
Lumi: Shadow Printed Pouch with Jesse Genet of Lumi

Chapter 1 - Introduction

Overview

(peppy music) - Hi, I'm Jesse Genet, founder of Lumi. And we've created a new way to print on fabric using sunlight. I'm really excited to show you how it works. The process is made possible by Inko dye, our fabric dye that comes out of the bottle translucent and develops its color in the sun. Anything that casts a shadow can make a beautiful Inko dye print. We'll start by picking the best objects for shadow printing. I'll explain how to actually apply the dye, expose it in the sunlight. And at the end of it, you'll have a beautiful printed pouch.

Chapter 2 - Materials

Materials

- Here are the materials you're going to need to make your shadow printed pouch. In the Lumi shadow printing kit, we have one ounce of Inkodye magenta, one ounce of Inkodye orange, and Inkowash detergent for washing your prints. We also have a printable canvas pouch, a piece of acrylic for holding down fragile objects. One ounce of Inkodye is enough to print 12 by 12 inches or 30 by 30 centimeters of fabric. That's more than enough to print your canvas pouch and another project or just a piece of fabric. If you're not using the printing kit, you can print any natural fabric with Inkodye. To create your design, you're going to need objects that cast strong shadows like a piece of opaque lace or washers, paperclips, bolts, keys. It's really fun to scan your everyday life for objects that might be meaningful to you or might cast really cool shadows. Now once you have your objects and your materials gathered, the first thing you need to do is look for a great work area. Because Inkodye develops its color in light, it's reactive to sunlight and UV light, you need to look for a work area that's away from natural sunlight. A garage, a basement, even a laundry room. Just somewhere away from windows is a great workspace to pick. Once you have your Inkodye, material to print on, objects, and a good workspace, you're ready to print.

Chapter 3 - Create Design

Apply dye, create design, and print

- Because this process is light sensitive, we wanna make sure we have everything we need before we get started. Here you'll see that we used orange Inkodye, and we use a flat wrench, as well as some nuts here. And these we actually spelled out tools, so it's a good reminder that small objects can be used within a large group to write out words or make cool patterns. I think that's a really fun technique. Now, with this wrench, I'd like to take the opportunity to talk about the flatness or three-dimensionality of your objects. Now, this is a flat, punched-out wrench, and this is a three-dimensional wrench. You can see that this flatter wrench has a very crisp edge, unlike what the three-dimensional wrench would do. See how there's a gap between the wrench and the table here? That means that sunlight would actually get underneath the wrench while it was printing on your pouch and create a more blurry effect. The difference between 3-D and flat objects means you will get a crisper print with the flatter objects. On this pouch, I used lace and Inkodye magenta. The lace has a very fine pattern, and it's also white. And you can see that it resulted in a very delicate pattern. The sun blasted through some of the very fine details of the pattern, and we only got the bolder ones. If your object or your lace, whatever you're using, has super-fine details, they might not

show up on your print because the sun might kind of blast right through them. So I think this is a good example of that, although it still turned out very beautiful. You might find things that you've bought that have interesting textures, mesh patterns ... In my case, an interesting print that I love is actually made using my MacBook case that has perforated holes in it. And I use this to cast a really beautiful pattern on this pouch. This is also done using Inkodye magenta. And in this case, I just coated the pouch in Inkodye magenta, and I stuck it right underneath my MacBook case and used the perforations to print this beautiful pattern. You can actually see how the holes have a denser magenta color at one end than the other, and that's because of the shadow of the sun was coming from an angle. I printed pouch at about three pm, and the sun was a pretty severe angle in the sky, which is what gave me that little shadow on one end of the holes. But I recommend starting your prints between 11 am and one pm, when the sun is highest in the sky, which will give you the crispest prints you can get. It's also between 11 and one at its best intensity, which means your prints will develop as quickly as possible. I've got my work area all set up, and I'm gonna be experimenting with this lace on my pouch today. My pouch is actually black on one side and white on the other. The white side is the side we're going to be printing on, and the other side is black just so that if I do happen to make drips, we're not gonna see them. It will still look perfect. And inside the pouch is just a thin piece of cardboard to prevent dye from seeping from one side to the next, and that is all we need to get going. I'm going to take this snap pack of Inkodye magenta, and, as we mentioned, a packet of dye is enough to do a 12 by 12 inch piece of fabric. So this will be more than enough for our pouch. This packet is a little different than other liquid packets you may have seen. It actually has a perforation on the back, which the liquid will come out when I push it. It'll snap open, and the Inkodye will come out, and then I can use this as a spreader. But before I open it up, I want to shake the Inkodye so the pigment can settle, just like it does in the bottle. So I'm actually going to take it, and I'm going to give it a shake. You might wanna do this just for 10 or 20 seconds. Make sure that the pigments are all dispersed within the packet before you open it up. That seems good. So I'm gonna push my finger in the middle, and I'm gonna fold it all the way until it snaps open and starts drizzling out the bottom. Now, that's exactly what I want. I'm kind of doing it gently; I don't wanna push super hard. It could kind of pop or maybe go in a different direction. So that's perfect, and then I can actually use the packet itself to spread the dye around on my pouch. Now I actually have a decent amount of control. I'm no longer pushing that much on the packet unless I need more dye. Then I give it a gentle push, and more comes out. But you don't need to constantly be pushing. I'm actually just using the packet now as a spreader. My goal is to get the whole pouch saturated. I'm not looking for it to be super wet, and I don't need to make a big mess, but I want the fabric to be fully saturated because that's the optimum printing surface. Any area that I actually leave white will be unprinted, so I wanna make sure I get dye everywhere I want to cover. Now, this is a good time to mention, though, that I don't have to coat my entire pouch if I only wanted to do a print on one half or on a little corner. I could only coat what I need to coat. So there's not rule saying you have to coat the entire surface. I'm just gonna finish coating here. I'm still gently squeezing. I'd say my pouch is about 50% full still, and so there's plenty of dye in here. And I don't need to go overboard coating my surface. If I have extra left over in my packet, I can use it on another project right away. If you've already opened your packet, I do recommend you use all of that dye in one day. You can just print a larger surface, or you can do a couple prints in one day. So, I'm gonna wrap up, and get this last corner. I really like to make sure my edges are coated, so I'm actually gonna lift it up. Again, anything that remains white will just remain unprinted. So you'll have little white pieces if you don't do this. The packet is convenient because you can apply directly to your surface, but if you have a

