



— *Silhouette*101 —

VINYL ALL THE THINGS

Everything you need to know about vinyl including helpful tips and tricks.

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Introduction

Vinyl is a versatile and easy medium to work with when using your Silhouette machine. In this eBook, you'll learn everything you need to know about vinyl as we walk through how to create several vinyl projects. As you practice these techniques, your skills will grow and you'll gain confidence in your abilities to cut and apply vinyl.

The projects and instructions in this book use the Silhouette CAMEO® 3, but any Silhouette digital cutter can cut vinyl.

What is vinyl?

Vinyl is a thin, self-adhering, plastic-like material you can cut with your Silhouette machine and stick to things like walls, mugs, storage containers, jars, car windows, and a lot more.

Types of vinyl

Silhouette adhesive vinyl generally comes in 12-in. or 9-in. rolls, and you can find it in matte or glossy finishes.

Matte vinyl has a more temporary compared to glossy vinyl, and it can easily be removed from surfaces like walls.

Glossy vinyl is what you would use outdoors, like on a door or a mailbox, because it has a stronger and more permanent adhesive. Glossy vinyl also works great indoors and on any project where you like the glossy texture or need a stronger hold.

You can also get vinyl in metallics, reflective, whiteboard, chalkboard, carbon fiber, wood, glow-in-the-dark, frosted, translucent, and glitter finishes as well as clear stencil vinyl and even printable vinyl sheets.

Tools

Vinyl is really easy to use, and there are a few basic tools you'll use for most vinyl projects.

- ▶ **Silhouette machine:** Cut vinyl with any Silhouette digital cutter. That includes the CAMEO, Portrait, or Curio.
- ▶ **Hook tool:** Use a hook tool after your project is cut so that you can easily pick away, or weed, the parts you don't need.
- ▶ **Transfer tape:** Use transfer tape to temporarily hold vinyl cutouts in place when removing them from their original backing and attaching them onto the intended project surface.
- ▶ **Scraper tool:** Rub the vinyl that's applied with transfer tape with the scraper tool so the vinyl gets a firm grip on the surface.
- ▶ **Silhouette blade:** Cut vinyl with any Silhouette blade. That includes the AutoBlade, ratchet blade, or premium blade.
- ▶ **Cutting mat (optional):** Place vinyl on a cutting mat to cut it or cut the vinyl directly from a vinyl roll if using the CAMEO or Portrait. Curio™ requires the use of a mat and its base when cutting vinyl.

- ▶ **Roll feeder (optional):** Use a roll feeder if you choose to cut vinyl without a mat on the CAMEO or Portrait to make cutting vinyl easier.

Appropriate use for vinyl

Because vinyl already has an adhesive backing and because it's not fibrous like paper, vinyl is amazing for intricate shapes!



You can cut fancy shapes that are very skinny or designs that have lots of individual pieces because the transfer tape used with the vinyl lifts everything up at once, and the vinyl sticks to the surface you apply it to once the transfer tape is removed.

Vinyl is perfect for cutting out phrases and words.



You can also cut layered designs, so you can use more than one vinyl color and stack the layers on top of each other.

Another kind of design that works well for vinyl is a very large design. The CAMEO and Portrait can cut vinyl without a mat and can cut vinyl as wide as the rollers allow, which is almost 12 inches wide without a mat on the CAMEO. And the machines can cut the length of the roll, which can be as long as 10 feet. Most projects probably won't be that long, but the CAMEO and Portrait can do it!

Vinyl sticks best to smooth surfaces, but if you're careful, you can also add it to surfaces with a bit of texture.

Weed lines

Weeding is the process of taking out everything you don't want in your design.

If you want to keep the letters as your design, then weed away the background and the centers of your letters.

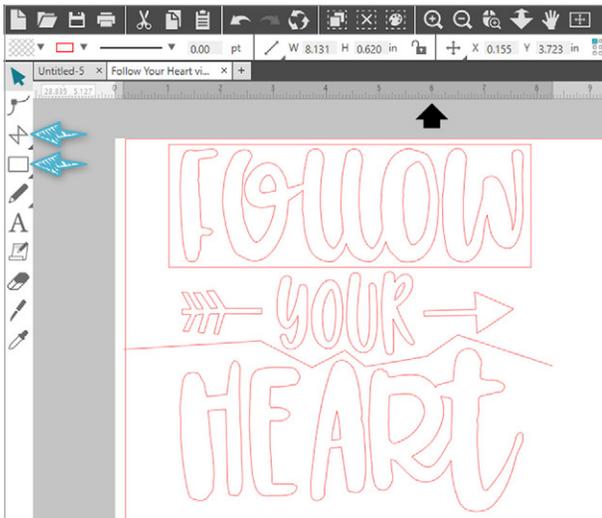


For smaller designs, it's easy to just peel away the background without touching the shapes you want to leave in place. But as the designs get larger, the excess sticky vinyl can become a little more difficult to remove without coming in contact with the design.

