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## BHUTAN STANDARD

SPECIFICATIONS AND METHODS FOR MAKING DAPA (LIDDED SERVING PLATE  
OR CONTAINER)



ICS 79.020

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**BHUTAN STANDARDS BUREAU**

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# **BTS 340: 2021**

## **FOREWORD**

This Bhutan Standard for Specifications and methods for making Dapa (lidded serving plate or container) was drafted by Textile Working Group and adopted by Bhutan Standards Bureau after the draft finalized by the Textile Technical Committee TC 06 and approved by the Bhutan Standards Bureau Board (BSB Board) in June 2021.

This standard is subject to systematic review after five years to keep pace with the market trends, industrial and technological developments. Any suggestions and further information maybe directed to the concerned Technical Committee.

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## BHUTAN STANDARD FOR SPECIFICATIONS AND METHODS FOR MAKING DAPA (LIDDED SERVING PLATE OR CONTAINER)

### 1 Scope

This standard prescribes the process of wood turning and lacquering of Dapa. It covers the detailed specification of requirements, procedures and raw materials used in woodturning and lacquering of Dapa carried out by the Craftsperson.

### 2 Normative References

No normative references are cited.

## 3 Terms and Definition

For the purpose of this standard, the following definitions shall apply.

- 3.1 Boaw: Burr with less pattern
- 3.2 Dapa: Traditional lidded serving plate or bowl made of wood
- 3.3 Da-sie: Lacquer sap extracted from trees found in lower altitude
- 3.4 Humrup: Refined shaped wood
- 3.5 Kang-thrab: Manually operated foot pedal lathe which is connected to a lathe by a strong leather belt for wood turning
- 3.6 Lacquering: process of coating sey (sap) which are extracted or tapped from fruits, stem and leaves of *Rhus succedanea* locally known as SeyShing.
- 3.7 Lathe turner: motor operated lathe machine for wood turning
- 3.8 Pa-dapa: Traditional bigger sized dapa
- 3.9 Phu-sie: lacquer sap extracted from trees found in higher altitude
- 3.10 Shagzo: art of wood turning
- 3.11 Shagzop: person who practice wood turning
- 3.12 Tsang-rup: process of carving, smoothening and base coloring of seasoned shaped wood until detaching from the lathe
- 3.13 Tsi-sie: lacquer sap extracted from seeds
- 3.14 Wood turning: process of shaping and smoothening of wood with the help of machines and tools
- 3.15 Za: Burr with intricate patterns. It is considered special
- 3.16 Zapchis: products made from Za
- 3.17 Zhu-sie: lacquer sap collected from leaves



## 4 Raw Materials

| Sl/No. | Local Name   | English name             | Scientific name        | Remarks  |
|--------|--|--------------------------|------------------------|--|
| 1      | Cha-Chopa Shing(Yangtsepka)                                      | Nepal Maple,Smooth Maple | Acer laevigatum        |  |
| 2      | Chalam Shing (Dzongkha)  | Maple                    | Acer Campbellii        |  |
| 3      | Eto Meto Shing (Dzongkha)  | Rhododendron             | Rhododendron arboreum  |  |
| 4      | NginGu Lee Shing (Yangtsepka)                                    | Wild Avocado             | Perseakur-zii Botanica |  |
| 5      | Gu lee Serpo Shing (Yangtsepka)<br>Kawla (Lhotsam)               | Yellow Avocado (eatable) | Perseaglaucescens      |  |
| 6      | AagurShing (Yangtsepka/SharchoPkha))                             | Agarwood                 | Aquilariamalaccensis   |  |
| 7      | Chharshing (KKhengkha)<br>Taapshing (Dzongkha)<br>Saur (Lhotsam) | Birch                    | Betulaalnoides         |  |
| 8      | Ga ma Shing (SharchoPkha/Dzongkha)<br>Utis (Lhotsam)             | Alder                    | Alnusnepalensis        |  |
| 9      | Sog sog ma (SharchoPkha)<br>Sokum(Dzongkha)<br>Kuail(Lhotsam)    | -                        | Tremapolitoria         | Leaves are used for sanding  |
| 10     | SeyShing (Dzongkha)<br>Rani bhalaya(Lhotsam)                     | Wax tree                 | Rhus succedanea        | Substance tapped from fruits, leaves and stems are used as lacquer |

