

## **TERMS OF SUPPLY**

- 1) **GENERAL:** Bamboo & Cane Development Institute (BCDI) was set up at Agartala by Development Commissioner (Handicrafts) with an objective to improve the production techniques, provide common facility services & develop proper techniques for treatment & preservation of Cane & Bamboo Handicraft items by using suitable chemical & lacquer to protect them from insects, fungus and to disseminate this techniques to the various pockets of these craft by giving practical demonstration. NCDPD has been entrusted with the responsibility of Running & Management of Bamboo & Cane Development Institute (BCDI), Agartala.

The NCDPD proposes to acquire machines for the setting up of a common facilities centre (CFC) at BCDI, Agartala. The location will be the campus of the BCDI, Agartala. The Purpose of the CFC is to provide common facility services to the artisans / craft persons, manufacturers / exporters with an objective to upgrade the level and technology and production of quality products. This tender calls for the offer, supply, installation, commissioning, warranty and services of machines.

- 2) **DESIGN AND MANUFACTURE:** Offers are invited from reputed manufacturers/ suppliers in India or International of the listed machines with proven experience in the design, manufacture and supply of similar or equivalent machines for the processing of bamboo into products. (List of machines as appended.)
- 3) **SUPPLY:** Supply includes design, manufacture, transport, unloading, installation, commissioning, successful trial productions and training of operators. Machines should be offered complete in all respects including two sets of toolings.
- 4) **WARRANTY:** Machines supplied are to be warrantied for a period of 12 months from date of commissioning. Warranty includes replacement of any parts or entire machine, if found to be substandard or with manufacturing defects or not meeting performance guarantee criteria..
- 5) **PERFORMANCE GUARANTEE :** Machine must be proved to perform at the rated capacity at the time of commissioning of the equipments. Machines must perform to the rated capacity for the entire period of the warranty.
- 6) **PRICE** – Offered prices to include:
  - a) Cost of machine.
  - b) Duties and taxes, if any, as applicable.
  - c) Transport, loading, unloading and all related costs.
  - d) Installation and commissioning charges.
  - e) Training charges.
  - f) Two set of tools to be supplied with each machine.
  - g) Any miscellaneous charges including electric cabling, etc.

**Note :** 1) the NCDPD will only provide suitable electric power outlet near the proposed location of the equipment.

2) Prices to be quoted for each individual machine giving separately the costs for each item 'a' to 'g'.

3) Alternatively a supplier of all machines may offer on total turnkey basis including supply, transport, installation, commissioning and training.

4) For imported equipments, the NCDPD will make efforts to obtain concessional or duty free import. Import duties if any will be payable by the purchaser, all other charges to be considered by the supplier to be to the suppliers account.

5) Offers without detailed machine specifications and catalogues may not be considered.

7) **PAYMENT** : Terms for payment are as detailed.

- I. 10% on release of purchase order.
- II. 60% on receipt of machines at site.
- III. 20% on successful installation and performance evaluation.
- IV. 10% on completion of the warranty period.

8) **EVALUATION** : Evaluation of the offers will be on technical and commercial basis considering all conditions and terms of the bids in compliance with points 1 to 7 detailed above. Prospective suppliers to provide reference list of existing installations along with letter of satisfactory performance & operation.

9) **RIGHTS** : The NCDPD reserves the right to:

- a) Purchase any or all the machines as listed.
- b) To accept or reject any offer based on technical/commercial evaluation.

10) **Last date for receipt of bid documents is 29<sup>TH</sup> January, 2010 (3.00 P.M.) and shall be opened on the same at 4.00 p.m., NCDPD, 43, Okhla Industrial Estate, Phase-III, New Delhi-110020 in the presence of tenderer, if any.**

**LIST OF MACHINES:**

Sl. No.	Description	Quantity
1	Round bamboo cross cutting machine	1 Nos.
2	Round bamboo splitting machine	1 Nos.
3	Two side knot removal machine	1 Nos.
4	Bamboo four side planer	1 Nos.
5	Mitre cutting machine	1 Nos.
6	Pneumatic stapling machine	1 Nos.
7	Hydraulic hot press with side pressure	1 Nos.
8	Manual turning lathe	1 Nos.
9	Pillar drill	1 Nos.
10	Bamboo blind weaving machine	1 Nos.
11	Tool grinding machine	1 Nos.
12	Bamboo stick making machine	1 Nos.
13	Bamboo slicing machine	1 Nos.
14	Chemical treatment plant	1 Nos.
15	Drying kilns	2 Nos.
16	Multi spindle moulder for flooring profiling	1 Nos.
17	Bamboo Strip 2 – sides removing machine	1 Nos.

## **SPECIFICATIONS OF PROPOSED MACHINES**

### **1. ROUND BAMBOO CROSS CUTTING MACHINE**

**USE:**

To cross cut round bamboo and split bamboo strips across the length to required fixed length.