That's when creating weed lines is helpful. Weed lines are lines placed in the negative space of your design. This breaks up the extra material so that you can weed in segments instead of everything at once.

If you don't have the Business Edition of Silhouette Studio®, you'll need to create your own weed lines.

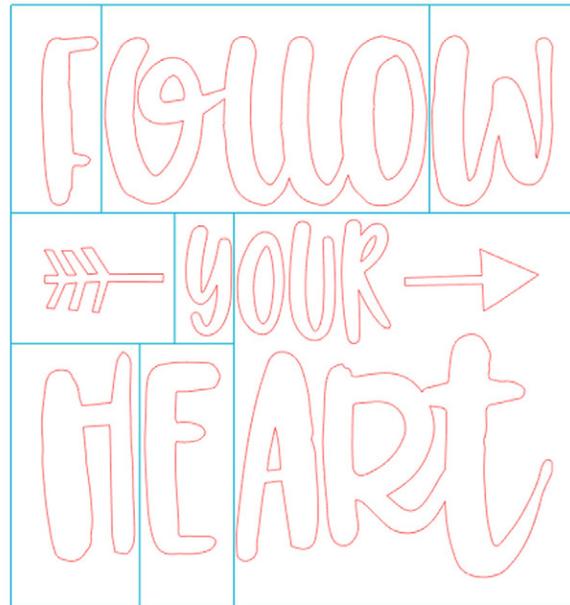
Do this by drawing rectangles around shapes, or by drawing lines between shapes. Use the best drawing tool for the job, such as the rectangle drawing tool or the polygon line-drawing tool to create divisions between shapes. Lines should extend from edge-to-edge of the vinyl. Don't let the cut lines you're drawing touch the design you want to keep or else the weed lines will slice into your design.



Now after cutting out the vinyl, it will be easier to weed the vinyl in segments.

If you have Silhouette Studio® Business Edition, there is a tool in the software that will create weed lines automatically for you.

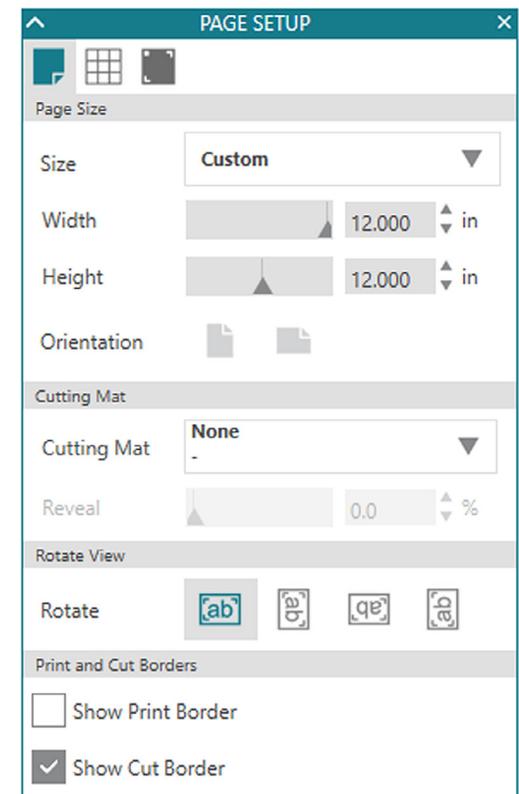
 Open the Weed Settings panel, and you can choose which kind of weed lines will work best for your design. Recursive is a nice choice for vinyl because it generally creates the most divisions with weed lines. The tool for automatic weed lines is looking for horizontal and vertical spaces between elements of the design.



Remember that if you don't have Business Edition, you can simply draw your own weed lines with the drawing tools.

Cutting vinyl

You're almost ready to cut this with the Silhouette machine.

