

Tender No:

KDU/PRO/CAP/ 101 /2020

-----  
-----  
-----  
-----



General Sir John Kotelawala Defence University,  
Kandawala Estate, Ratmalana,  
Sri Lanka.  
T: Phone: 2632028 , 2622995  
Fax : 2622504, 2623599  
Web: www.kdu.lk

22 / 05 / 2020

**INVITATION TO BID AND GENERAL CONDITIONS OF TENDER**

1. The Vice Chancellor of the General Sir John Kotelawala Defence University, as the Chairman, Department Procurement Committee Invites Bid/s from prospective Bidders for supply of **item/s listed in the schedule in Annex “A”**. **The relevant specifications of the item/s are indicated in Annex “B”**.

2. **CLOSING DATE & TIME.** The tender will close at 1000 hrs. on 23 / 06 /2020. Any Bid submitted after the closing time of the tender will be rejected & unopened such bids will be returned to the bidder.

3. **VALIDITY OF BID.** The bid submitted under this tender **must be valid for a period of 120 days from the date of closing of tender.**

4. **BID BOND / GUARANTEE.**  
(a) If the quoted bid value exceeds Rs: 2,000,000.00, such Bids should be accompanied with 1% of Bid Value an “on demand” and “unconditional” Bid Bond/Guarantee for a sum of **Rs: .....** in the format given in Annex “C” through a recognized local Bank or Insurance Company registered in Sri Lanka which is authorized by the Insurance Board of Sri Lanka to issue such Bid Guarantees. All Bid Bond/Guarantees should be valid for at least 30 days more than the validity period of bids, ie, for 150 days from the date of Bid opening. **Cheques will not be accepted as Bid Guarantee.**

(b) Submission of insufficient Bid Bond/Guarantee value or period will be considered as a “**major deviation**” and such offer will not be considered for further procurement action and will be rejected.

5. **VALUE ADDED TAX.** The Bidders who bid for locally delivered items must have the VAT registration. The VAT portion must be shown separately in the price schedule in Annex “A” and VAT registration number must be indicated. If the quoted item is exempted from VAT or Bidding Company is not liable for VAT, reference number and date of relevant Act number/Gazette notification/a certificate (as applicable) **issued for the current financial year** from the Commissioner General of Inland Revenue to that effect should be submitted along with the Bid.

6. **BID SUBMISSION.** The **bidder must duly sign at the last page (before Annexes) of this document** indicating the name of the signatory and the name of the company & place the company common seal to confirm the acceptance of tender conditions. **The Bid/s that do not include authorized signature will be rejected.** The Bid/s duly signed by the bidder enclosed and sealed in an appropriate cover addressed to the following address should be sent by registered post or could be deposited in the **appropriate tender box placed at General Sir John Kotelawala Defence University, Kandawala Estate, Ratmalana** (at the Main Entrance of General Sir John Kotelawala Defence University) on or before the time & date specified for the closing of tender. **The tender reference number, date & time of closing tender should be indicated & underlined at the top left corner of the envelop.**

**Tender Ref No** :.....  
**Closing Date & Time** :.....

The Chairman,  
Department Procurement Committee,  
General Sir John Kotelawala Defence University,  
Kandawala Estate, Ratmalana,  
Sri Lanka.

7. The Bid/s must be submitted in the attached schedule of prices in Annex “A” as applicable. However, bidders could use similar formats prepared with their own letter heads with all the details mentioned therein and submit in **three copies along with duly signed copy of a General Conditions of tender.** The Bid/s must contain **Technical Literature, Pamphlets, Drawings and Quality Standard Certificate etc** necessary to determine characteristics of items offered and in case of Machinery/Vehicles & Equipment, servicing and workshop data/after sales service, back up facilities or any other facilities provided by the supplier.

8. **SUBMISSION OF SAMPLES/PAYMENT OF TESTING CHARGES.**  
When it is required to submit samples, **every offer** must be accompanied with pre - marked samples. The marking of samples **indicating the Bidder & Offer number** must be done and the samples must be handed over to the officer at same place where tender box is placed **on or before the closing date & time of the Bid.** Samples submitted after closing time of the Bid will be rejected. The documents such as Air Way Bills etc, will not be accepted in place of samples. When the testing charges are required to be paid, bidders shall pay testing charges separately **for all offers** indicated in their bid/s.

(1) **Samples.** Please submit ..... samples.

