

**Specifications of Equipment for Tender Bid cum Quotation**

Name of Equipment/ Assembly	UTM Materials Testing Machine
Related Standards to be accorded	Standards specified in front of each test
Features/capabilities /Specifications	<ul style="list-style-type: none"> <li>• Equipment shall be capable of performing following tests, including hydraulically locking jaws/clamps: <ul style="list-style-type: none"> <li>◦ Narrow strip tensile [IS 1969: Part 1]</li> <li>◦ Grab test [IS 1969: Part 2]</li> <li>◦ Index puncture resistance test [IS 16348]</li> <li>◦ CBR puncture test (using 50mm probe) [IS 16078, ISO 12236]</li> <li>◦ Trapezoid tear test [IS 14293]</li> <li>◦ Wide width tensile test [IS 16635]</li> </ul> </li> <li>• Robust and stable machine frame with High stiffness</li> <li>• Column protection over total traverse stroke</li> <li>• Type of System: Servo Controlled - Floor standing</li> <li>• Speed variation Dedicated SERVO DRIVE</li> <li>• Cross head travel (Excluding grips) 700 mm</li> <li>• Motor capacity shall be mentioned</li> <li>• Speed range 1 mm/min to 500 mm/min (accuracy <math>\pm 0.1\%</math>)</li> <li>• No of load cells 02 Nos (i) 5 kN Capacity (ii) 50 kN Capacity (accuracy <math>\pm 0.1\%</math>)</li> <li>• Load cell least count 0.01 kN &amp; 0.1 kN respectively</li> <li>• Elongation measurement with least count 0.01 mm</li> <li>• Controlling system: PLC Controller</li> <li>• Robust &amp; accurate 16 channel Data Acquisition System with capacity of 500 Hz data logging frequency, with storage for at least 10 set of tests</li> <li>• Digital display for viewing real time data.</li> <li>• System password to be provided for calibration.</li> <li>• Computer facility along with the following <ul style="list-style-type: none"> <li>◦ Desktop/laptop computer.</li> <li>◦ Compatible software for analysis</li> <li>◦ Configurable controlling unit system for DAQ</li> <li>◦ Printing kiosk</li> </ul> </li> <li>• Make and country of origin shall be mentioned for all parts.</li> </ul>
Make	<ul style="list-style-type: none"> <li>• Clear mention <b>Make</b> in the bid</li> </ul>
Electrical Supply Requirement	<ul style="list-style-type: none"> <li>• Electricity supply requirements (voltage and phase) shall be clearly mentioned</li> <li>• Mention in case of Requirement of UPS (Uninterrupted Power Supply) with capacity</li> </ul>
Size and weight	<ul style="list-style-type: none"> <li>• Mention area required for positioning of equipment.</li> <li>• Mention total weight of the equipment.</li> <li>• Mention specific requirement of foundation/pedestal for resting the equipment, if any.</li> <li>• Mentioned need of vibration isolated, if needed</li> </ul>
Water and air supply requirements	<ul style="list-style-type: none"> <li>• Mention the requirement to supply of compressed air, if any.</li> <li>• Mention the requirement and arrangement of water supply, if any.</li> </ul>
Compatibility of parts	<ul style="list-style-type: none"> <li>• In case of accessories from make differing to the make of equipment, compatibility shall be checked and certified by the bidder.</li> </ul>

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Calibration Certificates, technical manual and SOP	<ul style="list-style-type: none"><li>• The calibration certificates shall be provided with equipment and accessories.</li><li>• Validity of calibration certificate for all devises shall not be less than one year.</li><li>• Technical manual and Standard Operating Procedure document shall be provided.</li></ul>
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