

**e-Tender Document for**

**Supply and Installation of *Machineries /***

***Equipment***

**at**

**CIPET:CSTS-Vijayawada**



**TENDER DOCUMENT NO. VJA01/2019-20**

**LAST DATE FOR SUBMISSION OF BID: 05.10.2019**

**CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY**  
**(Ministry of Chemicals & Fertilizer, Govt. of India)**  
Survey No.377, Surampalli(Vi), Gannavaram(M), Vijayawada –  
521 212 (Andhra Pradesh) Tel: 0866-2971466,  
Web: [cipet.gov.in](http://cipet.gov.in), e-mail : [cipetvijayawada@gmail.com](mailto:cipetvijayawada@gmail.com)

**e-TENDER NOTICE (VJA01/2019-20)**

CIPET:CSTS-Vijayawada invites bids through e-Tender **UNDER SINGLE STAGE TWO BIDS SYSTEM IN e-TENDER PORTAL** ( [www.tenderwizard.com/CIPET](http://www.tenderwizard.com/CIPET) ) from Reputed Suppliers/ Manufacturers / Authorized Dealer & Distributors having valid PAN, IT Return & GST Registration Certificate for supply & installation of the following equipment at CIPET:CSTS-Vijayawada. Bid offers should be of two parts viz., Technical Bid & Commercial Bid.

Sl. No.	Name of the Equipments	Tender No.
01.	Test Bench for Water Tightness at Joints to test as per IS 16098 Pt.2	VJA01/2019-20
02.	Complete set up for Resistance to combined temperature cycling & external loading including BLT Apparatus	
03.	Universal testing machine With all accessories (Computerised UTM M/c)	
04.	Hydrostatic Pressure testing M/C: 6 Station	
05.	End fittings for Hydrostatic pressure testing	
06.	UV Visible Spectrometer for effect on water test for other toxic substances as per IS: 12235(part 10) to fulfill as per stipulated Standards viz; 4985, IS:12818, IS:7834 (part-1), IS:14182 & IS:15778.	
07.	Xenon Arc Weathering Tester	
08.	Hot & cold water bath	
09.	End fittings	

Bidders are requested to visit the web-site [www.tenderwizard.com/CIPET](http://www.tenderwizard.com/CIPET) or [www.cipet.gov.in](http://www.cipet.gov.in) and submit their offers electronically. It may be noted that offers submitted on paper manually or the offers sent by post shall not be entertained. The last date for submission of the bid is as mentioned below:

**Last date for the online submission of the bid : 05.10.2019, 03.00 P.M.**

**Opening of Technical bid : 09.10.2019, 03.30 P.M.**

**Opening of Commercial bid : After Evaluation of Technical Bid**

**For further clarification, please contact no. 0866-2971466**

CIPET:CSTS-Vijayawada reserves the absolute right to accept/reject any or all bids at any stage of the tender process without assigning any reason whatsoever.

**Director & Head,  
CIPET-Vijayawada**

## **INSTRUCTIONS TO BIDDERS**

### **(A) Introduction**

Central Institute of Plastics Engineering & Technology (CIPET) – under the Dept. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India is an ISO 9001: 2008 Certified, BIS Recognized, ISO/IEC: 17025-2005 (NABL) and ISO/IEC: 17020-2012 (NABCB) accredited institution focusing on STAR (Skill Training, Technology Support Services, Academic and R & D activities) concept for the benefits of Govt. organizations & industries in the country. CIPET is operating around 30 centers across the nation.

CIPET : CSTS - Vijayawada is established to cater the man-power needs of Plastics and allied industries of A.P through its Long-Term Training and Vocational Courses sponsored by Govt. of A.P and Govt. of India. The centre is equipped with State-of-the-art infrastructural facilities in the field of Plastics Processing, Testing, Tool Room & Design.

The Institute offers highly specialized and practical oriented training in the field of Plastics Engineering & Technology. These courses are particularly designed to ensure exposure of the candidate to practical problems involved in the relevant areas of study.

