

GLASS PATTERNS

• Q U A R T E R L Y •

Spring 2019

Volume 35 • No. 1

Garden Issue

Stained Glass

Flanders Fields

Mount Fuji

Apple Blossom Lamp

Baroque Butterfly

Fused Glass

Frit Fronds

Screen Printing

Garden Lantern

Mold Making

Bluebird Tile



Volume 35 No. 1

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From the Editor

The Burning Question

Hopefully you are packing your bags for the April 3–8, 2019, Glass Craft & Bead Expo in Las Vegas, Nevada. Stop by the *Glass Patterns/Glass Art/The Flow* booth number 619 and say “Hi.” We love to put a face with a subscriber’s name. One burning question that comes up at the expo every year is, “Why don’t you have one magazine just for stained glass and another for fused glass?” At *GPQ*, we have thought about this more than once, so here it goes.

Glass Patterns Quarterly has seen the glass business morph and expand from stained glass to fusing with the addition of the home based kiln. The techniques learned in both forums can be crossed over including techniques for cutting, grinding, designing, painting, and displaying. Most glass manufacturers and distributors sell both types of glass and supplies.

Support from our advertisers makes it possible to maintain this publication. In exchange, *GPQ* offers them, through the magazine’s print, digital, and website resources at www.glasspatterns.com, one of the best marketing vehicles for their products and services that support this niche market. More than 80 percent of these advertisers, who represent the industry’s best glass distributors and suppliers, cater to both stained glass and fused glass patrons. Without their rock solid advertising sponsorship, this magazine would not exist. That being said, we consolidate mixed media, kiln work, mosaics, panel fabrication, color selection, and painting into 80 pages of informative reading material for each issue.

Did you know that *GPQ* has not raised its subscription rate in the last twenty years? For \$6 an issue you can have this quality, four-color publication delivered to your mailbox or e-mail. The choice is yours. We are the only print tutorial publication for glass artists, period. You most likely have seen the reductions of print publications in your area, whether it’s newspapers, shoppers, or specialty magazines. Many have gone to strictly digital formats or have stopped producing altogether. The feedback that we have received at the GC&B Expo is that most prefer the paper copy so they can reference it easily in their workshops. Personally, I like subscribing to both digital and print formats so I can always have a glass library at my fingertips no matter where I happen to be.

GPQ is known for its 16-page, pullout pattern insert, which is referenced easily through print. This is your turnkey to getting started on your next masterpiece. The patterns can be used for *anything*: cake decorating, quilting, coloring, stencils, tracing, painting, wood-working, murals, kids’ projects, and yes—of course—glasswork of all types.

After almost forty years in business, *GPQ* prides itself in staying on the pulse of the glass community, because many of us on the staff of *GPQ* are glass artists ourselves, monitor the glass forums, and attend the national conferences. We hear your questions and will continue to be a medium for answers.

Happy glassing,

Delynn Ellis
Managing Editor



Teal Baroque Butterfly
by Debbie Piper

Upcoming Submission Deadlines

Fall 2019

Editorial

Ad Closing

Ad Materials

Autumn, Halloween, Christmas, and Holiday Ornaments

May 20, 2019

July 20, 2019

July 30, 2019

Winter 2019

Editorial

Ad Closing

Ad Materials

Winter, Wildlife, and Landscapes

August 20, 2019

October 20, 2019

October 30, 2019

Glass Patterns Quarterly

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Above: Garden Spider by Paned Expressions Studios.

*On the Cover: Bluebird Tile fused glass tile by Lisa Vogt.
Details of Apple Blossom Lamp by Chantal Paré,
Remembrance Poppies by Leslie Gibbs, and
Embellished Garden Lantern by Alysa Phiel.
Poppy photo by Jon Gibbs. Lantern photo by Jane McClarren.*

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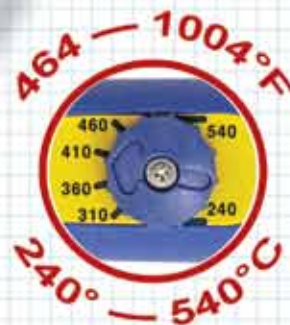
FX-601

ADJUSTABLE TEMPERATURE CONTROL

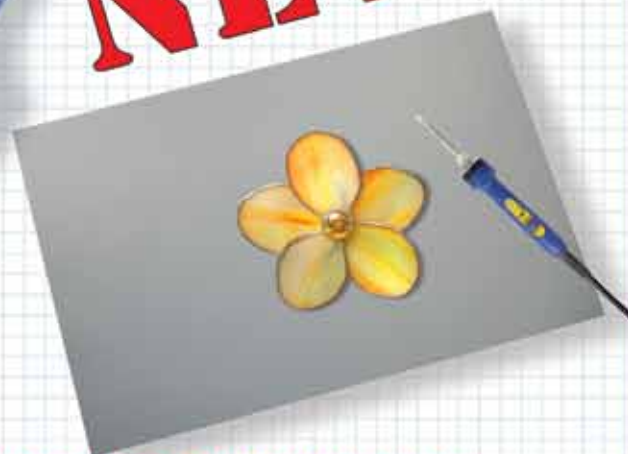
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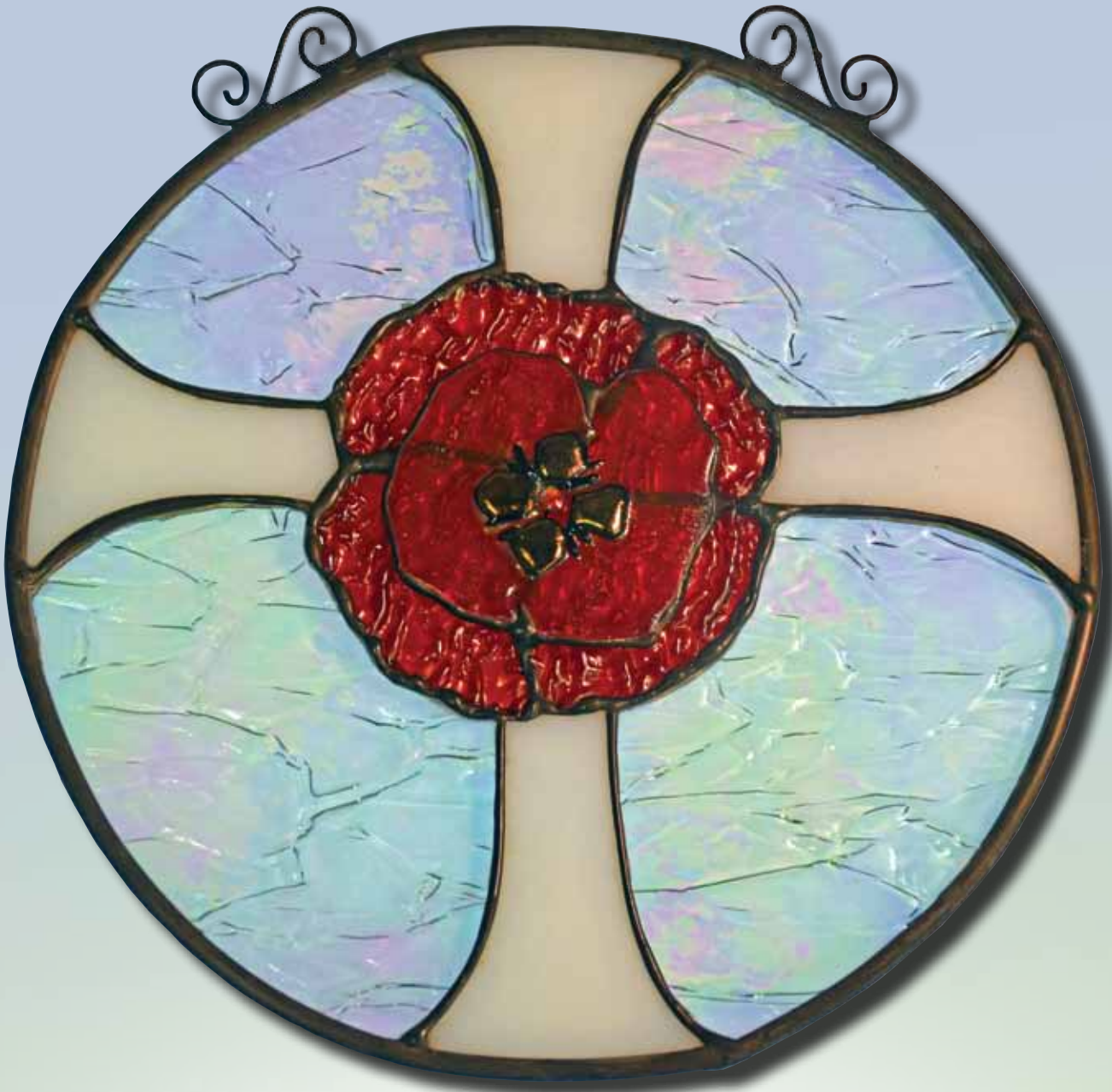
For more information, including tips and accessories, visit HakkoStainedGlass.com

Remembrance Poppies

A Symbol of Memorial Day

Design, Fabrication, and Text by Leslie Gibbs

Photography by Jon Gibbs



IN FLANDERS FIELDS THE POPPIES BLOW
BETWEEN THE CROSSES, ROW ON ROW,
THAT MARK OUR PLACE; AND IN THE SKY
THE LARKS, STILL BRAVELY SINGING, FLY
SCARCE HEARD AMID THE GUNS BELOW.

JOHN MCCRAE, MAY 1915

90 COE Glass

White Opalescent Double Rolled Iridescent Rainbow for Cross, 8" Square
Cranberry Pink Double Rolled Iridescent Rainbow for Center Poppy Petals, 4" Square
Thin Black Iridescent for Small Poppy Center Petals, Scrap
Thin Black Stringer for Flared Poppy Center Accents, Scrap
Dichroic Chip for Center of Flower, Scrap
Grenadine Red Rainbow Iridescent for Poppy Petals Base Layer, 5" Square
Crackle for Background, 8" x 12"

Tools and Materials

Tweezers U-Channel Lead or Zinc
3/16" and 5/32" Silver-Backed Copper Foil
Craft Adhesive Black Patina
Kem-O-Pro Polishing Wax
Flux Flux Remover Paper Towels
Soft Cloths Old Toothbrush
Horseshoe Nails Hanging Hooks
Black Waterproof Marker Scissors
Steel Pushpins

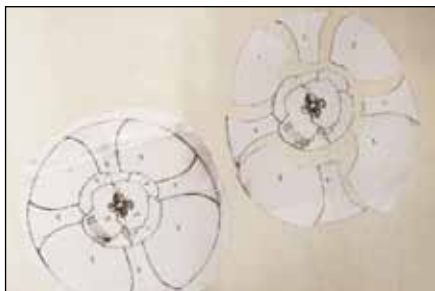
The origin of the red poppy as a symbol of Memorial Day was the idea of an American woman, Moina Michael. It was November 1918, two days before the World War I Armistice was declared. Ms. Michael, on leave from her professorship at the University of Georgia to volunteer for the American YWCA, read the moving poem written by Canadian soldier Lieutenant Colonel John McCrae, MD. She was so deeply moved by this tribute to the fallen, that she vowed to wear a red poppy as a sign of remembrance.

Moina began her campaign to have the poppy adopted as a national symbol of respect and remembrance by attending a YWCA Overseas War Secretaries' Conference wearing a silk poppy pinned to her coat. She was successful in her pursuit of this tribute, and in 1924 the distribution of poppies became a national program of The American Legion.

Poppy Day is celebrated in countries around the world, and in the United States the Friday before Memorial Day is National Poppy Day. In Canada, the poppy is the official symbol of remembrance worn during the two weeks before November 11. Poppies are also worn with veneration on memorial tribute days in Australia, New Zealand, and the United Kingdom.

Make two copies of the pattern, one for the base design and one for the center poppy overlay.

1



Cut the flower sections.

2



Cut the cranberry glass and black thin glass for the top layer of petals and the grenadine red glass for the base layer of petals.

Grind the cranberry glass petals and the black thin glass, then clean the pieces and set aside.

3



Use craft adhesive to assemble the poppy petals.

4



Using the craft adhesive, place a layer of glue along the inside of the two cranberry petals and butt them tightly together. Let the adhesive dry. With a toothpick, place a small amount of adhesive on the thin black accents and place them over the cranberry petals.

5

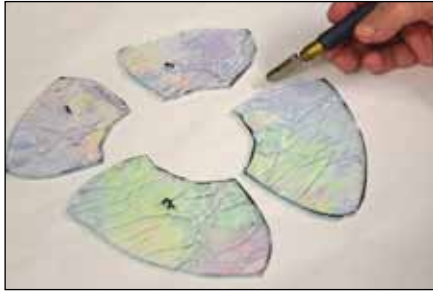


Add design details with the black stringer.

Place a tiny amount of adhesive onto the black stringers and use tweezers to place the stringers around the flower center in a starburst pattern. Using tweezers again and a tiny amount of adhesive, place the dichroic chip in the very center of the flower. Allow all of the sections to dry completely.

6

Cut the glass for the background and cross.



7

Fuse the center petals.



Carefully place the poppy center on the kiln shelf and butt the edges with small kiln posts to keep the petals from shifting during firing. Vent the kiln until it reaches 1000°F, close the lid, and ramp until the kiln reaches 1350°F to tack-fuse the petals. Follow instructions for tack-fusing with your specific kiln, since all kilns vary. Let the kiln cool to room temperature and set the center piece aside.

8

Grind the base sections of the flower, the background, and the cross sections.



Clean all of the glass when you are finished grinding.

9

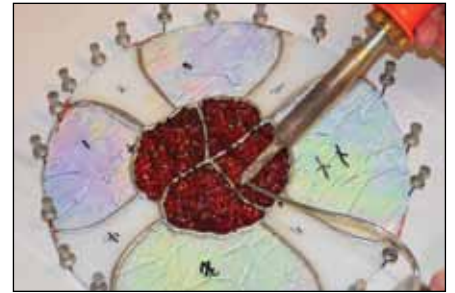
Foil all the sections of the design, using the thinner copper foil for the poppy center.



Set the poppy center aside to be plated onto the background once both sides of the panel are soldered.

10

Solder the panel.



Secure the foiled sections in place with steel pushpins. On the front section of the panel where the center poppy petals will be placed, solder a flat line rather than a raised bead.

Continue soldering the rest of the panel normally on both sides. Clean the panel and prepare the poppy center for plating.

11

Solder the edges and front of the center petals section.



When soldering the back of this section, keep the solder line flat. Clean the section and set aside.