(2) **Testing Charges.** A sum of Rs. .... **per offer** must be paid to the Bursar of KDU, prior to the submission of bid and a copy of the receipt must be annexed to the bid. It is the responsibility of bidder to inform the Cashier of the Account Office to note the tender number on the receipt issued for such payments.

8. **BID OPENING.** All duly received bids **will be opened immediately after the scheduled closing time of Bids at the same venue.** Bidders or their accredited agents could be present at the time of opening of bids.

9. **PRICES.**

For locally delivered items (including locally manufactured items & foreign items imported by the bidders) price must be quoted in Sri Lankan Rupees, inclusive of all charges for delivery of items to General Sir John Kotelawala Defence University Ratmalana, Faculty of Allied Health Science (FAHS) Werahera and University Hospital Werahera or Southern Campus Sooriyawewa. **Unit price, VAT and Total price should be clearly indicated in schedule in Annex “A”.** Other than VAT, all other type of taxes (eg : NBT, BTT, etc.) should not be indicated separately and should be included in unit price.

10. **RESTRICTED TENDERS.**

Invitation to Bids are circulated among the registered suppliers with Ministry of Defence (MOD), only bids submitted by registered suppliers will be allowed for consideration. However, Chairman, Department Procurement Committee reserves the right to invite the bids from multiple combinations of Procurement Methods as stipulated in Chapter III of the Government Procurement Guideline, 2006 to ensure highest competitiveness.

11. **PERFORMANCE BOND/GUARANTEE.**

A successful bidder shall furnish a Performance Bond/Guarantee in the form of “On Demand” & “Unconditional” Bank/Insurance Guarantee for a sum equivalent to 10% of the contract value for every contract that exceeds Rs. 500,000.00 or equivalent amount in foreign currency through a recognized Commercial Bank registered in Sri Lanka or through an Insurance Company authorized by the Insurance Board of Sri Lanka to issue such Performance Guarantee for this purpose, **within two weeks from the date of notification of award.** The proceeds of the Performance Bond/Guarantee shall be payable to the Vice Chancellor of the General Sir John Kotelawala Defence University as compensation for any loss resulting from the supplier’s failure to complete his performance obligations under the contract. If the contracted supplier fails to deliver the items on time or fails to complete the works as per the agreed contract, **THE TOTAL VALUE OF THE PERFORMANCE BOND/GUARANTEE** will be forfeited. If only partial delivery is made during the agreed contract period, the corresponding value percentage of undelivered quantity from the Performance Bond/Guarantee will be forfeited.

12. **SIGNING OF CONTRACT.**

The notification of award will be transmitted to the successful bidder by post, by fax or e-mail. This notification constitutes the formation of the contract. The successful bidder should submit his written acceptance for the award and performance bond / guarantee (For awards over Rs. 500,000.00 without VAT) within 14 days of receipt of such notification. Upon acceptance of the award and furnishing of the Performance Bond/Guarantee, the successful bidder will have to enter into a formal contract with the Vice Chancellor of the General Sir John Kotelawala Defence University by signing the Contract.

13. **DELIVERY.**

Preference will be given for early delivery. In case of bulk supplies for locally manufactured items, the delivery of **total quantity must be completed within 120 days of signing of contract,** unless mutually agreed for extended delivery period with General Sir John Kotelawala Defence University. **The bidder/s must indicate the proposed delivery schedule in Annex “D”.** In the event of placing a purchase order with the successful bidder, the total quantity so ordered must be supplied as one consignment unless part deliveries are agreed upon in the contract. The deliveries not made as per agreed delivery schedule will be considered as bad performances by the suppliers and **no extended delivery period will be authorized.** Under extreme unavoidable conditions too, the Chairman, Department Procurement Committee (Vice Chancellor of the General Sir John Kotelawala Defence University) reserves the right to grant or refuse delivery period extensions only within the current financial year with or without liquidated claim for delayed deliveries and that decision will be final.

14. **LIQUIDATED DAMAGES.**

In case of delivery period extensions requested by the successful bidder, a sum equivalent to 1% of the total value of the delayed supply per delay of one week or part thereof may be deducted from the payment due to the supplier from the General Sir John Kotelawala Defence University as liquidated damages up to the maximum limit of 12% of the total value of delayed supplies.

