How To Make Your Own Sugru Substitute
by mikey77 on October 10, 2010

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http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/
I believe that the purpose of life is to learn how to do our best and not give in to the weaker way.

**Intro: How To Make Your Own Sugru Substitute**

I call it Oogoo, an inexpensive silicone clay that is easily made. It can be used as an excellent substitute for Sugru. It can be hand molded or cast in forms. Or, it can be used as a casting silicone. It can be colored any color from white to black. It can also be made translucent to allow diffused light to shine through. It can even be painted on in thin layers. It has very good adhesive qualities and will stick to itself, glass, fabric, paper, wood, and some plastics and metals.

This instructable will show:

1- How to mix and color Oogoo

2- How to cast it or hand form it into different shapes.

3- How to make silicone paint

4- Several interesting uses for Gorilla tape and Gorilla Glue, see steps 3, 7, 12 and 15.

5- How to make a few projects using Sugru and a comparison of Oogoo and Sugru

Since I am mainly interested in using Oogoo to embed electronic circuits in flexible forms, this instructable will also show you how to:

1- Make a soft circuit LED pumpkin head robot display that can be embedded on to clothing.

2- Make cleanly etched conductive fabric circuits

3- Make conductive glue using Gorilla glue.

4- Embed circuits in Oogoo or Sugru

The intro pic shows a few of the silicone shapes that I made using Oogoo and a funky, smirky, flexible pumpkin head robot LED display.
Step 1: How It Works
pic2 shows a 2"x2"x2" solid silicone cube that cured enough in two hours to be removed from its plastic box form.

For years I have been looking for an inexpensive way to create a flexible skin covering for robots and electronic circuits. I have tried several kinds of casting urethane rubber and silicone rubber. They all have their difficulties and either set up too fast or too slow. They are too thin or they are too thick. They are also very expensive in small quantities. Added to that is the problem that they have a very limited shelf life and usually must be used within six months. Sugru is great, but it is not affordable for making larger structures.

I and many others have tried using the inexpensive silicone caulk that is readily available from hardware stores. It is used to seal roofing and glass windows. It works fine but has the problem that it can only be used by putting it on thinly and waiting a long time for it to cure. It is also hard to work. It must be smoothed immediately while it is very sticky. Otherwise, the surface cures quickly and then forms a gummy film while the inside remains soft and wet. It has a smoothing time of seconds rather than minutes. If you put it on too thick the inside will remain soft and can take several days to finally cure. People have tried all kinds of additives in an attempt to make it cure in a more useful manner. I have found those additives to be unusable for my purposes.

So I wanted to add a catalyst that would help the silicone to cure from the inside out rather than just from the outside in.

As I understand it, 100% silicone caulk works by the moisture in the air initiating the polymerization of the silicone. So it cures from the outside in and as it does, it allows the water vapor to slowly seep inside and eventually cure the unexposed silicone. While it cures, it gives off Acetic acid (vinegar is diluted acetic acid) which is the strong smell you will notice if you use it.

I experimented with quite a few additives to try and introduce some moisture into the uncured silicone. Several of them worked to some degree, but the hands down favorite was also the least expensive.

It turns out that corn starch is highly absorbent and when sitting around in an open box it will absorb moisture from the air. It is an extremely fine powder that diffuses evenly in mixtures. By adding the right amount of corn starch, the sticky silicone is somewhat stiffened and very quickly starts to set up from the inside out. While it still sets up faster on the surface than in the middle, the whole thing will set up in five minutes to 2 hours no matter what the thickness. The actual curing time depends on the temperature, the humidity, the amount of corn starch added, and the speed at which it was mixed.

So that’s it. Oogoo is corn starch and clear silicone caulk mixed together and then molded by hand or by forms to create just about anything you can imagine that needs to be adhesive initially and solid yet flexible when cured.

Step 2: Materials
Materials to Make Oogoo:

100% clear silicone caulk-the kind that gives off the vinegar smell while it cures. Can be found in any hardware store or Walmart. It cost from $3 to $5 for a 10 oz. tube. The newer silicone caulks that have a different smell such as GE silicone II will not work for this.