## **5 Type and Sizes**

There are two types of Dapa;

### **5.1 Dapa (Serving plate).**

Height: 4.6" - 5.0"

Dia.: 8.7" - 9.0"

### **5.2 Pa Dapa (Serving Container)**

Height: 6.5" - 9.0"

Dia. 14" - 18"

#### **Note:**

- a. The size ( height) of the Dapa is inclusive of both base and the lid.
- b. Depending on the type of wood used, there are different names for Dapa like Zapchi Dapa, Boaw Dapa, Thrashing Dapa, Dungchen Dapa, Lang Dapa and many others.

## **6 Stages of woodturning Dapa**

- i. Cutting wood into Lang and Dumchen
- ii. Dig to make inner surface of the shaped wood by Kobtsa.
- iii. Attach the shaped wood to Lathe with the help of stick Lac wax. Before attaching shaped wood to the lathe, the base of the shaped wood should be heated on the fire so that it can stick well to the lathe.
- iv. Refine the shaped wood (Hamrup) on Lathe with the help of Phow-chak.
- v. Season the shaped wood.
- vi. Carving the seasoned shaped wood with Phow-cha, Chejam-Cha, Nangjam-Cha and Zhab-cha to make final Dapa shape.
- vii. Smoothen the Dapa with sandpaper/sand leafs on the Lathe.
- viii. Base coloring (advisable yellow/orange) of Dapa with the help of cloth.
- ix. Smoothening the Dapa with coarse cloth (traditionally they used coarse woolen cloth).
- x. Detach the Dapa from the Lathe with the help of Zhab-cha.
- xi. Lacquering the finished products.
- xii. Dry the Lacquered products in closed room.

#### **Note:**

- a. The wood turning stages from VI to X is known as Tsang-rub.
- b. Chonsup means filling up defects mostly on Burs. Defects are rectified using sawdust mixed (most preferably Sokeyshing (chestnut tree) or with adhesives such as fevicol. This process takes about 24 hours depending upon materials used. Usually, the Chonsup process is done between stage VII and VIII.

## 6.1 Seasoning

The following are process of seasoning Hamrup;

### 6.1.1 For Burr

- i. Soak in water for 1-2 months to fix the shape and make the wood durable.
- ii. Boil the wood in hot water (above 95 degree) for 5 minute to remove impurities, smell and moisture content in the wood.
- iii. Dry in shade for 1 to 2 weeks.

### 6.1.2 For ordinary wood

- a. Lang (slicing the wooden block from both the sides)
  - Soak in water for 1-2 months to fix the shape and make the wood durable.
  - Boil the wood in hot water (above 95 degree) for 5 minute to remove impurities, smell and moisture content in the wood.
  - Dry in shade for 1 to 2 weeks.
- b. Dumchen (cutting the long wooden block into smaller blocks)
  - Dry the wood in shade for 1-2 months.

## 7 Stages of Lacquering

Dapas are lacquered with substance tapped from fruits, stems and leaves of *Rhus succedanea* locally known as Sey (Sap). A temperature of 35 to 37 degree Celsius must be maintained throughout the lacquering process. The Lacquering process helps to produce a shiny effect and gives a durable finish.

- i. After completing the base coloring of Dapa from the wood turning stage, Dapa has to be base coated with a mixture solution (30 % Lacquer and 70% butter/Dalda (hydrogenated vegetable oil)). The process is to make sure that the main lacquer is applied evenly on the shaped wood and at the same time to avoid marking including finger prints.
- ii. After the base coating, Dapa has to be wiped thoroughly with a cloth piece.
- iii. Lacquer is applied manually with fingers or piece of cloth on Dapa and the process is repeated 6 to 10 times. The coated Dapa has to be dried for 24 hours on each cycle and subsequently has to be wiped thoroughly before the next coating.