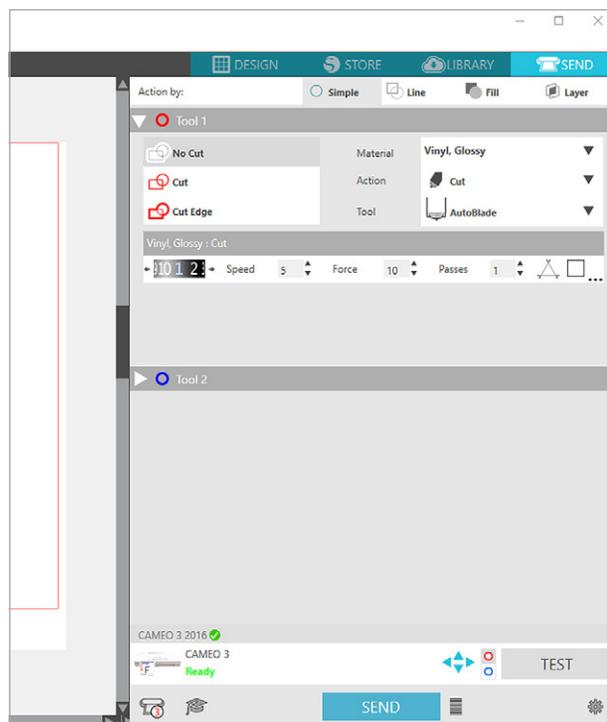


Verify that your media matches your virtual page size in the Page Setup panel. To cut this design directly from a 12-inch roll of vinyl, you want the

page size to be 12 inches wide. The height doesn't really matter in this case since the design is fairly short, so you can leave it at 12 inches as well.

The cutting mat should be set to None when cutting straight from a roll or sheet of vinyl, and it's good practice to always show the cut border by checking the box on the Page Setup panel. This visual cue helps us always keep the design within the cuttable area.

Click the Send tab to go to the Send panel. The bold red lines in the preview area show what the blade is going to cut. It will cut out the phrase and all the weed lines.



For Tool 1, set the Material to “Vinyl, Glossy” or whichever type of vinyl you’re using. The action is “Cut” and the tool is the “AutoBlade” for the CAMEO 3 or Portrait 2, but you can choose a ratchet blade if that’s what you’re using.

The default cut settings for this kind of vinyl populate automatically, and once you’ve loaded the vinyl, you should make a test cut to make sure those settings will work.

But first, let’s load the vinyl into the Silhouette machine. We’ll use a roll feeder and no cutting mat for this first project.

Note: You can cut vinyl on a cutting mat. Using a mat is appropriate when you have small scraps that are too small to be gripped by the rollers or if you want to cut all the way to the edge of the vinyl and the vinyl is small enough to completely fit on the mat.

You’ll use the same blade settings regardless of whether the vinyl is going to be cut on a cutting mat.

The rollers on the CAMEO are adjustable. To cut 12-inch vinyl, you need to move the right roller in one notch from the far-right position.

To do that, lower the release lever. Now twist the roller body to the unlocked position. Slide the roller over to the next groove so it settles in place.

Twist to lock the roller again. Pull the release lever up again so that it’s pointing up and locks the bar in place.

Note: Only the CAMEO has adjustable rollers.

A key point when cutting vinyl without a mat is that the front vinyl edge that feeds into your machine needs to be completely even and go straight across at a 90-degree angle from the side edge of the vinyl. If your vinyl goes in crooked, that can cause it to slip out of the rollers as the cutting progresses, and that can send the whole project in crazy directions. It’s good practice to always trim a new roll of vinyl yourself so you know the leading edge is straight.

Roll feeder

To use a roll feeder, place the feet of the CAMEO or the Portrait into the slots in the front of the roll feeder. Follow the instructions to adjust for your machine, if necessary.



Once your leading edge is straight, place it down so the roll is resting on the small rollers and the vinyl edge goes up and over toward the machine so that the blade will cut directly into the vinyl surface but not through the backing layer.

Adjust the width of the roll feeder's end cap by sliding it back and forth. You can feel it settle into its preset positions.

Slide the vinyl under the white bar so it comes through the front opening.

Tip: Curl up the vinyl's front edge a little so it doesn't snag in the roll feeder's cutting groove and so it's easy to push up against the machine's rollers.

Line up the left side of the vinyl with the indicator line and arrows.

Hold the vinyl against both rollers while pressing Load, or Load Media on older machines.



When the vinyl is loaded correctly, you should see the front edge appear straight all the way across and the rollers should be firmly gripping both sides of the vinyl.

Test cut and first cut

Before cutting the full design, it's good practice to perform a Test Cut when working with any new material you haven't cut before.

The default Test Cut area is the upper left corner of the machine when the blade is at its origin point, so make sure the final design is not in that area. Or you can use the arrow keys on the machine or software to reposition the blade for a test cut that's out of the way of the design as you see it on the screen.

When it's ready, click Test in the Send panel. The machine's blade will make a cut in your material that's a triangle within a square. You want the test cut to cut all the way through the vinyl, but not deep enough to cut through the backing.

If the vinyl is not coming cleanly off the backing or is difficult to separate, then adjust your force or blade settings and use the arrow keys in the software to move the blade to a new area on the mat, and make a Test Cut again.