12

Lay the poppy center over the panel and use a black marker to align where the center section will be attached.



13

Remove the center and apply black patina only to the area that will be covered by the center poppy.



Also apply patina to the back of the center section, then clean and dry all of the sections.

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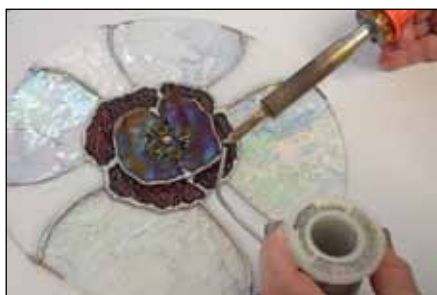
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14

Plate the two sections.



Place the center petals section over the base poppy petals and align. Apply a small amount of flux, then solder the two sections together.

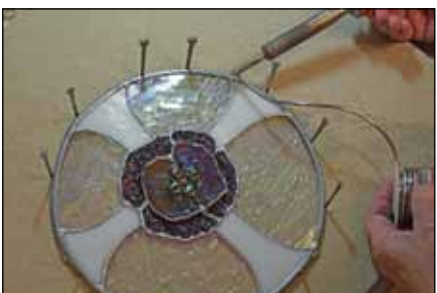
15

Frame the panel by wrapping it in U-came lead or zinc and secure with horseshoe nails.



16

Solder the wrapped framing at all points where it connects to a solder line on both sides of the panel.



17

Add hanging hooks, if desired.



Using a section of scrap glass to support the hanging hooks, solder them onto the framing.

18

Apply black patina to both sides of the panel as well as the framing.



Let the patina set for a while, then clean both sides of the panel.

19

Polish the panel.



Apply glass polish to the front of the panel, let it dry to a haze, then flip the panel and apply polish to the back.

20

Using a soft, clean cloth, polish both sides of the panel.



Ms. Michael also composed a poem regarding her pledge to never forget the heroes of conflict. In that poem she writes, "We cherish, too, the poppy red, that grows on fields where valor led." A century has passed, and the scarlet poppy still serves as a lasting tribute to those who fought for our freedom. **GPO**



With a main focus in drawing and painting, Leslie Gibbs enjoys transforming her more traditional artwork into glass. Charmed by both wildlife and the creatures of the sea, she often depicts the real along with the fanciful denizens of these worlds in her design and pattern books.

Leslie and Jon are longtime Florida residents. They currently live and work in a small beach town in Northern Florida, having forsaken the Badlands of South Florida for a more peaceful lifestyle featuring more wildlife and less concrete. A relentless jokester, the artist tackles life's common absurdities with a wicked sense of humor and a relaxed attitude. Visit www.facebook.com/lesliegibbsstudio to learn more about Leslie and her art.



CS-5630 Dimensions

- Exterior with top closed: 70 1/2" W x 53" D x 52" H
- Exterior with top raised: 70 1/2" W x 63" D x 76" H
- Interior: 56" x 30" x 17" (15 1/2" deep when measuring from quartz tube surface)
- Flat load floor, 30" from ground level

Introducing the Paragon CS-5630 clamshell kiln with quartz tubes

Deluxe quartz tubes

Imagine the huge glass pieces you could make inside the new Paragon CS-5630. Enjoy complete access to your artwork from the sides and front. Add delicate stringers or frit without having to move the shelf into the kiln later.

The roof elements are protected in 10 quartz tubes for a cleaner kiln interior. There is less dust in the kiln, because there are no element grooves in the top.

Heat from the top, walls, and floor

The CS-5630 is 56" x 30" x 17" high. With elements in the floor, walls, and roof, you will enjoy unsurpassed heat distribution. The digital controller uses Power Ratio technology to vary the heat output between the top and bottom elements.

Extra insulation and woven gasket

Lift the kiln top section with handles in the front and sides and with assistance from gas springs. The roof is 3" thick ceramic fiber, and the walls are 3" firebrick backed by 1" of ceramic fiber board (4" of total wall thickness). The extra insulation helps to maintain even temperatures. A woven gasket between the kiln top and floor helps to hold in the heat. The floor

surface is a convenient 30" high from ground level. The 4 1/2" thick firebrick floor includes two expansion joints.

Watch the glass through 2" x 3" peep-holes mounted in the left and right sides. The kiln includes locking casters.

Motorized vent for firing molds

If you fire molds, you will welcome the motorized Orton Vent Master, which is mounted in the back wall of the kiln. The vent, mounted on rubber isolators to prevent vibration, removes moisture from the kiln to reduce rust. The vent is standard on the CS-5630 and plugs into an auxiliary output in the back of the kiln. This allows you to turn on the vent through the digital controller.

Low maintenance

Deluxe, long-lasting mercury relays are standard. Gain convenient access to the electrical components by removing a single panel. The kiln includes access panels for replacing quartz tubes.

Rugged

The CS-5630 is the very picture of ruggedness. A ledge in front of the kiln protects the brick floor from damage caused by leaning into the kiln. The digital controller is mounted away from the

heat for long life. The kiln base is welded from 2" x 2" steel tubing; the upper kiln frame is welded from 1" x 1" steel tubing.

Optional touch screen controller

Order your CS-5630 with the optional Sentinel Smart Touch controller. The Sentinel can check the voltage and amperage and can be programmed with easy-to-follow screen descriptions.



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THE APPLE BLOSSOMS' SHOWER OF PEARL,
THOUGH BLENDED WITH ROSIER HUE,
AS BEAUTIFUL AS WOMAN'S BLUSH,
AS EVANESCENT TOO.
—L. E. LANDON

Who among us glass crafters has not been inspired to some degree by Louis Comfort Tiffany, whose lamp shade designs may forever be the apotheosis of the genre? Their realism, complexity, and rich glass colors and textures are timeless. The ebbs and tides of fashion, however, can cause a museum's most precious jewel to be out of place in a modern apartment.

With that in mind, I have designed a lamp that retains the floral realism and superlative glass that are Tiffany's signature and updated it by increasing the scale of the flowers and laying them on a more modern form—a four-sided panel lamp. For a more subdued and

universal color scheme, I have eschewed the traditional blue sky, favoring instead an understated rainy day gray, matching it instead with muted dark green and blue leaves framing large white flowers. Except for the flower buds, I used the lightest possible pink for the colored accents on the flowers.

A happy corollary of these design choices is that unlike Tiffany's lamps, no mold is required, and there are only a little over a hundred pieces. The shade base is 15-1/4" square and 8-1/2" in height, including the vase cap.

Required Glass

White Ring Mottle for Large Petals, 2 Sq. Ft.
Honey Amber Ring Mottle for Flower Centers, 2 Sq. Ft.
Ring Mottle, 65-29 Granite, and 50-29
Herringbone Granite Ripple Textures
in White and Pink for Small Petals and Buds, Scrap
Light Brown/Dark Brown/Green for Branch, Scrap
Steel Gray for Background, 3 Sq. Ft.
Greens on Ice White for Leaves, 1-1/2 Sq. Ft.
Green and Pink on Ice White for Leaves, 1 Sq. Ft.

Tools and Materials

2-3/4" Square Brass Vase Cap
Fine Permanent Black Marker
Scissors or Pattern Shears
Oil-Filled Carborundum Wheel Glass Cutter
Glass Breaking Pliers Copper Wire
3/16" and 7/32" Black-Backed Copper Foil
60/40 Solder Soldering Flux Wet Sponge
Flux Brush Black Patina
Flux/Patina Remover Electrical Tape
Acetone (Nail Polish Remover)
Wood Strips for Jig Copper Wire

1



Prepare the patterns.

Print two copies of the pattern for each of the four sides and number the pieces on both copies. Cut all of the pieces out of the first copy, removing the black lines between the pieces with pattern shears or regular scissors.

2



Trace the pieces on the smooth side of the glass.

When tracing on textured glass, flip the paper piece front to back when tracing if you want the textured side on the front of the project.

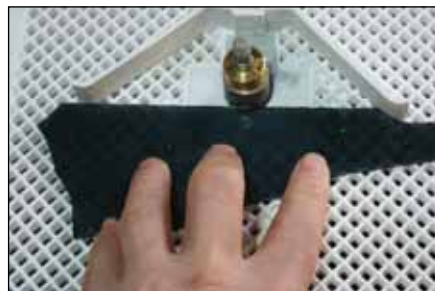
3



Using an oil-filled carborundum wheel glass cutter and glass breaking pliers, score and break the glass.

See the suggestions at the end of the tutorial for tips on cutting heavily textured glass.

4



Smooth all of the glass edges with an electric grinder to fit the pattern.

5



Wrap all of the glass edges with black-backed copper foil.

Carefully crimp the edges over with the sides of small craft scissors or a fid. Choose a width of foil matching the thickness of the glass such that the crimp above and below is under a millimeter in width.

6



Make a wooden jig around the pattern's outer edge as accurately as possible.

7



Begin to construct one of the sides of the lamp.

Place a paper pattern of one of the lamp sides inside the jig, then place all the foiled pieces within the jig. Make sure to abut the edge pieces straight against the jig's sides.



8

Tack-solder the edge pieces first to ensure that they will stay in their position against the jig's sides.



Brush a bit of flux and melt a drop of solder over the joint.

9

Solder the whole lamp side.



Brush the copper foil lines with flux one small area at a time then solder, taking care to make a nice bead over each line. Flip the lamp side over and solder the other side. Repeat steps 7 to 9 for all three remaining lamp sides.

10

Clean and dry the soldered lamp sides.



This is a crucial step for the success of the next step.

11

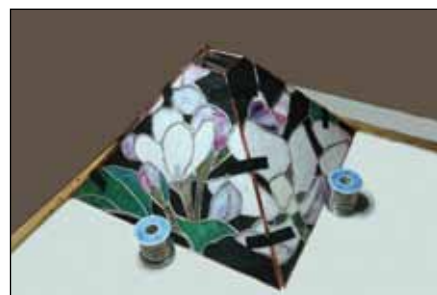
Begin to assemble the sides of the lamp.



Lay the soldered sides against each other, top up. Place 3 pieces of electrical tape across each panel joint and press them down with a finger to ensure adherence.

12

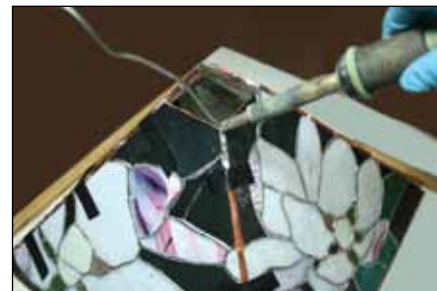
Holding the assemblage from the center, gently lift it up until the two sides that were still apart on the table come together.



Fasten them together with tape and hold up the lamp with a combination of heavy objects such as rolls of solder and jig sides.

13

Crudely fasten all 4 sides of the lamp together.



Starting from the top of the lamp, brush some flux and drop some solder along the joints. Don't worry about filling gaps between the sides where the solder won't hold at this step.

14

Cautiously turn the lamp upside down and solder the panel joints from the inside.



15

Gently reposition the lamp so that the panel joint is flat on the worktable and fill any gaps.



The sides are not rigidly fastened at this point. Keep the lamp in a stable position by leaning the sides against heavy objects such as rolls of lead or clay flower pots. With a wet sponge under the joint, fill any gaps that might exist with lead.

16

Tin the bottom edge of the lamp to cover all of the foil and to ensure that all of the lead lines are nicely beaded up to that edge.





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17

Finish filling the joints.



Cover yourself with an old frock or bed sheets and place the lamp in an appropriately sized box to catch the solder if it drips. Fill the joints with solder and make a bead. Work quickly. If the joint gets too hot, the solder will start to leak through. Cool with a wet sponge if necessary.

18

Tin the vase cap.



Holding the brass vase cap with pliers, generously brush small areas with flux and cover with a thin layer of solder, inside and out. Hold the soldering iron tip against the cap to heat it up for the best flow.

19

Install the vase cap.



Place the vase cap on top of the lamp and tack it to the solder lines. Turn the lamp upside down and fasten the cap with a generous amount of solder.

20

Strengthen the overall structure of the shade.



Reinforce with copper wire around the edge and on the inside of the lamp corner joints up to the vase cap. Work carefully and slowly to make a nice, even bead all around the bottom.

21

Blacken the lead with a patina solution.



Wearing a glove, pour a few drops at a time and spread on the lead. Wait 5 to 10 minutes, then clean with flux and patina neutralizer. Remove any trace of the markers on the glass using a bit of acetone (nail polish remover), and display your lamp shade on a base with a reinforced harp for heavy shades.

GPO

Tips for Cutting Challenging Glass Ring Mottles and Heavy Textures

Because challenging glass is often pricier, avoiding wild breaks should be your top priority. Accept that your cut pieces will have rough edges and require more grinding.

- Leave more waste between pieces while tracing them, because attempting to break off small slivers may cause shattering.
- Apply more pressure with the glass cutting wheel than you would with regular glass.
- Tap out your cuts from behind the score with the ball end of your glass cutter, especially long scores. For herringbone, tap out anything longer than a couple of inches.
- Favor scoring straight lines and very gentle curves when breaking off waste around a piece, even if it means making more cuts around it.
- A new, fresh grinding bit will make your life easier.

Two decades ago, Chantal Paré quit the fast-paced world of molecular biology to devote herself to the full-time pursuit of glass. She's liable to melt it, blow it, break it, paint it, or cast it, sometimes just to show it who's boss. Nothing else comes close to creating an object through which light can pass the same way it does through water.

In her free time, Chantal draws patterns in a variety of styles ranging from Victorian to geometric and self-publishes them on the Internet. Lately, she's concentrating her efforts on glass painting.