Further, the centre is exclusively providing Technical / Consultancy services to aspiring entrepreneurs and the students of various Engineering & Polytechnic colleges of A.P. in the field of Plastics, Processing, Testing, and Composites, Mould manufacturing & Design etc., The centre is also able to provide facilities to aspirants pursuing Ph.D., M.Tech., B.Tech. & Diploma wherein numerous trainees are benefitted through completion of their Project / Research work.

### **(B) The Bidding Documents**

- **Content of Bidding Documents**

The Bidding Documents include;

- (a) Instruction to Bidders;
- (b) Terms and Conditions of Contract;
- (c) Schedule of Requirements;
- (d) Technical Specifications & Compliance Sheets;
- (e) Manufacturer's Authorization Form;
- (f) Bid Form and Price Schedules;
- (g) Contract Form;
- (h) Performance Security Form;
- (i) Deviation Statement;

- The Bidder is expected to examine all instructions, forms, terms and specifications in the Bidding Documents. Failure to furnish all information required by the Bidding Documents or submission of a bid not substantially responsive to the Bidding Documents in every respect will be at the Bidder's risk and may result in rejection of the bid.

- **Amendment of Bidding Documents:**

- At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at their own initiative or in response to a clarification requested by a prospective bidder, modify the Bidding Documents by amendment.
- In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their bid, the Purchaser may, at their discretion, extend the deadline for the submission of bids

**(C) Eligible Criteria for Bidders :**

- Audited Balance sheet for the last 3 years
- Up-to-date IT return for the last 3 years, PAN Card, GST Registration Certificate.
- The Bidders must have satisfactorily supplied & completed installation of similar type of Instrument at-least 02 nos. in any Govt. Organisations/PSU/Corporate Sectors during the last 5 years. The Certificate in support / credentials of that from the user must be attached. The Customer Feed Back Certificate must be enclosed.
- Self declaration on **NO PENDING LITIGATION.**
- The vendor shall have local service and application office and infrastructure to attend visit within 48 hours.
- The vendor should furnish details of customers in India.
- The bidders shall give a list of his relatives working with the CIPET along with their designations and addresses.

**(D) Terms & Conditions :**

- **Taxes** :All taxes, duties, packing, forwarding& installation have been included in the quoted rate..
- Application Fee Rs.**590/-***(Including GST)*
- **Performance Security** : 10% of the Purchase Order value shall be submitted by the party towards performance security within 7 days of receipt of Purchase Order in the form of Demand Draft. The Performance Security will be refunded after warranty period is over.
- **Warranty / Guarantee** :The Instrument should be covered under 2 year warranty / guarantee from the date of installation and commissioning.
- **Delivery Period**: Supplier should be delivered the instrument within 08-10weeks from the date of receipt of Purchase Order, failing which liquidated damage @ 0.5% per week shall be deducted from the final payment, for each week of delay beyond the delivery period upto maximum of 2%.
- **Payment** :90% after supply of Instrument & balance 10% after successful installation, commissioning & Training as per our Technical Specifications & subject to fulfillment of other terms & conditions of the e-Tender documents.
- The Bidder shall provide the Bank accounts details along with Scanned copy of cancelled cheque for onward transaction.
- The vendor should have technical support in the area of application and service available within the country.
- In case of any up-gradation of software then the same should be provided free of cost by the supplier/manufacturer.
- Power and receptacle/socket as per Indian Standards should be provided.
- Appropriate tool box/kit for routine maintenance should be provided with the equipment
- On-site (at CIPET:CSTS-Vijayawada) installation, demonstration and training for system

operation and maintenance as well as application support should be provided by the vendor at its own cost.