If the cut is clean, make sure the design is in the right place and is out of the way of the test cut.

Load the vinyl again and click Send. Your Silhouette machine will cut the vinyl exactly where you see the bold red cut lines in Silhouette Studio®.

When the vinyl cut job is done, on a CAMEO you can unload and trim it off the roll with a paper trimmer, or you can cut it with the crosscutter. Hold the vinyl in place and use the crosscutter in the track at the back of the CAMEO or the front of the roll feeder with a single quick pass.

Weeding

Now press Unload on the machine, and it's time to weed. This is where a hook tool comes in handy.



Just like weeding in a garden, the purpose of weeding vinyl is to weed away or remove unwanted vinyl. The weed lines help the vinyl come off in small pieces so an unruly piece doesn't fall back against the project and stick to it. Take your time, and don't pull up any part of the design that should stay on the backing. When the design is completely weeded, only the design you want to apply remains on the backing.

Transfer tape—standard method

The vinyl cutout is like a large sticker, but you don't have to pick up the pieces and place them by hand. Use transfer tape to apply the design to your prepared surface.

Make sure your surface is clean and dry before applying vinyl. You can use alcohol to get smooth surfaces, like plastic or glass containers, really clean.

Silhouette's transfer tape is clear with grid lines, which makes seeing designs underneath easy. You can use the lines to make your design level too.

Cut your transfer tape so it's larger than the vinyl design.



Peel the backing off the transfer tape, press it down on the weeded vinyl design, and lift it up.



The design comes up with the transfer tape. If it doesn't come up easily, flip it face down, and peel the backing up away from the vinyl.

Now press it down on your surface. Flat, smooth surfaces are the easiest to apply vinyl to.



Rub the vinyl firmly against the surface with a scraper tool, and then carefully peel the transfer tape away, leaving the vinyl in place.



If your vinyl wants to lift off with the transfer tape, then put it back down, rub it some more, then peel away the transfer tape again.

Note: You can save undamaged pieces of transfer tape on its backing, because it can be used more than once.

Transfer tape—hinge method

On a larger design where you are more concerned about getting it perfectly straight, you may choose to use the hinge method with transfer tape.

Cut the transfer tape to the same size (or larger) as the vinyl backing.

Bend back or cut away the top inch or so of the transfer-tape backing, and press it against the top of the vinyl cutout's backing.



Smooth it against the vinyl cutout with a scraper tool while peeling away the transfer tape backing from underneath.

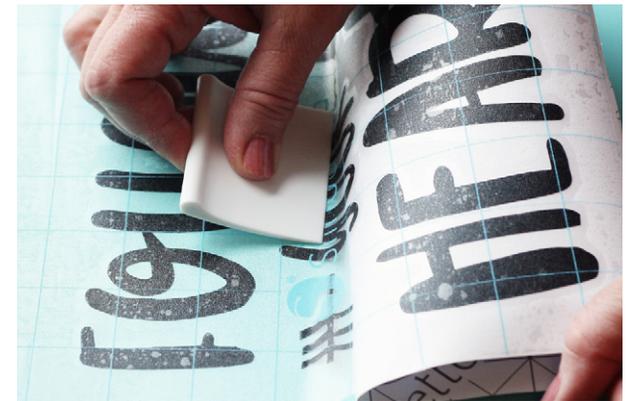


Once the transfer tape is applied, go through a similar process and either bend back or cut away the top inch or so of the vinyl's backing to expose a sticky strip of transfer tape that can be put in place before the vinyl design touches the surface.



You can use painter's tape to extend the sticky surface if that helps. This can be repositioned until it looks straight and is positioned evenly onto the surface.

When your design is ready, press down against the transfer tape with your hands or a scraper tool while slowly peeling back the backing away from the vinyl.



Keep the vinyl smooth and make sure there aren't any bubbles as you press down. Peel the backing from underneath.

Place the vinyl on the desired surface. Give the vinyl a good rub with the scraper tool, and carefully remove the transfer tape, leaving your vinyl design on the surface.



Multicolor layered design

Some designs look good with multiple colors of vinyl, but you need to make sure you can line everything up after cutting. To do this, you can create your own registration marks and then use the Cut by Fill Color feature in the Send tab.

