

WOOL + ALGINATE

Tools

Containers or mixing bowls
Digital balance
Spatula
Mixer
Paper towels
Spray bottle
Embroidery hoops and texture dense fabric
Dehydrator (optional)
Grinder (fine powders)
Camera/smartphone for documentation
Printer, papers and markers for sample tracking

Material

12 g Alginate
20 g Glycerin
400 ml
10 g seed oil
Calcium Chloride solution (10 g calcium chloride per 100 ml water)
Note: double/triple the dose based on the number of participants.
Food-waste powder ingredients (e.g. orange peels, banana peels, coffee grounds)
Wool fibres (washed and carded, optional test with unwashed wool)

Prepare the sodium alginate mix

- Add the sodium alginate to the water.
- Blend the mix until it becomes homogeneous.

- Add the glycerine and blend again.

Prepare the calcium chloride mix

- Mix 100ml of water with 10 grams of calcium chloride.
- Stir until completely dissolved.
- Place the mix in the sprayer bottle and shake the bottle before use.

Prepare and spray the mold

- Take the waterproof texture dense fabric, place and fix it in the embroidery hoop.
- Spray the textile mold with calcium chloride.
- Remove excess with a paper towel.

Pour and spray the mix

- Pour the mix onto the textile mold.
- Tap the mold so the mix distributes evenly over the surface.
- Spray the surface of the mix with calcium chloride.
- Remove excess with a paper towel.

Dry

- Let dry over a radiator or in a food dehydrator (40°C for 24 hrs)

Remove from the mold

- Take out of the frame: pull slowly from the border of the bioplastic until completely detached.



WOOL + RESIN (PLASTICRETE)

<p>Tools</p> <p>Spatula Balance Small container Silicone molds</p>	<p>Material</p> <p>100 g of plasticrete part A 50 g of plasticrete part B 3 g of carded wool previously frayed Cool Slip Anti-Stick Solution</p>
<ul style="list-style-type: none"> - Mix part A and part B in a small recipient - Add some grams of wool - Spray a cool slip in your molds - Quickly pour the mixture into molds (you have 10 minutes before it hardens) - Let dry completely before removing from the mold. 	

WOOL PAPER 1

Tools Spatula Balance Bowl Frame mold with fine mesh Sponge Blender	Material 10 g wool fibers (test both washed and unwashed) 2l water 10g of CMC 3% (optional) 50g recycled paper pulp (in my case, 12 egg carton)
<ul style="list-style-type: none">- Prepare paper pulp: blend the paper fiber with water until a uniform fibrous pulp is obtained.- Prepare the vat: fill a large container with water and add the paper pulp, mixing gently.- Add wool and binder: add the wool fibers and the CMC, stirring slowly to ensure even distribution.- Form the sheet: immerse the frame mould into the mixture and lift it slowly, allowing excess water to drain while the fibers settle on the mesh.- Couching and pressing: transfer the wet sheet onto a cotton cloth and gently press with a sponge to remove excess water.- Drying: let the sheet dry flat on a cotton surface. Avoid direct heat and sudden temperature changes.- Finishing: once completely dry, carefully peel off the sheet and flatten if needed.	

WOOL PAPER 2

Tools Scales Mixing Bowl Pots Spatula Flat molds	Material 40g rice starch Variant: corn starch 5g cellulose powder (MCC) 10g glycerine 300ml water 10-15g of white carded wool finely chopped.
<ul style="list-style-type: none">- Bring the water close to a boil.- Add the starch and MCC, stirring continuously until a smooth, sticky paste forms.- Add the wool slowly, a little at a time, folding it in with a spatula. Spraying the wool with water beforehand makes this easier. Remove from heat.- Pour into flat molds and spread evenly with a silicone spatula. The material will lose volume as it dries.- Dry for two days at room temperature, or use a dehydrator at 30 °C for 6 hours.- Optional: once dry, heat press for 20 seconds at 180 °C for a smoother, denser surface. Notes: Adding wool too quickly causes clumping. The wool should be fully integrated before more is added. Thinner casts produce more translucent results. Thicker casts give a more opaque, board-like material. Using corn starch in a thicker mould gives a harder, more plastic feel. The heat press makes the material drier and stiffer	