### Note:

- a). Dapa is designed with red and black color circle on the lid surface to add value to it.

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## 7.1 Types of Lacquer extraction process

### 7.1.1 Lacquer extraction from seeds:

- Collection of Lacquer fruits from forest.
- Fruits are tightly stuffed into a special handmade bamboo basket.
- Basket stuffed with fruits is then squashed to extract liquid like substance (Sap).
- The Sap from the fruits is collected and then stored in bamboo tubes and sealed.
- The Sap is filtered by piece of cloth before use.
- The sealed bamboo tubes should be kept at moderate temperature (35 to 37 degree Celsius) and has to be stored in water when not in use.

### 7.1.2 Lacquer extraction from leaves:

- Collect the Lacquer branches from the forest.
- Cut the leaf shoot individually and then collect the Sap from the shoot, which come in white droplet.
- The sap can be used directly after collection or can be stored in a small clean container for future use.

### 7.1.3 Lacquer extraction from stem:

- Cut the bark of the Lacquer tree.
- The sap can be used directly after collection or can be stored in a small clean container for future use.

#### **Note:**

The Lacquer saps are stored in green bamboo tube and then dipped in water to retain moisture. This way the saps are used for a longer time period.

## 7.2 Requirements of lacquering room

- The room should be airtight.
- The room should be dust free and clean
- The temperature of room should be 35 to 37 degree celsius.

## 8 Tools and equipment

### 8.1 Shagzo Tools

8.1.1 Patang(དཔང་རྒྱུ་མཁའ་ལྷ་མོ།): Knife used at initial stage for shaping the wood.

8.1.2 Kobtsa(ཀོབ་ཙ།): Used for digging the inner surface of the shaped wood

8.1.3 Teu(ཏེུ།): Used for detaching the shaped wood from the lathe machine

8.1.4 Sorcha(སོར་ཅ།): A set of carving tools used for wood turning on the lathe. It consists of four different kinds of chisel known as Phow-cha, Chejam-Cha, Nangjam-Cha and Zhab-cha



Fig1: Zhab Cha



**Fig. 2: Phow Cha**



**Fig.3: Chejam Cha**





**Fig.4: Nangjam Cha**

## 8.2 Equipment

8.2.1 Kang-thrab is a foot pedal connected to a lathe by a strong belt (either leather or silk).

8.2.2 Motor power lathe turner is a motor operated lathe machine.

**Note:** The tools of Shagzo have to be made by shagzop themselves because firstly these tools are not available in the market and at same time the readily available will not be suitable for individual used. It has to be customized to suit one's skills and comfort.