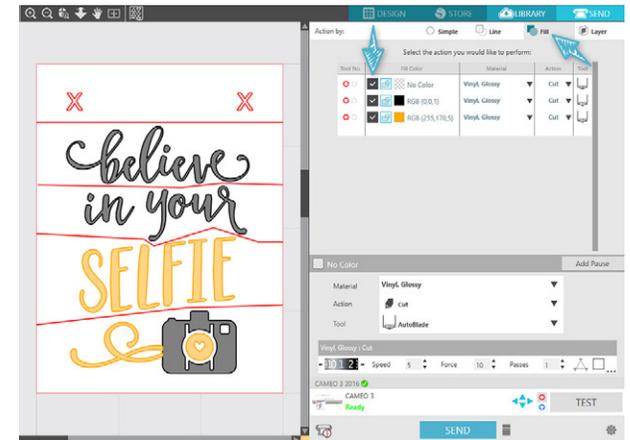
Registration marks for a vinyl cut design are simply a couple of shapes you put above the design to be cut with every layer. Type a small x, make a duplicate, and place the copy over on the other side. Place these marks a little higher than the rest of your design, and leave them with an empty fill color.

Create weed lines for your design, if you want.



Make sure your vinyl piece for each color is cut to the same size and set as your page size in the Page Setup panel.

Go to the Send panel, and go to the tab for Action by Fill. Every color of your design is shown here, including the blank fill color. This design only has two colors, but you can follow these steps for every multicolor vinyl design.



Make sure the Material for each color shows Vinyl, the Action shows Cut, and Tool shows AutoBlade or ratchet blade.

For each color, leave the clear registration marks checked to cut, along with one vinyl color.

Uncheck all other colors. Whatever color is checked will cut.

Now load the vinyl for the checked color onto the mat and load into the machine. Press Send to cut the first color.

Once you've cut the first color, unload it, uncheck that color, and check the box for the next color. Load the second color into your machine and press SEND to cut the second color.

For more than two colors you will follow the same steps, cutting one color at a time.

Now each layer is cut in its own color with the registration marks in place.



transfer tape liner to press down on the vinyl as you pull the liner away.



layers, you'd continue to do this, working from the top layer, down.



After weeding, use transfer tape to pick up the top layer first, including the registration marks.



Now place the cutout with transfer tape back on the vinyl backing to cover everything but the registration marks. This allows you to place your design on the next layer without accidentally touching it to the layer below it before you're ready.



It often helps to flip the design face down and peel the transfer tape backing flat against the surface, or use the scraper tool against the back of the

Now your design is ready to apply to your surface all at once. You can remove the registration mark cutouts before applying it since you no longer need them.

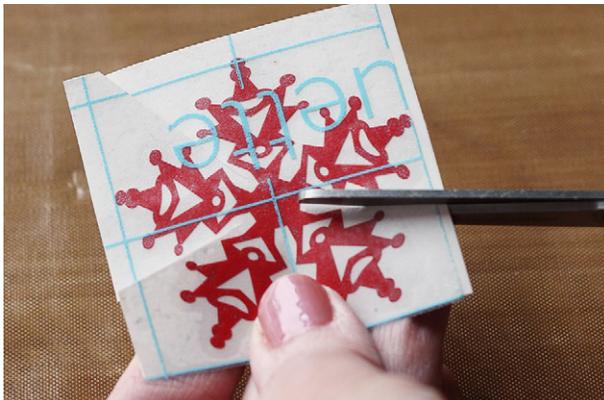
Line up the registration marks, press down, and then peel the vinyl backing away. If you had more

Curved or tapered surface application

In general, you want to avoid applying vinyl to a curved or tapered surface. To apply to a curved surface, you have to do a few tricks, and your design has to have certain characteristics.

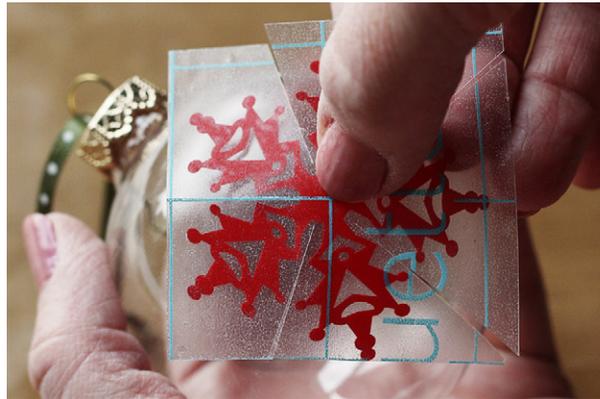
If you want to apply vinyl to a round glass Christmas ornament, choose a design that's only connected in the center, like this snowflake. Any design that's connected out further risks warping and wrinkling as it's applied to a curved surface.

Trim your transfer tape between the arms of the design.