**DESCRIPTION:**

The machine consists of a motorized circular saw mounted on a swivel arm, manually operated to cut the bamboo across the length.

**SPECIFICATIONS:**

Capacity – Suitable for cutting round bamboo up to 200mm in diameter

Motor – 3 HP

Approx machine dimension – 1.2m x 1.2m X 0.75m

Approx weight – 200Kgs

Machine to be equipped complete with saw blade, motor electrical control, starter, panel box etc.,

## 2. ROUND BAMBOO SPLITTING MACHINE

### USE:

To split round bamboo into segments of 4,8,12, and 16

### DESCRIPTION:

The machine consists of a hydraulic pusher which pushes the round bamboo through a splitting frame.

### SPECIFICATIONS

Capacity	–	Max length 2500 mm
Power	–	5.0 HP Hydraulic power pack
Splitting grills	–	Radial for 4,8,12 and 16 pieces
Splitting grills	–	Parallel for 2, 4 & 6 inch bamboo
Dimensions	–	Approx 6.3 m X 1.4 m X 1.0 m
Net weight	–	Approx 900 Kg

### **3. BAMBOO INTERNAL KNOT REMOVING MACHINE**

**USE:**

To remove internal and external knots from split bamboo lengths.

**DESCRIPTION:**

The machine uses a chisel or cutter to remove knots. The split bamboo length is fed through the machine using motorized feed rollers.

**SPECIFICATIONS**

Maximum – Width of bamboo splits – 35 mm

Maximum thickness of bamboo splits – 25 mm

Power – 3.0 Hp

Dimensions – Approx 1.0m X 1.0m X 1.2 m

Weight Approx 300 Kg

Machine to be supplied complete with motor, electrical starter and control panel.,

## **4. BAMBOO FOUR SIDE PLANER**

### **USE:**

To plane bamboo strips on all four sides in a single pass

### **DESCRIPTION:**

The machine consists of motorized cutters on bottom, top, fence side and near side mounted on a base frame. The bamboo strip is fed through the machine by motorized rollers to be planed on all four sides to a required dimension

### **SPECIFICATION:**

Maximum planning width – 35mm

Maximum planning thickness – 25mm

Power – 5.0 X 1, 3.0 X 3, 1.0 X 1

Weight – Approx 650 Kg,

Machine size Approx – 1.5 m X 1.2 m x 1.7m

## 5. MITRE CUTTING MACHINE

### USE:

For cutting bamboo sections and lengths at 45° for the manufacture of picture frames, furniture, etc.

### DESCRIPTION:

The machine has two circular saw blades mounted on a base frame at 45° angle. The saw blades are pneumatically operated to come upwards to cut the section at 45° to the length.

### SPECIFICATIONS

Saw blades – 2 X 250mm Ø

Motors – 2 X 1.5 Hp

Machine size – 1.3 m X 0.8 m X 1.1 m

Machine weight – Approx 200kg

Complete with saw blades, motors, control panel, starters, etc.,

## **6. PNEUMATIC STAPLING MACHINE**

**USE :** For stapling (under pinning) sections cut at 45° to be joined to make components of furniture, picture frames, etc.,

**DESCRIPTION:**

The machine has a pneumatically operated pusher which pushes staples into the sections to be joined.

**SPECIFICATIONS:** Suitable for insertion of staples into bamboo using a pneumatic pusher.

## 7. HYDRAULIC HOT PRESS WITH SIDE PRESSURE

### USE:

For edge laminating four side planed bamboo strips to form larger sections for flooring or furniture.

The press is also used for flat lamination of bamboo mats or sections to make boards.

### DESCRIPTION:

Hydraulic press consists of two heated platens one of which is hydraulically moved to provide top pressure. The press is also equipped with side pressure cylinders to provide side pressure for edge lamination.

### SPECIFICATIONS:

Working dimensions (Platen size) – 2.5 m X 1.3 m

Maximum top pressure – 120 tons

Maximum side pressure – 7.5 tons

No of platens – 2 Nos

Heating system – Electrically heated thermic oil in closed system

Fabricated steel platens

Maximum heating temperature - 100°C

Complete with heating system, controller for press cycle, electric panel.

## **8. MANUAL TURNING LATHE**

### **USE:**

For the manufacture of turned components from round bamboo or edge laminated bamboo sections.

### **DESCRIPTION:**

Turning lather manually operated consisting of motor driven head stock and idle tail stock with steady rest.

### **SPECIFICATION:**

Maximum turning length – 1300 mm

Maximum turning diameter – 1500 mm

Motor – 3 Hp

Machine complete with clutch, motor, starter panel box including one set of turning tools.

## **9. PILLAR DRILL**

### **USE:**

For drilling holes in bamboo or components

### **DESCRIPTION:**

Machine consists of drilling head with motorized spindle complete with drill chuck. Drill head to be moved up and down manually.