15. **PAYMENT TERMS FOR LOCALLY DELIVERED ITEMS.**

Payment will be made after acceptance of items which should be subjected to a pre-acceptance inspection/testing by General Sir John Kotelawala Defence University authorities. The delivery made to the General Sir John Kotelawala Defence University should not be considered as quantities taken over by General Sir John Kotelawala Defence University until items are properly accepted after pre-acceptance inspection. Any item that does not conform to the specifications or already approved sample will be rejected & it is the responsibility of the supplier to remove them from General Sir John Kotelawala Defence University stores/premises within 07 working days of such intimation (either verbal or written) at his own cost and replace them with items conforming to specification within one month of such rejection. The bidder shall allow approximately 60-90 days’ period of credit from the date of acceptance of items for Account Office, General Sir John Kotelawala Defence University to obtain liquid cash from General Treasury & release the payment.

16. **RIGHTS OF THE PROCUREMENT COMMITTEE.**

The Department Procurement Committee reserve the right to accept or reject whole or part of this tender and their decision will be final. The successful bidders will be notified. Information with regard to rejected or unsuccessful bids will not be communicated.

Thanking You,  
Yours faithfully,

J D B Galagoda  
For Vice Chancellor  
General Sir John Kotelawala Defence University

I/We agree to abide by the conditions of tender and undertake to supply the items as per delivery schedule mentioned in the contract, in the event of an order been placed with me/my firm/company as a result of this tender.

..... Signature

..... Name of Signatory

.....Name of the Company/Bidder

Date :- .....

Company seal

**SCHEDULE OF PRICES FOR LOCALLY DELIVERED ITEMS**

S/N	ITEMS	DENO	QTY	PRICE EACH SLRS	TOTAL PRICE SLRS
	<b><u>PURCHASE OF LAB EQUIPMENT FOR DEPARTMENT OF CIVIL ENGINEERING (02)</u></b>				
01	Direct shear test apparatus with laptop	Nos	01		
02	Unconfined compressive test apparatus	Nos	01		
03	Safety Helmet	Nos	10		
04	Safety Boot – Size 6	Nos	02		
	Safety Boot – Size 7	Nos	02		
	Safety Boot – Size 8	Nos	02		
	Safety Boot – Size 9	Nos	02		
	Safety Boot – Size 10	Nos	02		
05	Bending moment apparatus	Nos	01		
06	Universal Testing machine 1000kN	Nos	01		
07	Rebar Detector & Cover meter	Nos	01		
08	Digital Crack Width Gauge	Nos	01		
09	PH Meter	Nos	01		
10	Portal frame test apparatus	Nos	01		
11	Shear force apparatus	Nos	01		
12	Set of sieves and sieve shaker	Nos	01		
13	20kg digital balance scale	Nos	01		
14	Torsion testing machine	Nos	01		
15	Rebound hammer	Nos	01		
16	Air entrainment meters	Nos	01		
17	Automatic Vicat Apparatus	Nos	01		
18	Blaine fineness apparatus	Nos	01		
19	Heat of Hydration Calorimeter	Nos	01		
20	V-B consistometer	Nos	01		
21	Digital Drying shrinkage & Moisture apparatus	Nos	01		
22	Core cutting machine	Nos	01		
23	Buoyancy Balance	Nos	01		
24	V-Funnel	Nos	01		
	TOTAL				
	DISCOUNT				
	TOTAL(AFTER DISCOUNT)				
	VAT %				
	<b>GRAND TOTAL</b>				

ANNEX "A"

**(A) OTHER DETAILS**

- (i) DELIVERY PERIOD - .....
- (ii) MAKE & MODEL - .....
- (iii) VALIDITY PERIOD - .....
- (iv) WARRANTY PERIOD - .....
- (v) PAYMENT TERMS - CREDIT
- (vi) COUNTRY OF ORIGIN - .....
- (vii) DISCOUNT IF ANY - .....
- (viii) ANY OTHER TAXES - .....

**(B) VAT DETAILS**

- VALUE ADDED TAX PERMANENT REGISTRATION CERTIFICATE / VAT EXEMPTION LETTER ISSUED BY DEPARTMENT OF INLAND REVENUE TO BE ATTACHED

**(C) PLACE OF DELIVERY**

- ITEMS TO BE DELIVERED TO THE "GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY, KANDAWALA STATE, RATMALANA ALONG WITH THE COPY OF ORDER AND RELEVANT INVOICE.

**(D) Any queries / information with regard to this procurement / tender could be obtained from Officer Commanding Logistics Services office at General Sir John Kotelawala Defence University through e-mail [ocls@kdu.ac.lk](mailto:ocls@kdu.ac.lk) and by telephone number 0112622504 during working hours.**

**NOTE : UNIT PRICE AND TOTAL PRICE ARE TO BE INDICATED CLEARLY IN THE TENDER, IF NOT QUOTATION WILL BE REJECTED.**

SUPPLIER NAME - .....

