Lumin's Workshop Foam Clay

User Guide

Who is Lumin's Workshop?
Lumin's workshop is an Australian based cosplay supply company founded in 2016. It began as an online store after they had trouble obtaining supplies for their own projects. Not only have they brought commonly used cosplay crafting supplies to the Australian community, but they set to work discovering and developing high quality crafting products to help take the stress out of crafting. Their Foam Clay took the cosplay world by storm when Kamui Cosplay used it to make hundreds of spikes for her Monster Hunter project, becoming the first air-dry clay of it's kind suitable for the needs of prop-makers and foam smiths around the world.

Lumin's Workshop has also developed EVA foam bevels and dowels and pre-cut scales, in addition to their own thermoplastic brand, Lumiflex.

Safety Rating
Lumin's Workshop Foam Clay is rated safe for ages 3+ by the European Standards EN71-1:2014 - Safety of Toys Part 1: Mechanical and Physical properties, EN71-1:2014 - Safety of Toys Part 2: Flammability and EN71-1:2014 - Safety of Toys Part 3: Migration of certain elements. It is considered Non-Toxic. DO NOT CONSUME.

Drying Time
At a quarter of an inch thickness, it takes approximately 48 hours (two days) to dry. After this point the surface is strong enough for painting and or priming. If your piece is thicker, we recommend waiting up to a week before performing any deep cuts, or sanding. Eventually, your piece will become dried on the inside and feel very dense. If you dry the piece unevenly, it will be much more prone to cracking. Rotate your pieces every 20 minutes or so, or mount them on skewers for drying.

Speeding up Drying Time
This is an air-dry clay. You can seal your piece in a container containing desiccants (drying agents) such as corn starch, or silica gel packets to slightly speed up drying time, or under a non-heated fan. Although this helps speed up drying time slightly, the evaporation process is at work, and you'll be better off spending your time working on different aspects of your project while you wait for your piece to dry. Putting your piece under a heat source is not recommended as it can dry the surface too quickly for the inside layers to keep up, resulting in uneven surfaces. Do NOT dry your items in the oven, under sunlight, or with a hair dryer!! The result will be a dried skin, and then the inside will bubble and puff up. Keep this in mind when you're planning out your build schedule! Sculpting on top of a base will not only help with it's over all strength, but will also cut down on the overall thickness of your piece, shortening the dry time.

Working Time

You have approximately 25 minute to half an hour of working time before the surface of the clay begins to dry out and ‘skin over’. This will make it more difficult to blend any seams or smooth the clay over. If you need to rehydrate your clay piece, adding a little bit of water to your fingers and working it into the clay will extend its softness. However, watch how much you add! It could make the clay overly sticky, or extend the drying time. Once the skin has formed over the clay, you can continue to manipulate the clay inside and achieve sharper corners and edges by pinching the outside.

Pro-Tip!: We have observed the clay has a tendency to even out small creases and surface irregularities as it dries! Take a look at this comparison photo of a sculpted mask. The before photo was taken within an hour of it being completed, and the after photo was after a day of drying. You can see especially in the nose area, how the clay has evened out. Even the little pump on the nose bridge is now nice and smooth.
For more on smoothing the surface, refer to our **Sanding** section.

Special Tools
No special tools are required!
Here are some tools that you can use:

- Plastic or wooden sculpting tools, Popsicle sticks
- Wooden Skewers (hold your sculpt on the end of the stick to keep your fingers from accidentally malforming it)
- Exacto knife (for tiny work or cutting clay away)
- Plastic wrap or silicone pad surface to work on (So you can move your project safety as it dries)
- 220 grit sandpaper
- A sealer (plastidip, flexbond etc.)
- Dremel
- Silicone sculpting tools

Priming and Sealing
You can use a variety of mediums to seal your piece. We highly recommend priming your piece with **PlastiDip**, **or equivalent rubberized spray.** For those without access to the equipment or space to use these substances

safely, we recommend **Flexbond** as an alternative. Heat sealing is not required, as there are no open pores to seal shut like in EVA foam.

