

MAKERS MANUAL #20

Valdís Steinarsdóttir



INTRODUCTION

Just Bones is a project to develop a natural composite material by utilizing the different material qualities of bones. The project reflects on society's meat consumption and the question of waste surrounding it. Today, a large proportion of animal carcasses are disposed of after slaughtering, including valuable materials like bones which are considered as waste material. The project is an example of how various opportunities are hidden in our immediate environment. By exploring familiar materials through a new lens, new opportunities for utilization can be found. For this manual we are going to use the leftover chicken bones from a chicken broth.

BONE POWDER

STEP 1

To make the bone powder use half of the chicken bones left over from your chicken broth.



STEP 2

You will first need to clean the chicken bones by soaking them in a pot for 3 hours on a high heat. Make sure that when you take them out of the pot that they are completely clean.



STEP 3

Let the bones dry for a day or two. Place the bones in the oven at 450 degrees for about 30 minutes. Periodically check if the bones are easy enough to break, using an oven glove to take the bones out to check how easy they are to break.



Alternatively you can prepare the bones by making a fire and placing them at the centre, leaving them for a 2-3 hours. This method will lead to a bone ash material at the end which will be black in colour.

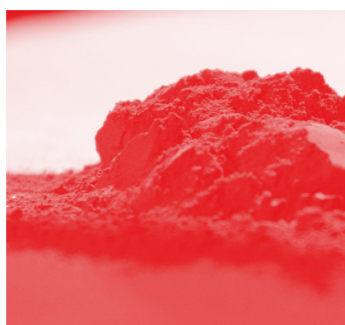
STEP 4

Let the bones cool once you have taken them out of the oven or removed them from the fire. Break off the larger ends of the bones as they will be harder to grind.



STEP 5

You can now either use a pestle and mortar or a blender to grind the bones down into a powder. You now have your bone powder.



LIST OF THINGS

- Chicken Bones
- Oven
- Pestle and Mortar
- Pot
- Water
- Calamansi Extract (a sour fruit extract)

BIO OF THE DESIGNERS

Valdís Steinarsdóttir is an Independent Icelandic designer specializing in product design. As a product designer she mainly focuses on material experiments with recycled organic matter. Through her projects, she hopes to bring societal change and create a platform for discussion and debate about how we live.

FURTHER READING

- Hello World: Where Design Meets Life by Alice Rawsthorn
- The Craftsman by Richard Sennett
- PIG 05049 by Christien Meindertsma
- Why Materials Matter by Seetal Solanki
- Radical Matter by Kate Franklin and Caroline Till



Makers Manual is a collaborative project between exciting makers and STORE STORE. Participation is free and no design background is necessary. You can share your creations using #makersmanual. We will pick our favourite submissions and publish the results in a limited printed edition of all of the manuals. Everyone who makes it into the book will receive a free copy.

This project is supported by Coal Drops Yard.

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BONE BINDER

STEP 6

Put the remaining half of your chicken bones in a small pot of Calamansi Extract for 24 hours.

STEP 7

Put water in a pot and bring the water to boil.

STEP 8

Put the bones that were soaked in the Calamansi extract into the boiling water

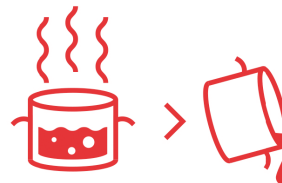


STEP 9

Boil until a thick substance appears

STEP 10

Now separate the bones from the solution, this is your bone binder



MIXING

STEP 11

Mix the bone ash and bone binder together, you now have your mixture ready to pour into your mould

MOULD

STEP 12

Silicone molds are the best types of moulds to use for casting of this nature. It is quite an involved process to do yourself but you can find silicone molds used for making cakes that could be reappropriated for this manual.

Alternatively you can build your mold out of card (make sure to prepare the surface so that it releases from the object cleanly, you can do this by covering the surface with packing tape or duct tape). Perspex is also a great material to build moulds as it will release from the object easily.

With a material as viscous as this you can also use it by pressing it against a surface and taking impressions to form a shape. The objects below are a great example of this.

Think about what function you want your object to have; candle stick holder, bowl, vase and then explore the different types of moulds that you can make and what the material best suits.

Once you have filled your mold make sure to leave the mixture to set for 2-3 days before taking it out.