ADDRESS - .....



**(E) Bid Reference : KDU/PRO/CAP/ 101 /2020**

.....  
**DATE**

**Specifications of Shear Testing Machine, with Data Acquisition System with Laptop**

Basic	Digital Shear Testing Machine, with incorporated Data Acquisition System and Basic Firmware, comprising:
Shear Frame	Shear Frame with digital “Touch-Screen” microprocessor, complete with beam loading device, shear box case with adaptors, transducers supports.
Load Cell	Load Cell, electric, 3000N capacity, complete with cable
Transducer	Linear vertical transducer, 10 mm travel
	Linear horizontal transducer, 25 mm travel
Firmware	Firmware activating 3 connectors for basic data acquisition
Weights	Set of 50 kg of slotted weights
Warranty period & After sales services	Please Specify

**Specification of Laptop Computers**

Microprocessor	Intel® Core™ i7-8565U (1.8 GHz base frequency, up to 4.6 GHz with Intel® Turbo Boost Technology, 8 MB cache, 4 cores)
Memory, standard	8 GB DDR4-2400 SDRAM (onboard)
Video graphics	Intel® UHD Graphics 620 Integrated
Hard drive	1TB PCIe® NVMe™ M.2 SSD
Display	15.5" diagonal FHD IPS BrightView micro-edge WLED-backlit touch screen (1920 x 1080) touch pen)
Pointing device	Imagepad with multi-touch gesture support
Wireless connectivity	Intel® Wireless-AC 9560 802.11a/b/g/n/ac (2x2) Wi-Fi® and Bluetooth® 5 Combo
Expansion slots	1 microSD media card reader
External ports	2x USB Type-C™ 3.1 Gen 2 (Thunderbolt™ 3, DP 1.2, PD 3.0, Data transfer, Sleep and Charge ); 1x USB 3.1 Gen2 Type-A™ (HP Sleep and Charge); 1 headphone/microphone combo
Minimum dimensions (W x D x H)	30.88 x 21.79 x 1.45 cm
Webcam	Wide Vision FHD IR Camera with integrated dual array digital microphone
Audio features	quad speakers; HP Audio Boost 2.0
Operating system	Windows 10 Home Single Language 64
Warranty period & After sales services	Please Specify

## Specifications of Unconfined Compression Test Apparatus



Basic	to determine the Unconfined Compressive Strength (UCS) and the material's behavior and characteristics under axial loading up to failure point. It can also determine the local deformation of the soil sample upon loading
Indicators	digital indicator. The digital indicator has a "Peak Hold" function that shows the maximum load
	Digital Deformation Indicator
Load Cell	load cell (50 kN) and
compression platens	Upper and lower compression platens
Loading Speed	1.00 mm/min
Power	220 – 240 V / 50 Hz
Warranty period & After sales services	Please Specify

## Specifications of Safty Helmet



- Color- White
- Outer Dimensions ( L x W x H) 272.5x190x161mm
- Material- ABS resin
- Specification- slip-off prevention mechanism

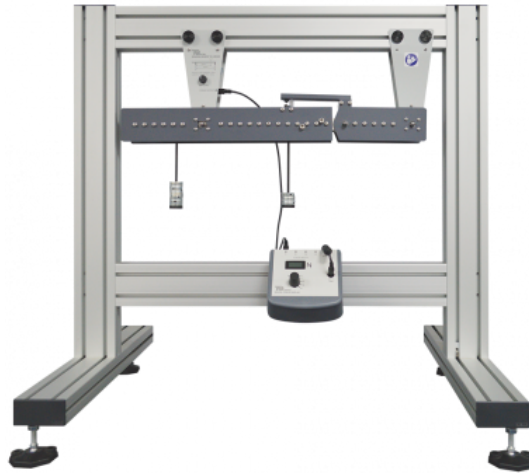
## Specifications of Safty Boots



- Color- Black
- Upper Material- PVC
- Outsole Material- PVC
- Feature- waterproof
- Boot Size: 6,7,8,10



## Specifications of Bending Moment Apparatus



1	Load cells for measure reaction force and applied force	
2	Displacement transducers for measure displacement of beam	
3	Multiple loading positions	>20
4	Multiple weight hangers	>5
5	Arrangement to measure Bending moment at a point	
6	Adjustable supporting conditions	
7	Data acquisition system and software for load cell and displacement transducer	
8	Warranty period & after sales services	Please Specify

