

Ref: CL/PP/BID-17(06-07)

Date: 02-03-2007

**Subject: SUPPLY OF MAKING & BREAKING CAPACITY AND NORMAL
OPERATION TEST APPARATUS FOR PLUGS & SOCKET OUTLETS**

Dear Sirs,

Technical & Commercial Bids are invited for the supply of **MAKING & BREAKING CAPACITY AND NORMAL OPERATION TEST APPARATUS FOR PLUGS & SOCKET OUTLETS**, in **separate SEALED** covers, which should reach the undersigned latest by 1700 h, on **23 March 2007**, at the following address.

Director & Head (Planning & Purchase)
BUREAU OF INDIAN STANDARDS
Central Laboratory
Plot No.20/9, Site-IV,
Sahibabad Industrial Area, Sahibabad,
Distt. Ghaziabad-201010 (U.P.)

- 2.The detailed specification of the above mentioned equipment(s)/item(s) are given in **Annex- I**
3. Terms and conditions of supply are given in **Annex-II**
4. The technical Bids shall be opened in the **Conference Hall**, of the Central Lab, at the address mentioned above at **1500 h on 26 March 2007** and in the presence of such tenderers or their duly authorized representatives, who may like to attend.
5. Please note that the envelopes containing Technical & Commercial Bids are sealed properly i.e. either wax sealed or with adhesive cello tape on both ends. **Unsigned Bids, Unsealed /stapled envelopes** and bids **without EMD** shall be summarily rejected. **No exemption** whatsoever for payment of EMD shall be accorded.
6. The specification and terms & conditions can also be downloaded from BIS Website – www.bis.org.in

Thanking you,

Encls.: as above

Yours faithfully,

-Sd/-

Director & Head (Planning & Purchase)

ANNEX I

-1-

**MAKING & BREAKING CAPACITY AND NORMAL OPERATION
TEST APPARATUS FOR PLUGS & SOCKET OUTLETS**

Name of Equipment: Making & Breaking Capacity and Normal Operation Test
Apparatus for Plugs & Socket Outlets.

Purpose: i) To check making & breaking capacity of plugs and single socket outlets.

ii) To check mechanical, electrical and thermal stresses of plugs and single socket outlets in normal use.

Reference: **Cl.20 & Cl. 21(Page-29 & 30), Fig-12(Page-58) and Fig-40(Page-75) of IS:1293-2005.**

Capacity: The apparatus shall be capable to test 2 sets of 3 Nos. each of plugs & socket outlets of 2.5A, 6/10A and 16A rating simultaneously.

Features of apparatus:

1. Operational Mechanism

- 1.1 Apparatus shall be strictly as per Cl 20 & Cl 21 (Page-29 & 30), Fig-12 (Page-58) and Fig-40 (Page-75) of IS: 1293-2005.
- 1.2 It shall be suitable to work at 230 Volt, 50 Hz, ac supply, single phase.
- 1.3 The equipment shall be supplied with 3 separate sets of 3 Nos. test plugs and 3 Nos. test socket outlets each suitable for testing different current rating and types of plugs and socket outlets mentioned below at Sl. No. [1.7, a) to i)] along with 1000 Nos. each of **pins for test plug** and **contacts for test sockets**.
- 1.4 The composition and dimensions of test plugs and test socket outlets shall be as specified below at Sl. No. 3 and 4.
- 1.5 It shall be motorized and with a uniform speed of 30 strokes per minute (a stroke is an insertion or a withdrawal of the plug).
- 1.6 Apparatus shall have the provision to mount the socket outlets & plugs (2.5A, 6A and 16A) as in normal use without using special tools.
- 1.7 The apparatus shall be able to accommodate following types of socket outlets & plugs:

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- a) Surface type
- b) Flush type
- c) Semi flush type
- d) Panel type
- e) Architrave type
- f) Portable type
- g) Table type

- h) Floor recessed type, and
- i) Appliance type

- 1.8 The period during which the test current is passed from engagement of the plugs until subsequent disengagement shall be 1.5+0.5 sec.
- 1.9 The length of the stroke of the test apparatus shall be between 50mm and 60mm.
- 1.10 The equipment shall have digital display of the test voltage, test current, power factor and number of strokes/operations.
- 1.11 The following digital display meters shall be provided:
 - a) Ammeter
 - b) Voltmeter
 - c) Power factor meter, and
 - d) Counter (Resettable)
- 1.12 Instruments shall be panel type with accuracy at least Class 0.5.
- 1.13 Provision to adjust the test voltage, test current, power factor and number of strokes/operations shall be provided in the equipment.
- 1.14 Audio buzzer for drawing attention shall be provided for completion of test and any short circuit during the test.

2. Resistive Inductive load

- 2.1 The load shall be suitable for:
 - j) Making & Breaking capacity test(Cl.20)
 - k) Normal operation test (Cl.21)

The load shall be balanced and distributed in 3 phases.

- 2.2 System shall be suitable for following, Voltage, Current and Power factor.

2.2.1 Voltage rating:

- a) For normal operation test- 230V, 240V and 250V.

