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TECHNICAL SPECIFICATION OF HAND OPERATED SHEARING MACHINE
SPECIFICATION NO. EMT-6761.

1.0 PURPOSE :

The hand operated shearing machine will be used for cutting the insulation sheets such as epoxy based glass laminates, phenolic based cotton fabric laminates and nomex sheets in straight strips.

The size of strips to be cut as follows :-

- 1.1 Thickness of nomex sheets : 0.5 mm
- 1.2 Thickness of epoxy based glass laminates, phenolic based cotton fabric laminates : 0.5 to 1.0 mm maximum.
- 1.3 Width of strips = 10 mm to 300 mm
- Cutting Accuracy in width of the cut strips should be within -0.5 mm**
- 1.4 Length of strips = 1300 mm.

2.0 SCOPE OF SUPPLY :

The scope includes the design, manufacturing, supply, assembly, commissioning and job proving of the Hand Operated Shearing Machine as per the detail in sl.no. 3.1 to 3.11 of this Technical Specification , at BHEL Haridwar works.

3.0 MACHINE SPECIFICATIONS:

- 3.1 Size of Table on Input side should be

Length = 1400 mm approx.

Width = 700 mm approx.

Height = 750 mm approx.

- 3.2 Size of Table on Output side should be

Length = 1400 mm approx.

Width = 350 mm approx.

Height = 750 mm approx.

Note:- Top level of tables at input and output side must be same.

- 3.2.1 The output table should be of detachable type. It will be used when the strip of width more than 100 mm will be cut.

- 3.3 The top surface of the input and output table should be hardened and smooth enough to slide the sheets over it during feeding towards the cutting plane.

- 3.4 There should be 2 nos. of blade in the hand operated shearing machine.

- 3.4.1 One no. blade shall be fixed with the table at the cutting edge side and second blade shall fixed on the lever of shearing machine.

- 3.4.2 The material of blade should be capable to cut the material as mentioned in sl.no.1.1 and 1.2 above.

- 3.4.3 Vendor shall submit the material specification of the blades in the offer.

- 3.5 The lever of the machine should have proper grip on one end and counter weight shall be provided on the other end so that it is lifted automatically when it is released after cutting the strips.

(M. K. H. K.)
(K.K. Mandar)

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3.5.1 The lever should be pivotted in such a way so that it does not shift axially while cutting the strips.

3.5.2 Stopper on the lever should be provided towards counter weight so that it is not overturned after releasing from hand.

3.6 A steel rectangular bar should be screwed at one side on top of the input table so that the sheet can be pushed in parallel during feeding and cutting of strips.

3.7 Spring loaded holding platten should be provided on input table to press the sheet while cutting the strips. The platten shall be operated with the help of foot pedal (Pneumatically controlled) which will be provided towards cutting edge side of the table so that one operator can cut the strip and press the foot pedal simultaneously.

3.8 The adjusting stopper should be provided so that a distance could be set on output end for cutting the similar size of the strip within 0.5 mm accuracy (Refer- Note at sl.no.1.3)

3.9 Provision for locking the position of adjustable stopper should be there. To lock the position, the movement of lead screw provided to set the cutting size of strips should be locked.

3.10 Strips collecting bin towards blade side should be provided so that after cutting, the strips of smaller width, are dropped in the collecting bin.

3.11 Technical Leaflet/ Catalogue , General Arrangement Drawing indicating the Technical Feature as mentioned in sl.no. 3.1 to 3.11, shall be submitted along with the offer, to consider the offer technically .

4.0 OPERATION AND MAINTENANCE MANUALS

4.1 3 copies of Operation and Maintenance manuals in English language shall be supplied along with machine.

Operation and Maintenance manual shall consist of following features

Complete Assembly Drawing of Hand Shearing Machine.

Drawing of Blades (sl. No. 2.3)

Material Specification of Blades.

5.0 GENERAL ARRANGEMENTS DRAWING OF HAND OPERATED SHEARING MACHINE :

General arrangement Drawing shall also be submitted for BHEL approval with in 4 weeks after placement of Purchase Order.

6.0 PREACCEPTANCE OF SHEARING MACHINE :

The hand operated shearing machine shall be inspected by BHEL representative at vendor's work for giving the clearance to dispatch to BHEL.

Following checks are to be carried out at vendor's work :

i. Proper functioning of hand operated shearing machine.

ii. Proper cutting of strips.

iii. Accuracy of cut strips (Sl. No. 1.3)

Note :- Material as mentioned at 1.1 and 1.2 for trial cutting at vendor's work shall be arranged by the vendor.

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7.0 COLOUR OF THE MACHINE :

The colour of the Hand operated Shearing Machine should be apple green , or Mutually agreed.

8.0 COMMISSIONING AND JOB PROVING :

The vendor shall commission the Hand operated Shearing Machine at BHEL Haridwar works.

8.1 During commissioning the vendor shall demonstrate the following :

- i. Proper functioning of hand operated shearing machine.
- ii. Proper cutting of strips.
- iii. Accuracy of cut strips (Sl. No. 1.3)

9.0 GUARANTEE :**9.1 The material shall be guaranteed for 12 months from the date of job proving at BHEL works.**

Any spares required during guarantee period shall have to be arranged by the vendor, free of cost (upto BHEL Haridwar stores) any duty levied have to be borne by the vendor.

10.0 PACKING :

10.1 Packing box will be rigid for all the items of the machine, all accessories and other supplied items in wooden boxes to avoid any damage / loss in transit and storage. All small and loose items like spares will be suitably packed in wooden boxes. Packing list shall be attached with each packing box.

11.0 SPARES :

One set of blade (Sl. No. 3.4) shall be supplied as spares along with the other recommended spares items.

1. One set of blade
2. 1 set of paddle switch
3. Set of Cylinder 1 no. each type.
4. Pneumatic pipe 2 met. each type.
5. Air filter unit 1 no.

12.0 REFERENCES :

Reference of Purchase Order / Name of the customer shall be furnished in the offer to whom similar Hand Operated Shearing Machine for cutting insulating materials (Ref. Sl. No. 1.2), has been supplied in last 5 years.

Signature

Signature
(R.K. Mandal)
SDGM (WEX, BH, Y, REV)

**HAND OPERATED SHEARING MACHINE
SPECIFICATION NO. EMT-6761
INDENT NO. 20113268 DT. 03 SEPT. 2011**


PREQUALIFYING REQUIREMENT (PQR)

Only those vendors (OEMs) should quote who have supplied and commissioned at least one similar machine in the past five years (on the date of opening of tender)) and referred equipment is presently working satisfactorily for more than one year after commissioning (on the date of opening tender).

The following information is to be submitted by the vendor about the companies where similar machines have been supplied. This is required for all vendors for qualification of their offer.

- a. Name of the customer/company where referred machine is installed.
- b. Complete postal address of the customer.
- c. P.O. No., date, scope of supply and month & year of commissioning.
- d. Name and designation of contact person of the customer.
- e. Phone, Fax no. and e-mail address of the contact person of the customer.
- f. Performance certificate from the customers regarding satisfactory performance of machine supplied to them (original certificate or through e-mail directly from customer).

The original performance certificate may be returned after verification by BHEL, if required.


(K.N.ARORA)
MANAGER-EMT


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