iv) Display of operating condition and warning alarm.

5. **SPS Data Acquisition System:** The system should have an output to the following data to a PC (to be included with the equipment quote): SPS Current, Voltage, Temperature, Pressure and Displacement, and Vacuum. Live sintering data should be loaded via USB port to the PC, where SPS sintering conditions are graphically displayed on the screen in real-time. All process variables should be recorded synchronously with time stamps. Raw data should be exportable in a non-proprietary format.

6. **Cooling Water Circulation System**
Optional feature: Independent power input facility so that chiller can work on alternate electric source even when main supply of power fails with detection sensors for leakage, low flow, high temperature, chiller failure, pump failure, etc.

7. **Matching Transformer for the machine**

8. **Accessories to be included**

(a) Operation Manuals
(b) Tools: 1 set

5 PAN of bidder (self-attested copy to be enclosed): ……..

6. GST registration number of bidder (self-attested copy to be enclosed):
……

7. Details of address with contact details from where the bidder plans to offer After Sales Services during the Warranty & after warranty Maintenance period: .....

Authorized Signatory

Seal:

Annexure C

Make-In-India Certificate: The Bidder is required to submit the Make in India Certificate issued by the OEM of the product.

Make in India Certificate

In line with Government Public Procurement (Preference to Make in India), Order 2017, P-45021/2/2017-PP (BE-II) dated 16.09.2020 and subsequent clarification No P-45021/102/2019-BE-II-Part(1) (E-50310) dated 04.03.2021, we hereby certify that we M/s _____ are local supplier meeting the requirement of minimum local content _____ (in %) as defined in above order for the material against Bid No. _____.

We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law. The above declaration does not include services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

(Seal & Signatures)

Annexure D

Declaration of not being Black Listed as per the specimen on Company letter head

Declaration

I/We/M/s _____ registered Company/Ltd. Company etc. as per Registration No. _____ Certificate No. _____ issued by _____ having registered office at _____ and manufacturing/supply base at _____ do hereby declare and solemnly affirm that I/We have not been Black-listed, nor mine/our Bids have ever been cancelled by any State/UT/Central Government or any partner or shareholder either directly or indirectly connected with or has any subsisting interest in the business of my/our firm nor any legal proceedings have ever been initiated/pending or any penalty has ever been levied due to delay of non-completion of work/service/supply order by any State/UT/Central Government or by any authority.

Place:

Dated: **AUTHORIZED SIGNATORY**

Note: The affidavit should be issued after publication of bid duly attested through Notary/Magistrate