Caulking gun for silicone tubes.
Mixing cups
Popsicle sticks
Gorilla instant glue
Gorilla tape
100% Corn Starch
Linseed based oil paints to color oogoo

http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/
Materials to embed an etched circuit:

Clear Contact vinyl shelf liner from Walmart or hardware store.
Ferric Chloride etchant
Gorilla white glue
Surface mount LEDs
Magnet wire or conductive thread
Veil shield conductive cloth from http://www.lessemf.com/

Step 3: Mixing Oogoo

As stated before, Oogoo is simply a mixture of corn starch and clear silicone caulk. It can be mixed anywhere from 1 to 5 to 2 to 1 corn starch to silicone. Up to a point, the more corn starch you add the faster it will set up. I like to mix it in small disposable cups using a Popsicle stick that is wrapped with Gorilla Tape to create a spatula. See pic4. Once it cures the oogoo peels easily off the tape wrapped stick and the mixing/spreading stick can be reused.

A good starting mixture to try out is 1 corn starch to 1 silicone by volume. The dry starch and sticky silicone do not want to easily mix. But if you are persistent and keep quickly stirring and mashing the mix, they will eventually merge into a thick paste. The resulting Oogoo is very sticky and will stick to anything that you spread it on. Most things it will stay well glued to. On a few things like some plastics and metals, it will easily peel off after it has cured.

The resulting Oogoo is a nice reflective white but I recommend coloring it so that you can easily see if you have an even mix. See the coloring step.

WARNING: While mixing, Oogoo will give off the strong smell of Acetic acid which can be irritating to the eyes and respiratory system. I strongly recommend that the mixing and forming be done outside or in a VERY WELL VENTILATED room. You should also wear nitrile gloves while mixing as the uncured silicone contains other solvents that might be absorbed by the skin.

One recurrent problem with silicone caulk is that once opened, it will tend to set up in the tube tip. To get a good seal I have had good luck using Gorilla tape wrapped over the tip. See pic4b. If you leave a quarter inch gap between the wrapped tape and the tip you can squeeze out just enough silicone to seal the tip well from air and moisture.
Step 4: Hand Molding
Pic5 shows the fresh mix mounded up to create a glass stopper. Pic6 shows the final hand molded form.

Oogoo can be hand molded onto or around just about anything. However, you will have to move fast as the fast mix will fairly quickly go from sticky to putty to a clay like material in just a few minutes.

Mix up some Oogoo as quickly as you can and then use the mixing stick as a spatula to spread the Oogoo on whatever you want it to stick to. While it is sticky mound it up to a shape that is roughly what you want the final shape to be. Let it set up until it is barely sticky and then start patting it into the form you want. At some point it will be like clay and can be fine tuned to its final shape.

Fast Mix
A mix of 1 corn starch to 1 silicone caulk will be like a putty in 1 to 2 minutes and can then be hand smoothed. In 3 or 4 minutes it will be like clay and can still be molded but is hard to smooth. So, you only have about 5 to ten minutes of working time with this mix.

Slower Mix
A mix of 1 to 3 or 4 will give you up to thirty minutes working time. A 1 to 5 mix can give you an hour or more working time. Depending on how fast it is mixed, the thickness of the structure, the temperature and the humidity, the slower mixes will turn solid and rubbery in from 5 minutes to an hour.

If while mounding your shape, you run out of Oogoo, don’t worry as you can just mix up another batch and add to it while it is curing. A fresh mix will stick really well to Oogoo that is curing or even Oogoo that has cured for several days.
Step 5: Coloring Oogoo
I was pleasantly surprised to discover that all it takes to create vibrant colors in Oogoo is very small amounts of linseed based oil paints. Apparently the pigments in oil paints are very fine and dense so a little goes a long way.

About the equivalent of 5 or 6 drops of oil paint per teaspoon of silicone will result in solid colors. I mix the color well with the silicone before adding the corn starch.