- Tenders should specify & provide all mandatory and other accessories required for installation, commissioning and running the machine.
- The repairing/rectification/replacement/configuration required, if any, of the items under warranty must be done at CIPET:CSTS-Vijayawada by the bidder.
- The Annual Maintenance Charges (AMC) 3 Years should be quoted separately (Optional), which should not be quoted in the Price Bid.
- The supplier should mention the model & make against the Instrument.
- **Spares:** The supplier must confirm in writing that the spares for the instrument will be available for a period of at least 05 (Five) years after the Instrument supplied.
- **Bid document:** The vendor should read the e-Tender documents carefully before quoting. It shall be deemed that the vendor has gone through the documents carefully and has understood its implication.
- **Technical bid:** The Technical Bid should accompany with full technical literature, leaflets of the technical features of the Instrument must be submitted for evaluation.
- **Declaration:** The bidder should attach a self-declaration statement that he is not debarred/ blacklisted or banned from any Central Government / PSU / State Govt / any Corporate Sector.
- **Manual:** Complete set of service manual for diagnostics, trouble shooting and maintenance along with electronic circuit diagram (in English) – hard and soft copy should be provided with the instrument
- The e-Tender, submitted by the Bidder who have already been declared as Black Listed or whose contract was terminated for dissatisfactory supply or who was unable to supply any Institute/Organization run by the State / Central Government / PSU / Corporate Sectors will not be considered even his being the lowest rate.
- The Bidder should provide relevant documents regarding the Partnership Firm/Public/Pvt. Ltd. Company/Cooperative society.

#### Pre-Requisites

- Pre-installation requirements indicating details of power requirement, utility air, water, ventilation, safety device, if any, along with the foundation requirement needed for installation & commissioning should be provided prior to supply of Machine.
- Appropriate tool box/kit for routine maintenance should be provided with the equipment
- All documents (i.e. operating & service manuals, drawings etc.) and original softwares relevant to the instrument and its accessories must be supplied.
- Power and receptacle/socket as per Indian Standards should be provided.
- The vendor shall attend by visit within 48 hours of need.

## **Training**

- Training at vendor site and onsite for system operation and maintenance as well as application support should be provided by the vendor at its own cost.
- Prices quoted should be on Delivered Duty Paid (DDP) basis to CIPET:CSTS-Vijayawada.
- Any legal disputes subject to Vijayawada, India jurisdiction only
- **Delivery and Documents**

### **(a) For Imported Goods**

- Original and three copies of Supplier's invoice showing Goods description, quantity, unit price, total amount.
- Original and three copies of the negotiable clean, on –board bill of lading marked freight prepaid and three copies of non-negotiable bill of lading.
- Five Copies of packing list identifying contents of each package.
- Insurance Certificate.
- Manufacturer's /Supplier's guaranty certificate.
- Traceable Calibration Certificate issued by Accredited Calibration agency and
- Certificate of Origin.

### **(b) For Domestic Goods:**

Original and Three copies of:

- Copies of the Supplier invoice showing Goods description, quantity, unit price, total amount.
- Railway receipt /Acknowledgement of receipt of goods from the consignee(s);
- Manufacturer's /Supplier's guarantee Certificate;
- Traceable Calibration Certificate issued by Accredited Calibration agency,
- Certificate of origin and
- Document evidence for GST Registration /Octroi etc., wherever applicable, bearing seal of office of issue indicating payments made extra.

The above documents shall be received by the Purchaser before arrival of the goods (except where the goods have been delivered directly to the consignee with all documents) and if not received, the supplier will be responsible for any consequent expenses.

## **• Warranty/Guarantee**

- The Supplier warrants that the Goods supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except insofar as the design or material is required by the Purchaser's Specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied Goods in conditions obtaining in the country of final destination.
- This warranty/guarantee shall remain valid for 24 months after the Goods or any portion thereof as the case may be, have been delivered and Commissioned at the final destination indicated in the Contract.



- The Purchaser shall promptly notify the Supplier, in writing, of any claims arising under this warranty.
- Upon receipt of such notice, the Supplier shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without cost to the Purchaser.
- If the Supplier, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
- The Supplier must provide the following warranties:
  - (a) The equipment proposed is Complete in every way
  - (b) The hardware/software specification, Capabilities and performance characteristics are as stated in the bidder's proposal and accompanying documentation.
  - (c) The supplier will offer to the Purchaser all technological updates, cost reductions and facilities, which are offered to other clients, in India, during the Contract tenure.

