

Minutes of Pre-Bid meeting for tender No. 11/dte/state/76/2010-11 for UTM Machine

The following members who have signed at the end of this document were present

1. It was decided to buy machine of the following type Analogue Cum Electronic UTM with computer Interface. Analogue is necessary so that students can learn all the operations of Machine during practical, but for testing jobs Electronic features will be useful.
2. Since consignee (Institutes) have various requirements 400,600 & 1000KN, So bidders should quote compulsorily for all 3 options.
3. Accessories & basic Machine each of the machine will have
 - 1) Basic Machine
 - 2) Tensile attachment for round & flat
 - 3) Compression Test attachment
 - 4) Bend test attachment with 2 point load
 - 5) Electronic Extensometer max 2mm LC=1 micron
 - 6) Load stabilizer
 - 7) Small Shear Test attachment(6,8,10,12,16,20mm)made up of alloy steel with minimum hardness 45 HRC
 - 8) Brinell Hardness Test attachment with brinell Microscope.

Further, it is compulsory for all bidders to quote for the following accessories, It will be at the discretion of the Purchaser to purchase accessories or not.

- a) Bend or re-bend attachment for 20,22,25,28,32 mm bars
 - b) Mechanical extensometer duly calibrated from NABL credited lab
 - c) Wire Rope attachment
 - d) Shoulder & threaded attachment
 - e) Load cell arrangement with Indicators duly certified by NPL for calibration
 - f) Proving Ring duly certified by NPL for calibration
4. Supplier will have to deliver/demonstrate machine with first filling of machine Hydraulic oil up to full capacity.
 5. Loading & unloading of Machine will be in the scope of supply.
 6. Dismantling of any existing structure/work if required will be done by consignee Institute but supplier has to inform well in advance.
 7. Load cell with indicator & Proving ring must be NPL certified.
 8. foundation & electrical connection as per drawing will be suppliers responsibility. All machines to have warranty of 3 years from the date of installation.

Detail Specifications of Machines are as follows:

All the machines parts of CI casting should be as per IS-210 & cast steel should be as per IS-1030

Specifications for Universal Testing Machine 400KN

| SPECIFICATIONS / MODEL | |
|---|--------------------|
| Maximum Capacity. (KN) | 400 |
| 1 st Measuring Range (KN) | 0-400 |
| Min. Graduation(KN) | 1 |
| 2 nd Measuring Range (KN) | 0-200 |
| Min. Graduation (KN) | 0.5 |
| 3 rd Measuring Range (KN) | 0-100 |
| Min. Graduation (KN) | 0.25 |
| 4 th Measuring Range (KN) | 0-40 |
| Min. Graduation (KN) | 0.1 |
| Clearance For Tensile Test At Fully Descended Working Piston (mm) | 50-700 |
| Clearance For Compression Test At Fully Descended Working Piston (mm) | 0-700 |
| Clearance Between Columns (mm) | 500 |
| Ram Stroke (mm) | 200 |
| Straining Piston Speeds At No Load (mm/min.) | 0-150 |
| CONNECTED LOAD | |
| HP. | 2.3 |
| V. | 400-440 |
| PH. | 3 |
| Dimensions : L (mm) Apporox | 2060 |
| W (mm) | 750 |
| H (mm) | 2180 |
| Weight (Kg.) Approx. | 2500 |
| STANDARD | ACCESSORIES |
| FOR TENSION TEST | |
| Clamping For Round Specimen Diameter (mm) | 10-25 25-40 |
| Clamping Jaws For Flat Specimen Thickness (mm) | 0-15 15-30 |
| Width (mm) | 65 |
| FOR COMPRESSION TEST | |
| Pair Of Comp. Plates Dia. (mm) | 120 |
| FOR TRANSVERSE TEST | |
| Table With Adjustable Rollers, Width Of Rollers (mm) | 160 |
| Diameter Of Rollers (mm) | 30 |
| Max Clearance Bet'n Supports (mm) | 500 |
| Radius Of Punch Tops (mm) | 12, 16 |

Specifications for Universal Testing Machine 600 KN

| SPECIFICATIONS / MODEL | |
|---|-------------------------|
| Maximum Capacity. (KN) | 600 |
| 1 st Measuring Range (KN) | 0-600 |
| Min. Graduation(KN) | 1 |
| 2 nd Measuring Range (KN) | 0-300 |
| Min. Graduation (KN) | 0.5 |
| 3 rd Measuring Range (KN) | 0-120 |
| Min. Graduation (KN) | 0.2 |
| 4 th Measuring Range (KN) | 0-60 |
| Min. Graduation (KN) | 0.1 |
| Clearance For Tensile Test At Fully Descended Working Piston (mm) | 50-800 |
| Clearance For Compression Test At Fully Descended Working Piston (mm) | 0-800 |
| Clearance Between Columns (mm) | 600 |
| Ram Stroke (mm) | 250 |
| Straining Piston Speeds At No Load (mm/min.) | 0-100 |
| CONNECTED LOAD | |
| HP. | 2.5 |
| V. | 400-440 |
| PH. | 3 |
| Dimensions : L (mm) Approx . | 2270 |
| W (mm) | 750 |
| H (mm) | 2540 |
| Weight (Kg.) Approx. | 3500 |
| STANDARD ACCESSORIES | |
| FOR TENSION TEST | |
| Clamping For Round Specimen Diameter (mm) | 10-25 25-40 40-55 |
| Clamping Jaws For Flat Specimen Thickness (mm) | 0-15 15-30 |
| Width (mm) | 70 |
| FOR COMPRESSION TEST | |
| Pair Of Comp. Plates Dia. (mm) | 120 |
| FOR TRANSVERSE TEST | |
| Table With Adjustable Rollers, Width Of Rollers (mm) | 160 |
| Diameter Of Rollers (mm) | 50 |
| Max Clearance Bet'n Supports (mm) | 600 |
| Radius Of Punch Tops (mm) | 16,22 |