We recommend you seal your piece thoroughly before and after painting to protect the foam from moisture. Excessive moisture (such as rain, or water immersion can begin to break the clay object down.)

Painting It
Painting a Foam Clay piece is similar in feel to painting EVA foam. While you can paint foam with acrylic paints, for the best results we recommend sealing and priming your piece. See Priming and Sealing section for details.

You can paint your piece with:
- Acrylic Paint
- Spray Paint
- AirBrush Paint (seal it afterwards)
- Fabric and Leather Paints

Sanding It
You can sand your piece with sandpaper by hand or with a dremel easily. Our preferred sanding technique is hand-sanding with fine 220 grit paper. Sanding will allow you to smooth over cosmetic wrinkles or errors made while sculpting or drying. **Wait to make sure your piece is 100% dry before cutting into, or deep sanding.** Please see the drying times section for additional details.

Mixing dyes and Paints with White Foam Clay
Mixing common liquid food colouring, water-based paints, and dyes into White Foam Clay has produced mixed results. Liquid food colouring and inexpensive acrylic paints have produced the best results so far with maintaining the clay's workability and feel. It's important to remember that any material that is mixed into the clay will alter its composition, and so might change its final result. This can even change the foam's raw form! For instance, mixing certain brands of metallic paints into the clay created a sticky, bouncier material, while fabric paint produced a different result. Experiment! Water based materials are recommended.

Does it stick to _____?
Our rule of thumb: The 'fresher' the material, the easier it will stick. This is to mean, that the more moist the clay, the more it will want to stick to anything. That being said, there are some materials it will have a more lasting hold onto than others. It sticks aggressively to dry wood and paper products. Will it stick to EVA foam? It depends on YOUR EVA foam. Different manufacturers coat their EVA with different substances, and the clay will stick to some, while others have no hold, and will need to be glued in place after drying.

Foam Clay will stick to EVA foam well enough to sculpt details. If you find that once dry, your piece is starting to peel off- either gently peel off the entire sculpt (if it is designed to do this!) or simply use contact cement, super glue, or even hot glue to glue that part back down.
Foam Clay may stick to Worbla and thermoplastics, however it may begin to lift up over time as it dries. If you would like to adhere a Foam Clay piece to a worbla base, we recommend either using contact cement, hot glue, or super glue. Please refer to your thermoplastics details to determine which is more suitable for your project.

Cutting

You can use any manner of tools to cut dried pieces. Scissors and sharp exacto knives work very well. Heat knives may not get hot enough, depending on your model. **When using heat tools to melt and etch details into your foam pieces, ALWAYS do so in a well ventilated area wearing a respirator mask rated for fumes (aka organic vapour). A dust mask is NOT sufficient protection!!**

Does it shrink?
The approximate shrink rate is 1-2%. This is only noticeable when placed in a silicone mold as the clay pulls from the edges while drying. This does not have any negative effect on the amount of detail that is retained.

Casting with Foam Clay
You can press the Foam Clay into silicone molds powdered with cornstarch/baby powder, or plaster molds. If you're doing a big piece like a mask, it may take up to 6 weeks to fully dry. Once dry, your mask will be almost weightless. Small, simply-shaped pieces can be gently removed right away, while more complex/detailed pieces need at least two (2) days to dry so they can be removed without distorting the shape. Please note that the thicker the piece, the longer it will take for the mold-facing side to dry.

Using Foam Clay as a Filler
You can use the Foam Clays as filler for your EVA or insulation foam projects, or for dry Foam Clay pieces. You can use water to smooth/blend the edges out, or over-fill the seam/hole SLIGHTLY, and sand it down later. The filler must be completely dry before sanding.

Does it crack?
Cracks may start to develop if the piece is stretched or flexed while it is still in it's initial drying stages. This happens when the skin breaks and the inside is still not dry. You can avoid this by not stretching your piece out while the piece is drying. Any cracks that do develop, can be easily filled in with clay, and seams sanded once fully dried. Cracks may develop in dried pieces if they undergo structural stress and excessive bending. If you dry the piece unevenly, it will be much more prone to cracking.