While you can leave it white, it is a good idea to add some color to make it easy to see if you have a well mixed batch. Adding color does not appear to significantly affect the hardness or flexibility of the final result.

Step 6: Sanding and Carving Oogoo
While you can cut Oogoo with a knife, its rubbery flexibility makes it difficult to get precise cuts. It is more easily carved or sanded with power tools.

I used a stationary disk sander with 150 grit sandpaper to sand smooth the hand formed stopper in pic8. It sands cleanly but it is slow to sand, so before it cures, you should try to hand form the structure as close as possible to the final desired size. I made the mistake of not putting a mold release such as Vaseline on the glass vial and it was very difficult to remove the stopper after it cured.

Oogoo can also be carved with a Dremel tool and a high speed carbide wheel. Wait at least twenty four hours before carving smaller objects and up to several days for thicker ones. Do not carve until the strong smell of acetic acid is mostly gone when you put it up to your nose. Otherwise you will be shooting very small particles containing irritating acid into the air. Not Healthy. Do this outside with a filter mask or with a good vacuum system.
**Step 7: Casting Oogoo**

*Casting In Plastic Containers*

Just after mixing, Oogoo is very adhesive and will stick to almost anything. It will not remain stuck to some plastics such as PVC, polyethylene and polycarbonate. So any kind of container made out of these plastics can be used as a form or mold. The blister packs used to package many products contains clean smooth forms that can be used as casting forms. Clear polycarbonate cups and dishes can also be used.

Pic9 shows a funnel shape that was made using the inside of a polycarbonate martini glass. The Oogoo ended up about 3/16" thick and is quite flexible. It could be used as a funnel.

Simply smooth on the mix to fill up the form in layers while working out the bubbles. It does not have to be done in one mix. A fresh mix will stick very well to oogoo that is setting up and also to older Oogoo that has fully cured. So layers can be added at any time.

*Casting in Gorilla Tape*

Oogoo does not stick to Gorilla Tape so the inside or outside of any container or surface covered with the tape can be used as a form. After it cures the Oogoo will peel easily off.
Step 8: Making Tubes, Sheets and Laminations

Forming Sheets
It is easy to make sheets of Oogoo. Simply spread out a mix between two layers of clear polyethylene and then roll it with a round object as if you were working dough. See pic10. I like to use polyethylene plastic from gallon freezer bags. If you put down spacers of thin wood or metal you can keep the thickness uniform.

Once flattened, if you just want a single sheet, then wait 4 or 5 minutes and then peel off the top layer of plastic. This will leave a very smooth surface top and bottom.

If you want to work it more, then peel off the top plastic after 2 or 3 minutes while it is still a bit sticky and then form around whatever you want it permanently attached to.

Making Layers
To make layers, make one layer and let it set up until it is fairly stiff and then roll out another layer nearby. When it is set up enough pull of one layer of plastic you can then stick it on top of the first layer. You could embed whatever you want between the two layers such as a tool blade or a printed circuit board. Pic11 shows a three layer lamination.

Making Tubes
Tubes are a bit more tricky and require fast working. Use a plastic tube or wrap Gorilla tape around a dowel to create a form that the Oogoo won't stick to. Make a sheet of Oogoo that is wider than the diameter of the form. As soon as you can, peel the top layer of plastic and wrap the sheet around the form. Make sure there is overlap where the edges meet and quickly smooth out the seam.

Step 9: Make It Glow
Oogoo Lighting
Oogoo has many possibilities for lighting fixtures or light ribbons. Pic12 shows a 4" translucent cube that was made by coating an acrylic cube that I had with a thin layer (about 3/16") of translucent Oogoo. It was then lit up using a 1 watt white LED.

The Oogoo can be made translucent by using a 1 corn starch to 3 or 4 clear silicone caulk mix.
Step 10: Making Silicone Paint

Pic13 shows the final robot pumpkin head with LEDs all on. I used it to experiment with different mixes of silicone paint.