If the supplier is acting directly for the manufacturer of the Goods and Services, the Manufacture must honor these guarantee.

The MAINTENANCE SERVICE shall be as follows.

- (a) Free maintenance services shall be provided by the Supplier during the period of warranty.
- (b) The maximum response time for maintenance complaint from any of the destination specified in the Schedule of requirements (i.e. time required for supplier's maintenance engineer to report at the installation after a request call/email is made or letter is written) shall not exceed 24 hours.

- **Liquidated Damages:-**

If the Supplier fails to deliver any or all of the goods within the time period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the contract, deduct from the Contract Price, as liquidated damages, a sum equivalent @ 0.5% per week shall be deducted from the final payment, for each week of delay beyond the delivery period upto maximum of 2% of the delayed goods or services Contract price. Once the maximum is reached, the purchaser may consider termination of the contract

## **(E) Preparation of Bids**

### **1. Bid Form**

The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the Bidding Documents, indicating for the goods to be supplied, a brief description of the Goods, their country of origin, quantity and prices

### **2. Agents and service facilities in India :**

If a foreign bidder has engaged an Indian agent, it will be required to give the following details in the offer:

- (i) The name and address of the local agent;
- (ii) What service the agent renders; and
- (iii) The amount of remuneration for the agent included in the offer

### **3. Documents establishing Bidder's Eligibility and Qualifications**

- The Bidder shall furnish, as part of its bid, documents establishing the bidder's eligibility to bid and its qualifications to perform the Contract if its bid is accepted.
- The documentary evidence of the Bidder's qualifications to perform the Contract if its bid is accepted, shall establish to the Purchaser's satisfaction:
  - (a) In the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods manufacturer or producer to supply the goods in India.
  - (b) In the case of a Bidder not doing business within India, the Bidder is or will be (if successfully represented by an agent in India) equipped and able to carry out the Supplier's maintenance, repair and spare-parts stocking obligations prescribed by the Conditions of the Contract and / or Technical Specifications
  - (c) The Bidder has the financial, technical, and production capability necessary to perform the Contract and meets the criteria outlined in the qualification criteria specified as per the Tender norms.

### **4. Period of Validity of Bids**

- Bids shall remain valid for 120 days after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period may be rejected by the Purchaser as non-responsive.

### **5. Submission of Bids**

- i) The detailed technical specification of the equipment is enclosed in Bid document, Offer should be of two parts Viz., "**TECHNICAL BID**" and "**COMMERCIAL BID**" The content of the both bids should be as under;

#### **(a) TECHNICAL BID should include the following:-**

- ✓ Detailed specification of the base equipment (Product Make & Model) along with the specification of accessories, which are included in the Base unit.
- ✓ Scope of supply
- ✓ Deviation Statement
- ✓ Product Literature/Brochure
- ✓ Proforma for Performance Statement
- ✓ Qualification Criteria
- ✓ List of spare parts included (without quoting the price) (the acceptance and rejection of spare parts will be at sole discretion of CIPET:CSTS-Vijayawada)
- ✓ List of optional accessories with their technical specification. (without quoting the price)



- ✓ Manufacturer's Authorization Form
- ✓ Bid Form
- ✓ Any other information which the bidder would like to state about the technically of the equipment.

**(b) COMMERCIAL BID should include the following:-**

- ✓ Statement showing the price of the each items of spare parts which is mentioned in the Technical Bid
- ✓ Conditional bids will not be accepted. The condition laid down by CIPET:CSTS-Vijayawada is final and binding on all bidders.
- ✓ The quote should be in Indian Currency (INR).
- ✓ CIPET:CSTS Vijayawada reserves the right to accept or reject any or all tenders either in part or in full without assigning any reasons thereof.

