Fusing Plastic Bags- the eclipse way
by eclipsed on January 26, 2009

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http://www.instructables.com/id/Fusing_Plastic_Bags_the_eclipse_way/
Intro:  Fusing Plastic Bags- the eclipse way
There are a lot of tutorials for fusing plastic bags, but I get asked frequently for directions so I figured there must be room for one more. I have noticed every tutorial I read has differences and my method is not exactly the same as any others. I have done a lot of trial and error and this is what I consider the best, most efficient method with the best results. For this tutorial I will show how to make an appliqued zippered cosmetic bag from fused plastic.

step 1: Materials list
This is all you need to start fusing:

1. an iron
2. a hard heat-resistant surface like a wooden cutting board
3. baking parchment paper.
4. Some plastic bags! There's no shortage of those in the world, unfortunately.
   For this project you need white 3 grocery type bags, some small scraps of colored plastic bags, and one thin clear bag such as a dry cleaning bag or newspaper delivery bag.
5. scissors
For the sewing part of the project you need:
   A 7 or 9 inch zipper,
   a sewing machine
   thread
Difficulty level: easy, but time consuming
Basic sewing skills required (straight lines, nothing fancy)
**step 2: Preparing the bags**
To prepare the grocery bags for fusing, you need to trim off the handles, and trim off the seam at the bottom. When you are done, smooth out the bag into a flat rectangle. You can leave the side seams connected. You will end up with a double layered piece, like a tube.

![Image Notes](http://www.instructables.com/id/Fusing_Plastic_Bags_the_eclipse_way/)
1. cut off the bottom seam

![Image Notes](http://www.instructables.com/id/Fusing_Plastic_Bags_the_eclipse_way/)
1. cut off the handles

**step 3: Start Fusing!**
1. Set the iron between polyester and rayon, that is setting 3 on my iron but yours may vary.
2. Open a window—you should do this project in a well-ventilated area. You are not burning or melting the plastic, it doesn't get hot enough for that, but it may release some fumes.

3. Cut two large pieces of parchment paper that cover your cutting board. Whenever you fuse, the plastic will always be sandwiched between these 2 layers of paper. The bottom layer of paper prevents the plastic from sticking to the board, and the top layer of paper prevents the plastic from sticking to the iron.

You will be fusing 1 bag at a time, which is 2 layers at a time. This project is using 3 bags so it is 6 layers thick. For larger or more heavy duty projects like a backpack, you'd want to use 8 layers of plastic. (4 bags) This applies to thin grocery store type bags. If you are using a thicker plastic bag like some fancy clothing boutiques, you may only need 2 or 3 layers.

4. On the cutting board, lay down one piece of parchment paper, then your bag, then the second piece of parchment paper.

5. Now start to iron the top paper. Press firmly and keep the iron moving, don’t let it sit in one spot for more than a second or two.

6. On my cutting board, the whole plastic is bigger than the board. This means I have to iron it in sections. When you have ironed everything covered by the paper, then lift the paper and shift the plastic to iron another section. Continue until you have ironed the entire bag.

7. Now lift the paper and test your fused piece. Rub the fused piece between your fingers to check for adhesion. If you hear crinkling noise, it’s not fully fused. Re-iron any sections which crinkle, perhaps for a longer time or adjust the temperature up a TINY bit. It’s finished when the whole thing is one fused layer and there is no crinkling or air bubbles.
step 4: Adding more layers
Now you are ready to add the second bag. This will be the 3rd and 4th layers of plastic. I always add one or two new layers at a time. DON'T try to fuse all 6 layers at once, or the middle layers will have incomplete adhesion.

Lay the new, unfused bag on top of the fused bag, cover with parchment paper and iron again, just as you did with the first bag. Iron it in sections as you did the first bag. Check again for crinkling, and re-fuse any areas which are not completely fused.

As plastic fuses, it also shrinks. This may cause the fused piece to distort in shape or to curl up. If you find your fused plastic curling up too much, flip it over and fuse the next layer onto the back. This will equalize the shrinkage and flatten it out.