This is not a new idea, but silicone paint is easily made. Simply add mineral spirits (paint thinner) and oil paint to the silicone caulk until you get the consistency of paint you want. The only problem with the paint is that it dries much weaker than silicone caulk alone or Oogoo. It has lower adhesion and lower tear strength. Even so, it is useful for some things.

I like a 1 cornstarch to 3 mineral spirits to 3 silicone caulk for a translucent white gel-like paint. For a paint that is thinner and closer to an oil paint thickness you can use a 1 cornstarch to 4 mineral spirits to 2 silicone caulk. The more mineral spirits you add the weaker the final strength and adhesion will be.
Step 11: Etching Conductive Cloth for Soft Circuits

Pic14 shows a ribbon cable made of etched conductive cloth (Veilsheild). LEDs could be glued on it to make a light ribbon. Clean and sharp conductive traces like this are possible using the method described below.

For the robot pumpkin head circuit I wanted to etch a very simple pattern as I was going to be trying several new techniques to glue and laminate the circuit.

The problem has always been to find an inexpensive, simple way to get a resist that is removable but will etch sharp high resolution conductive traces. I experimented with all kinds of tapes but they were either not waterproof enough or they had so much adhesion they peeled off the conductive coating on the fabric.

I finally tried clear vinyl shelf liner. It is just sticky enough to keep out the ferric chloride etchant, but not so sticky that it wont come off cleanly. The conductive cloth is placed on a piece of shelf liner with its sticky side up, this seals the back side. Another piece of liner is cut with a sharp x-acto knife to remove vinyl wherever the circuit needs to be etched. The conductive cloth is then sandwiched between the two layers of shelf liner. See pic15.

The cut traces are then burnished with a Popsicle stick to make sure the edges are adhered well to the cloth. It is then dipped into ferric chloride etchant for five minutes at room temperature. As soon as it looks well etched, it is removed and immediately submerged in a bucket of water and swished around. Remove it from the water and then rinse it some more to be sure all the etchant in the fibers is removed. the shelf liner can then be slowly peeled off and the cloth left to dry. Pic16 is the final cloth circuit board.

I have been experimenting with etching conductive cloth for several years. For some of the results see here: http://www.instructables.com/id/Conductive-Fabric-Make-Flexible-Circuits-Using-An/
Step 12: Glue The Circuit and Laminate It

Making Conductive Glue Using Gorilla Wood Glue

To make a flexible pumpkin head LED circuit, a way to glue the components to the cloth circuit board is needed. Gorilla Wood Glue can be easily made conductive and still have good adhesive qualities.

Mix by volume: 3 powdered graphite to 2 Gorilla white glue. The powder is reluctant to mix but keep at it till you have a sticky paste. You can then blob it onto the wires you are gluing to the conductive fabric traces. While you can add a few drops of water to make it easier to work, this will increase somewhat the final resistance of the conductive joint. Let it dry overnight.

This conductive glue has a very low resistance and is good for connecting two conductors that are close to each other. You can obtain powdered graphite from: http://www.elementalscientific.net/

Pic17 shows how the glue joints looked after the led wires were glued to the conductive circuit board. Because the PLCC2 surface mount LEDs do not have enough surface area to directly glue them with conductive glue, I first soldered thin tinned lead wires to them. This gave more surface area to the glued conductive joint. I zigzagged the leads thinking that might increase the flexibility of the final result.

Gorilla Tape Helping Hands Jig

See pic18b for a helping hands jig I used to hold the surface mount LEDs and thin wire while soldering. It is made of Gorilla Tape taped sticky side up on a piece of cardboard. I had previously used blue tac for this, but this works just as well.

Laminating the Pumpkin Head

Pic18 shows the pumpkin head after laminating with orange Oogoo. The Oogoo was cut off to expose the LEDs. Translucent and colored Silicone paint was then used to finish the pumpkin head.

I have been experimenting with conductive glues for a few years. For other ways to make and use conductive glues see here: http://www.instructables.com/id/Make-Conductive-Glue-and-Glue-a-Circuit/

http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/
Step 13: The Robot Pumpkin Head Circuit
The LEDs are flashed in sequences using a 08m Picaxe microcontroller. See pic19. The resistance of the conductive glue joints is high enough that no dropping resistors are necessary. In order to keep the leads to a minimum, Charlieplexing is used to control the six LEDs individually. This is a simple way to use 3 wires to control 6 LEDs.

