

Design Resource

Metal Crafts - Balakati, Orissa

Metal Craft Making

by

Prof. Bibhudutta Baral, Divyadarshan C. S. and

Amulya S.

NID Campus, Bengaluru

Source:

<http://www.dsource.in/resource/metal-crafts-balakati-orissa>

1. Introduction
2. Tools and Raw Materials
3. Making Process
4. Products
5. Video
6. Contact Details



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Introduction

Metal craft has flourished all over India in different states in their own means of forms and perfections. Metal can be acquired to any form, be it a plate, tumbler, bowl or anything. Metals are transferable from a thin wire to a huge metal sheet, vice versa. Metals are malleable and ductile in nature thus flexibility of usage. Metals are ubiquitous in nature. They are good conductors of electricity. Metals are dug deep from the earth's crust in form of minerals and compounds. Many things have been invented and brought after discovering the metals on earth. Metals have generated enormous employees to work upon them accordingly. Metals play an important role in our lives by being an armature to the building to helping us while eating food without dirtying our hands like a spoon. Likewise it has replaced too many things like earthen pot to metal utensils.

In Orissa the metal crafts have been introduced at the time of Ganga Dynasty that is at 11th century till date it has been flourished and successful with lots of developments. Balakati village is situated in Puri district of Orissa that is one among the best traditional manufactures of brass, bell metal utensils and temples articles. It is said that this craft is originated and grew from 1400 AD. Brass and bell metal are purely traditional metals used in making the utensils. Once you enter this village you get to hear metals thumping with craftsmen shrieking while hammering with excitement.

These metals are nonferrous in nature with desirable properties which makes this metal more anticipated. Non-ferrous metals are lighter in weight, they are good conductors of electricity and non-magnetic property. These are used in auspicious occasions in most of the households in India. Most of the artisans belong to a traditional community, which inhabits the practices and customs of brass and bell metal work called Kansari. They work in a workshop called Sala or shed that happens to be just beside their resident.

Mr. Sridhar Sahu is one of the Bell metal and Brass artisans who resides in Balakati, Puri district, Orissa. He inhabits this craft from his father and started to make this craft from the age of ten. He owns a studio space where he employs ten other skilled members in production of beautiful bell metal utensils. His sons also inherit the skills and talent in making this craft. Mr. Sridhar Sahu's wife also takes an active part in making this craft. The products they manufacture go to the market from a dealer. Our sincere gratitude towards this gentleman who co-operated while videography and photography documentation.

1. Introduction

2. Tools and Raw Materials

3. Making Process

4. Products

5. Video

6. Contact Details

Design Resource

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Family members of brass metal craft making.



Studio place where the brass metal works are done.



Semi-finished brass metal bowls.



Craftsmen collaboratively working towards the brass metal craft.

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2. Tools and Raw Materials

3. Making Process

4. Products

5. Video

6. Contact Details

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Artisans involved in filing and refining the metal.



Senior artisan involved in metal craft.



Beautifully engraved brass metal plate.



Artisan involved in engraving floral design on the brass metal plate.

1. Introduction

2. Tools and Raw Materials

3. Making Process

4. Products

5. Video

6. Contact Details

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Tools and Raw Materials

Following are the tools and raw materials used for the process of metal craft:

- **Hatudi:** Hammers are used in beating the metal.
- **Sandasi:** Pincers are used in picking and holding the hot metal pieces.
- **Ruha:** File is used in smoothen the edges of the metal utensils.
- **Lihini:** Craper is used in scraping the metal utensil to even and level the surface.
- **Kunda:** Lathe is a rotatory machine equipped with a motor to generate constant motion for finishing a metal utensil.
- **Badia Patkar/ - Akarmasila:** Stone Platform is used for as a study surface for the easy process.
- **Kala Pankha:** Hand Crank Blower is used to blow air to the furnace which helps the coal get ignited and keeps the fire on.
- **Koi:** Crucibles made out of clay graphite which is used like a container while melting the metal with high temperatures.
- **Dasta:** Zinc is one of the alloy used in making brass metal.
- **Tamba:** Copper is one of the alloy used in making brass metal.
- **Brass Wire Sponge:** It is used for buffing the surface of the scraped metal utensil.
- **Nihai:** Anvil Stake is a strong stick used like a stand for denting of the metal.
- **Rala/Alakatara:** Tar is used like an adhesive to stick the metal utensil to a lathe.

1. Introduction

2. **Tools and Raw Materials**

3. Making Process

4. Products

5. Video

6. Contact Details

Design Resource

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Different types of files and scrapers to make the metal in shape and smooth.



Hand crank blower is used to heat the coal.



Lathe machine is to rotate the brass metal during the refine process.

1. Introduction
2. **Tools and Raw Materials**
3. Making Process
4. Products
5. Video
6. Contact Details

Design Resource

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1. Introduction
2. **Tools and Raw Materials**
3. Making Process
4. Products
5. Video
6. Contact Details



Tar is used to stick the metal objects on machines.



Two important parts of metal melting crucible and furnace.



Hammer is used to bring the metal in necessary shape.

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<http://www.dsource.in/resource/metal-crafts-balakati-orissa/tools-and-raw-materials>

1. Introduction
2. **Tools and Raw Materials**
3. Making Process
4. Products
5. Video
6. Contact Details



Copper and zinc is melted together to make brass metal ingot.



Hammer and Different types of chisels to engrave designs on the metal object.



Mould made of earthen pot to cast ingots of brass metal.