## Specifications Of Universal Testing Machine

Specification	Requirement
Description of Instrument	1000 kN universal testing machine (vertical type)
Purpose	To be able to conduct the following tests based on ASTM, ISO or BS standards <ul style="list-style-type: none"> <li>• <u>Tensile test</u></li> <li>• <u>Compressive test</u></li> <li>• <u>Adhesion test</u></li> <li>• <u>Flexural/ bending test</u></li> <li>• <u>Shear test</u></li> </ul>
Components	Complete equipment along with suitable Hydraulic unit, operation and control unit with programmed controller, electronic extensometer for gauge length 50 mm (min) along with suitable software and computer, component mounting unit jig and fixtures.
DATA acquisition system	Suitable DATA acquisition system to be provided along with the equipment for local/remote monitoring using suitable Computer
Test speed	0.01 mm/ min to 80 mm/min
Maximum clearance for compression or tension	850 mm
Load resolution	0.01 kN
Specimen size	Maximum round specimen diameter 60 mm Maximum flat specimen size 60 mm x 100 mm
Condition of Service agreement and after service warranty	Please Specify

### Specifications of Rebar Detector & Covermeter

Measuring Range	- bar diameter between 5mm to 60 mm
	-depth maximum of 180 mm compliant with BS1881 part 204
Indicators	coupled with rebar-proximity indicators and optical and acoustical locating aids
Power supply	Cordless, 2 x 1.5 V AA (LR6) batteries
Voltage range	3.6V to 1.8 V
Battery lifetime	Backlight off >50h
	Backlight on >15h
Controls	Single handed operation, using the two function keys and the navigation
Display	Icon-based language independent menus
Display time outs	Sleep mode 30s
	Auto shutdown 120s
Dimensions	205x92x41 mm (8x3.6x1.6 in.) / weight 330g
Calibration	Calibrated for measurements on non stainless steel rebars fastened with binding wires only.
	When measuring on welded meshes the displayed values must be corrected
Storage	Please specify
Country of Origin and Country of Manufacturing	Please Specify
Brand and Model	Please Specify
Availability of after sale	Please Specify
Condition of Service agreement and fee after service warranty	Please Specify
Availability of Spare parts for minimum 5 years	Please Specify
Additional Technical Specifications	Please Specify
Warranty	All inclusive, 3 years comprehensive warranty is required. Please specify the number of free services carried out per year during the period of warranty. A suitable replacement should be provided if repairing time for any breakdown period exceeds 48 hours during warranty. Warranty certificate is preferred from both supplier and manufacturer.
Operational Environmental Condition	Temperature range from -10° C to 60° C (14° to 140° F)
	Humidity range from 0 to 100 % rH
Protection range	IP54
Standards and regulations applied	BS 1881 part 204; DIN 1045; SN 505 262; DGZfP B2

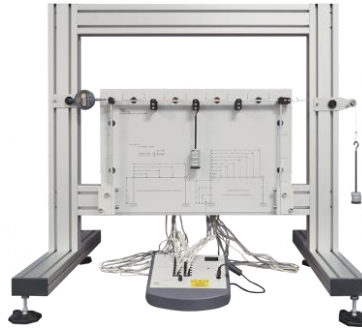
**Specifications of Digital Crack Width Gauge**

Dimensions	160 x 80 x 43mm
Net weight	1 kg
Storage	4GB large-capacity SD card, store more than 100,000 data
Interface	USB 2.0
The main probe	Specialized CMOS camera
Controller	PDA
Crack Width Test Accuracy	Standard Probe: $\leq \pm 0.02\text{mm}$
Crack Width Test Range	Standard Probe: 0.01mm~6.5mm
Power supply	Rechargeable Lithium Battery
Display	Large screen of PDA for the more accurate and clear image
Display mode	Automatic calculation, save and display
Image Storage Format	BMP or JPEG
Magnification	60 X
Hardware Platform	Embedded ARM9 Hardware Platform, WinCe5.0 Operating System, True Color TFT Touch Screen
Working Time	$\geq 28$ Hours
Working Temperature	$-10^{\circ}\text{C} \sim +50^{\circ}\text{C}$
Working Humidity	$\leq 90\% \text{RH}$
Country of Origin and Country of Manufacturing	Please Specify
Brand and Model	Please Specify
Availability of after sale	Please Specify
Condition of Service agreement and fee after service warranty	Please Specify
Availability of Spare parts for minimum 5 years	Please Specify
Additional Technical Specifications	Please Specify
Warranty	All inclusive 3 years comprehensive warranty is required. Please specify the number of free services carried out per year during the period of warranty. A suitable replacement should be provided if repairing time for any breakdown period exceeds 48 hours during warranty. Warranty certificate is preferred from both supplier and manufacturer.