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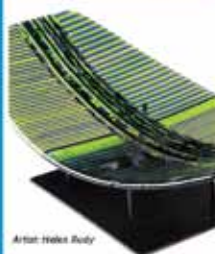
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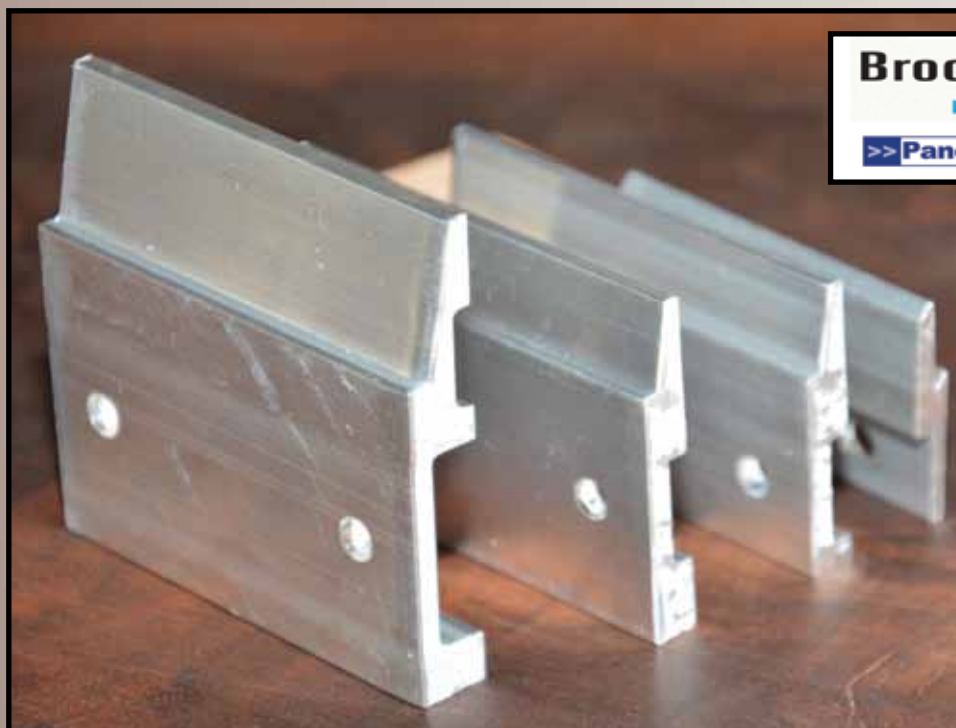
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Teal Baroque Butterfly

An Introduction to Using Adhesive Paper

Design, Fabrication, and Text by Debbie Piper



Butterflies and dragonflies are a couple of my favorite things. They come in all colors, and there is a lot of room to play with the designs, shapes, and position in the wings, which is fun for me. I always wanted to use a glass that had black and white on clear in a butterfly. I also love the combination of teal, white, and black. Frank Lloyd Wright's geometric butterflies from the Susan Lawrence Dana House in Springfield, Illinois, have also inspired me to use them in a backsplash for my kitchen with a color scheme that resembles monarchs.

I've made and taught stained glass for over 30 years. When I began, I was taught the spray adhesive method, which I hated. I didn't like the "marker on glass" method, either. It was too inac-

curate for me, plus I didn't like all the "retrofitting" on the grinder. I wanted to find a better way, and I did. Adhesive pattern paper is the ideal method for constructing stained glass. Everyone who has tried this method has loved it, and I'm sure you will too.

The adhesive paper replaces and improves on such methods as using spray adhesive or glue sticks. If you want to have pattern pieces that stick to the glass, this is definitely the way to go. Using spray adhesives or glue sticks creates a mess. The overspray from adhesive in a can is awful, as it is also when it's on your fingers and you're trying to pick the paper pattern pieces up. Glue sticks leave a messy residue on the glass.

Adhesive pattern paper is cleaner. It's also the most accurate. If using the method of tracing around a pattern piece, typically by using a light box, generally it's hard to keep the mark on the glass with a wet grinder. If your pattern piece is adhered to the glass, this is not an issue. Piper's Pattern Paper has a very strong adhesive backing with a peel-off layer behind it. It's easy to cut with foil shears, then you just peel and stick. The adhesive keeps the pattern pieces attached to the glass while grinding—even on a ring saw.

Piper's Pattern Paper also saves a lot of time in the process of making stained glass, since it eliminates any guesswork or retrofitting. You won't have to go back and forth between the grinder and the pattern trying to decide where you should grind and how much to get a good fit. All that is necessary for a perfect fit every time is to cut Piper's Pattern paper apart with foil shears to accommodate the room the copper foil needs on the sides of the glass pieces, then grind right to the edge of the pattern paper. This enables the stained glass artist to grind everything all at one time, lay the pieces on the pattern, then foil everything at once. The amount of time on the grinder that is eliminated makes a huge difference, as does the accuracy of the fit.

Required Glass

Iridized Teal Ripple, 1/2 Sq. Ft.
Teal Ripple, Scrap
Teal Baroque, 2 Sq. Ft.
Iridized Black Waterglass, 1/2 Sq. Ft.
Iridized White Wispy 1/2 Sq. Ft.
Iridized Teal Wispy 1/2 Sq. Ft.
Teal Opal, 1/2 Sq. Ft.
White Wispy 1/2 Sq. Ft.
Black/White on Clear, 1 Sq. Ft.
Ice White for Border, 1 Sq. Ft.

Teal Faceted Jewels

25 mm square, 6
25 mm round, 4
30 mm round, 2
50 mm round, 2

Black Faceted Jewels

2 - 15mm round
1 - 25mm round
4 - 20mm round
1 - 40x30mm oval
1 - 25x18mm oval
1 - 60x14mm oval

Tools and Materials

7/32" and 3/16" Black-Backed Copper Foil
Piper's Pattern Paper Carbon Paper
Flat Surface Good for Tracing
Homosote® Board Pushpins
Metal Layout Strips Hand Brush Masking Tape
Stained Glass Finishing Compound
Flux CJ's Flux and Patina Remover
Cloths Cotton Swabs Black Paint Marker
1/4" Zinc U-Channel Lead Dykes

1

Cut a piece of the pattern paper just a bit larger than the 18" x 18" design.



Piper's Pattern Paper is available through Amazon.com. For this project I chose a ten-foot-long roll. When the design is finalized, I tape the piece of Piper's Pattern Paper down on a flat surface that will be good for tracing.

2

Tape carbon paper on top of the Piper's Pattern Paper.



Use masking tape, since it is easy to remove. Carbon paper in larger sheets—approximately 22" x 34"—should be available online.

3



Tape the pattern on top of the carbon paper, trace the entire pattern, and mark the position of the jewels.



You can also use Piper's Pattern Paper in your printer to eliminate the need to transfer the pattern. Indicate what type of glass will be used on each piece. I use letters for this, such as *B* for background, *BR* for border, *G* for green, and so on.

4

Number each pattern piece and mark the direction of the glass grain.



Mark the glass grain with an arrow pointing in the direction the piece should lie on the glass. Now the pattern is traced, with all of the different types of glass indicated by letters, all pieces numbered, and grain arrows indicated. Double-check the traced pattern before cutting it apart to make sure you didn't miss any lines.

Remove the masking tape from the bottom and two sides of the original pattern and from the same bottom and sides of the carbon paper. Lift up everything except the piece of Piper's Pattern Paper on the bottom and check to make sure that all of the lines have been traced.

5

Cut apart the pattern pieces using pattern shears.



I used foil shears, since this will be put together with copper foil. Lead shears should be used if you are assembling with lead came. When using foil or lead pattern shears, it is important to remember that successful cutting occurs in the throat (at the back) of the scissors using a very small snipping movement as opposed to long strokes with the entire blade.

6

Once the pattern pieces are cut apart, place them in piles by type of glass they are to be cut from.



7

Select the glass and clean the front surface where the adhesive pattern pieces will be placed.



The pattern paper won't stick to glass if it finds dirt to stick to first.

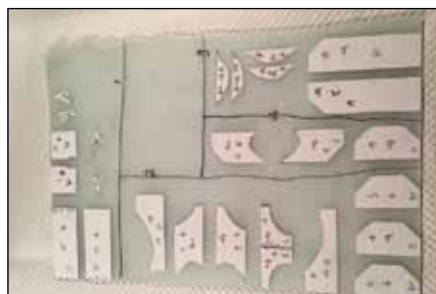
8

Peel and stick the pattern pieces onto the glass.



9

Leave a path to cut between the pieces.



It is very important to plan this and double-check that you can get through the pattern pieces before scoring. Otherwise you will have to try to make a drastic turn in the process, which won't work. Notice the marker lines, which indicate the first score, then the second, third, and fourth.

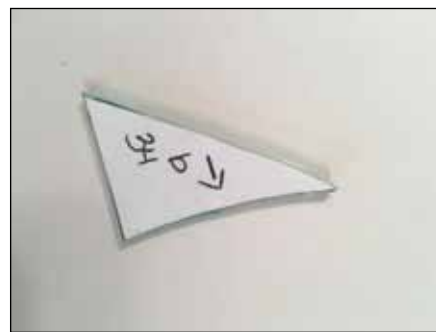
10

Make the main scores, aligning them with the edges of the pattern paper to save time and glass.



11

Cut out the individual pattern piece.



12

Grind the glass just to the edge of the paper pattern piece, no more and no less.



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The ground pieces should have no appearance of glass outside the edges of the paper pattern piece. Holding the piece of glass with the adhesive pattern piece still on it up to a source of light is a great way to determine if you need to grind more. The glass will be easily seen on the outside edges of the pattern piece if extra glass is still there. Once all pieces are ground, peel the paper pattern piece off.

Place the pattern on your workspace, then lay the ground glass pieces on top in their proper positions.

13



I use Homasote board with metal layout strips and pushpins to hold the strips in place.

Foil all of the glass pieces and jewels, then flux, solder, and polish the panel.

14

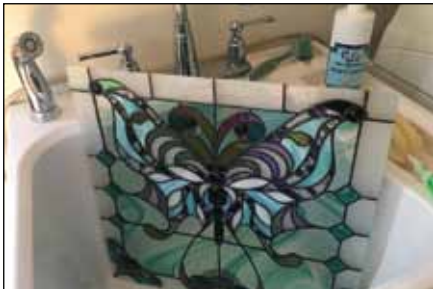


Foil all of the pieces using 7/32" copper foil for everything except the jewels, which work better when wrapped in 3/16" foil. Sometimes a thicker glass, such as the glass that I used for the border, is better wrapped with 1/4" foil. Always try to make the seams as even as possible.

I used black-backed copper foil for this project, since I will use black patina to finish the seams. The color of the back of the foil should always match the color that the solder will be when the project is finished. Use copper-backed foil for copper patina or silver-backed foil when you will not be using any patina and leaving the solder silver.

Apply flux and solder the panel, then clean with flux and patina remover.

15



I flux and solder in sections. Once the entire project is soldered, I scrub it in a sink with CJ's Flux and Patina Remover and a hand brush. The more you rinse, the better your results will be.

Sometimes I leave the smaller pieces soaking overnight in the sink, which helps to eliminate the "white crud." I generally solder an entire project at one time. If you don't, please make sure to go ahead and clean the panel and not leave the flux sitting on the glass.

16



Polish the panel.

I use a glass finishing compound to polish my stained glass projects. It is very simple to apply and remove. Just put a small amount on a damp rag and spread it over both sides of the glass and the seams. Once it's hazy, just buff it off with a clean dry cloth. Sometimes I use Q-tips and go around the glass next to the seams where the cloth sometimes doesn't reach as well. I also use Q-tips to remove the polish at the edges of jewels and bevels.

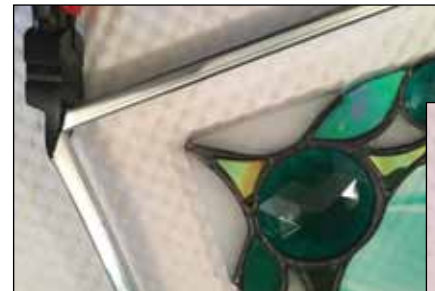


Place the zinc U-channel next to the glass, then crimp and bend the zinc back.

17

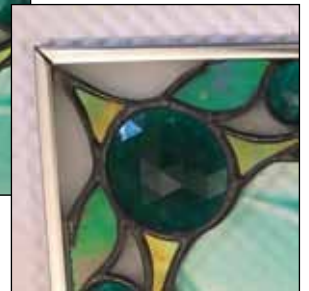


I am using 1/4" zinc U-channel to frame this piece.



Clip the corners off with lead dykes.

18



19



Bend the zinc back around the glass, then tape the zinc channel to the glass in between the seams.

Solder the zinc U-channel to the panel at the seams and give the project a final cleaning.



If the zinc channel is not long enough to run around the piece of glass, make a splice to fill in the spot. This particular project is very sturdy, so the channel provides no extra strength. Since I'm not worried about the strength of the stained glass, I'm only soldering the channel onto the zinc on the back side, which gives a cleaner look on the front. To complete the project, I use a paint marker on the zinc because I want a shiny black metal frame, and patina will not provide that look.

If you decide you would like this panel framed in wood instead of metal, use oak framing stock that has a groove on the inside of the front piece and a small strip of wood to hold the glass in on the backside. You can also use zinc, then put the panel inside a wooden frame, but 1/8" zinc U-channel would be better for that application.

When the project was finished, I discovered that the benefits of using the Piper's Pattern Paper include increased accuracy, less messy, and much less grinding time. This pattern has approximately 150 pieces. Almost all of them are curved, and many pieces had deep inside curves, but I spent only four part-time days, off and on, to complete the panel.

GPO

Debbie Piper learned how to make stained glass by taking a class in a local glass shop in the mid-1980s. She had always wanted to be a glass-blower, but that wasn't feasible as a hobby since there was no local place to practice.



Because of her interest in glass-blowing, Debbie subscribed to Glass Art magazine, which sparked her interest in stained glass. She fell in love with the medium while looking at the pictures of all the beautiful things people were making with sheets of glass and decided to install a stained glass window in the kitchen of her newly built home. After obtaining an estimate from a local artist, her DIY personality kicked in. She took a class, then designed and made the skylight herself along with other pieces, many of which have ended up as gifts over the years.

Debbie had her own shop/studio in the 1990s for about 10 years, and her work is installed all over the country, including a piece at the University of Illinois at Champaign-Urbana. During that time she taught classes and made stained glass art for custom orders mostly from her own original designs, which she began creating early in her adventures with stained glass. Her shop closed at the end of the 1990s, but she still takes commissions from time to time, mostly because she just likes to make stained glass for fun.