I will try an post a video of the flashing pumpkin head LEDs and code when I get more time.

For details on Charlieplexing see: http://www.instructables.com/id/Charlieplexing-LEDs-Theory/

I did not have time to make an embedded control circuit, so it was just breadboarded. See pic20.
Step 14: Comparison of Oogoo and Sugru
Pic21 shows a eyeglass holder made with sugru on one side and Oogoo on the other to hold on the neoprene neck strap.
Pic22 shows a small coin cell flashlight I made on a circuit board and then covered with Sugru.
Pic 23 shows a Picaxe circuit I laminated on the bottom side with Sugru to protect the thin wires on the back and keep it from shorting.
I experimented around with several packets of Sugru to see what it would stick to and to see what it took to mold it to clean shapes.

Advantages of Oogoo:
1- Made from inexpensive and easily obtained materials.
2- Easy to work and mold into forms.
3- Will set up quickly at any thickness.
4- Can be mixed in any color.
5- translucent structures possible for lighting applications.
6- slightly more flexible than Sugru.

Advantages of Sugru:
1- Much milder fumes, can be easily used indoors.
2- Cures to a harder rubber.
3- Gives more working time.
4- Already mixed.
5- Somewhat easier to smooth.
6- Carves easier than Oogoo.
Step 15: Other Possibilities

Pic24 shows the LED robot pumpkin head mounted on a T-shirt. It can be glued with silicone caulk onto most fabrics and should be able to handle hand washing.

Pic26 shows the flexibility of the final circuit.

Halloween Costumes
All manner of masks and appendages can be made using Oogoo. It sticks well to cardboard and paper and almost anything. You can use it to glue almost any part of the costume together and it sets up faster than most glues. Be sure not to create anything where you will have to breathe near freshly formed Oogoo. Let it sit a day or two and use it only after the vinegar smell is gone.

Make Your Own Lego Parts or Interlocking Blocks
All kinds of interlocking building blocks or circuit modules could be built.

Making Prototypes
Electronic cases of different kinds can be quickly hand made with Oogoo. It might even work as a forming material for a 3d printer or rapid prototype machine.

Stained Glass
Colored Oogoo sticks very well to glass and can be used for various stained glass effects.

http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/
Woodworking
It should be possible to make hinges using thin flat sheets of Oogoo glued to wood boxes or cabinets. It may also be possible to use it to make flexible joints for furniture.

Casting Metal
Metals that melt at low temperatures can be cast in Oogoo. See pic25 for a ring I cast out of bismuth.

Gluing to Plastics
Near the end of this I discovered that Oogoo can be glued to many plastics using Gorilla Super Glue. If after it cures it peals off the plastic, try reglueing it using a thin layer of super glue.
Related Instructables

- Gliphite: Make A Key Chain Pencil by mikey77
- Making Ooglo: Luminescent Silicone Paint by mikey77
- Low Profile Sugru Battery Holder by wizgirl
- Spooky Polyester Resin Ghost prop by iminthebathroom
- Using transparent silicone glue and conductive threads to make flexible LEDs Circuit by asvin.b
- Roomba Tire from Oogoo by jptrsn

Comments

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landline says:
Mar 9, 2011. 9:31 AM REPLY

Simply wonderful! Worked the first time! I made a cast of a Monopoly game piece and the replica (cast in plaster) had very excellent detail! Cheap, too. I'm curious to try it with cold-process lye soap casting. It seems that if it will tolerate soft metal casting, it should tolerate the lower-temp soap, but I wonder how silicone, corn starch and lye will react with each other.

MistyEE says:
Feb 27, 2011. 6:13 PM REPLY

One question I had ... is there a reason the gloves can not be latex? (Chemistry was not my strong subject) Just wondering if I could use the cheaper gloves out there at the dollar store and what not...