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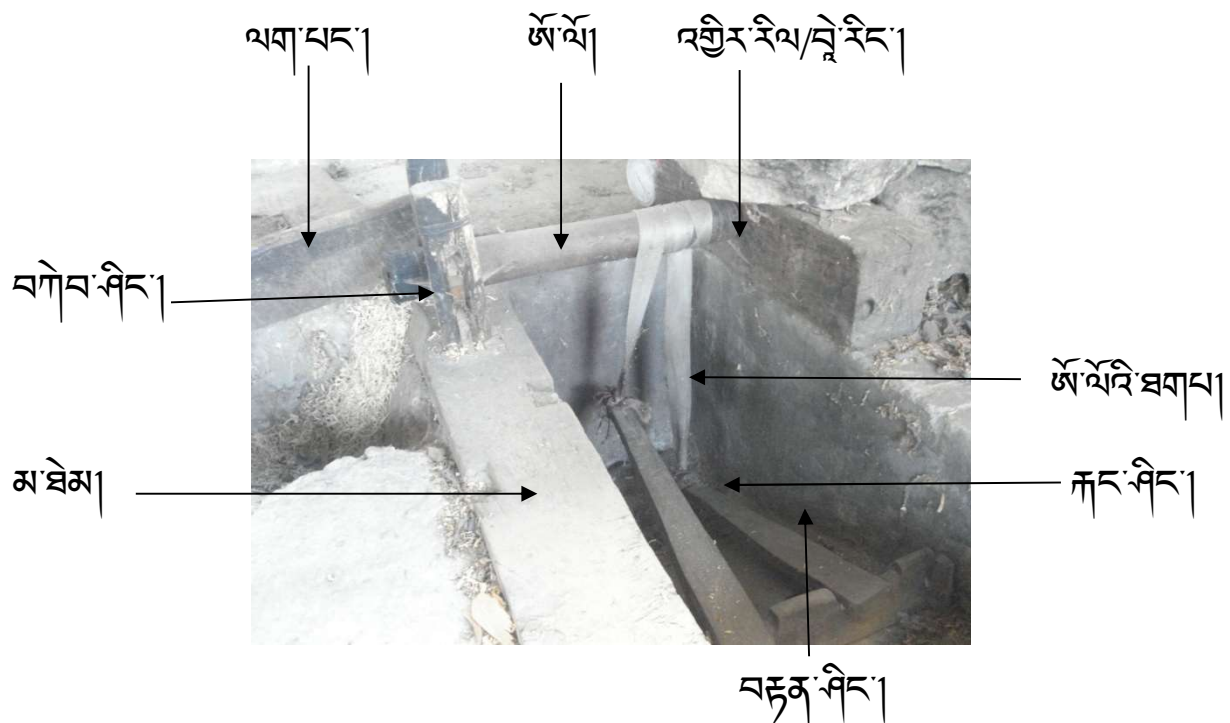


Fig.5: Kang-thrab



Fig 6: Motor power lathe turner



## 9 Test

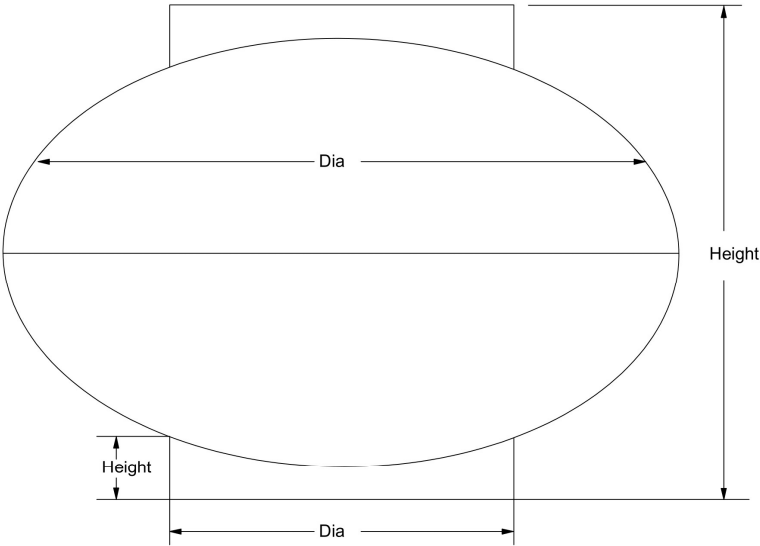
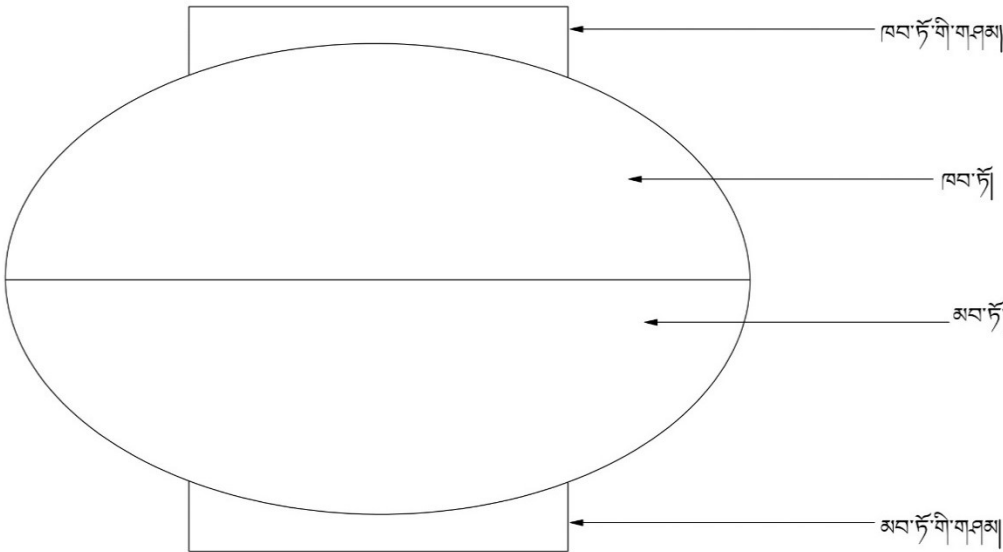
### 9.1 Physical test