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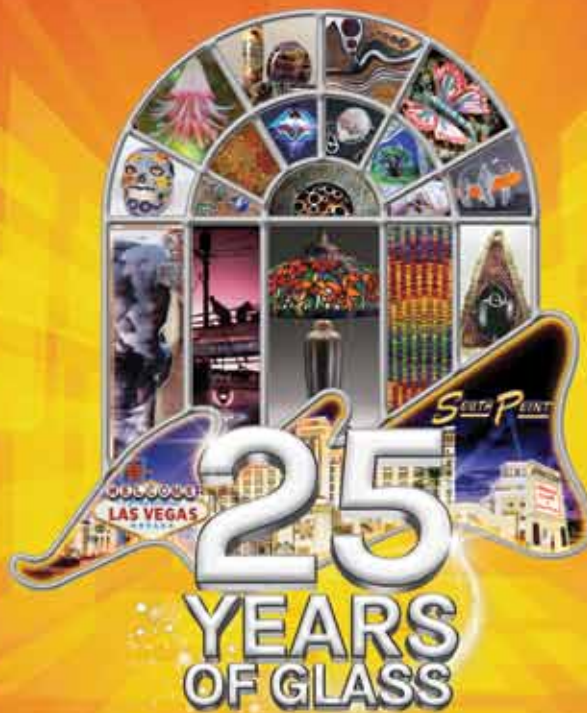
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Mount Fuji from Lake Kawaguchi

Design, Fabrication, and Text by David Kennedy



This panel was inspired by a vintage travel poster that encourages people to visit far-off places at times of great beauty and significance. I've composed a view of Mount Fuji in the spring. I imagined that the colors would be stunning in Japan during that time of year with the dogwoods in bloom and in the lake reflections.

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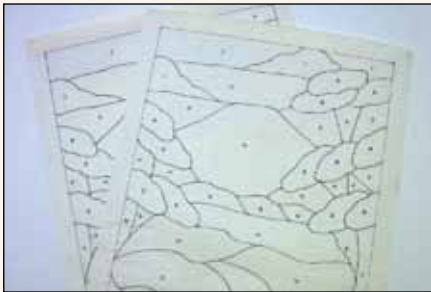
600-D Dense Opal/Light Gray for Clouds, 1/2 Sq. Ft.
WO-87 Sky Blue/Opal/Crystal Wispy for Sky, 1 Sq. Ft.
36-L Light Opal/Salmon for Blossoms, 1 Sq. Ft.
WO-503 Opal/Dark Gray/Brown Wispy
for Mountain, 1 Sq. Ft.
57-LL Medium Green/Opal/Crystal Streaky
for Plants, 3/4 Sq. Ft.
101-D Dark Green/Dense Opal/Crystal
for Darker Plants, 1/2 Sq. Ft.
87-LL Sky Blue/Opal/Crystal Mystic Streaky
for Water, 2 Sq. Ft.
557-L Medium Gray/Light Opal for Tree, Scrap

Tools and Materials

7/32" Copper Foil 50/50 and 60/40 Solder
12 mm U-Channel Zinc Came Band Saw
3/4" Grinding Bit Water Soluble Flux
Black Patina Permanent Marker Pen
Burnishing Tool Tinned Copper Wire
0000 Steel Wool Small Paintbrush

Begin by making two copies of the pattern, one for cutting out the pieces and one for using as a template.

1



Make sure the pattern for cutting fits the template as well.

2



The finished size is 16" x 22" for this project.

Cut out the clouds first with a glass cutter, then use a band saw to finish off the curved edges.

3



Using the turquoise glass, cut the sky pieces next.

4



Use the band saw again to finish shaping the curved edges to create a perfect fit.

5



Add the mountain pieces.

I used a sheet of glass in an amber/plum/opal mix and kept the darker area to the left-hand side. The scene should start to emerge now.

6



Add the blossom pieces, finishing off the curved edges as before.

7



Alternate the pieces between light pink and dark pink from the same piece of glass as you build the blossoms.

8



Add the solid mint green pieces for the plants growing around the water.

Next add the water pieces, keeping the darkest sections of the glass nearest to the mountain.

9



Before adding the final water pieces, add the tree trunk and darker green plant sections.

10



Once all of the pieces are cut, begin the foiling.

11



There is no need to foil the outside edges, since the zinc framing will cover them. Remove the foil in those areas and replace one piece at a time, making any adjustments as you proceed.

12

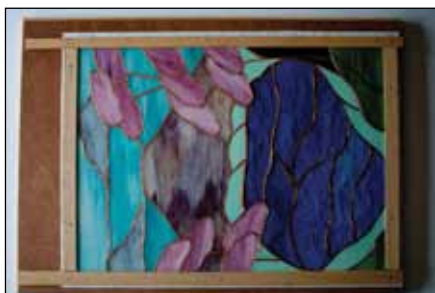
Make sure the foil is burnished onto the glass.



I find that a putty knife is excellent for this purpose.

13

When all of the pieces are foiled and reassembled, begin the first soldering for the panel.



14

Apply flux to all of the seams and solder them flat using 50/50 solder.



You don't need to go right to the edge with the solder. That will make framing with the zinc easier. Next remove a side slip and bottom slip, turn the panel over, and repeat the same process.

15

Clean and cut four lengths of the zinc came, making sure they are at least 2" longer than the sides of the panel.



These pieces of zinc need to be thoroughly cleaned using 0000 steel wool. This is important, not only for soldering purposes but also for the application of the patina.

16

Angle the ends of the zinc came to prepare them for framing the panel.



Cut a miter on one end of all four pieces of the zinc came. Fit two pieces into the remaining corner of the template. Slide another piece of zinc up the side and mark as shown. This will give you an accurate cut line for the other ends.

17

Once all of the miters are cut, flux and solder the joints.



I also added a couple of hooks for hanging at this point.

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18

*Complete the
soldering, reapply
flux to the seams,
and bead-solder
using 60/40 on both
sides of the panel.*



19

*Once all
the soldering
is complete, clean
the panel.*



I used a piece of the 0000 steel wool to rub over the whole panel
on both sides.

20

*Apply the
patina to the
solder seams.*



I use a small paintbrush for this purpose and leave the patina on
for about an hour before the final cleaning.

Now it's time to display the finished panel in a window of your
choice.

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*David Kennedy began his stained glass
journey in 1984. After mastering the basics,
he moved on to art glass, which has now
become his passion. The artist doesn't use
plating or painting techniques, preferring
instead to take his inspiration from the
glass itself.*



*David is now in the process of publishing his original
designs on Etsy.com with the help of his wife Sharon. They
live on the Hook Peninsula, located in a rural historic
southeastern section of Ireland, where he produces panels
and designs in his own unique style.*

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Spring

Design by Paned Expressions Studios, Text by Darlene Welch

Spring is a fabulous time of year, when daylight becomes longer and stronger, birds begin to fill the air with their beautiful music, and trees and grassy knolls wake up and renew their vibrant green colors once again. Here is a delightful depiction of this annual event in a 24" x 42" stained glass design that will provide a way to hold on to springtime all year long.

This pattern is only one of the more than 100 designs in the *Nature's Bounty – 1* CD pattern collection by Paned Expressions Studios. Glass enthusiasts who are looking for something that accommodates any skill level from novice to professional will find a bounty of seasonal, animal, bird, and water life designs. These patterns could also be used for other glass mediums that require defined segments to indicate a color or texture change including fused, mosaic, and etched glasswork. Each full-size pattern is available in JPG, TIF, and Glass Eye 2000 formats to make coloring and resizing easy for Macs or PCs.

GPO



Wissmach Glass Company

- 77-L Light Brown/Yellow Green/Light Opal for Tree Trunks, 2 Sq. Ft.
- WO-101 Dark Green/Opal/Crystal Wispy for Treetops, 1 Sq. Ft.
- WO-191 Medium Green/Opal/Crystal Wispy for Treetops, 1 Sq. Ft.
- WO-61 Green/Brown/Opal/Crystal Wispy for Distant Background, 2 Sq. Ft.
- 23-L Light Green Opal/Copper Red for Foreground Landscape, 1 Sq. Ft.
- 100-SP Dark Green/Opal for Foreground Landscape, 1 Sq. Ft.
- 65-L Medium Brown/Blue/Light Opal for Rocks, 2 Sq. Ft.
- 61-L Green/Brown/Light Opal/Crystal for Evergreens, 1-1/2 Sq. Ft.
- 272-D Dense Opal/Light Blue/Mauve for Sky, 4 Sq. Ft.
- 238-D Dark Purple/Dark Blue/Dense Opal/Crystal for Sunset, 2 Sq. Ft.
- 272-L Light Opal/Light Blue/Mauve for Water, 1-1/2 Sq. Ft.

Tools and Materials

7/32" Copper Foil Flux Solder
Black Patina 1/2" U-Channel Zinc

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Garden Spider

Design by Paned Expressions Studios, Text by Darlene Welch



Most people don't appreciate seeing spiders, large or small, in their homes. Those who enjoy growing things outdoors, however, covet the yellow and black garden spider for its ability to keep down the insect population.

Paned Expressions Studios has captured the garden spider's unique shape and striking colors in this 20" round panel in its CD pattern collection, *Nature's Bounty – I*. With over 100 patterns inspired by the wonders of nature, everything is covered from the four seasons, landscapes, and seascapes to animals, birds, and water life. These full-size patterns accommodate all skill levels, and each is available in JPG, TIF, and Glass Eye 2000 format for easy coloring and resizing on PCs and Macs.

GPQ

Wissmach Glass Company

BLACK Dense Black for Spider, Scrap
WO-2 Yellow for Spider, Scrap
613-D Gray for Spider's Head, Scrap
2180-D Purple for Background, 4 Sq. Ft.

Tools and Materials

7/32" Copper Foil Flux Solder
Black Patina 1/4" U-Channel Zinc

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What's New



Wissmach Glass Company now makes all of its glass available with a **Luminescent Coating**. The coated glass is similar to the iridescent coatings, but not quite the same. You can achieve different effects when firing with the coated side up or down. That makes this product ideal for reversed fusing projects and sculptures that you want to look their best from both sides. Visit the company's website for downloadable catalogs of this and all the other great products from Wissmach.

304-337-2253 wissmach@frontier.com
www.wissmachglass.com

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outstanding podcasts that feature informative interviews with some of the world's most respected glass artists and experts. Listeners get to know these renowned glass greats as they share their experiences and reveal many of the techniques they have developed throughout their vast careers. The podcast is currently beginning its fourth season and has featured legendary national and international hot, warm, and cold glass artists including Narcissus Quagliata, Richard Marquis, Nicholas Parrendo, Ginny Ruffner, Robert Leatherbarrow, Fritz Dreisbach, Peter McGrain, Banjo, Salt, Lino Tagliapietra, and Robert Mickelsen, to name just a few. Begin your free subscription to these and many other podcasts on iTunes or Stitcher by visiting the "Talking Out Your Glass Podcast" link on the magazine's home page, where you'll find a complete list of artists and a description of their work. Be sure to check back often to find new interviews.



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GPQ

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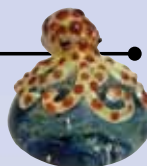
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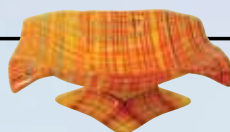
Tony Glander
Screen Printing
 March 19



Peggy Pettigrew Stewart
Verre Églomisé
 March 26



Lisa Vogt
Fusing for the Adventurous
 April 11



Richard La Londe
Float Glass with Enamels and Metals Lecture
 April 25



Dennis Brady
Screen Melt
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Barry Kaiser
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Henry Halem
Glass Compatibility and COE Lecture
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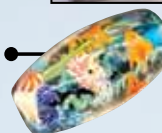
Dale Keating
Fused Glass Lilies
 March 21



Joseph Cavalieri
My Glass Secrets
 April 9



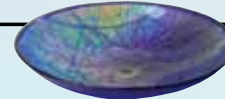
Corina Tettinger
The Magic of Encasing
 April 16



Cathy Claycomb
Working with Solderfields
 April 30



Lisa Vogt
Make a Fused Glass Sink
 May 14



Dennis Brady
Fun with Float
 May 21

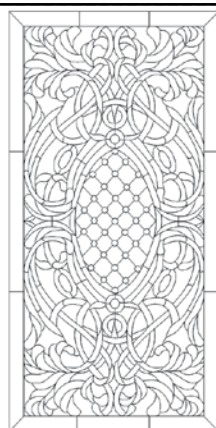


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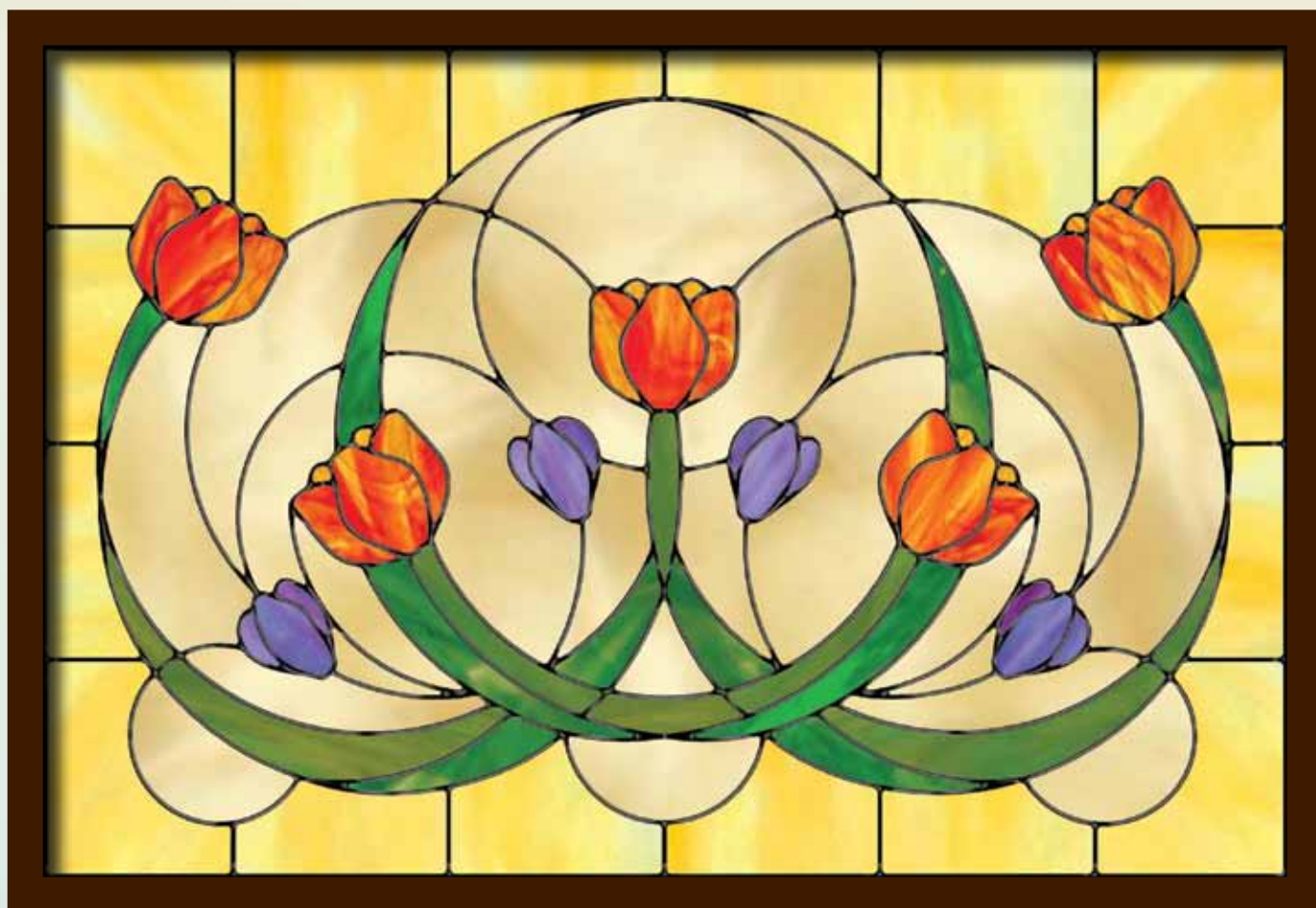
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Visit: www.panexexpressions.com

E-mail: SGPatterns@panexexpressions.com

Spring Bliss

Design by Kevin Thornhill, Text by Delynn Ellis



A worldwide favorite spring perennial is the tulip. It flourishes in such a wide variety of colors that you are sure to be able to construct this graceful design using your favorite stained glass hues. Kevin Thornhill has created this lovely pattern as a modern take on a traditional symmetrical design made popular during the Victorian era.