### **SPECIFICATIONS:**

Maximum shank diameter – 10 mm

Vertical stroke – 150 mm

Machine – Stand alone on base frame with table

Motor – 1.5 Hp

## **10. BAMBOO BLIND WEAVING MACHINE**

### **USE:**

For weaving bamboo blinds

### **DESCRIPTION:**

Machine suitable for weaving bamboo matt blinds upto 8 feet in width using rectangular or round bamboo sticks.

### **SPECIFICATIONS:**

Productivity: 4.17 – 6.25 Sq feet/ Min,

Horse power: ½ HP + ½ HP

Net Weight: 500 KG

Gross Weight: 580 KG

Machine Size: 128" X 53" X 38"

Packing Size: 134" X 57" X 42"

## **11. TOOL GRINDING MACHINE**

### **USE:**

For grinding cutting tool used for machining bamboo including saw blades

### **DESCRIPTION:**

The machine should be equipped with suitable grinding arrangements with grinding wheels. Should be suitable for grinding HSS and TCT tooling and saw blades.

### **SPECIFICATIONS:**

Horse power: 1/2H X 1 + 1/8HP X 1

Machine size: 35" X 31" X 57"

Net Weight: 180 Kg

Gross Weight: 330 Kg

Packing Size: 50" X 40" X 59"

## **12. BAMBOO STICKS MAKING MACHINE**

### **USE:**

For making round bamboo sticks

### **DESCRIPTION:**

Machine Consists of a motorized feed system and cutters to machine split bamboo sections into round bamboo sticks.

### **SPECIFICATIONS:**

Suitable for producing round sticks of Diameter 1.00 mm to 3.00 mm

Horse Power: 3HP + 3HP

Net Weight: 330 Kg

Gross weight: 400 Kg

Machine size: 52" X 28" X 35"

Packing Size: 58" X 35" X 48"

### **13. BAMBOO SLICING MACHINE**

**USE:**

For Slicing Split bamboo strips.

**DESCRIPTION:**

Machine suitable for slicing slivers of thickness 0.5

**SPECIFICATIONS:**

Max. Width of Strips: 35 mm

Max. Thickness of Strips:25 mm

Max. Thickness of Slices:0.5 mm

Horse power: 2.0 mm

Machine Size(L X W X H):20 X 18 X 35 Inch

Packing Size(L X W X H):27 X 24 X 45 Inch

## 14. CHEMICAL IMPREGNATION PLANT

### USE:

For chemical impregnation of split bamboo strips with preservative chemicals (CCB and boron based).

### DESCRIPTION:

Equipment consisting of pressure vessel complete with high pressure and vacuum pumps, controls for automatic vacuum pressure - vacuum cycle.

### SPECIFICATIONS:

Pressure cylinder	-	500 mm (inner dia) X 2500 mm length
Pressure	-	10 Kg (operating pressure)
Pressure	-	15 Kg (tested pressure)
Vacuum	-	400 Kg
High pressure pump	-	5 Hp
Vacuum pump	-	5 Hp
Quantity	-	1 No

## 15. DRYING KILNS

### USE:

For drying split bamboo lengths in bundles

### DESCRIPTION:

Fabricated or masonry chamber of suitable size to accommodate 100ft of split bamboo in bundles equipped with air circulating fans, hot air heating system, electrical controls, panel etc.,

### SPECIFICATIONS

Capacity	:	To dry 100 cft of bamboo bundles/charge
Heating	:	Diesel fired hot air generator or electrical heated thermic oil heating system.
Quantity	:	2 Nos

## **16. MULTI SPINDLE MOULDER FOR PROFILES**

### **USE:**

For Machining laminated bamboo sections into various profiles like floorings, picture frames etc.

### **DESCRIPTION:**

Machine consists of 6 Cutting heads at bottom, right, left, right, top, and second bottom.

### **SPECIFICATIONS:**

Working width 25 - 150 mm

Working height 15 - 50 mm

Spindle diameter 40 mm

Spindle speed 6000 rpm

Feed motor 2.2 kW / 3 HP

Feed speed, infinitely adjustable 5 - 25 m/min

Pneumatic pressure for feed rollers

Guiding groove in the machine table

## **17. BAMBOO STRIP 2-SIDES REMOVING MACHINE**

### **USE:**

For removing inside knots and outside bamboo skin.

### **DESCRIPTION:**

Through feed machine equipped with cutters on top and bottom for removing inside knot and outside skin.

### **SPECIFICATIONS:**

Max. Width of the bamboo splits: 35 mm

Max Thickness of the bamboo splits: 25 mm

Horse power: 3HP X 4, 3HP X 2

Machine Size(L X W X H):96 X 23 X 41 Inch

Packing Size(L X W X H):100 X 30 X 54 Inch

N.W: 530 Kg

G.W: 650 Kg