Specifications for Universal Testing Machine 1000 KN

| SPECIFICATIONS / MODEL | |
|---|---------|
| Maximum Capacity. (KN) | 1000 |
| 1 st Measuring Range (KN) | 0-1000 |
| Min. Graduation(KN) | 2 |
| 2 nd Measuring Range (KN) | 0-500 |
| Min. Graduation (KN) | 1 |
| 3 rd Measuring Range (KN) | 0-250 |
| Min. Graduation (KN) | 0.5 |
| 4 th Measuring Range (KN) | 0-100 |
| Min. Graduation (KN) | 0.2 |
| Clearance For Tensile Test At Fully Descended Working Piston (mm) | 50-850 |
| Clearance For Compression Test At Fully Descended Working Piston (mm) | 0-850 |
| Clearance Between Columns (mm) | 750 |
| Ram Stroke (mm) | 250 |
| Straining Piston Speeds At No Load (mm/min.) | 0-80 |
| CONNECTED LOAD | |
| HP. | 3.5 |
| V. | 400-440 |
| PH. | 3 |
| Dimensions : L (mm) Apporox | 2415 |
| W (mm) | 815 |
| H (mm) | 2900 |
| Weight (Kg.) Approx. | 5500 |
| STANDARD ACCESSORIES | |
| FOR TENSION TEST | |
| Clamping For Round Specimen Diameter (mm) | 10-25 |
| | 25-45 |
| | 45-70 |
| Clamping Jaws For Flat Specimen Thickness (mm) | 0-22 |
| | 22-44 |
| | 44-65 |
| Width (mm) | 70 |
| FOR COMPRESSION TEST | |
| Pair Of Comp. Plates Dia. (mm) | 160 |
| FOR TRANSVERSE TEST | |
| Table With Adjustable Rollers, Width Of Rollers (mm) | 160 |
| Diameter Of Rollers (mm) | 50 |
| Max Clearance Bet'n Supports (mm) | 800 |
| Radius Of Punch Tops (mm) | 16,22 |

Specifications: Common for all Machines

LAPTOP:

Compatible to Machine software /core to duo/2GB RAM/250GB HDD/CDWriter/3USB port/preinstalled operating system windows 7 or better

specifications prefer make DELL/HP/LENOVA/SONY/TOSHIBA or any equivalent reputed brand . and A4 size Laser Printer

Electronic Extensometer:

| | |
|--------------------|---------------|
| Gauge Length | 25 mm & 50 mm |
| Maximum Extension | 2 mm |
| Resolution | 1 Micron |
| Special Diameter | 0.5 To 30 mm |
| Specimen Thickness | Upto 30 mm |
| Specimen Width | Upto 30 mm |

Mechanical Extensometer:

| | |
|-----------------------------------|--------------------------|
| Measuring Range | 0 TO 3 mm |
| Least Count | 1/100 mm |
| Gauge Length (Adjustable) | 30 TO 120 mm |
| Thickness Od Diameter Of Specimen | 1 TO 20 mm |
| Dimensions – B X D X H | 120 X 50 X 150 mm Approx |
| Net Weight | 0.3 Kg Approx |

Software specifications:

Window based Software with real time XY graphic display and software for data management.

With advanced features –

- a. Real time graph on PC
- b. Super Impose Graph System
- c. Zooming of Graph
- d. Selection of Load Vs. Displacement at Graph by Cursor
- e. Stress Vs. strain graph
- f. Stress Vs. Displacement Graph
- g. Point Tracing On Graph
- h. Direct calculation of yield stress with three options without using Extensometer.

Electronic Control Panel

Auto-ranging Microprocessor based digital display

20 data sets storage (00-19)

50 result storage (Related to one data set)

Data entry & parameter selection through membrane dust free sealed keyboard.

Non volatile memory, so the data remains saved during power OFF.

Result & Graph print out facility. (Certificate print, Batch result print, Simple statistics print.)

RS 232 C serial interface to PC with variety of optional windows based software for data analysis.

Overload and Over travel protection.

Preload selection to start the graph from zero position.

Corresponding load & displacement data storage

Members :-