All dressed up in bright opaque colors of Wissmach glass, this design captures the bliss of spring. The pattern can be used to create a transom window, a mosaic piece, or even a fused panel. Kevin, a retired glass artist and the former creator of patterns for Focal Point Glassworks, now enjoys making jewelry and lives in St. Petersburg, Florida.

GPO

Wissmach Glass Company

831-LL Red/Yellow Streaky for Flowers, 1/2 Sq. Ft.
 238-L Dark Purple/Dark Blue/Light Opal/Crystal for Flowers, 1/2 Sq. Ft.
 23-L Light Green/Light Opal/Copper Red for Curved Stems, 1 Sq. Ft.
 100-SP Dark Green/Light Opal for Curves Stems, 1 Sq. Ft.
 315-D Medium Amber/Dense Opal for Background, 2-1/2 Sq. Ft.
 58-D Medium Amber/Dense Opal/Crystal for Background, 2-1/2 Sq. Ft.

Tools and Materials

7/32" Copper Foil Flux Solder
 Black Patina 1/2" U-Channel Zinc

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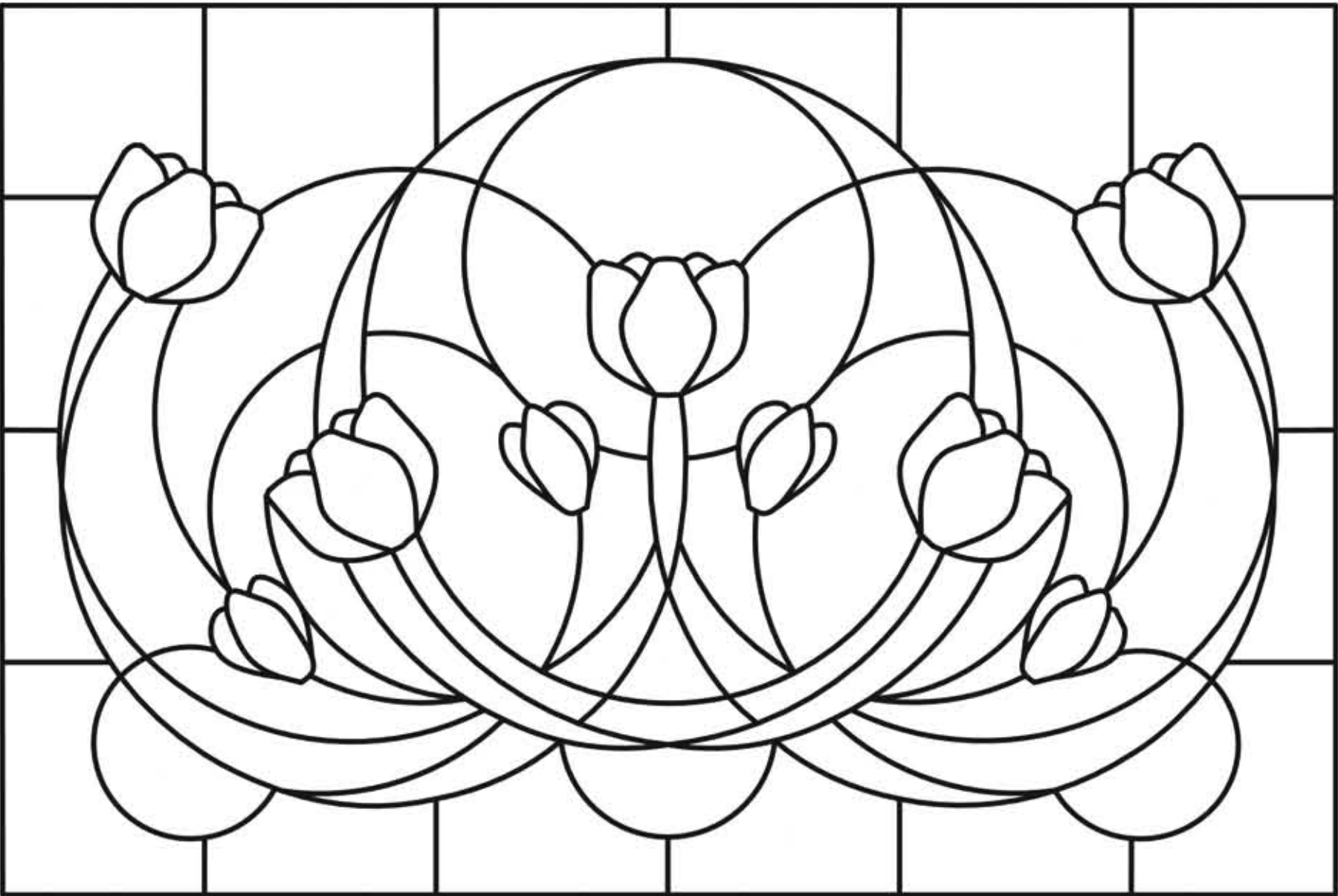
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Bluebird Tile

Design by Lisa Vogt

Enlarge patterns to 8" x 8".

- 96 COE Glass
White for Base, 1 Sq. Ft.
Clear for Design Layer, 1 Sq. Ft.
Orange/White for Flowers, 1/8 Sq. Ft.
Cobalt Blue/White for Bird, 1/8 Sq. Ft.
Opal Yellow for Bird Beak, Scrap
Frit for Base Layer
Amazon Opal Powder
Fern Green Opal Powder
Cobalt Blue Opal Powder
Frit, Stringers, and Noodle for Design Layer
Yellow Opal Medium
Red Opal Medium
Turquoise Blue Opal Medium
Dark Green Opal Fine
Dark Green, Olive Green, and Purple Stringers
Dark Green Noodle

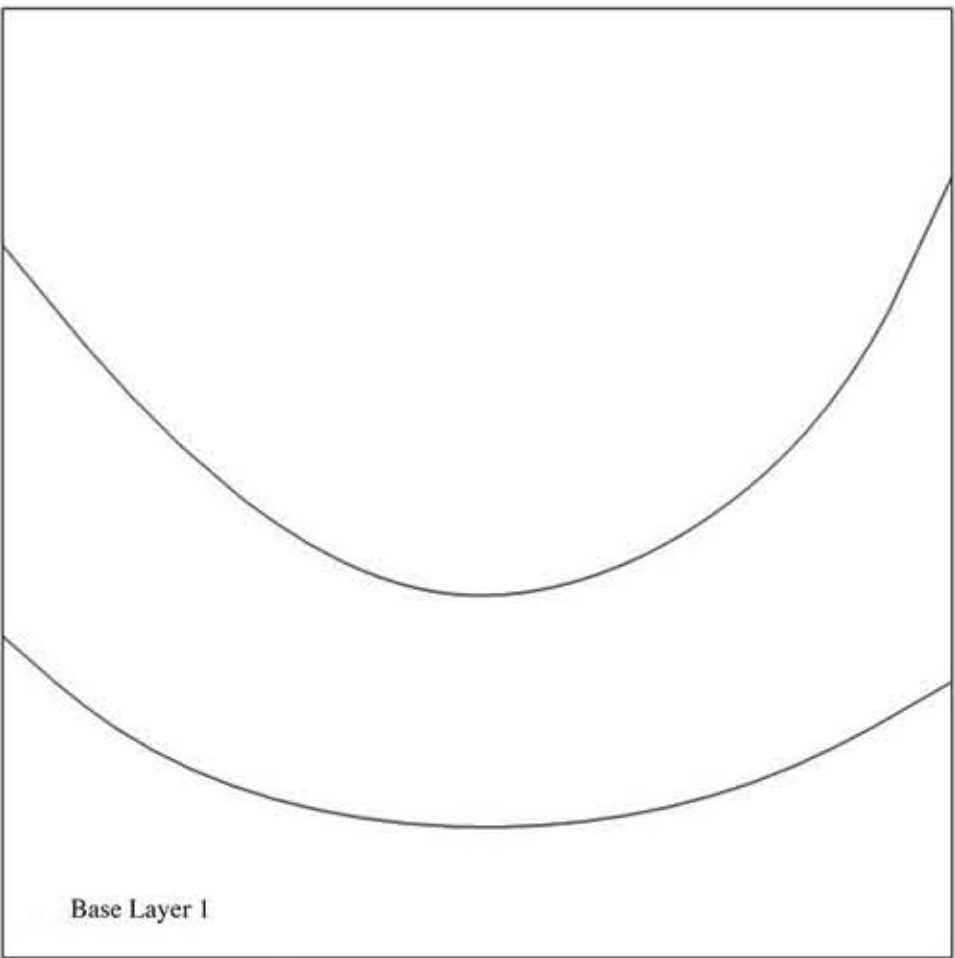


Spring Bliss

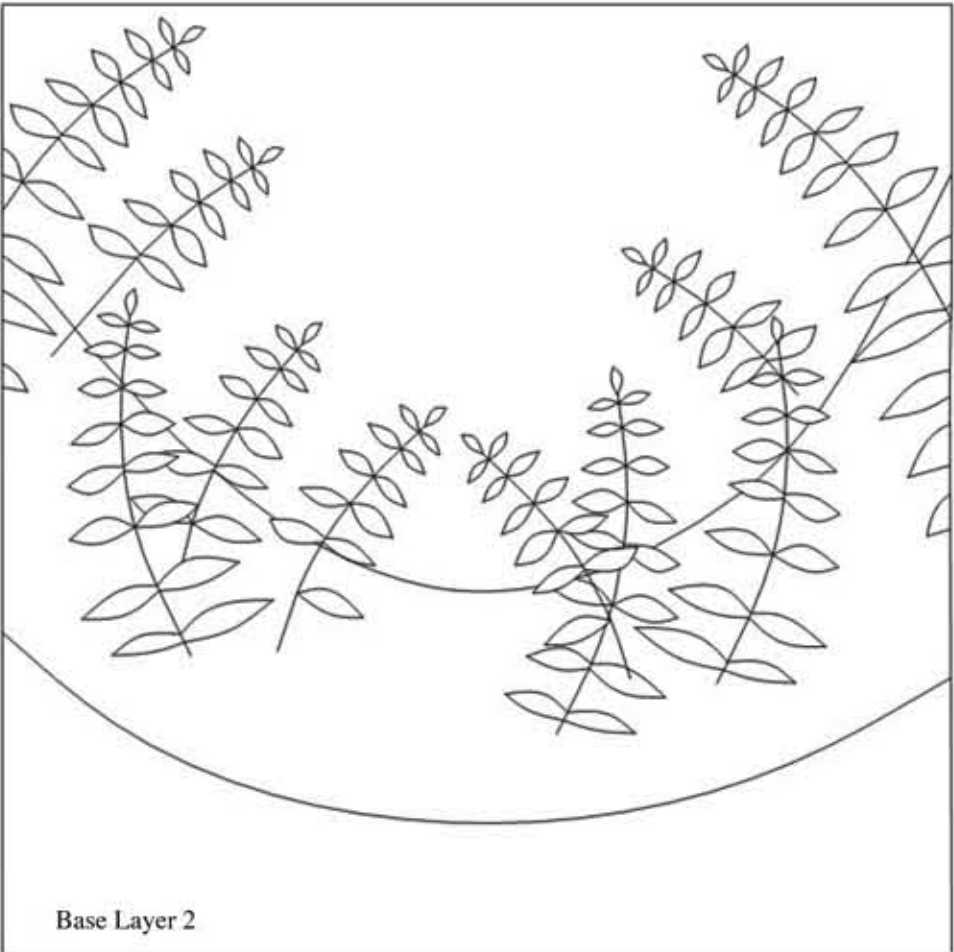
Design by Kevin Thornhill

Enlarge to desired size

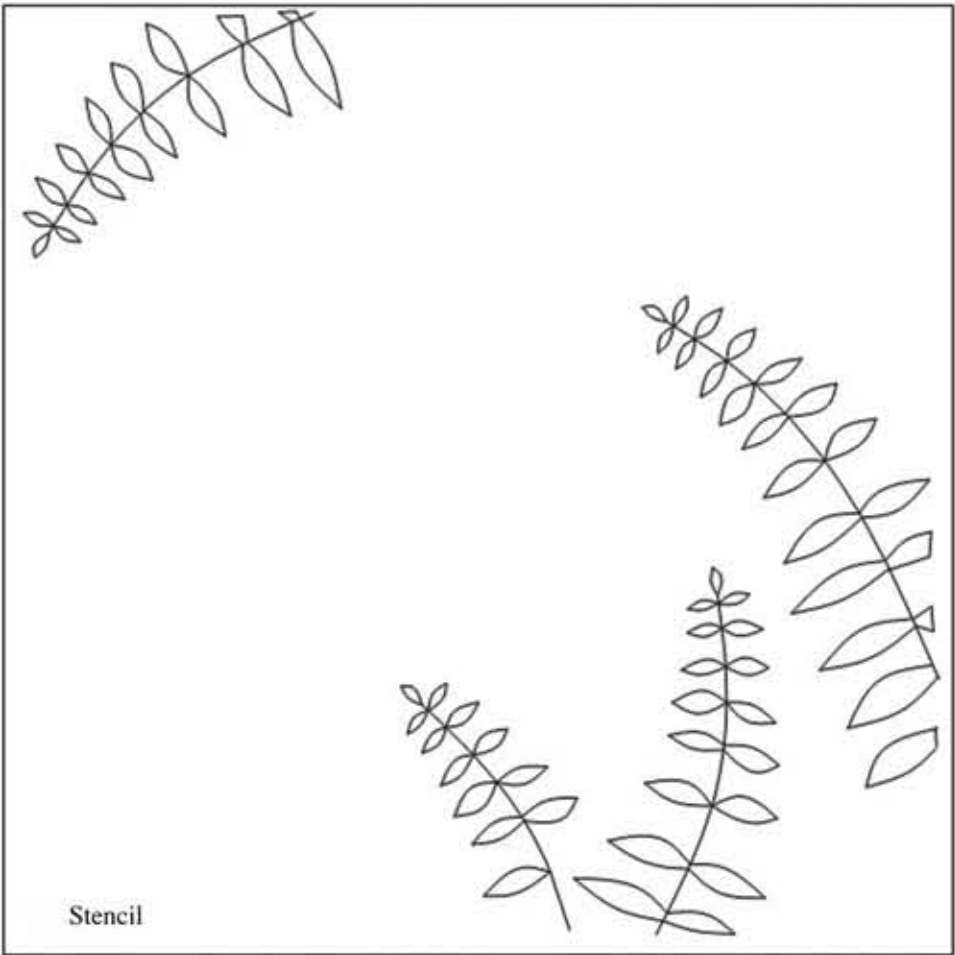
- Wissmach Glass Company
831-LL Red/Yellow Streaky for Flowers, 1/2 Sq. Ft.
238-L Dark Purple/Dark Blue/Light Opal/Crystal for Flowers, 1/2 Sq. Ft.
23-L Light Green/Light Opal/Copper Red for Curved Stems, 1 Sq. Ft.
100-SP Dark Green/Light Opal for Curves Stems, 1 Sq. Ft.
315-D Medium Amber/Dense Opal for Background, 2-1/2 Sq. Ft.
58-D Medium Amber/Dense Opal/Crystal for Background, 2-1/2 Sq. Ft.