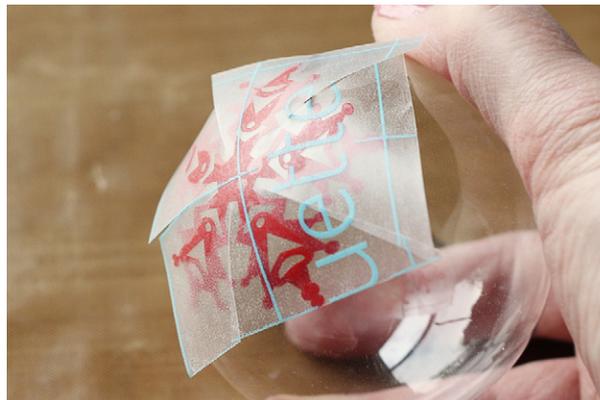


Flip the vinyl over to peel away the backing.

Line the vinyl up and press down the center point first. Continue pressing down and working your way out.



The sliced edges of the transfer tape may overlap, but the cutout itself can lay against the surface.



Remove the transfer tape.



If you're working with a mug that's only slightly curved, choose a design that's small or only flows one main direction, vertical or horizontal.

Trim your transfer tape between the letters, if necessary, then apply in the center first and smooth the design toward the outside. Any time you're applying vinyl to a tapered or curved surface, you will get some warping as it conforms to the curve.



When you apply vinyl to a curved or tapered surface, it's easy to get bubbles in the vinyl, so make sure you press at one point first and smooth as you work away from that point. If you do get bubbles, poke them with a pin or needle and press down to get the air out.



If you have a large design you want to apply to a mug, you're better off choosing a mug with vertical sides, instead of heavily rounded or tapered.

Tip: For mugs, make sure to use glossy vinyl with the stronger adhesive and wait at least 24 hours after applying so it can cure before washing.

Warp tool for conical shapes

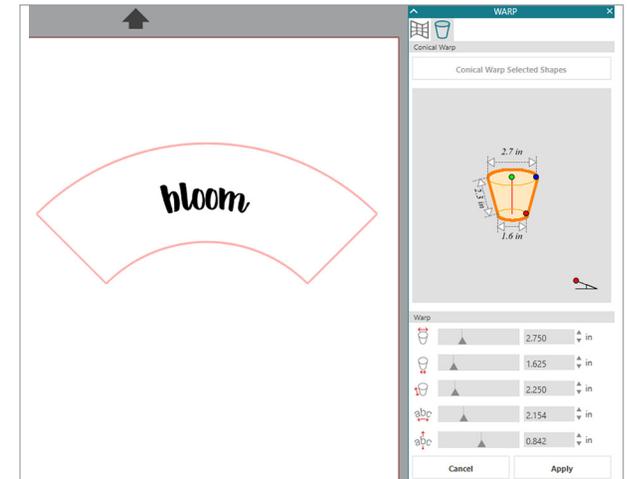


If you have an evenly-tapered surface like a drink container or little pots and if you have Silhouette Studio® Business Edition, then you can use the Conical Warp tool to skew the design to fit your surface.

If you just cut a normal word and place it on a tapered cup, you can see the design curves around to fit the surface.



With the Conical Warp tool, you can compensate for the curve. Select your word and choose "Conical Warp Selected Shapes." Input the top, bottom, and height measurements for the surface, and use the slider bars to adjust the vertical placement or size of the design.



It may look a little funny on the screen, but when you cut it and apply it, it will appear straight.

Note: With overlapping script text, be sure to use the Weld tool or the Cut Edge selection in the Send Panel so that no overlapping areas cut into each other.

Use a small strip of transfer tape, just enough to lift the vinyl up off the backing. To apply this to the surface of the pot, start in the center, and use the grid lines to orient the vinyl vertically at the center. Press in the center and smooth the vinyl toward the ends.

Notice the transfer tape still curves up against the tapered surface, but when it's removed you can see the design is nice and level and looks normal.



If you don't have Business Edition, you are better off avoiding tapered surfaces.

Vinyl as a stencil

You can also use vinyl as a stencil, so the vinyl itself becomes a mask for paint, fabric ink, or etching cream, and then you can discard the vinyl.

This next example uses a set of painted wood coasters where we'll use vinyl as a stencil.

For a stencil, you need to leave a border around the design to be stenciled. For this leaf design, draw an extra square around the shape before cutting, in order to keep paint from going where you don't want it to go. The stencil border should have plenty of room beyond the design or go right to the edge like in this design, so you have less chance of painting off the edge of the stencil.



You can use any kind of adhesive vinyl as a stencil. Stencil vinyl is clear and helpful for the placement

of a design, but this example uses colored vinyl for visibility purposes.

To use vinyl as a stencil, weed away the inside design and only keep the outside border and design centers.

Use transfer tape to make sure you keep every piece in the correct place, and then apply it to the wood and remove the transfer tape.