After the first 2 bags are completely fused, add the 3rd bag the same way as the second. Fuse the third bag and let cool a few seconds.

step 5: Trim the fused plastic
Now you have a piece of fused plastic 6 layers thick. This is a good usable size to make things with. I do not like the method of folding a single bag twice upon itself to make an 8-ply fused piece, because it makes such a small piece, there isn't much you can do with it. This method of using 3 or 4 full size bags ends up with a nice sized finished piece. I find these are the perfect size to make cosmetic bags and pencil cases, but if you want to make a large item like a backpack or tote bag, you can sew several pieces together.

The edges are going to be wavy and raggedy and some will be less than 6 layers thick. So you will want to trim your piece to make it a nice clean rectangle. For my bag, I trimmed it to a 9 inch by 14 inch rectangle.
step 6: Make your appliques

Now comes the creative part! I like to decorate fused plastic with appliques. I save any plastic bags I get which are pretty colors, so I can use these to decorate a plain white bag. You can do very simple appliques like stripes, or very complicated ones like this insane tree and bird.

For this project, since it is close to Valentine's Day, I am doing some heart-shaped appliques. I have some saved scraps of pink and red plastic, these were handles trimmed from other bags.

To cut a heart shape: Fold the plastic and cut an ice-cream-cone shape against the fold. Then unfold, and you have a heart shape.

Repeat and make different sizes of heart appliques.

Image Notes
1. Simple appliques like stripes are easy to do and very pretty

Image Notes
1. Complex applique with many tiny pieces of different colored plastic!
step 7: Fusing the appliques

For this project since I am making a cosmetic bag, the plastic will be folded in the middle, and the fold will be the bottom of the bag, while the two short edges will be the top. For this reason I am arranging the hearts to be pointy side facing the middle, and curvy sides facing the ends. This will assure my hearts are right-side-up on the finished cosmetic bag.

Arrange your appliques on the base plastic in a pleasing design. They can overlap if you like.

Cover with parchment paper and fuse them in place.

Once all your appliques are in place, you can cover and seal the top with your layer of thin, clear plastic. I use the bags my newspaper is delivered in on rainy days, but dry-cleaning bags also work great for this. This top layer adds almost no thickness but it adds a nice glossy finish and makes doubly sure the appliques never peel up.

Once you have fused the clear layer on top, trim the edges even with your base layer.

Now the fusing portion of the project is finished, and you can put away the iron.
You're ready for the second phase: sewing the cosmetic bag.
**step 8: Setting the zipper**

Sewing tips for sewing with fused plastic:
You can sew the finished plastic material in the sewing machine or serger.
DO use a longer stitch length, so you won't have too many holes forming a perforated line_(prone to tearing)_ I use a long basting stitch length.
DO sew small items wrong sides together, especially if the plastic is very thick and stiff... You DON'T need to turn the seams to the inside like you do with fabric items, because the plastic does not fray. Also, it may be difficult to turn smaller items like cosmetic pouches inside out.
For a larger item like a tote bag you can have the seams on the inside or outside, your choice.
DON'T pin pieces in place, because the holes will not close up.

This pouch uses a zipper. I use a 9 inch zipper but you can also use a 7 inch zipper for a smaller bag.
If you know how to sew, this is basic stuff, just simple zipper application. I am assuming some sewing knowledge and will not attempt to teach beginning sewing in this tutorial.

1. Put the zipper foot on your sewing machine, and sew the zipper face down against the RIGHT side of the plastic.
2. Fold zipper out, so it is face up and the seam allowance is pressed towards the plastic. Use your finger to press it- do not use the iron. Topstitch on the plastic close to the zipper tape.
3. Fold the plastic, right sides together, so that the other end of the plastic lines up with the free edge of the zipper tape. The right side of the zipper should be facing the right side of the plastic. Sew them together, right sides together.
4. Reach inside the bag (it will be like a tube at this stage) and UNZIP the zipper. Now fold zipper out and topstitch the second edge, just as you did it step 2.

The zipper is now finished.
1. 2. Fold zipper out, so it is face up and the seam allowance is pressed towards the plastic. Topstitch close to the zipper tape.