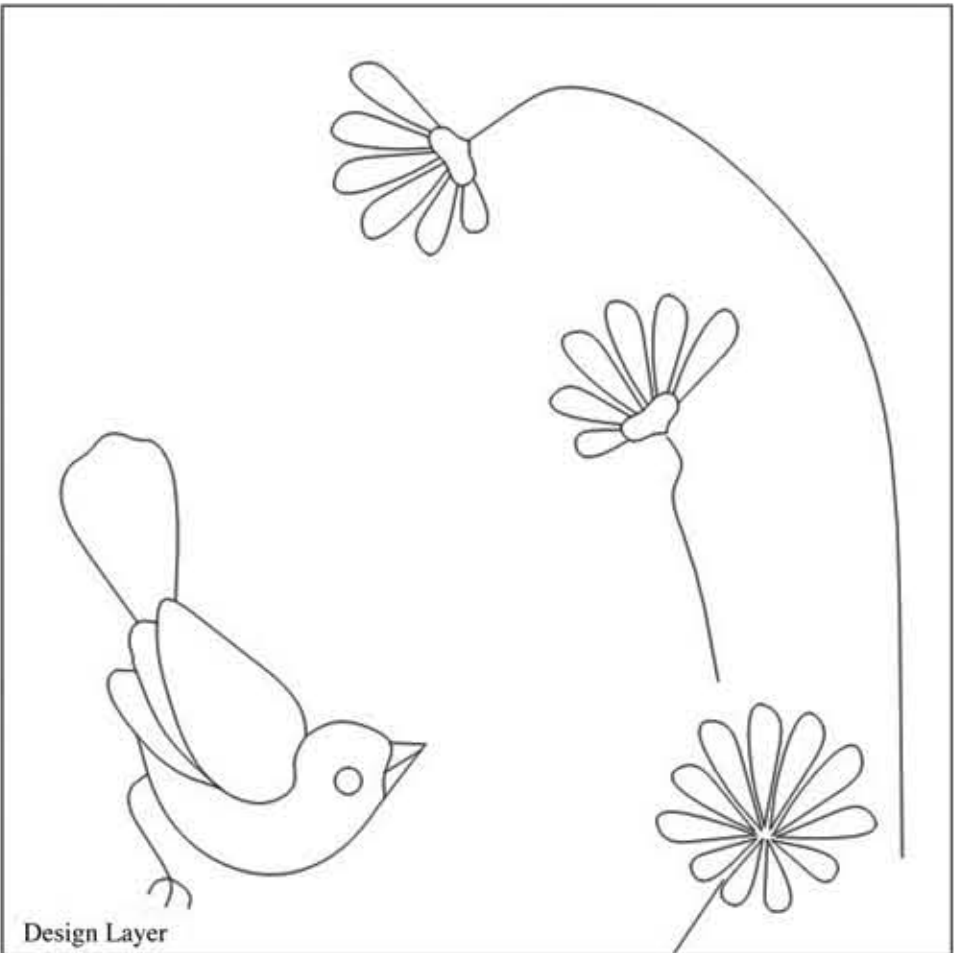
Base Layer 1



Base Layer 2



Stencil



Design Layer



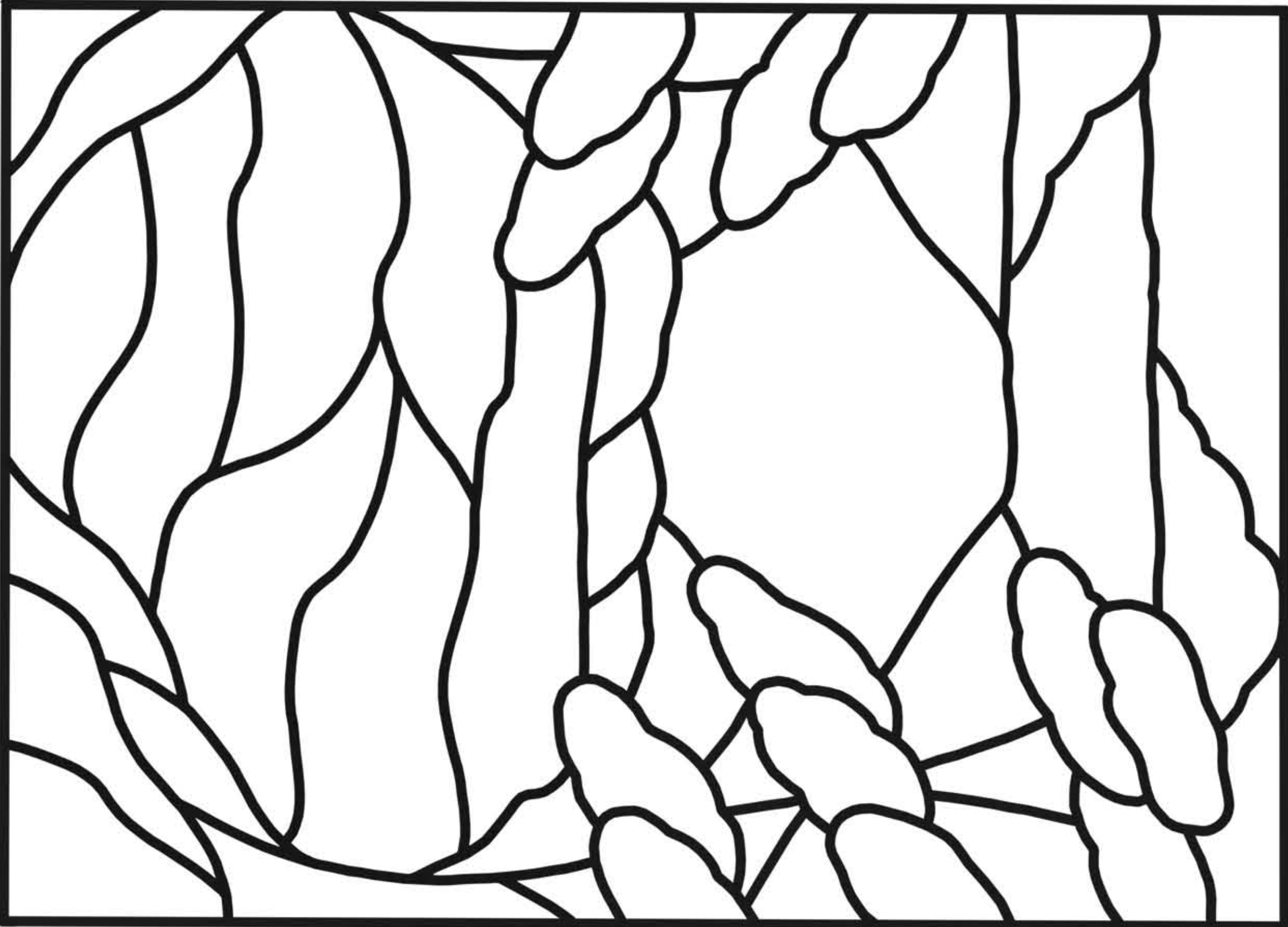
Garden Spider

Design by Paned Expressions Studios

- Wissmach Glass Co.
BLACK Dense Black for Spider, Scrap
WO-2 Yellow for Spider, Scrap
613-D Gray for Spider's Head, Scrap
2180-D Purple for Background, 4 Sq. Ft.

Mount Fuji from Lake Kawaguchi

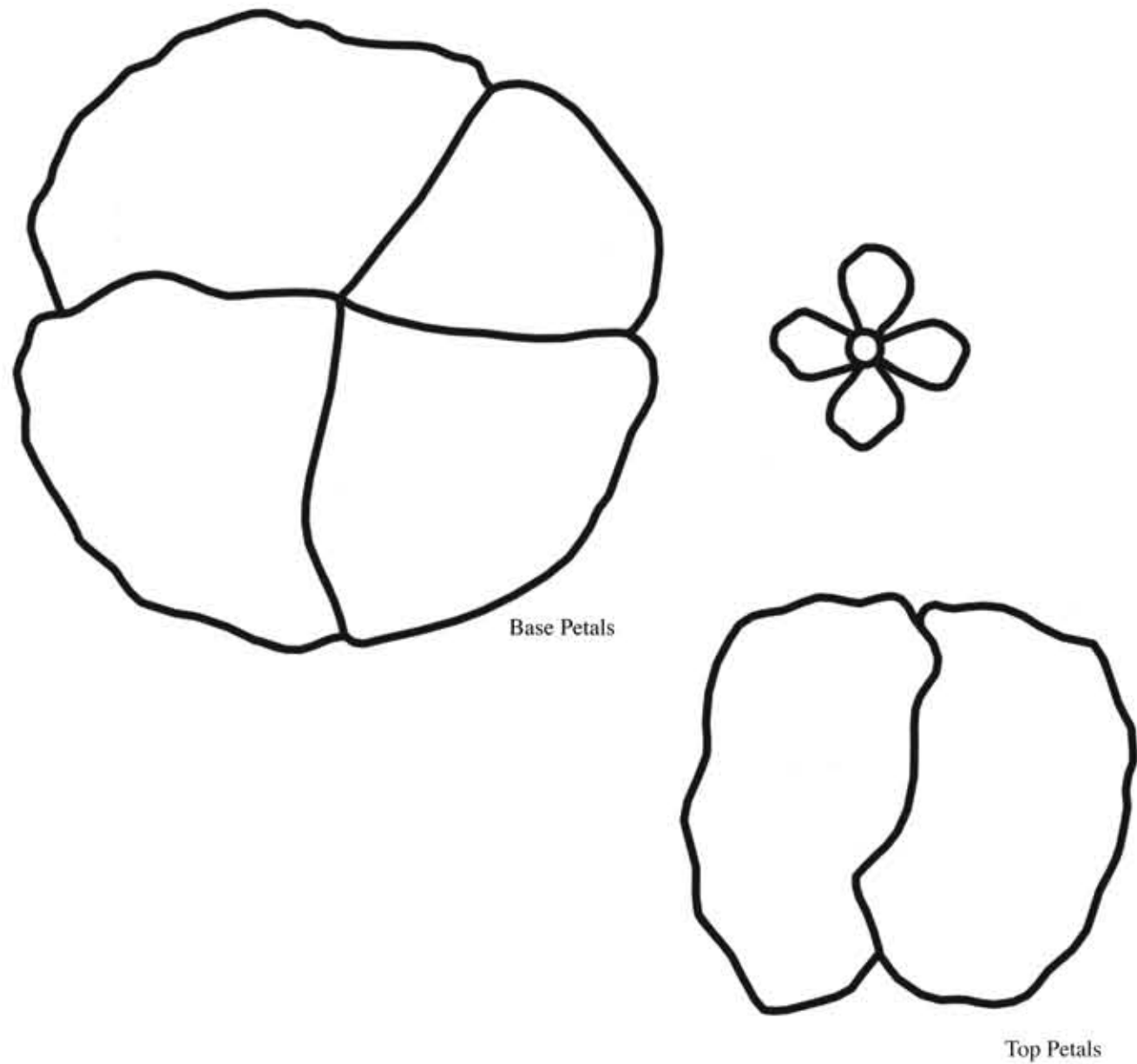
Design by David Kennedy



Enlarge to desired size

- Wissmach Glass Company
600-D Dense Opal/Light Gray for Clouds, 1/2 Sq. Ft.
WO-87 Sky Blue/Opal/Crystal Whispy for Sky, 1 Sq. Ft.
36-L Light Opal/Salmon for Blossoms, 1 Sq. Ft.
WO-503 Opal/Dark Gray/Brown Whispy for Mountain, 1 Sq. Ft.
57-L-L Medium Green/Opal/Crystal Streaky for Plants, 3/4 Sq. Ft.
101-D Dark Green/Dense Opal/Crystal for Darker Plants, 1/2 Sq. Ft.
87-L-L Sky Blue/Opal/Crystal Streaky for Water, 2 Sq. Ft.
557-L Medium Gray/Light Opal for Tree, Scrap