Press down to get a firm seal so that no paint leaks underneath the vinyl.

Add acrylic paint to the entire design with a stippling brush (or foam brush) with an up-and-down motion. You can see the paint only goes where the cutouts have left the wood exposed beneath the vinyl.



Tip: If you're worried about the paint bleeding, your first coat can be the background color so that any bleeding won't show.

When the stenciled design is almost dry, remove the vinyl. Since a stenciled paint layer is typically quite thin, it dries quickly and is generally ready to remove immediately. Peel it off against the grain to avoid pulling up bits of the background color.



Carefully pick off the inner bits with your hook tool, your fingernails, or a craft knife. Simply throw away the used vinyl, and you've got a stenciled design.

Touch up any flaws with a paintbrush. You can add a protective sealer over the top, if you want.

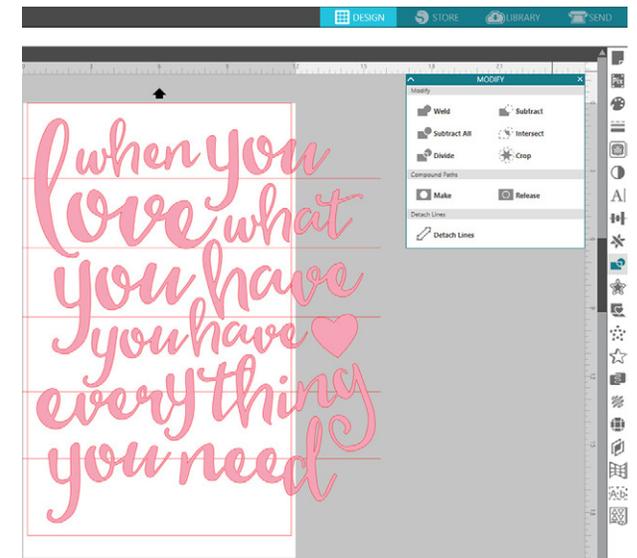
Tiling

Sometimes you have a really large design that you want to make with vinyl. If it can't be cut on a single piece of vinyl, then it has to be cut in sections and pieced together. This is called tiling.

This example is 15 in. wide and about 18 in. tall, which makes it too wide to fit on a 12-in. roll of vinyl.

Before adding weed lines, make the design a compound path (right click for a popup menu or use the Modify Panel) to ensure your steps later will be performed cleanly. A compound path makes the design a single layer, instead of a group of many separate pieces.

Add weed lines, which can be done manually or in Silhouette Studio® Business Edition. This design has letters close together in every direction, so manual lines are the best option. Draw straight lines all the way across the design, make the lines a compound path (right click or Modify panel). Send the lines to the back, then in the Modify panel choose "Subtract All." That function makes everything hidden behind other objects just disappear, so there are no overlapping cut lines.

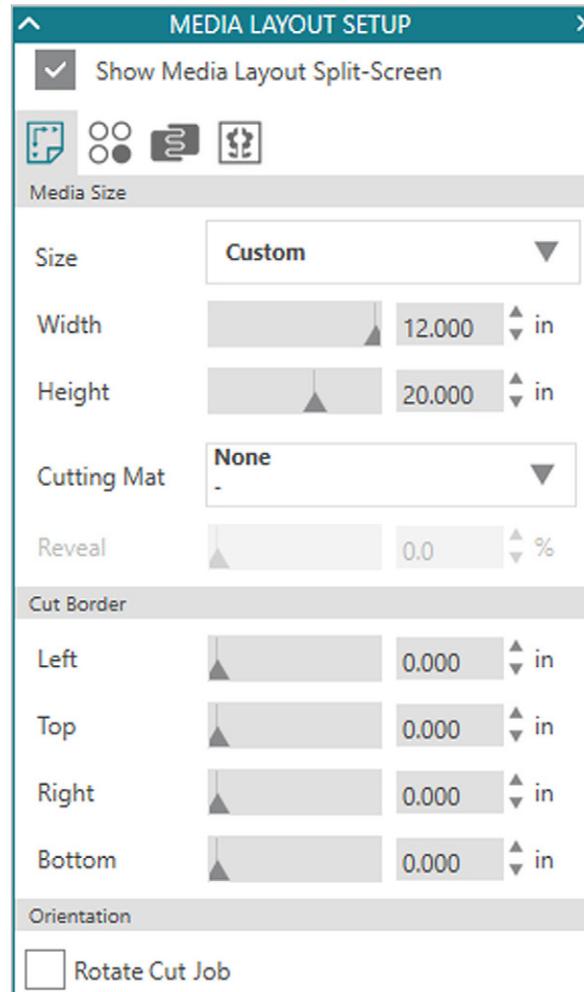


Now you're ready to tile this design.