Image Notes
1. 3. Fold the plastic, right sides together, so that the other end of the plastic lines up with the free edge of the zipper tape. The right side of the zipper should be facing the right side of the plastic. Sew them together, right sides together.

step 9: Sew the side seams.
For this project, I put the seams on the inside because the plastic was a bit thinner and more flexible than it usually is. I could tell that turning the bag right side out wouldn’t be a problem. However you can also do this with the seams on the OUTside, which I recommend if you are making a smaller bag (like with a 7 inch zipper) or if you have thicker finished plastic.

The only difference in the directions is that if you are sewing right sides together (to make the seams end up inside), make SURE TO OPEN YOUR ZIPPER before you sew up the side seams. Otherwise the zipper pull will be sealed inside and you have no way to open the bag and turn it right side out. (yeah, I have done it. DOH!)

If you sew wrong sides together, this is no worry because the zipper pull is already on the outside.

So anyway just sew your side seams, whichever way you prefer to do it. Easy peasy.
step 10: OPTIONAL- make a flat bottom for the bag

This step is optional. I make two types of zipper bags: some are flat like an envelope, and others have a flat bottom so they can stand up and hold more stuff. For pencil cases I usually leave the bag flat like an envelope. If that's the type of bag you want, skip this step. All of my halloween candy fused bags are the flat envelope type.

If you want the 3-D bag with a bottom, here is how to make it:
Fold the side seam towards the bottom fold line, until the corner of the bag makes a triangle shape like in the picture.
Now sew a straight line ACROSS the point of the triangle. (perpendicular to the side seam)
The length of this seam will be the width of the bag bottom. 2 inches is a good width.
Do this on both sides, making the seams the same length. 
Now trim off the triangles leaving a small seam allowance.

Image Notes
1. Stitch along the black line, perpendicular to the side seam.

step 11: Turn right side out

If you sewed it wrong sides together, you are already finished! Yay!

if you sewed it right sides together, then unzip the bag all the way, and gently turn it right side out, trying not to crumple it up too much in the process. And THEN you are done. :-D
step 12: General tips and tricks

DO's and DON'T'S

DO fuse both HDPE (recycle code 2) and LDPE (recycle code 4) bags (see photo). HDPE is the crinkly plastic grocery bags, LDPE is the glossy stretchy bags like Target bags, also clear bags like dry cleaner bags. They will both fuse, to themselves and to eachother. You may need to lower the heat just a bit for LDPE. There are some tutorials which say you cannot use LDPE, but I have successfully fused it.

DO use all kinds of plastic, not just grocery bags. Use the bags from frozen veggies, use the bag from dried pasta, bread wrappers, etc. You can use potato chip bags inside out to get a silver metallic color. This works better for small appliques than for a large piece, because foil-lined plastic will not shrink at the same rate as normal plastic, so if you try to fuse large areas of foil lined plastic you will get bubbles and puckers.
I particularly love the bags from Ore-Idea frozen potato products. They are thick so you only need 2 layers, and they have the most glorious glossy color. Really nice quality plastic! (see photo)

DO apply the heat a little longer for thicker plastic. You also don't need to use as many layers when you use a thicker plastic.

DO put a clear plastic layer over any vivid colored design you want to show on the outside of the bag. Red ink especially seems to melt and bleed, although the red designs on Target bags do not bleed. You can also turn bags inside out if they have a tendency to bleed color, but this is not necessary on all bags.

DO reuse the parchment paper over and over, unless it gets an ink transfer from a bag. Then you will need a clean piece, because it will transfer that ink back to your next fused piece.

DON'T use waxed paper instead of parchment paper! The wax will melt and make a stinky mess. Waxed paper cannot take the heat, freezer paper is also not ideal because it's made for use with cold not with heat. Baking parchment paper is the best because it's made to withstand heat up to 420 degrees Fahrenheit.

DO use a hard ironing surface such as a wooden cutting board. A hard, smooth surface will help you get even adhesion.

DO use firm pressure when ironing, but keep the iron moving. This isn't like fusible interfacing where you have to keep the iron in place for 10 or 15 seconds - if you do that the plastic will probably burn.

DO fuse one or two new layers at a time. DON'T try to fuse all 8 layers at once, or the middle layers will have incomplete adhesion.

To see some of my fused plastic finished projects, check out my slideshows on Instructables.

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