MistyEE says:
Feb 27, 2011. 6:05 PM REPLY

WOW!! This is soooo great! Thank you so much for sharing! Also want to say I am so thankful for the collaborative spirit here....so many great ideas in the comments as well. Can't wait to try this out!

gtol says:
Feb 19, 2011. 10:46 AM REPLY

Mikey - I think I've found a way to make Oogoo without corn starch - have a look at this work in progress and let me know what you think. I've marked it as open for collaboration if you want to add anything to it (it's not yet published, but it is visible already. Actually the system won't let me publish it because it reckons there are not enough images present.).

mikey77 says:
Feb 26, 2011. 9:55 PM REPLY

I too have experimented with mixing silicone caulk and latex caulk in various proportions. I have also mixed the silicone with elmers glue, epoxy, super glue, polyurethane, and several other adhesives.

While most of them work to some degree, none of them seem to improve on the working or cured characteristics of Oogoo. One of the unique advantages of Oogoo is that there is a period of time, while curing, when it can be hand worked fairly easily like Sugru. Most additives, especially those with acrylic, latex, or water, seem to eliminate this workability. Most additives also reduce the tear strength or flexibility of the cured silicone rubber.

I am now experimenting with various solvents and more exotic addititives like micro-balloons. I'm also experimenting with ways to make Oogoo into a foam.

If you come up with a combination that has uniquely different characteristics, please let us know.

nonsequiteur says:
Feb 25, 2011. 3:55 PM REPLY

I find a wood screw works best for cleaning out the tip of the caulk tube, if you dont use the caulk for a long period of time the caulk will eventually cure around the screw, but then all you have to do is grab it with some pliers and pull it out and it will pull the cured silicon plug out with it.

superpants says:
Feb 24, 2011. 12:41 AM REPLY

I have been experimenting with something similar myself- mainly as I wanted to custom colour silicone. I have found that talcum powder works well as a substitute for the cornstarch- I tend to mix a small amount of water with it and the colouring to form a paste, and then mix with the paste with the silicone. The key advantage of the talc is that it is in-organic so there will be no issue in the future with it supporting fungal or bacterial growth. Hope this helps some people!

bobbubbles says:
Feb 23, 2011. 10:28 PM REPLY

or... how do i get these things??
i live in australia! :(

patt39 says:
Feb 23, 2011. 6:49 PM REPLY

on a note: DO NOT use latex as a substitute material for silicone, I learned this the hard way. (takes like a whole day to clean up)

http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/
Denmur says:
Can I use it in a plaster mold? Feb 22, 2011. 10:33 PM

simonett says:
Again, a wonderful 'able. Feb 17, 2011. 10:59 PM

mechaninja says:
Also, is it bouncy? I want to use it to make protective bumpers for my MP3 player. Nov 17, 2010. 5:52 PM

Kaelessin says:
Just made some of this (sans color) and it's perfect for that kind of thing. It's nice and rubbery and remains flexible. I used it to make a grommet for a hookah water pipe and it's functioning beautifully. Nov 18, 2010. 5:18 PM

mechaninja says:
kay. When I made it, it was extremely hard to work with though. Feb 9, 2011. 3:35 PM

janetsellers08 says:
Okay, so I made a little sculpture with this BUT: I got it all over my hands and my comment is to help people remove this great goo from their skin. I used an orange oil cleaner as well as Dawn dish soap (original only - the one they use to clean up wildlife from the oil spills). It worked well, but I had to wipe off my gooey hands several times with paper towels (not so hot) and sacrifice a couple of microfiber towels. Feb 6, 2011. 12:29 PM

Creaturiste says:
Thank you! Oct 14, 2010. 2:04 PM
I will try this next time I need to mold something which I usually would have done with the expensive silicone putty!
I make puppets, masks and collectibles, so this technique will likely come in very handy!