In the Basic Edition of Silhouette Studio®, simply slice through the design with a straight knife tool, treating the shape as solid. Group each half together so that nothing moves out of place as you cut one section of the design at a time. Anything you don't want to cut can stay in the holding area until you're ready to cut it.

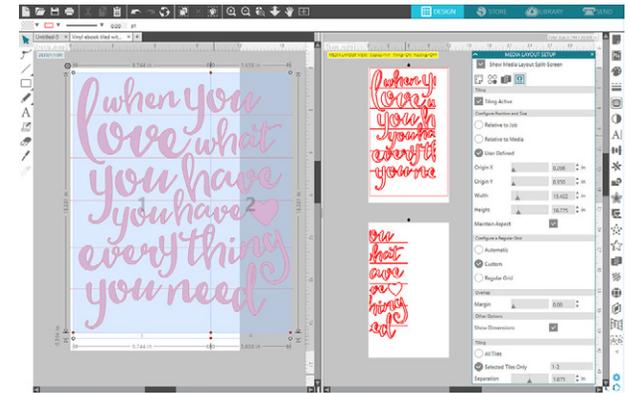


In the Business Edition of the software, instead of using the knife tool, you can also automatically tile your design. Go to the Media Layout view. Verify the media size and choose no mat if cutting the design directly from a vinyl roll.



In the Tiling tab, check the box for tiling.

Adjust the tiling grid lines and deselect unused areas. This design works in two tall strips. If it were larger, you could break it into more sections.



In the Send Tab, set the Material to Vinyl, the Action to Cut, and the Tool to AutoBlade (or ratchet blade). Send first section to cut, then unload it, trim it off, reload the roll of vinyl again, and click RESUME to cut the next section.

Weed the cut vinyl. You can use weights or painter's tape to help the large piece of vinyl lie flat while you are weeding it.

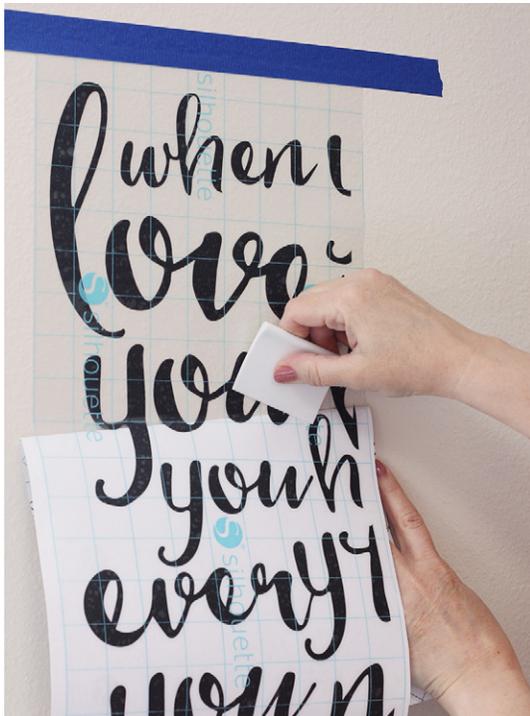
Application of large tiled design

To apply an extra-large tiled design to a wall, you can either piece transfer tape together to lift the design all at once or you can apply the design to your surface in its multiple sections the way it was cut.

Use the hinge method to apply the transfer tape to the design and then to apply the design to the wall.

To apply the vinyl to the wall, use the exposed top of the transfer tape to stick it to the wall and check to see if it's level. Add painter's tape at the top, if necessary.

The key is to expose the design starting at the hinge, and slowly and carefully press it down so the design comes off the transfer tape and sticks to the surface.



Conclusion

Thanks for spending the time learning everything you need to know about vinyl! As you practice the techniques covered in this eBook, you'll gain the experience and confidence you need to use your Silhouette machine to add vinyl to all kinds of surfaces.

If you need further assistance, be sure to visit the Silhouette Blog or Silhouette's YouTube channel or reach out to the support team at support@silhouetteamerica.com.

Designs Used:

Make beautiful things quote | Design ID: 208298 | Page 4

Unicorn layered vinyl mug | Design ID: 246001 | Page 4

Follow your heart | Design ID: 242845 | Page 5

Salma desire script font | Design ID: 240199 | Page 8

Believe in your selfie | Design ID: 162919 | Page 10

Snowflake | Design ID: 69974 | Page 12

Hello sunshine title phrase | Design ID: 39477 | Page 12

KB lemon and honey font | Design ID: 161806 | Page 14

Branches and leaves | Design ID: 27039 | Page 14

Everything you need | Design ID: 172657 | Page 17