**Specifications of PH Meter**

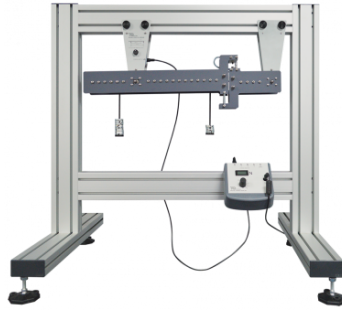
Measuring Range	pH range : 2.00 to 16.00 pH Temperature: -10 to 120 C
Accuracy	pH Accuracy : $\pm 0.1\%$ , $\pm 2$ lsd Temperature: $\pm 0.5$ °C
Resolution	pH Resolution: 0.01pH Temperature Resolution: 0.1C
ATC Probe: Thermistor	25 °C
pH Temperature Compensation	Auto/Manual 14.0 to 248 °F (-10.0.0 to 120.0 °C)
pH Buffer Recognition	(4.01, 7.00, & 10.01) or (4.00, 6.86, & 9.18)
pH Calibration Temperature	0 to 60 °C
pH Offset Recognition	$\pm 90$ mV at pH 7.00 or 6.86
pH Slope Recognition	$\pm 30\%$ at pH 4.00, 4.01, 9.18, or 10.01
Display	LCD
Calibration Back-up	Yes
Data Memory	50 data set reviewable memory
Operation Temperature Range	0 to 50 °C
Operation Relative Humidity Range	up to 95%
IP Rating	IP 67
Battery Life	~1000 hours or greater
Country of Origin and Country of Manufacturing	Please Specify
Brand and Model	Please Specify
Availability of after sale	Please Specify
Condition of Service agreement and fee after service warranty	Please Specify
Availability of Spare parts for minimum 5 years	Please Specify
Additional Technical Specifications	Please Specify
Warranty	All inclusive 3 years comprehensive warranty is required. Please specify the number of free services carried out per year during the period of warranty. A suitable replacement should be provided if repairing time for any breakdown period exceeds 48 hours during warranty. Warranty certificate is preferred from both supplier and manufacturer.

## Specifications of Portal Frame Test Apparatus



1	Load cells for measure reaction force and applied force	
2	Displacement transducers for measure displacement of frame	
3	Multiple loading positions	>20
4	Multiple weight hangers	>5
5	Arrangement to measure reactions and stress at several places	
6	Adjustable supporting conditions	
7	Data acquisition system and software for load cell and displacement transducer	
8	Warranty period & after sales services	Please Specify

## Specifications of Shear Force Apparatus



1	Electronic load cells for measure reaction force and applied force	
2	Displacement transducers for measure displacement of beam	
3	Arrangement to measure shear force	
4	Multiple weight hangers	>5
5	Multiple loading positions	>20
6	Adjustable supporting conditions	
7	Data acquisition system and software for load cell and Displacement transducer	
8	Warranty period & after sales services	Please Specify

## Specifications of Set of Sieves & Sieve Shaker



1	Measuring range	20µm to 40 mm
2	Max.batch	6 kg
3	Max.mass of sieve stack	10 kg
4	Sieving amplitude	digital 0.2=>2.2 mm
5	Sieve acceleration	1=>10 g
6	Time	digital 0.2=>2.2 mm
7	Interval operations	More than 1
8	Sieving motion	Throwing motion with angular momentum
9	Ability to conduct both dry and wet sieving	
10	Accessories for test sieves	Collecting pans
		Collecting pans with outlet
		Intermediate pans
		Intermediate rings
		Venting rings and sieve lids
11	Sieving aids	Chain rings
		agate
		rubber or steatite balls
		brushes
		polyurethane cubes
12	Test sieve rack	
13	Ultrasonic bath and dryers	
14	Control unit with software to connect pc or laptop	
15	Warranty period & after sales services	Please Specify



**Specifications of 20kg Digital Balance scale**



Accuracy:	0.1g
Weighing:	<20kg
Display Type:	LED
Location:	Desktop Scale
Material:	Stainless Steel
Measure Method:	Automatic
Warranty period & after sales services	Please Specify