The bids, which are not containing the statements, mentioned in 5 (i) (a) & (b) are liable to be rejected.

- The proforma of Annexures in the Bidding document, wherever necessary, should be typed on the bidder's letter head and upload the same.
- Price Schedule should be submitted in the prescribed format given under price schedule of the Bidding Document.
- The Deviation Statement enclosed should be duly filled in and submitted along with Bidding Document. If the bidder is offering more than one options/models a separate Deviation statement for each of such quotes should be submitted along with the offer.
- Quotes received without price schedule and deviation statement as per our prescribed format, will summarily be rejected.
- Relaxation of Norms for Startup and Micro & Small Enterprises in Public Procurement on Prior Experience – Prior Turnover Criteria.

**6. Deadline for Submission of Bids**

The Purchaser may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the dead-line as extended.

**7. Evaluation and Comparison of Bids**

- The Purchaser will evaluate and compare the bids previously determined to be substantially responsive.
- The availability in India of spare parts and after-sales services for the equipment offered (imported goods) – in the bid; (the inclusion of cost of spare parts for comparison as per requirement will be at sole discretion of CIPET:CSTS-Vijayawada. Also, CIPET: CSTS-Vijayawada reserves right to accept any bid and to reject any bid or all bids.

**(F) Award of Contract**

**• Post Qualification**

- The Purchaser will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.
- The determination will take into account the Bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder as well as such other information as the Purchaser deems necessary and appropriate.
- An Affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid.

- **Purchaser's right to vary Quantities at Time of Award**

- The Purchaser reserves the right at the time of award of Contract to increase or decrease of the quantity of goods and services specified in the Schedule of Requirements without any change in price or other terms and conditions.

- **Purchaser's Right to Accept any Bid and to Reject Any or All Bids**

- The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidders or Bidders of the grounds for the purchaser's action.

## MANUFACTURER'S AUTHORIZATION FORM

No.....dated.....

To  
CIPET:CSTS-Vijayawada,  
Survey No.377, Surampalli(Vi),  
Gannavaram(M), Vijayawada – 521 212

Dear Sir

Ref: Bid Reference

We..... who are established and reputable  
manufacturers of.....having factories at  
.....and.....do hereby authorize  
M/s.....  
M/s.....  
M/s. ....etc (Name and  
address of Agents) to bid and conclude the contract with you against the above Bid are authorized  
to bid and conclude the contract in regard to this business against this specific Bid.

We hereby extend our full guarantee and warranty as per the Terms and Conditions of Contract for  
the goods offered for supply against this invitation for bid by the above firms.

Yours sincerely,

(Name)

for and on behalf of M/s.....

(Name of Manufactures)

**Note:** This letter of authority should be on the letterhead of the manufacturing concern and should  
be signed by a person competent and having the power of attorney to bind the manufacturer

## PERFORMANCE SECURITY FORM

To:

CENTRAL INSTITUTE OF PLASTICS ENGINEERING & TECHNOLOGY,  
Survey No.377, Surampalli(Vi), Gannavaram(M), Vijayawada-521 212.

**WHEREAS** ..... (Name of  
Supplier)

Hereinafter called "the Supplier" has undertaken, in pursuance of Notification of Contract  
No..... dated, ..... 20..... to supply

..... (Description of Goods and Services) hereinafter called "the Contract".

**AND WHEREAS** it has stipulated by you with a Bank Guarantee by a recognized bank for the sum  
specified therein as security for compliance with the Supplier's performance obligations in  
accordance with the Contract. AND WHEREAS we have agreed to give the Supplier a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the  
Supplier, up to a total of (Amount of the Guarantee in Words and Figures) and we undertake to  
pay you, upon your first written demand declaring the Supplier to be in default under the Contract  
and without cavil or argument, any sum or sums within the limit of (Amount of Guarantee) as  
aforesaid, without your needing to prove or to show grounds or reasons for your demand or the  
sum specified therein.

This guarantee is valid until the ..... day of ..... 20.....