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- b) For making & breaking capacity test- 253V, 264V and 275 V
(1.1 times of rated Voltage).

2.2.2 Current rating:

- a) For normal operation test- 2.5A, 6A, 10A and 16A.

- a) For making & breaking capacity test- 3.13A, 7.5A, 12.5A and 20A (1.25 times of rated Current).

2.2.3 Power factor:

- a) For normal operation test- 0.8 ± 0.05 .
- b) For making & breaking capacity test- 0.6 ± 0.05 .

2. 3 The load shall have selector switches to select different ratings of current and voltage for **making & breaking capacity test** and **normal operation test** .

3. Test plugs to test socket outlets

- 3.1 Test plugs shall be with brass pins and brass shall be as specified in IS: 292, type CuZn39Pb2-M
- 3.2 The micro composition of brass pins shall be homogeneous.
- 3.3 The test plugs shall have maximum specified dimension (with a tolerance of 0 – 0.06 mm and spaced at nominal distance with a tolerance of +0.05 mm) as per Annex A (Page-77 & 78) (CI 9.1 & 9.3 of IS: 1293-2005)

4. Test socket outlets to test plugs

- 4.1 Test socket outlets shall be with brass contacts shall be as specified in IS: 292, type CuZn39Pb2-M.
 - 4.2 The micro composition of brass contacts shall be homogeneous.
 - 4.3 The test socket outlets shall have maximum specified dimensions (with a tolerance of 0 – 0.06 mm and spaced at nominal distance with a tolerance of +0.05 mm) as per Annex A (Page-77 & 78) (CI 9.1 & 9.3) of IS: 1293-2005) .
- 5.** The measuring instruments shall be supplied with Calibration certificates and a test certificate shall be provided to confirm 3.1, 3.2, 4.1 and 4.2 above from any NABL approved Agency.
- 6.** The apparatus shall be warranted for minimum one year of satisfactory operation from the date of installation.

ANNEX-II

TERMS & CONDITIONS

- 1. The BUREAU gives FIRST PREFERENCE in its purchase to goods bearing ISI CERTIFICATION MARK and second preference to those which conform to the relevant Indian Standard Specifications.

2. The delivery of the stores is required to be made within 30 days of receipt of order. If, it is not possible for you to effect delivery within the period, you are required to specify the date by which you can guarantee delivery of the stores.
3. The **Technical & Commercial Bids should be sealed and sent separately in sealed envelopes**. Such Bids shall remain valid for a period of 90 days from the date of opening.
4. Quotations/Bids, qualified by indefinite expressions as "Subject to immediate acceptance, Subject to prior sale" etc. and incomplete quotations are liable to be summarily rejected.
5. The Bids should clearly give break-up of cost of each equipment. The rates quoted should separately indicate Basic Cost, Excise Duty, Sales Tax, P&F charges, Freight, Insurance, VAT etc. Rates quoted should specifically state Sales Tax, Excise Duty or any other taxes/charges. In absence of any such stipulation, it will be presumed that the prices include all such charges and no claim for the same shall be entertained. **Form C/D shall not be provided by BIS.**
6. Each tender document shall be accompanied with **EMD of 3% of cost of the equipment**. The demand draft for the EMD amount shall be drawn in favour of BUREAU OF INDIAN STANDARDS payable at Sahibabad/Ghaziabad. The sealed envelope containing EMD should be super scribed "**EMD**" and **stapled separately with the envelope containing the commercial Bids. No disclosure of EMD in Tech. Bid.**
7. BIS shall pay **90%** of the cost after satisfactory installation & commissioning and the Balance of **10% as contract performance security** would be paid after expiry of warranty period. However other terms of payment for contract performance security can also be considered, if so stated clearly.
8. The **warranty period** of the equipments **may be stated clearly** in the Technical Bids. In case the **same is not found stated**, it will be presumed that **warranty period as mentioned in their respective specifications of the tender document (if specified), is applicable**
9. Please mention clearly in the Technical Bids regarding address of **arrangements for service/repair** of the equipments are available. Suppliers having such arrangements near Delhi/Ghaziabad would be preferred.
10. All goods received would be subjected to inspection, by BIS before or after receipt or commissioning (as applicable) and the decision of BIS shall be binding. Rejected items/goods/stores shall be removed by the supplier at his own cost and risk, within 30 days of receipt of notice for the removal of such goods, and no liability, whatsoever, on the Bureau shall be attached for the rejected/disapproved goods/items/stores.
11. The Bureau reserves the right to accept or reject summarily and or all tenders in whole or part without assigning any reason whatsoever.
12. The Bureau takes no responsibility for delay, loss or non-receipt of tenders after dispatch.
13. **In case of non compliance with the Terms & Conditions of the contract, the Bureau reserves its right to:**
 - a) Cancel/rescind/revoke the order if supply is not made in time and is not conforming to the required specification.
 - b) Impose Penalty up to 1% of the total value of the order for a delay of every seven days after the schedule date subject to the ceiling of a maximum of 10% of the total value of the order.
14. All questions, disputes or difference arriving under, out of or in connection with this tender enquiry shall be subject to the exclusive jurisdiction of Delhi/ Ghaziabad Courts.