## Specification of Torsion Test Machine



1	Torque (Left / Right)	500 Nm /2000 Nm
2	Height of text axis	Adjustable
3	Torque transducer anti-rotation device	electrically monitored
4	Diameter of specimens/ specimen holders (max)	200 mm / 600 mm
5	Rotational speed in revolutions	0.0005 to 10 (r.p.m)
6	Play at zero torque crossing	<5 (arc-minutes)
7	Accuracy of Torque transducer	
8	Grip to grip separation with universal flanges	1000 mm
9	Grip to grip separation with 4-jaw chuck specimen holder	
10	Data acquisition system and software for load cell and Torque transducer	
11	Ability to use strain gauges (Digital strain gauge bridge unit for automatic data acquisition and virtual experiments)	
12	Safety device	Electrically interlocked
13	Safety cover & Safety device	
14	Warranty period & after sales services	Please Specify

**Specification of Rebound Hammer**

Laboratory Equipment					
Serial No.	Required Items	Specification		Quantity	Approximate unit price (Rs)
	<b>Concrete Rebound Hammer Tester Resiliometer Schmidt Hammer ZC3-A with English Label</b>	Display	0.96 inch 128×64 (dot matrix) OLED display	1	
		Power	1600mAh, 3.7V lithium-ion battery		
		Dimensions	60mm x280mm		
		Weight	1.1kg		
		Storage	99 component and 160,000 measuring points		
		Nominal kinetic energy	2.207J ± 0.100J		
		Spring tension	785±30N/m		
		Pointer friction	0.65±0.15N		
		Strike tension spring working length	61.5±0.3mm		
		Stretch tension spring stretch length	75.0 ± 0.3mm		
		Hammer take-off position	scale 0-1		
		Hammer decoupling position	scale 100 line		
		The anvil rate	fixed at 80±2		
		Detection indication consistency	≤ ± 1		
		Sensor life	more than 300,000 times		
		Communication rate	9600bps		
		Concrete compressive strength range	10-60Mpa		
		Working Time	≥10 hours		
		Working Temperature	-4 ° C ~ +40 ° CC		
		Country of Origin and Country of Manufacturing	Please Specify		
		Brand and Model	Please Specify		
		Availability of after sale	Please Specify		
		Condition of Service agreement and fee after service warranty	Please Specify		
	Availability of Spare parts for minimum 5 years	Please Specify			
	Additional Technical Specifications	Please Specify			
	Warranty	All inclusive 3 years comprehensive warranty is required. Please specify the number of free services carried out per year during the period of warranty. A suitable replacement should be provided if repairing time for any breakdown period exceeds 48 hours during warranty. Warranty certificate is preferred from both supplier and manufacturer.			

## Specification of Air entrainment meters



- Standard :EN 12350-7, ASTM C231, AASHTO T152
- Quick action clamping system
- Not affected by changes in barometric pressure
- Not affected by changes in barometric pressure
- Capacity (l) : 7 or above
- Air content range :0-15%
- Graduations : 0.1% up to 6%
- Additional Filling rings
- Warranty period & after sales services : Please Specify

## Specification of Automatic Vicat apparatus



- Standard : EN 196-3, 13279-2, 480-2 /ASTM C191, C187
- Automatic determination of initial and final setting time
- LAN port for direct connection to PC
- USB port for data storage
- Minimum penetrations rate : 10s
- free or driven dropping mode
- manual or automatic penetration rate
- Accessory for needle cleaning and in-water testing
- Needle for final setting test for both EN and ASTM method
- Needle for initial setting test for both EN and ASTM method
- Cylindrical probe and addition weight for consistency test to ASTM
- Conical penetration probe
- cylindrical moulds for both EN and ASTM method
- Water thermostatic unit
- Centering ring for both EN and ASTM method
- Spare base plate for in-water testing kit
- Glass base plate
- Warranty period & after sales services : Please Specify

## Specification of Auto Blaine Apparatus



- Standard : ASTM C204, AASHTO T153, BS 4359, 4550, EN196
- temperature during the test
- Facility to configure and monitor various cement types
- Timing accuracy up to 200mSec
- Data Acquisition System
- Permeability cell with Plunger
- Perforated Metal Disc
- Filter Paper Discs
- Dibutylphthalate Liquid
- Punch
- Non-Perforated Metal Disc
- Syringe Fitted with Nylon Tube
- Warranty period & after sales services : Please Specify