Signature and Seal of Guarantors

.....  
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.....  
probe • perform • practice • Plastics

Date .....

Address : .....

## PROFORMA FOR PERFORMANCE STATEMENT

(for Simple Goods/equipment for a period of last three years)

Bid No.....Date of opening.....Time.....Hours

Name of the Firm.....

Order placed By .....	Order No and date	Description and quantity of ordered equipment	Value of order	Date of completion of delivery As per Contract      Actual	Remarks indicating reasons for late delivery, if any	Has the equipment been satisfactorily functioning?
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Signature and seal of the Bidder

**PROFORMA FOR DEVIATION STATEMENT**

Bid Ref No.

Date of Opening

Time :

Name of the Firm

Name of the Equipement quoted

Model No.:

Purchaser's Specification	Bidders Specification	Deviation, if any	Justification	Remarks

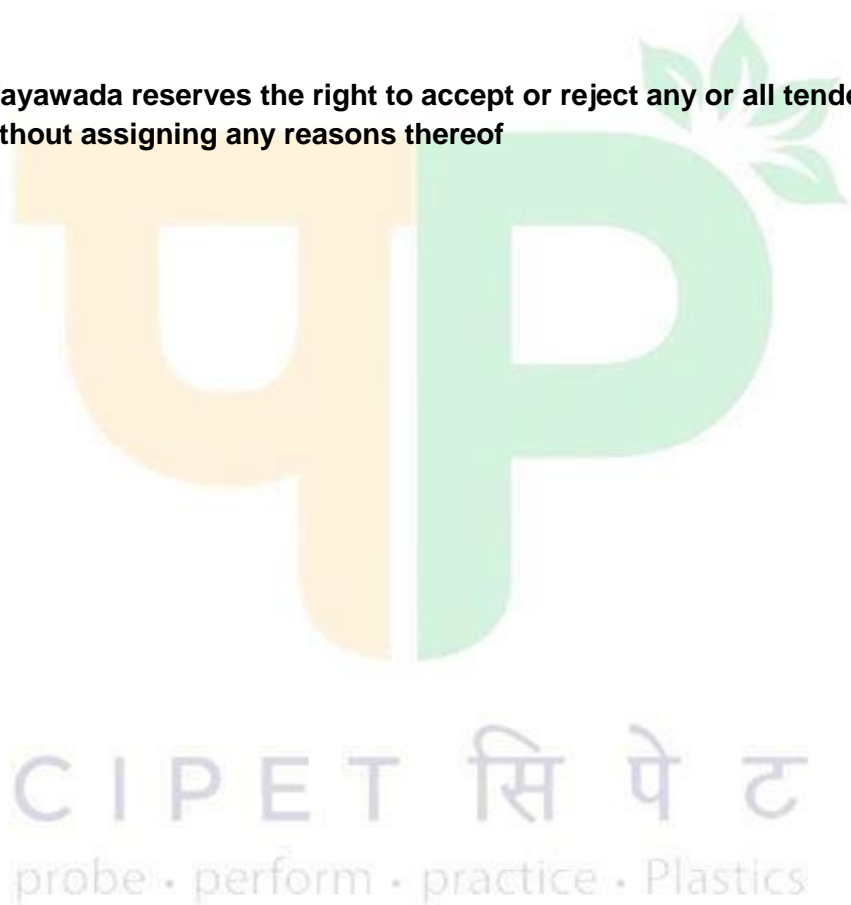
Note : Separate Deviation statements should be submitted along with the bid for all models / alternative quotes.



**Note :- Further if any e-Tender queries please contact the following officials of etenderwizard:**

Sl. No.	Name of the Official	Contact Number	e-mail ID
01.			
02.			