preferred applicator, like a little brush or something like that, you can also use that. Now this is actually a little bit too wet. I always say that it's kind of an easy beginner mistake to use too much Inkodye, and here I am doing the exact same thing. My optimum print surface is damp, not wet to the touch. But there's an easy fix to this. The second step of the process is actually to blot off the excess dye. After my pouch is fully saturated, I'm gonna take a piece of paper towel, and I'm gonna put it just right down over and blot off those excess drips. I'm just gonna press firmly down. In my case, I'm gonna use another one as well. You could also use a rag. At my shop, I often use reusable rags. Blotting this all off so that there's no drips and that the entire fabric is evenly saturated. You don't want some areas more wet than others. I can wipe the zipper off a little bit if I got some on there. And that looks very good. You can tell that my pouch now just looks wet. It doesn't look like it has any color yet because even though this is magenta dye, it's not activated by UV light yet. Once it's ready, you can take your objects and create your design. I'm gonna use my lace here, and the lace, or whatever object you use, will potentially get dye on it, so keep that in mind if you're using something that's important to you. Things will dark colors probably won't show the dye, but something like this will actually probably show a little bit of Inkodye magenta after I use it. If I wanted to be ultra cautious, I could put a piece of clear film in between my object and my pouch, but I think that for starters it's best just to choose something that you don't mind getting a little bit dirty. I'm gonna put this down at an angle to create an interesting design here. It's really important that my object, my lace, makes really good contact with the pouch. What I mean by that is that it's actually touching the surface, not lifting or being wavy because if it is lifting or being wavy, I will get a blurry image. That can still look kinda cool, so I'm not judging if you actually like that effect. But, to get a super crisp print, you want to really be touching your fabric. We've included in the kit something help out with that: a clear piece of acrylic that you can put down over top. So for fragile objects like lace or like leaves, putting the plastic down on top and actually pushing it down is really helpful. If you're using an object that has its own weight, like a wrench or even like big jumbo paper clips, they might not need the acrylic on top. It might actually be a hindrance. So, it's really up to your judgment whether you feel like you need it. I'm gonna push the acrylic down, really kind of pushing that lace into the fabric making sure that it's making great contact. I can look at it from the sides to make sure. Once I'm happy with it, I'm actually ready to take it out in the sun for the fun part and watch it develop. If you're working in bright sunlight, your print will start happening right before your eyes. If you're working on a little bit of an overcast day or later in the day, your print will take a little bit longer. It'll be 10 to 12 minutes in bright sunlight and could be up to 30 or 40 if you're working in overcast, cloudy weather, or late in the day. Now, if your print is a little bit too damp, you might experience some condensation. It's very natural: when you put something wet under a piece of plastic out in the sun, some condensation bubbles might develop. Now, that isn't necessarily a big problem. Sometimes those condensation bubbles actually make your print kind of look vintage and interesting. If you really don't like those though, the solution is to blot your print more before you put down your object and your acrylic. Once your print starts looking really developed, I would like to caution you to make sure you leave it out for the full amount of time. Really a minimum of 12 minutes; I usually leave it 15, even in bright sunlight because your sunlight is doing two things to your print: one, it's developing the color, and that's the part that you see with your eyes. But two, it's setting the color. It's making it permanent. So even if you get really excited at that three or four minute mark because it looks like there's a lot of color, and you bring it inside, you might wash it, and it might fade more than you wanted. So, be patient, leave it out for a few extra minutes until it's fully, fully developed for the best permanence of your print.