WOOL + MYCELIUM

<p>Tools</p> <p>Pressure cooker Gloves FFP2 mask Flour and ethanol (alcohol) Film Molds Scissors/support tools</p>	<p>Material</p> <p>1 mix already prepared (wood and chips, example) flour (each mix has specific instructions) wool (washed, unwashed)</p>
<ul style="list-style-type: none"> - Sterilize your tools, hands, growth form and surfaces - Open the bag (sterilize the cutting tools and exterior of the bag) - Add 30g of flour for each KG of GIY substrate - Mix everything very finely with your hands - Add wool (there is no a specific ratio to follow) - Fill the growth form with the mixture - Cover it with foil/plastic wrap (pinch tiny holes every 3 cm) and spray water - Let it grow for approx. 4-5 days at 22°C-26°C - Flip the growth form and tap until the product "pops" out - Let it grow 2 more days outside of the growth form in a closed environment at 22°C - 26°C to get a white skin - Dry: Bake off at 70°C for 2 to 3 hours 	

WOOL BIOCLAY

Tools Scales Mixing Bowl Pots Spatula Flat molds Rolling Pin Cutter	Material 125g sodium bicarbonate 62g corn starch (also works with other starches) 88ml water 5ml glycerine for flexibility. 10 g wool (short fiber)
<ul style="list-style-type: none">- Combine the water and glycerine in a pot and bring close to a boil.- Add the sodium bicarbonate and corn starch. Stir continuously until a dense paste forms. Remove from heat.- Add the wool slowly, spraying it with water first. Fold in with a spatula.- Return to medium heat briefly, stirring until the paste reaches a uniform, sticky consistency. Do not boil.- Remove from heat. Once cool enough to handle, mould by hand, roll flat with a rolling pin, or press into moulds.- Allow to air-dry for two days. Notes: The paste stiffens quickly as it cools. Work with it while it is still warm. Once fully dry, this material can be laser cut. Shorter wool fibres integrate more evenly than longer fibres.	

WOOL ALGINATE BIOYARN

<p>Tools</p> <p>Scales Mixing Bowl Pots Spatula Flat molds Syringe</p>	<p>Material</p> <p>12g alginate 20g glycerine 400ml water 25g finely chopped wool (20g recommended for syringe extrusion)</p>
<ul style="list-style-type: none"> - Dissolve the alginate in the water. Blend well until fully homogeneous. - Add the glycerine and blend again. - Add the wool slowly, folding it in with a spatula. Spraying the wool with water first helps avoid clumping. - Transfer the mixture into a syringe using a spatula. Press firmly to remove air bubbles. - Prepare a bowl of calcium chloride solution. - Extrude the mixture slowly into the calcium chloride bath. The alginate will crosslink on contact, forming a continuous fibre. - Remove the formed yarn and dry for two days at room temperature. <p>Notes:</p> <p>Using 20 g of wool rather than 25 g gives a smoother, more consistent extrusion through the syringe.</p> <p>Extruding onto a flat sheet or into a bowl or box creates different forms</p>	

WOOL AGAR FIBERPLATE

Tools Scales Mixing Bowl Pots Spatula Flat molds Molds	Material 6g agar 300ml water 10g MMC 8g guar gum 30g wool
<ul style="list-style-type: none">- Measure all dry ingredients except the wool into a pot.- Add the water and stir to combine. Use a hand mixer or blender to break up any lumps.- Add the wool and fold in with a spatula. Spraying the wool with water first helps with integration.- Heat on medium, stirring continuously, until the mixture reaches a thick, sticky consistency. Do not boil.- Remove from heat and pour into molds.- Press firmly to reduce air bubbles.- Dry in a dehydrator as soon as possible to prevent mold growth. <p>Notes: Use a dehydrator rather than air drying. The high moisture content makes mould growth a real risk. A higher wool content gives a more fibrous surface with less shrinkage.</p>	