How flexible is it?
There are varying stages of flexibility. Flexibility depends on the shape, thickness, and the kind of structural stress a piece undergoes. Thinner pieces tend to have more flexibility than thicker pieces. For thicker pieces such as horns, a week into it's drying it may retain some pressure flexibility since the inside is still soft and drying. A month later, the piece will be harder to press into. Assume your piece will get firmer over time!
***A note**: Not all foam is made equal. While Lumin's Workshop Foam Clay is a high quality material, it is not an indestructible medium. It's not rubber, and it does have a breaking point! If this is of a concern to you, consider laying a thermoplastic over top of your piece, such as Thibra to give it more surface strength. **Cracking and creasing of your paint is the property of the primer/paint, NOT the clay.** If you need to flex your piece, paint it with a flexible paint.

My clay is drying out!/Keeping it fresh
It's important to keep your Foam Clay in an airtight container at all times to extend it's life. When well sealed, the shelf life is approximately a year. If you have a small amount in a large container, you can wrap the clay in plastic food wrap inside the container, or transfer it to a ziplock bag. If your clay is becoming stiff, kneading a touch of water back into it will help refresh the clay.

Heat:
Unless exposed to high concentrated heat, your dried Foam Clay pieces will not melt in the sun like thermoplastics can. Since it is similar to craft foam, whatever heat tolerances you would attribute to such are

applicable to the foam as well. Using a heat gun or hot hair dryer to temporarily increase the flexibility of foam can be used on dry clay foam pieces to heat shape it. Once cooled in that heat-formed shape, it will stay that way.

Heat tools/Burning designs: We highly recommend performing a heat test on a scrap piece first to evaluate the result your particular heat tool can create. This is due to temperature variation between different heat tools such as soldering irons, hot wires, wood burning tools, etc..
Before attempting to use heat tool techniques on dried Foam Clay, please use appropriate safety equipment and measures. Any kind of foam fumes are hazardous to your health! *Ensure your space is well ventilated, small animals and pets are not present, and you have an appropriate respirator. Heat tools such as soldering and heat guns irons can burn you too- so be sure to use appropriate heat protection.*

Cold:
Moisture is the enemy of a dried Foam Clay piece, so condensation from bringing an untreated/unsealed piece in and out from the cold may cause the surface of the foam to soften or get 'slimy'.
If your un-dried Foam Clay freezes, it can be thawed out an used as normal. It may be a little stickier than normal due to the condensation, but this can be fixed by kneading the clay until it reaches your desired consistency. Do not attempt to speed up the thawing process via excessive heat.

Prosthetics
*Note: DO NOT CONSUME. Foam Clay is not suitable for in-mouth prosthetics. While the material is non toxic, it is not food graded.
You could use Foam Clay to assist in EXTERNAL prosthetic work. Make sure your foam piece is thoroughly sealed so skin-safe adhesives won't ruin the piece. Note that it can be difficult to keep paper thin aspects of the foam from tearing or being damaged. So while a Foam Clay prosthetic may work once, it may be difficult to make work again.

Flying with Foam Clay
Foam Clay is considered a paste, and so airport security will have to legally confiscate any Foam Clay containers over 100g. (Please see your local airport security rules). Pack Foam Clay inside your checked luggage to avoid this! Due to pressure changes that occur while flying, the lid of the container may pop open. Place your clay container in a plastic bag to help avoid any possible mess. Just in case!

Videos & Tutorials
Working with Foam Clay (by Lumin's Workshop)
Basic How to use Lumin's Workshop Foam Clay
Sculpting Simple Horns
Use White Foam Clay with LED lights
Stamp textures (Making Leaves)
Making Foam Clay Antlers
Using Foam Clay as a gap filler & Additional Sculpting
Kamui Sculpts a Foam Clay Skull Detail & Sculpting Spikes

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