Enlarge to desired size

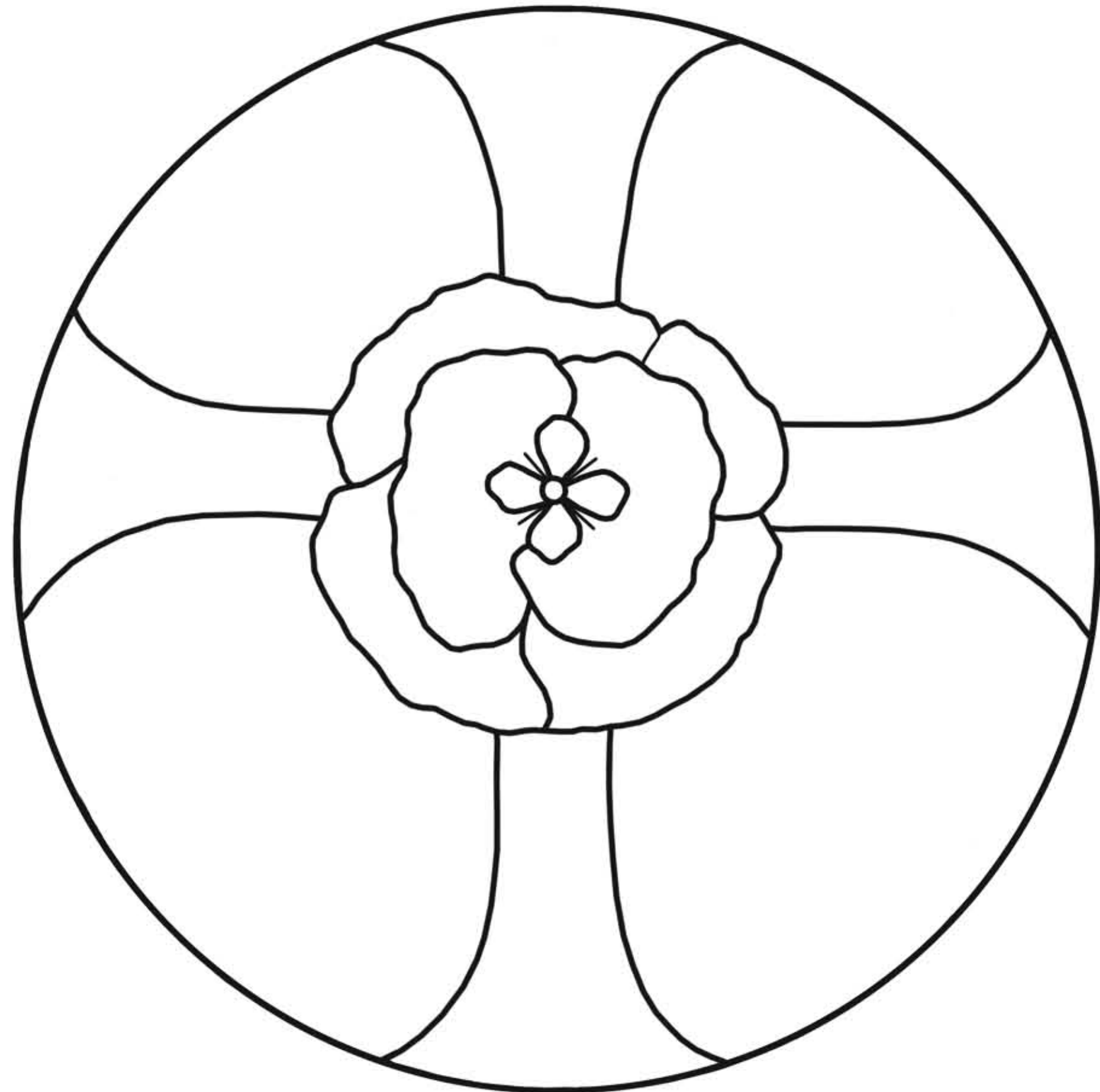


Remembrance Poppies

A Symbol of Memorial Day

Design by Leslie Gibbs

90 COE Glass
White Opalescent Double Rolled Iridescent Rainbow for Cross, 8" Square
Cranberry Pink Double Rolled Iridescent Rainbow for Center Poppy Petals, 4" Square
Thin Black Iridescent for Small Poppy Center Petals, Scrap
Thin Black Stringer for Flared Poppy Center Accents, Scrap
Ddichroic Chip for Center of Flower, Scrap
Grenadine Red Rainbow Iridescent for Poppy Petals Base Layer, 5" Square
Crackle for Background, 8" x 12"

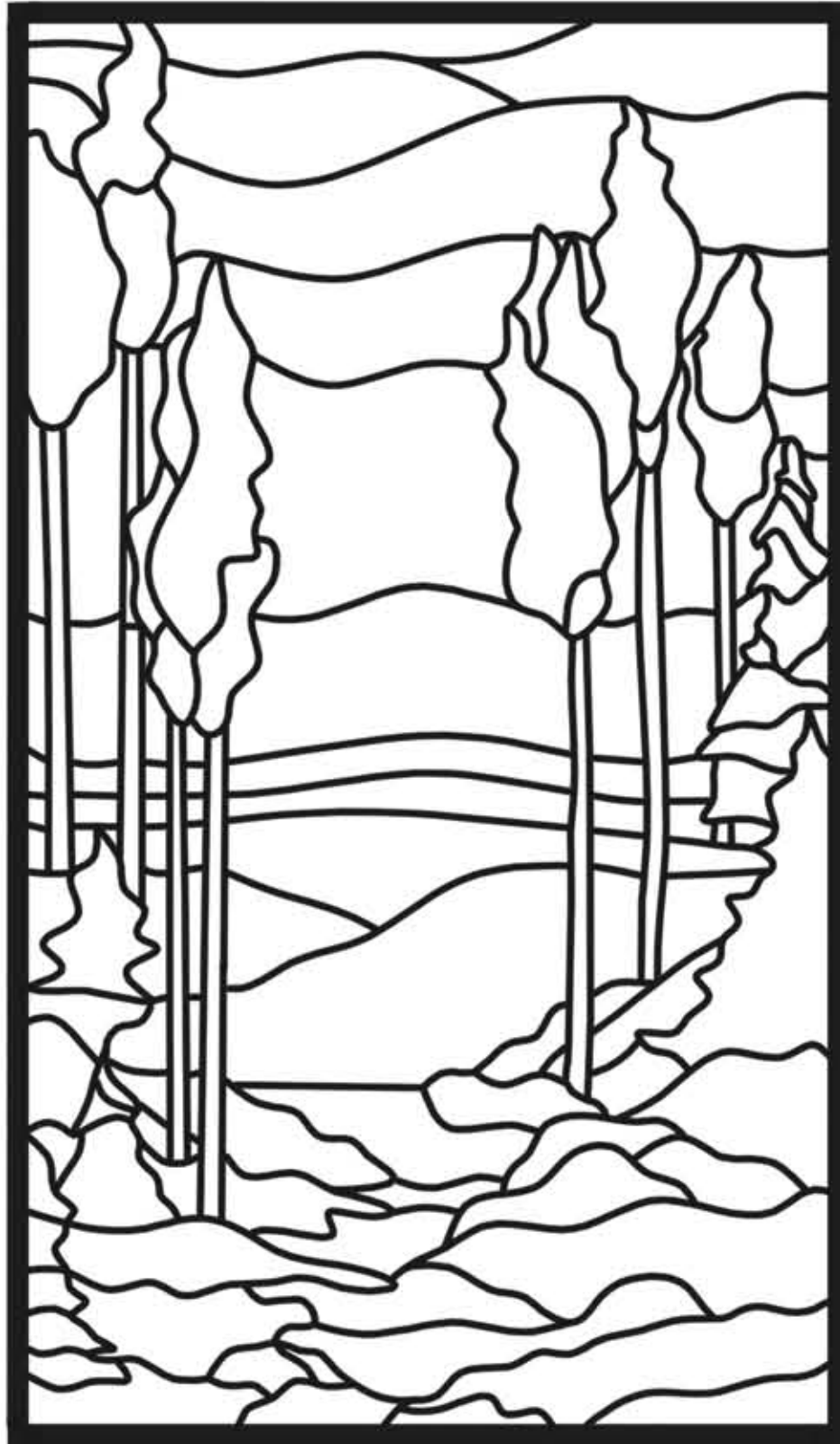


Enlarge to desired size

Audrey Hepburn

Design by Jean Beaulieu

Wissmach Glass Company
58-L Medium Amber/Light Opal/Crystal for Face and Arm, 1 Sq. Ft.
BLACK Dense Black for Eyes and Dress, Scrap
55-LL Amber/Green/Opal/Crystal Streaky for Hair and Eyebrows, Scrap
61-L Green/Brown/Light Opal/Crystal for Eyes, Scrap
51-DDXXMsp Light Opal/Crystal for Hat and Scarf, 1-1/2 Sq. Ft.
51-DD Dense White Cast Opal for Hat and Scarf, 1/2 Sq. Ft.
36-D Dense Opal/Salmon for Rose, Scrap
WO-152 Yellow Green/Dark Green/Opal/Crystal Wispy for Leaves, Scrap
WO-140 Medium Purple/Opal/Crystal Wispy for Background, 1-1/2 Sq. Ft.
3-L Gold Pink/Light Blue Opal for Background, 1 Sq. Ft.

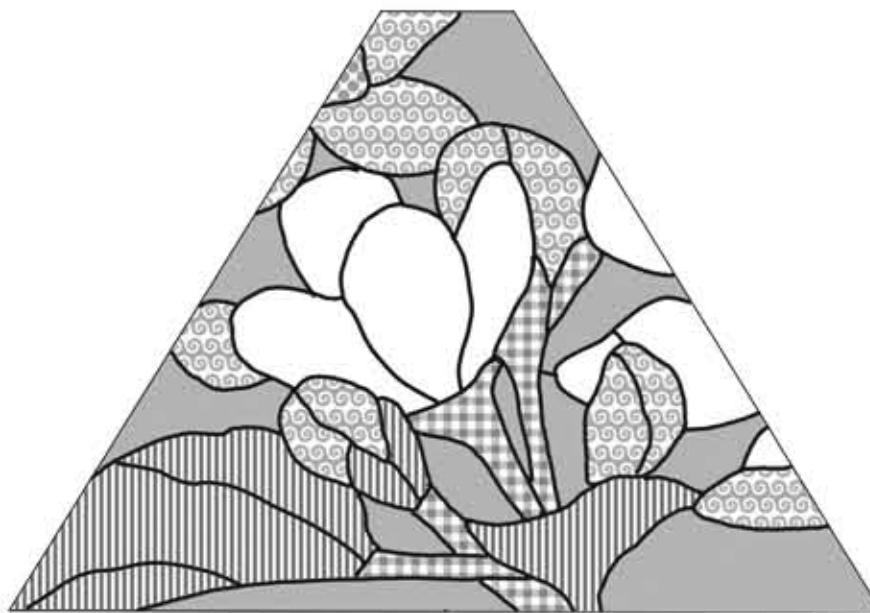


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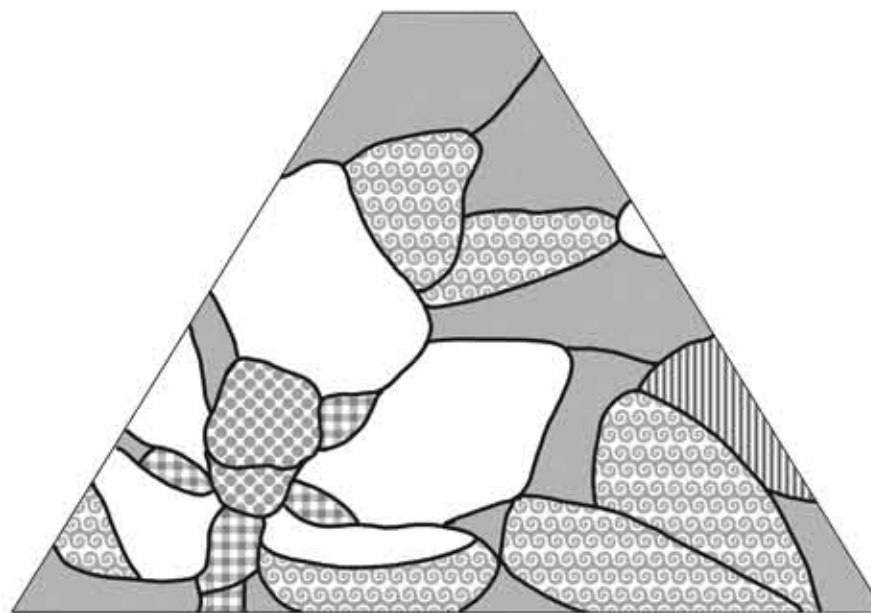
Spring

Design by Paned Expressions Studios

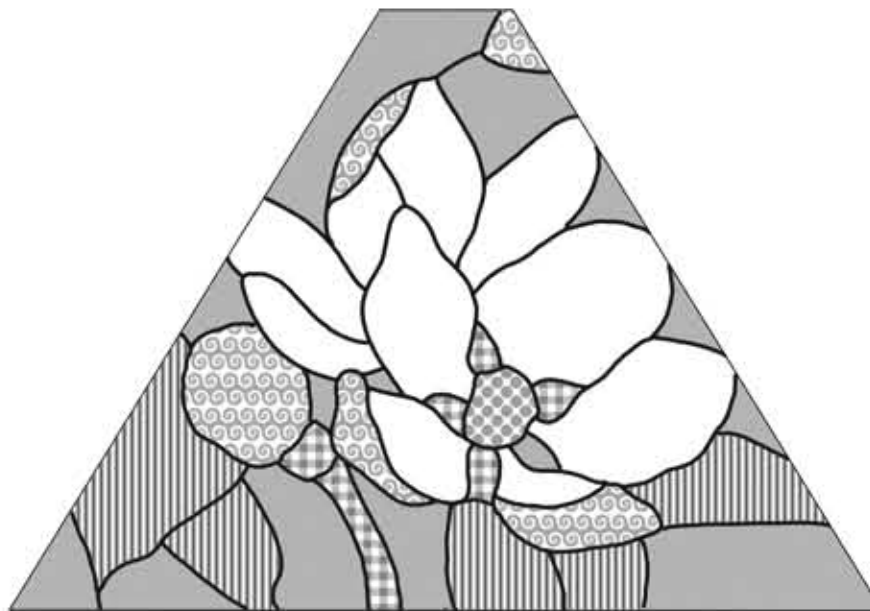
Wissmach Glass Company
77-L Light Brown/Yellow Green/Light Opal for Tree Trunks, 2 Sq. Ft.
WO-101 Dark Green/Opal/Crystal Wispy for Treetops, 1 Sq. Ft.
WO-191 Medium Green/Opal/Crystal Wispy for Treetops, 1 Sq. Ft.
WO-61 Green/Brown/Opal/Crystal Wispy for Distant Background, 2 Sq. Ft.
23-L Light Green Opal/Copper Red for Foreground Landscape, 1 Sq. Ft.
100-SP Dark Green/Opal for Foreground Landscape, 1 Sq. Ft.
65-L Medium Brown/Blue/Light Opal for Rocks, 2 Sq. Ft.
61-L Green/Brown/Light Opal/Crystal for Evergreens, 1-1/2 Sq. Ft.
272-D Dense Opal/Light Blue/Mauve for Sky, 4 Sq. Ft.
238-D Dark Purple/Dark Blue/Dense Opal/Crystal for Sunset, 2 Sq. Ft.
272-L Light Opal/Light Blue/Mauve for Water, 1-1/2 Sq. Ft.