Creaturiste says:
Ans yes, I tried it months ago, and keep using it. It's really a money saver, although the time aspect is not as shortened as one would wish, the thick oogoo is hard to apply in precision. Feb 4, 2011. 9:27 AM
I would really like it if someone found a non toxic way of making this pourable, for the first detail layer. There is a way that is toxic, which is adding solvent, such as mineral spirits, but I'd rather not use this while I'm stuck inside for the winter time.
Here's the link to the other guy's article where he uses the modified Oogoo method with mineral spirits...
http://www.instructables.com/id/Make-a-silicone-mold-from-common-household-materia/
I wonder if regular white vinegar would be a suitable solvent?

cant_decide says:
I will be trying this as well. It looks to be a great alternative to using more expensive silicones in small to medium quantities. Feb 4, 2011. 5:12 AM

privtec says:
Inspired by this great instructable I did some experimenting to find a solution to the number 2 advantage of Sugru (see step 14):
2. Cures to a harder rubber.
It came out that cotton flock filler does the trick. Just mix about 5 to 6 parts of silicone caulk with 1 part of cotton flock filler (by weight not by volume! Because I find it hard to measure volumes of a extremely sticky stuff :-). No starch.
It's somewhat harder to mix, cures as fast as the silicone/starch mixture and results in a much harder rubber. Another side effect is that though it's still opaque it's more translucent.

Brother_Bear says:
Anyone tried adding silicone oil to make the oogoo more pourable? Its quite cheap although it will lower the shore hardness index of the cured oogoo. Jan 26, 2011. 6:39 AM

stringstretcher says:
I have used corn starch to quick harden a silicone called Dow Corning 734, a thin pourable silicone. Worked like a charm. The problem with thinner silicones is that they harden on the surface quickly and then take a LONG time to cure through. This takes care of that problem. Be careful to mix just enough corn starch to make it begin to thicken, too much and it will thicken to a paste.

Wouldn't the shore index go up, i.e. get harder? That is what I have experienced. Jan 29, 2011. 10:04 AM
**Brother_Bear** says:
And i am also thinking that this would work great as a mother mold material for 2 part RTV silicones as well. thereby saving a lot of money in the long run. :)
I need to go buy some starch (in my case made from potatoes instead of corn) and some silicone so I can get experimenting.

**stringstretcher** says:
I also tried this yesterday! Wacker makes a quick hardening silicone, 150 C. Three minutes open time and it is quite 'runny.' I mixed in some corn starch and made it thicken, thixotropic is the word. spread it on as a paste and sealed my part for casting.

**lennyb** says:
good instructable... no wait great instructable yup that fits.
I wonder how well this would work to make custom insoles for shoes.
im thinking mix it up let it set a little bit in a shallow tray grease up your feet and step on it to make a moulded insert for your shoes just cut it to fit once it finished setting up.
or would it smell even funnier after a while? i may try this.

**Colourful** says:
lennyb, I've just made a prototype insole using oogoo, will send you a link when I'm done with the instructable if it might be of use!

**lennyb** says:
please do im going to try it myself soon.

**ksierk** says:
Works great Lenny. Every pair of shoes I have has a custom molded set of inserts. Works a LOT better than the $300 ones I no longer use.

**sherbet1956** says:
You shouldn't stand on the oogoo to make insoles. I have custom orthotics. My podiatrist molded the plaster to my feet while I was sitting with my feet up. My orthotics have saved me a lot of pain.

**Marcos** says:
If you can find a good body worker (massage therapist, et al) you won't need any orthotics. Check out YouTube videos for your particular condition. It'll take some sifting, but you may find one that will help you cure yourself.

**Colourful** says:
That's not true Marcos, I need foot orthotics because the muscles in my instep are stretched due to a collagen deficiency, however strong/massaged they are, they'll still be the wrong shape!

**kill-a-watt** says:
Maybe you could wrap your orthotics in something like plastic, and then use oogoo to make a mold of them.
http://reprap.org/wiki/SoftToolingForCasting
Then you could use epoxy, cast in the mold, to create a duplicate, one for each of your commonly worn shoes.

**sherbet1956** says:
That's a great idea! It's a real pain to move my orthotics from shoe to shoe and it wears them out faster.