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Making Process

Traditional Artisans and Craftsmen from Balakati, Puri district, Orissa brings an enormous energy and skills in production of the Brass Metal utensils and articles. Ten members work in a studio, were the craftsmen bifurcate themselves in different processes. There are two major different production ways of metal craft one is Dhokra casting and other one is Pita (locally known). Craftsmen of Balakati follow Pita work habitually.

There are two types of alloys which make brass and bell metal, those are copper plus zinc and copper plus tin. Any one of these two are mixed in proportion in a crucible in furnace which is locally called Bhati. If copper is of one kilograms, zinc is quarterly measured to it that is two fifty to three hundred grams required in making brass metal. The molten metals are put to the small earthen moulds and the metal is acquired into small circular metal casted ingots. The circular cast ingot is pre heated on the open furnace to make the metal soft, malleable and it is hammered repeatedly with big hammers in rhythm by three to four people to get into its desired shape on a stone platform with one person rotating the ingot piece to acquire the even dents. The metal ingot is annealed or heat forged in regular intervals between hammering with the purpose of keeping the metal soft enough for further process. The new metal ingots are placed in between the half hammered ingot in order to produce more bowls within less time and energy. There can be four to five metal ingots placed one upon one in this process. Once the outer ingot turned bowl is expanded appropriately it is removed with the help of foundry tong or pincers and hammer. The base of the bowl is painted with coal mixed with water because coal observes and endures the heat and helps while shaping the bowl. When the metal ingot turned bowl as acquired the desired shape it is furtherly processed through many finishing process like shaping, scraping, buffing and finishing is made on lathe.

Shaping in the sense raising the bowl out of flat metal or half raised metal by beating it into depression and maintaining the thickness of the metal equally everywhere with hammer, on the strong metal dome anvil stakes. After shaping the bowl it is processed to scraping were the bowl is scraped from inside to even and level the surface and the rim of the bowl is filed for the smooth finishing. Subsequently the scraped bowls are given to the master craftsman to attest the bowl and uniformly give finishing on the lathe. The bowl is heated at the base by the ignited coal on the crucible and later the hot melted tar is applied like an adhesive to stick on the faceplate on the lathe. After sticking the bowl on lathe the electrical rotatory motor is on were the bowl starts rotating. Brass wire sponge is held in hand and rubbed inside the rotating bowl were the scraped markings are removed. Later scraping knife lathe tool is held in refining and finishing of the bowl by removing the unwanted layers. Sometimes the bowls and other brass articles made are etched and engraved in various designs including floral, ethnical, symmetrical patterns in order to enhance the product more in various chisels.

1. Introduction
2. Tools and Raw Materials
3. Making Process
4. Products
5. Video
6. Contact Details

Design Resource

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1. Introduction
2. Tools and Raw Materials
3. **Making Process**
4. Products
5. Video
6. Contact Details



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<http://www.dsource.in/resource/metal-crafts-balakati-orissa/making-process>

1. Introduction
2. Tools and Raw Materials
3. **Making Process**
4. Products
5. Video
6. Contact Details



Copper and zinc is melted together to attain ingot of brass metal.

The ingot is heated in fire.

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Source:

<http://www.dsource.in/resource/metal-crafts-balakati-orissa/making-process>

1. Introduction
2. Tools and Raw Materials
3. **Making Process**
4. Products
5. Video
6. Contact Details



Heated ingot is placed on the required shape of the mould.



The ingot is hammered to attain the required shape.



The brass metals are separated using hammer.

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Source:

<http://www.dsource.in/resource/metal-crafts-balakati-orissa/making-process>

1. Introduction
2. Tools and Raw Materials
3. **Making Process**
4. Products
5. Video
6. Contact Details



Coal is applied on the brass metal to observe heat.



The brass metal is hammered to attain proper shape.



The brass metal is smoothen on the edges using the file.

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Source:

<http://www.dsource.in/resource/metal-crafts-balakati-orissa/making-process>

1. Introduction
2. Tools and Raw Materials
3. **Making Process**
4. Products
5. Video
6. Contact Details



The brass metal is heated to apply tar on it.



Tar is applied on the bottom of brass metal to stick on the machine.



The brass metal is fixed to the lathe machine for refining.



The brass metal is buffered using brass wire sponge.

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Source:

<http://www.dsource.in/resource/metal-crafts-balakati-orissa/making-process>

1. Introduction
2. Tools and Raw Materials
3. **Making Process**
4. Products
5. Video
6. Contact Details



The brass metal object is scraped and filed to make surface refine and shine.



Brass metals are engraved with beautiful designs on it.

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Products

Thali - plate, Thalia – saucer of quarter plate, Lota – water pot Kansa, Tatia – cup, Gina – small cup, Parasa, Bell and Kubuji are some of the utensils and articles made in Balakati. Cymbals – Jhanja, Gini, Ghanta, Ghanti, Chakra, Trisula are some of the temple accessories made with brass and bell metal.



Plate with marvelously engraved design on it.

1. Introduction
2. Tools and Raw Materials
3. Making Process
4. **Products**
5. Video
6. Contact Details

Design Resource

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<http://www.dsource.in/resource/metal-crafts-balakati-orissa/products>



Beautifully finished brass metal bowl.

1. Introduction
2. Tools and Raw Materials
3. Making Process
4. **Products**
5. Video
6. Contact Details

Design Resource

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1. Introduction
2. Tools and Raw Materials
3. Making Process
4. Products
5. **Video**
6. Contact Details

Video



Metal Crafts - Balakati, Orissa

Design Resource

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You can get in touch with

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You could write to the following address regarding suggestions and clarifications:

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1. Introduction
2. Tools and Raw Materials
3. Making Process
4. Products
5. Video
6. **Contact Details**