**CIPET:CSTS-Vijayawada reserves the right to accept or reject any or all tenders either in part or in full without assigning any reasons thereof**



**CIPET – CSTS, VIJAYAWADA**  
**List of machinery/equipment. Technical Specifications.**  
**PLASTICS TESTING CENTER**

S no	Name of the Equipment/Instrument	Specifications	Qty
1	Test Bench for Water Tightness for DWC Pipes	Arrangement of Angular Deflection as per Standard <b>IS 16098(Pt- 2 &amp; 1 )</b> with Clamping Facilities	01 set
2	Complete set up for Resistance to combined temperature cycling & external loading including BLT Apparatus	As per <b>IS: 16098 (Pt-2)</b> & suitable for all sizes	01 set
3	<b>Universal testing machineWith all accessories (Computerised UTM M/c)</b>	<ol style="list-style-type: none"> <li>1. Load capacity: up to 100 KN</li> <li>2. No of load cell: Three(1 KN,5KN,50 kN, 100KN)</li> <li>3. Cross travel: up to 1000 mm</li> <li>4. Horizontal daylight:500 mm</li> <li>5. Speed- variable between 0.01 mm/ min to 500 mm/min</li> <li>6. External extensometer upto maximum travel limit</li> <li>10. Should be accompanied by <b>NABL calibration</b> certificates for all the relevant Parameters viz load cells, strain rate &amp; extension etc.</li> <li>11. Test set up for carrying: <ul style="list-style-type: none"> <li>✓ Tensile test for solid products, films, sheets, woven sacks, rubbers, filament/fibres etc</li> <li>✓ Flexural test</li> <li>✓ Fatigue test</li> <li>✓ Ductility test</li> <li>✓ Shear Test</li> <li>✓ Coefficient of Friction Test for PLB Ducts</li> <li>✓ Compression Test</li> <li>✓ <b>Inbuilt attachment for carrying Testing at Elevated Temperatures</b></li> </ul> </li> <li>10. Tensile Fixtures of width 50 mm, 100 mm</li> <li>11. Pneumatic Rubber Faced Fixtures for breaking strength of Films/sheets etc as per IS 2508</li> <li>12. Computer system with complete accessories including printer with latest windows, UPS etc</li> <li>13. Software to generate the graphs and to assess / obtain all possible data for carrying out research work.</li> <li>14. Online UPS of Min 10kVA or suitable for 1 hour back up power for entire set up.</li> <li>15. Warranty for min 2 years</li> </ol>	01 set
4	<b>Hydrostatic Pressure testing M/C: 6 Station</b>	Specification: Pressure Range: 0-100 Kg/Cm <sup>2</sup> , L.C:0.01 Kg/cm <sup>2</sup> , Pressure Control Accuracy: ±1% Max. Should be accompanied by <b>NABL calibration</b> certificates for pressure gauges, timers and other accessories. Warranty for min 2 years	01 Set
5	<b>End fittings for Hydrostatic pressure testing</b>	Both Cup and Cone Type for all sizes upto 1200 mm for testing PVC & HDPE Pipes as per IS 4985 & IS 4984 Non-Rusting with additional O rings, adequate nuts & Bolts etc	01 sets each