## Specification of Heat of Hydration Calorimeter



- Standard :EN 196-8; ASTM C186
- Temperature resolution 0.001°C
- Temperature Accuracy 0.05°C
- Temperature Probe Measuring Range -40 to +300°C
- filler funnel and a high resolution electronic thermometer
- electric stirrer
- Calorimeter
- Warranty period & after sales services : Please Specify

## Specification of Vee Bee Consistometer

- Standard :BS 1881
- vibration table with container and acrylic disc
- resting upon elastic support
- swivel arm telescoped with the funnel
- Warranty period & after sales services : Please Specify





**Specification of Digital Drying shrinkage & Moisture apparatus**



- Standard : EN 1367-4, 12617-4, 12808-4; ASTM C151, C157, C227, C311, C341,
- Transducer to measure length (0.0001 mm x 30 mm)
- Warranty period & after sales services : Please Specify

## Specification of Core cutting machine



- Air-cooled, heavy-duty drive unit
- three-speed gearing and convenient controls
- Compact, sturdy and simple drill stand
- Iron Boost for cutting through steel rebar
- Warranty period & after sales services : Please Specify

## Specification of Buoyancy Balance



- Standard:EN 12390-7, BS 1881:114
- sample plate wire basket
- Electrostatic dyed
- Water Tank with adjustable height
- wire basket
- 10 kg Digital balance with 0.01g accuracy
- Warranty period & after sales services : Please Specify

## Specification of V – Funnel



- Standard :EN 12350-9
- Maximum aggregate size
- Stainless steel funnel
- discharge orifice is equipped with a lid
- Warranty period & after sales services : Please Specify

**SPECIMEN FORM OF BID SECURITY**

By this Bond we ..... (hereinafter called "the Bidder") and We (name of bank or insurance company) whose registered office is at ..... (hereinafter called "the Surety") are held and firmly bound onto ..... (hereinafter called the Authority") in the sum of ..... for the payment of which sum the Bidder and the Surety bind themselves their successors and assigns jointly and severally by those presents.

Whereas the authority has invited the Tender and other persons to compete tenders in similar terms for the supply of ..... and to submit the same for the consideration of the Authority, and the Bidder proposes to submit to the Authority a Bid (hereafter called "the Bid") in accordance with such invitation, the Bond shall provide security to the Authority that the Bidder will honour certain obligations to be undertaken by him in the Tender in accordance with the following conditions.

**Now the Conditions of this Bond are:**

- (a) That it shall remain in full force and effect until the earliest of
  - (i) (Date), being ( ) days from (submission date), the date stipulated by the Authority for the submission of tenders, or any prolongation of such date above notified to the Authority by the Bidder and the Surety in writing.
  - (ii) In the event of acceptance of the Tender by the Authority, the date upon which the Bidder provides a performance security to the Authority in accordance with the terms of the contract thereby made between them, or
- (b) Subject to this Bond being in full force and effect, the Surety shall pay the full amount specified in this Bond upon receipt of first written demand form the Authority stating that.
  - (i) The Bidder has withdrawn his Tender during the validity of this Bond, or
  - (ii) The Bidder has failed to provide a performance security to the Authority in accordance with the terms of the tender within 14 days from receipt of intimation of award of the Tender.

No alteration in the terms of the Tender, nor any forbearance of forgiveness in or in respect of neither any matter or thing concerning the Tender on the part of the Authority, nor any objection from the bidder shall in any way release the Surety from any liability under this Bond.

The benefit of this Bond shall not be assignable by the Authority and upon its ceasing to be in full force and effect the Authority shall return the same to the Bidder.

This Bond shall be governed by the laws of Sri Lanka

I executed as a deed on this ( ) day of ( ) 20 ( )

For and on behalf of the Bidder  
-----  
-----

Signed by -----

In the capacity of -----

and by -----

In the capacity of -----

Seal (where applicable)

For and on behalf of the Surety  
-----  
-----

Signed by -----

In the capacity of -----

and by -----

In the capacity of -----

Seal (where applicable)

**DELIVERY SCHEDULE**

(IT IS MANDATORY TO FILL THE FOLLOWING SCHEDULE BY THE BIDDER)

TENDER NO :

ITEM : .....

QTY : .....

DURATION	QTY
EX STOCK QTY (WITHIN 01 WEEK)	
01MONTH	
02 MONTHS	
03 MONTHS	
04 MONTHS	
<b>TOTAL</b>	

NAME OF THE BIDDER : .....

SIGNATURE OF BIDDER : .....

DATE : .....

COMPANY SEAL : .....