Create shadows with drawings

- While our pouch is printing, I'd like to add another technique to your tool chest. I'm gonna show you how you can actually make a print using your own illustration, using an opaque paint marker, and some inkofilm. Inkofilm is inkjet printable transparency film but we're just going to use it as clear film to draw on. Now you need to choose a marker that truly casts a strong black line. It doesn't actually have to be technically black but the most important thing is that it is opaque so the sun won't shine through it. I'm using a Decocolor Paint Marker. You could just do a freehand illustration if you're a true artist. I'm going to trace over a geometric pattern. I'm just gonna trace over my 3D square here. I wanna make sure my lines have a good amount of thickness to them so that the sun doesn't go right through them. And then once I finish that box, I'm gonna slide it over and do another one to create a pattern. Obviously you could do anything that you want but I think that the replicated geometry is kind of fun. Here's a grouping of our 3D squares that are ready to print. I've brought an example of a good lined thickness verse a bad line thickness. This one has nice sturdy lines that will cast good shadows and these ones are just a bit too thin. If your line thickness is too thin, you'll get lines that look like this. They still show up, but the sun has kind of blasted through them and made very faint impressions. On the other hand, if you use a thicker marker and your lines look like this, then your print will have nice defined lines. So even while you can do very detailed work make sure that your lines have a nice good thickness so that the sun actually casts a really strong shadow on your pouch. Let's print this tessellation with orange Inkodye onto a pouch. I've actually pre-coated some orange Inkodye onto a new pouch and I've been letting it dry here for a few minutes and so it's a good note that you want your Inkodye to still be damp so not too dry and not too wet. So I'm actually going to take a little bit more dye. I'm going to re-wet the pouch just to make sure that it is the right dampness. When Inkodye fully dries out, it's not as reactive. You still will get a nice print but to get the most vibrant color you can, you want it to still be damp. So I'm still going to blot off the excess. Don't want it to be dripping. That looks great. I'm going to take the tessellation that I did with the thicker marker and I'm going to position it down. I can place it anywhere I like. I think I'll put it right here. And I'm going to smooth it down. Inkofilm has two sides. One is kind of sticky and tacky and that's the side that the inkjet ink or the marker ink adheres best to and the other side is smooth and shiny and that's the waterproof side that you want to put down onto your Inkodye prints. The marker ink should be facing you and the smooth, glossy side should be put down onto your print. So I'm going to position this down and get it exactly how I like it. Now because the Inkodye is slightly wet, I can actually rely on it's slight tackiness to hold my film down in place. If it's a very windy day, you might still want to put your acrylic down on top. You could also use push pins or something else to try to hold it in place but I'm going to rely on the tackiness and just print it as is.

Chapter 4 - Finish

Reveal prints and wrap up

- Time to reveal our prints. We've got both our lace and our marker-drawn tessellation. So I'm gonna start with our lace. Remove the acrylic and then peel or remove your objects to reveal your shadow design. So this lace created a very ethereal, interesting shadow on our pouch. Now over here, we have our tessellation that was hand-drawn on inkofilm. And I just need to peel this back to reveal our very crisp illustrated design on our orange pouch. To finish our process, both of these pouches need washing with inkowash. Your kit includes an inkowash packet, that works the same way as your inkodye packets. It actually snaps in half along the perforated line and the liquid goes out into your

washing machine. Now if you're using your washing machine, you wanna wash this on the hot-cold cycle, and just throw it right in the wash. You can wash multiple prints together if you've been doing an afternoon of printing. If you'd like to wash your pouch by hand, because it's so little, you can, just put some inkowash into a bucket and use the pouch to rub it against itself. That will help get the excess unexposed dye out. You don't wanna be too gentle with your prints. You really wanna get that excess dye out. And after that first wash using inkowash, you can then just wash them normally like you would anything else you own. You can also tumbledry your prints no problem. So here's a couple other prints that I made. This one is another one using the doodle drawing technique with an opaque paint marker. And that's magenta. This one uses objects. These are little nuts and a wrench, a flat wrench. This one is lace again, but a different type of lace with a very different pattern. And this one was using my iMac case, the hardshell case with the perforations, creating a very interesting dot pattern. All of these pouches here are printed using orange and magenta inkodye. But inkodye comes in nine colors that are fully mixable. You can also print on things other than a pouch, like clothes in your closet, grab something out that you haven't used in a while. Give it a new life and create something all your own. Also keep in mind that you can mix techniques. You can do the drawing technique with a shadow object and create something truly custom.