TECHNICAL SPECIFICATIONS FOR IN-SITU TEM STRAINING HOLDER AND DISC PUNCH

Purchase of one Single-Tilt In-situ Straining Holder and one disc punch is planned. The Disc punch is for preparing specimens for TEM investigations. Whereas the holder is a spare/accessory for Transmission Electron Microscope (TEM), which will be utilized for investigating materials deformation and damage mechanisms under monotonic loading conditions at room temperature. The holder should be compatible with the Thermo Fisher Scientific TF30 microscope with Super-Twin Polepiece available at IISc. Below are the detailed technical specifications for the holder and disc punch.

TECHNICAL SPECIFICATIONS

Scope of work: Supply, installation, and commissioning of above-mentioned equipments with following features.

1. Single-Tilt In-situ Straining Holder

Main specifications	
1. The holder should have side entry system for elongating electron transparent specimens at controlled rates in TEM. 2. It should have a rectangular opening at the tip with two points for securing specimen. 3. It should have a fixed mounting point at one end and a moveable crosshead at the opposite end. 4. It should have a Hexlox clamping mechanism for firmly securely holding each end of the specimen in place during elongation. 5. It should come with a control system to apply constant elongation rate and with which elongation can be easily stopped and restarted with the press of a button. 6. The control system should display crosshead displacements with a resolution of 1 μm and has an auto–zero button to return the crosshead to either its original zero position or an offset zero position. 7. It should allow conventional TEM imaging, electron diffraction analysis and EDS analysis.	
Other important specifications	
Constant elongation rate	In range of 2 μm/second
Drift rate at 0° tilt (nm/min)	1.5 or better
Resolution at 0° tilt (nm)	0.34 or better
Specimen size (mm)	2.5 x 11.5
Observable area at 0º tilt (mm^2)	5.0 or more
Max. sample thickness (μm)	400 or more
Calibration	Certificate required
User manual and certificates	1 hard copy and 1 soft copy in a CD/DVS/USB of the detailed user manual, complete with circuit diagrams (mechanical, electronic, and electrical), operational features, calibration certificates. A Hard copy of the manual also to be provided.
Warrantee and post-supply services	

AMC	3 years following expiry of warrantee
Services	The supplier should have an office or an associate (agent) in India to provide after sales service, support, and maintenance.
Acceptability criterion	
Acceptance	The supplier must demonstrate all the functions of the holder according to the specifications after successful commissioning at IISc
Supply of Spares	
Additional Hexlox clamping screws and screwdriver	

2. Disc Punch

Main specifications	
Disc punch with single action 'clamp-and-cut' mechanism that allows the system to produce discs without mechanical damage to the central region or tearing of the edges.	
Warrantee and post-supply services	
AMC	3 years following expiry of warrantee
Services	The supplier should have an office or an associate (agent) in India to provide after sales service, support, and maintenance.
Acceptability criterion	
Acceptance	The supplier must demonstrate all the functions of the punch according to the specifications after successful commissioning at IISc

TERMS AND CONDITIONS

1. Two-bid system (separate technical and financial bids) in sealed tenders.
2. The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications under each subhead and bullet point. Unique characteristics may be highlighted.
3. Vendors who include price information in the technical bids will be automatically disqualified.
4. **The Vendors must have supplied at least similar equipments to centrally funded technical institutes (IISc, IITs and NITs) and national research labs (DAE, DRDO, DMRL, NAL, NML and equivalent) in the last 5-10 years. A detailed list of users, along with contact information of primary users, should be provided.**
5. **At least 3 independent reference letters from India (from institutions mentioned in point 4) should be provided at time of submission of tender (as part of technical bid). IISc may contact more users for obtaining independent references. The committee will have right to reject a bid based on reference letters.**
6. The financial turnover of the equipments manufacturer in the previous financial year should be more than or equal to 10 times the total order value. The bidder shall furnish specific details of the company performance.
7. **Technical bids will be opened first. IISc may seek clarifications after opening of technical bids and may ask vendors to perform some example experiments to demonstrate the promised technical specifications. Vendors may be required to give presentations.**
8. Detailed information of the eqiupments to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier.
9. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate comparison of prices.
10. Price bids of only technically qualified vendors will be considered.
11. The price bids must offer CIF Bangalore prices.
12. **Prices to be quoted separately for the equipments with mandatory requirements and the optional items. Prices should be quoted in adequate detail with relation to packing details to cover insurance compensation in case of damage to any specific modules.**
13. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.
14. Indicate delivery period.
15. Order will be placed on lowest bid from technically qualified vendor
16. The tender documents can be sent at the following address by 28th November 2021:

The Chairman
Department of Materials Engineering
Indian Institute of Science, Bangalore 560012
Karnataka
India