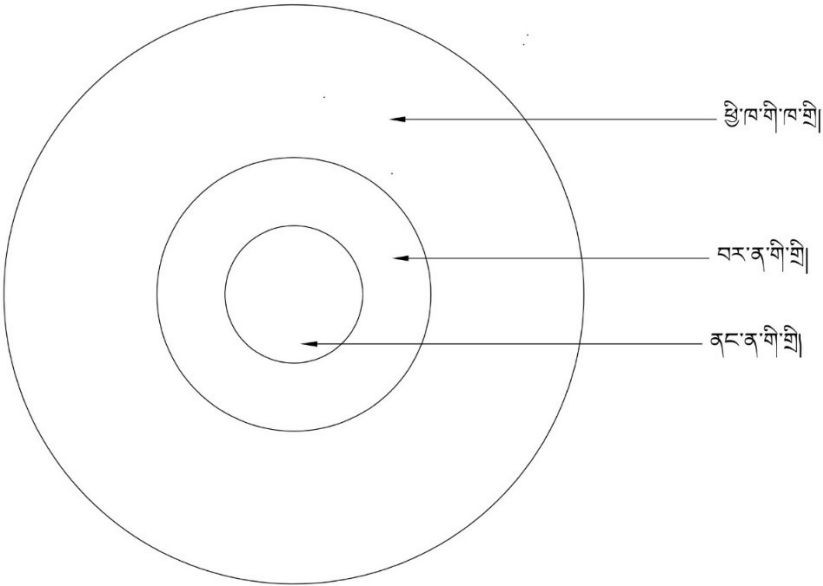
- 9.1.1 Seasoning
- 9.1.2 Fitting of lid to the base
- 9.1.3 Appropriate thickness
- 9.1.4 Proportionality of both the base size of dapa
- 9.1.5 Examination of cracks
- 9.1.6 Size of both lid and base (maptoth gishyam and khaptoth gishyam) of dapa should be same

## 10 Patterns

- 10.1 Phothra: refers to broader patterns
- 10.2 Mothra : refers to narrow and refined patterns
- 10.3 Woogthra: refers to patterns like an owl's feather
- 10.4 Nyukthra: refers to patterns like bamboo leaves
- 10.5 Tasochen: refers to patterns like horse's teeth
- 10.6 Merichen : refers to patterns like burning fire
- 10.7 Pemachen : refers to patterns like lotus petals
- 10.8 Norbuchen: refers to patterns like triple gem
- 10.9 Gochen: refers to patterns like door

11 Diagram





**(Informative)**

**Woodturning and lacquering**

- 1) Collection of the raw material (wood) is seasonal. Traditionally, the best collection seasons are from the month of December to February. It is said that if the collection of materials are initiated on the said time then the seasoning process will be faster and insects' damage on the wood will be lesser.
- 2) Collection of the raw material (lacquer) is also seasonal. The lacquers are collected from forest in the month of June and July. The lacquering process has to be carried out from the month of June to September (four months) in a closed room.
- 3) The products made from special burr 'Za' are considered auspicious and it is believed that if you possess one of Zapchis you will have a good fortune and all obstacles will be ward off.

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