6	<p><b>UV Visible Spectrometer for effect on water test for other toxic substances as per IS: 12235 (part 10) to fulfill as per stipulated Standards viz; 4985, IS:12818, IS:7834 (part-1), IS:14182 &amp; IS:15778.</b></p>	<p>UV Visible Spectrometer for effect on water test for other toxic substances as per IS: 12235 (part10) to fulfill as per stipulated Standards viz; 4985, IS:12818,IS:7834 (part-1), IS:14182 &amp; IS:15778.</p> <p>Wave length range = 200 to1100 nm with calibration certificate.</p> <p>Technical Specification – UV Visible Spectrophotometer PC controlled Double beam UV visible spectrophotometer should have the capability of analyzing metal ions, highly conjugated organic compounds and biological molecules precisely and accurately. The system should be quoted with below mentioned <b>specifications</b>: Monochromator : Double Beam Equipped with high resolution concave diffraction grating. Optical System : Double Beam, Grating 1200 lines/mm Wavelength Range : 200 nm – 1100 nm, Spectral Bandwidth: 1nm Wavelength Accuracy : <math>\leq \pm 0.3\text{nm}</math>(full wavelength Range) Wavelength Repeatability : 0.1nm Photometric Accuracy : <math>\pm 0.3\%T</math>(0~100%T) Photometric Repeatability : 0.001Abs(0~0.5Abs) Photometric Range: -3A~3A Stability: <math>\pm 0.0005</math> A/H@500nm Baseline Flatness : <math>\pm 0.001A</math> Scanning: Speed Fast, Mid, Slow Wavelength Setting : Automatic Light Source: Deuterium &amp; Tungsten Lamp Wavelength Resolution: 0.1nm Detector: Silicon Photodiode Interface USB (Printer) Cell Holder : 2 Cell Holder Quartz Cuvettes : 10 mm path length – 2 sets. Cuvettes must be supplied with the system and should not quoted separately. Software : Computer System along with UPS &amp; Printer &amp; compatible original licensed software should be provided. Latest version of Windows based operating software is preferred. The software should enable recording, storage, manipulation of spectral data. Should be accompanied by <b>NABL calibration</b> certificates for all the relevant parameters. Suitable Online UPS for power back up Warranty for min 2 years</p>	01 sets
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7	<b>Xenon Arc Weathering Tester</b>	Light source	Xenon Arc Lamp	01 Set
		Light Filter	Non Ageing Optical Filters / Inner and outer inter changeable light filter i.e. with the combination of borosilicate/borosilicate borosilicate/ soda lime, Quartz/ borosilicate	
		Test Standards	SAE-J2412, SAE-J2527, ASTM G155, ASTM G 151 ISO 4892-2, ASTM D 4459, ASTM D 5071 , ASTM D 4355 , ASTM D 2565 , ASTM D 1248 , ASTM D 6622, IS 2454 , IS 15162 , IS 15827	
		Exposure area	Min. 3000 cm <sup>2</sup>	
		Specimen holders	Sufficient number of sample holders to be provided for effective exposure	
		Life of the lamp	Min.1500hrs.	
		Filters	Interchangeable filters and combination of filters i.e. borosilicate / borosilicate, borosilicate / soda lime, Quartz / borosilicate to be provided	
		Calibration Thermometer	To measure and calibrate the temperature .	
		Calibration Radiometer	To measure the radiant flux for self-calibration to be provided.	
		Control of Irradiation	Automatic control of irradiance set point at 340 nm, 300-400 nm and 420 nm.	
		Irradiation range	at 300 – 400 nm: 20-75 W/m <sup>2</sup>	
			at 340 nm: 0.25-0.80 W/m <sup>2</sup>	
			at 420 nm: 0.45 -1.50 W/m <sup>2</sup>	
		Humidity range	Light cycle: 20 – 95%, Dark: 100%	
		Chamber Air temperature range	20 – 65° C	
		Black Panel Temperature range	40 – 120°C	
		Time/Sub Cycle Setting	Specified time setting option for light , dark and spray cycle	
		Accessories	Water Re-purification System	
		Computer with Software	For Continuous Data recording	
		Specimen rack	Flat Bed or Rotating Drum	
		NABL calibration certificates	Should be accompanied by <b>NABL calibration</b> certificates for all the relevant parameters.	
		Castor Wheels	Provision for easy movement of tester	
		Online UPS	Suitable Online UPS for power back up	
		Warranty	Warranty for min 2 years	
8	<b>Hot &amp; cold water bath</b>	From 0°C to 100°C	As per IS 4984, 4985, IS 15778 etc Size: L 1.5m X W 1.0m X D 1.5 m Should be accompanied by <b>NABL calibration</b> certificates for temperature controllers, Warranty for min 2 years NABL Calibration Certificates for Temperature Controllers.	01 Set
9	<b>End fittings</b>	For DWC PIPES	AS PER <b>IS 16098 (Pt-1 &amp; 2)</b> Size: 75mm to 1200mm with complete accessories for conducting tests	01 Set each