**lennyb** says:
yes that makes sense once its stiff enough to not run out of the tray i guess id just press it firmly against my feet to make the impression. do it from a chair even then i could control the pressure as needed.
thanks for the tip.

**mikey77** says:
Might be worth a try. No need to grease up your foot. Just put a piece of thin polyethylene plastic over the Oogoo and use a pipe to flatten to the right thickness. When it has set up in a few minutes and is clay like, you can step on it to make the impression. After a few minutes you can peel off the plastic.
I would wait for a day or two until the Vineger smell is gone before trying it out.
Most silicone caulks have additives to prevent mildew, so it might actually work quite well for this application.

http://www.instructables.com/id/How-To-Make-Your-Own-Sugru-Substitute/
shaune23 says:
I'm excited to give this a try. It would be much nicer than trying to move my $300 orthotics around to each pair of shoes. Dec 2, 2010, 3:04 PM

lennyb says:
much better .thanks mikey Oct 17, 2010, 3:27 PM

pokedemon123 says:
LED instructable robot FTW! Jan 26, 2011, 8:00 PM

a4great says:
Could this be used as a paintball shell? Jan 26, 2011, 5:17 PM

enoted says:
if u have oil in a can spray(normally used for baking trays). Spray into container and oogoo should not stick. (I tried this and it didnt stick) Jan 23, 2011, 10:23 PM

pokedemon123 says:
Someone should try to modify this to make silly putty. Jan 20, 2011, 8:47 PM

enoted says:
I read that silly putty can be made from wood glue and corn starch. Jan 23, 2011, 10:18 PM

enoted says:
I have tried the recipe for the clear caulking and it worked really nicely. But I found it really hard to work with whilst I was mixing the substance. I let it to dry for about an hour and they I was able to knead the product. It wasnt sticky at all during this time. If I make a mixture of 1 part caulk and 1 part corn starch, can I then add enough of the paint thinners to make it into a liquid form for pouring. Or is that not recommended. Has anyone tried to make the product with acrylic caulking? Jan 23, 2011, 10:17 PM

Ragnarocker says:
Oogoo is fantastic, thank you. This is truly 'Power to the People". Jan 21, 2011, 3:53 PM

DMasters says:
You mention GE silicon II doesn't work due to it being neutral-cure. I was curious if you think there's an alternate method which would allow neutral-cure caulk to be used for the same purpose. I ask mainly because GE silicon II K/B supreme is what I have handy, and would rather be able to play around with my leftovers before buying a fresh tube of (hard to find around here) acid-cure. Oct 22, 2010, 3:27 PM

DMasters says:
Update: GE Silicone II K/B Supreme is a neutral alkoxy moisture curing caulk. The process, for the purposes of this 'ible, is the same as for the acetox moisture cure you get with the acid-cure caulk used here. The only downside is that it would be harder to tell when it's done curing because the vinegar smell isn't there. (Tried it anyway; it reacted identically to the acid-cure Silicone I, and set up just as well. Obviously, still waiting on full cure.) Oct 22, 2010, 7:57 PM

Brad I. says:
Was wondering what the end result of your silicone II curing experiment was? Did it set well? Thanks Jan 20, 2011, 3:05 PM

DMasters says:
Just to see the difference, I made the same model with both the silicone II and an acid cure silicone caulk with a 3 to 2 ratio of caulk to corn starch. The acid cure sets quite firmly, while the neutral cure still has a little give and flexibility even after full cure. In the end, the difference is minor, as long as it's a moisture-curing caulk. Jan 20, 2011, 10:37 PM

mcguinnessdr says:
Would it be ok to cover a flash drive in this? I'm assuming it would because he covered the pumpkin head in it, but I just want to make sure it won't ruin my flash drive. Jan 18, 2011, 3:15 PM
RunningUtes says:
I mixed the corn starch and the silicon in a small ziplock bag. This allowed me to mix the material without getting anything on my hands. I just cut the corner and squeezed the material out. It was great.

Colourful says:
Fantastic idea, I'm so going to do that next time!

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