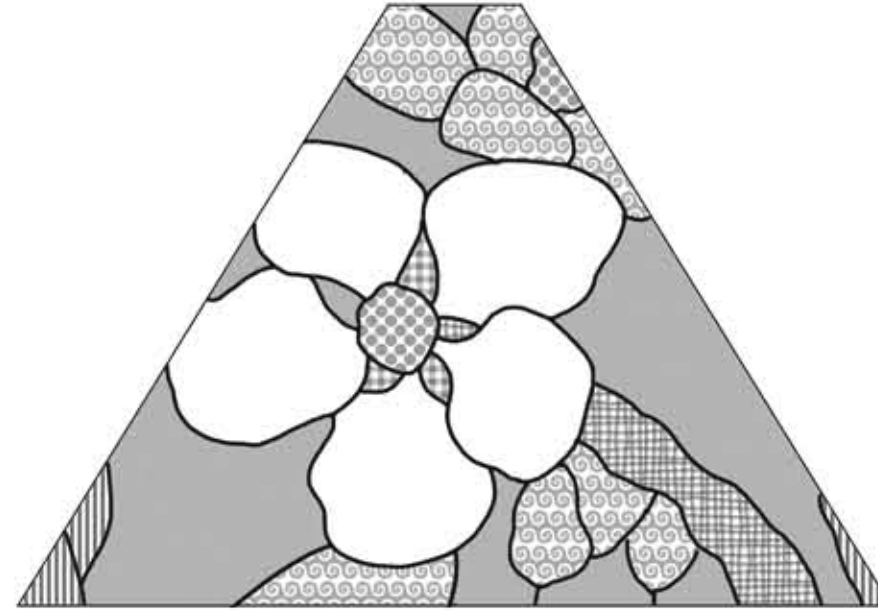
Side 1



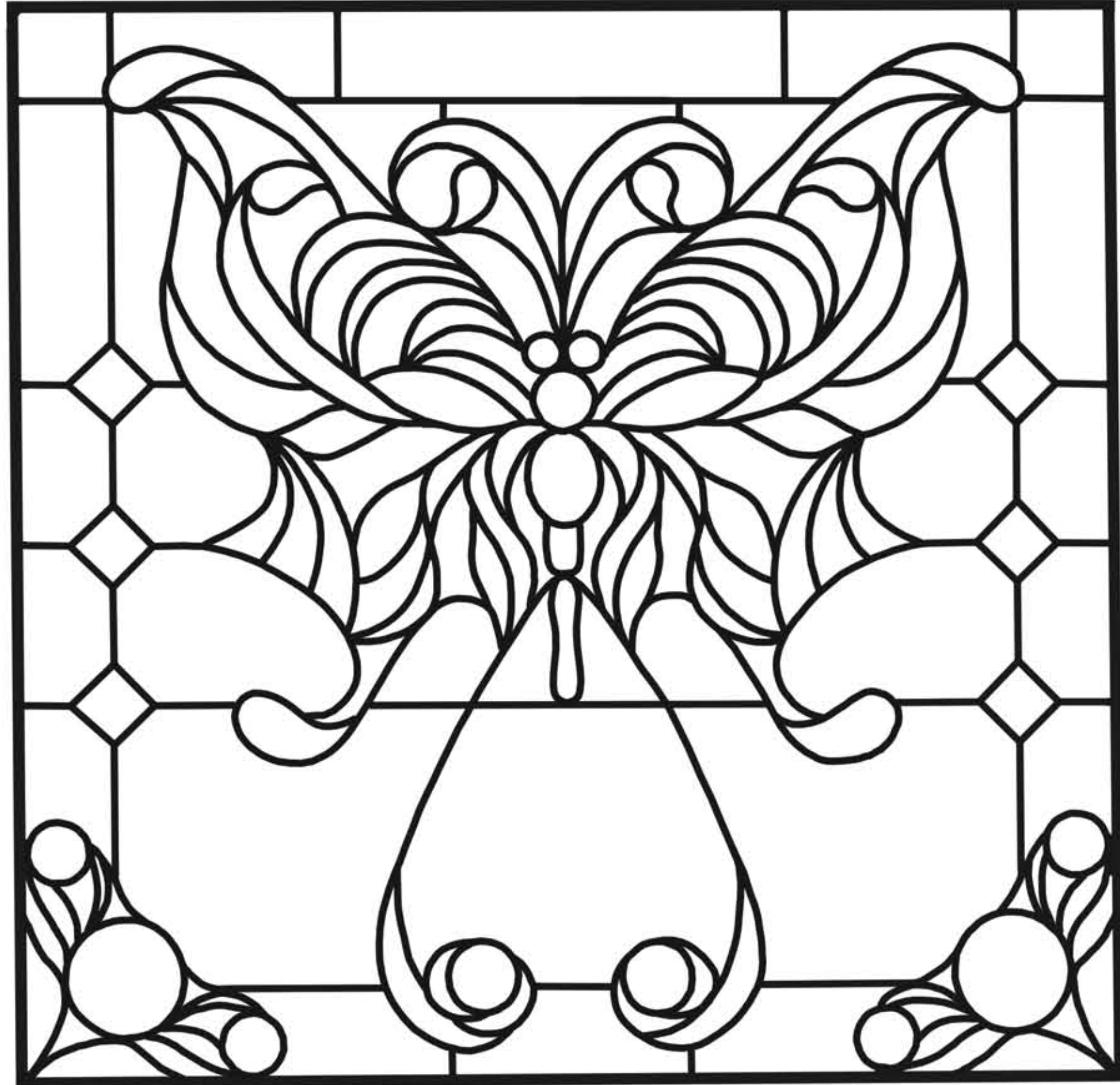
Side 2



Side 3



Side 4



Enlarge to desired size

Teal Baroque Butterfly

An Introduction to Using Adhesive Paper

Design by Debbie Piper

Required Glass
Iridized Teal Ripple, 1/2 Sq. Ft.
Teal Ripple, Scrap
Teal Baroque, 2 Sq. Ft.
Iridized Black Waterglass, 1/2 Sq. Ft.
Iridized White Wispy 1/2 Sq. Ft.
Iridized Teal Wispy 1/2 Sq. Ft.
Teal Opal, 1/2 Sq. Ft.
White Wispy 1/2 Sq. Ft.
Black/White on Clear, 1 Sq. Ft.
Ice White for Border, 1 Sq. Ft.
Wissmach Glass Company
Iridized Teal Ripple, 1/2 Sq. Ft.
Teal Ripple, Scrap
Youghiogheny Glass
Ice White for Border, 1 Sq. Ft.
Teal Faceted Jewels
25 mm square, 6
25 mm round, 4
30 mm round, 2
50 mm round, 2
Black Faceted Jewels
2 - 15mm round
1 - 25mm round
4 - 20mm round
1 - 40x30mm oval
1 - 25x18mm oval
1 - 60x14mm oval

Apple Blossom Lamp

Design by Chantal Paré

Enlarge all side panels to 15-1/4" wide.

Required Glass
White Ring Mottle for Large Petals, 2 Sq. Ft.
Honey Amber Ring Mottle for Flower Centers, 2 Sq. Ft.
Ring Mottle, 65-29 Granite, and 50-29
Herringbone Granite Ripple Textures
in White and Pink for Small Petals and Buds, Scrap
Light Brown/Dark Brown/Green for Branch, Scrap
Steel Gray for Background, 3 Sq. Ft.
Greens on Ice White for Leaves, 1-1/2 Sq. Ft.
Green and Pink on Ice White, 1 Sq. Ft.

Audrey Hepburn

Design by Jean Beaulieu, Text by Delynn Ellis

The arrival of March brings the start of women's history month. One famous actress who has influenced history with her iconic style is Audrey Hepburn. Not only is she admired for her work on the silver screen, but she was a favorite cover girl for magazines throughout the world. Hepburn starred in many great films including *Roman Holiday*, *Sabrina*, *Funny Face*, *Breakfast at Tiffany's*, *My Fair Lady* and, of course, *Charade*, the movie that started the craze for pillbox hats.

Rarely photographed without a hat, Audrey is captured wearing her famous pillbox in this 12" x 17" stained glass design rendered in Wissmach glass. The pillbox, a hat that just covers the crown of the head, became a trendsetter in the 1960s. Hepburn's style was said to influence a generation that included the likes of Jackie Kennedy and Doris Day and has carried forward even today, with Princess Kate donning this simple head cover.

Attention to facial detail can be difficult to recreate in stained glass, but Jean Beaulieu does it seamlessly with this pattern from his book, *Cinema Icons*. You can find additional celebrities including Clint Eastwood, Lucille Ball, Brad Pitt, and many others. To see more of Jean Beaulieu's work, including laser cut prints of his patterns, go to www.jeanbeaulieu.com.

GPQ



Wissmach Glass Company

58-L Medium Amber/Light Opal/Crystal for Face and Arm, 1 Sq. Ft.

BLACK Dense Black for Eyes and Dress, Scrap

55-LL Amber/Green/Opal/Crystal Streaky for Hair and Eyebrows, Scrap

61-L Green/Brown/Light Opal/Crystal for Eyes, Scrap

51-DDXXMsp Light Opal/Crystal for Hat and Scarf, 1-1/2 Sq. Ft.

51-DD Dense White Cast Opal for Hat and Scarf, 1/2 Sq. Ft.

36-D Dense Opal/Salmon for Rose, Scrap

WO-152 Yellow Green/Dark Green/Opal/Crystal Wisspy for Leaves, Scrap

WO-140 Medium Purple/Opal/Crystal Wisspy for Background, 1-1/2 Sq. Ft.

3-L Gold Pink/Light Blue Opal for Background, 1 Sq. Ft.

Tools and Materials

7/32" Copper Foil Flux Solder

Black Patina 1/4" Zinc U-Channel

How Does Your Garden Grow? Fused Glass Panel

Design, Fabrication, and Text by Carmen Flores Tanis



Ask any glass enthusiast and he or she will tell you that one of the hardest parts of starting a new glass project is narrowing down the choice to just one idea. That's why I've thrown the kitchen sink at this sweet little panel. It explores four different techniques—screen printing with two colors, bending stringers in a flame, die-cutting fiber paper to make shallow molds, and hand lettering with a fine tip. For this project, we'll make all of our elements separately, then gather everything together at the end.

The project also features the pretty rolled edges of glass to add another decorative element. When you cut the double rolled white and clear glasses to size, you will leave one side with the rolled edge. All this, and it only requires two firings. That's how my garden grows. Enjoy!

90 COE Glass

3 mm Clear Double Rolled Irid for Rainbow, 8" x 6-1/2"

3 mm White Single Rolled, 8" x 6-1/2"

90 COE Medium or Fine Frit

Marigold Yellow

Orange

Red

Cranberry Pink

Additional Compatible Glass

1 mm Green Stringers, 2

White and Yellow Scrap Glass

Color Line Paint

Black, Green, and Egyptian Blue

Color Line Tip Kit

Colors for Earth

CBPM126S Rainbow Vase Designer Silk Screen

Colors for Earth Screen It On Squeegee

Sizzix

BigKick Die Cut Machine /

Flower Layers #3 Die / Plastic Cutting Pads

Tools and Materials

1/8" Thick Fiber Paper, 12" x 12"

Glass Cutter Breaking Pliers

Alcohol or Glass Cleaner Paper Towels

Craft Knife Toothpick Toothbrush

Glue Stick Plastic Spoon Measuring Cup

Diamond File, any grit Blue Painter's Tape

Rubber-Tipped Wipe Out Tool Respirator Mask

Candle Matches Tweezers

Small Paint Brush Mosaic Nippers

Fiber Paper Molded Flowers

The first thing to remember is to please be very careful when handling fiber paper, both before and after firing. It's made up of ceramic fibers, which you do not want to inhale, so work clean and work smart. Wipe up your work surface, clean your tools, and wash your hands well after working with it. Some people might also be sensitive to it on the skin, so be aware of that too before deciding to work with it. Also be sure to have adequate ventilation when you fire it, because the burning binders in fiber paper do give off a smell.

Fiber paper is very easy to cut with a sharp craft knife, but if you've got access to a manual die cutting machine, then life is even easier! I used a Sizzix Big Kick machine, which is basically a big pasta machine that uses sharp-edged dies to cut thick materials. Electronic die cutters such as the Cricut or Silhouette cannot cut thick fiber paper.

Cut one piece of fiber paper the size of the die, 5-1/2" x 6", and another a little bigger at 6-1/2" x 7".

1



Sandwich the fiber paper and die between the cutting pads.

2



Place the 5-1/2" x 6" piece of fiber paper on the soft foam side of the die. The cutting edge of the die is protected by the layer of foam. Sandwich the fiber paper and die between the two plastic cutting pads that come with the machine.

3

Roll the fiber paper/die sandwich through the die cutter and separate the flower shapes from the background.



Keep the rectangular background piece and set aside the flower shapes for another project.

4

While you have the machine set up, cut some flowers and shapes for other projects.



Bag them up carefully and wipe up the surfaces.

5

Use the glue stick to glue one background piece to a second piece of fiber paper.



Fiber paper has a rough side and a smooth side. Use a little glue stick on the rough side of the background piece and attach it to the smooth side of the 6-1/2" x 7" piece from step 1. Now you have a mold!

6

Use a spoon to fill the hollows of the fiber paper mold with frit.



Tip: You might find it easier to pour some frit from the big jars into a little measuring cup, then spoon the frit out of that. **Be sure to wear a respirator mask or other breathing protection whenever you are working with frit to avoid inhaling any glass particles.**

Use a toothpick to move the frit into the petal areas of the cutout shapes.



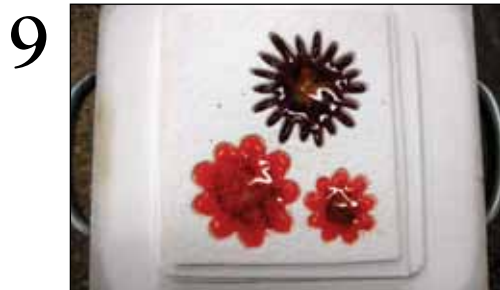
Remember that the frit is going to compact when you fire it, so you want to pile it extra high in the center. As long as the frit isn't spilling over the edges onto the flat parts of the fiber paper, you can pile it as high as you like.

Continue filling the rest of the mold.

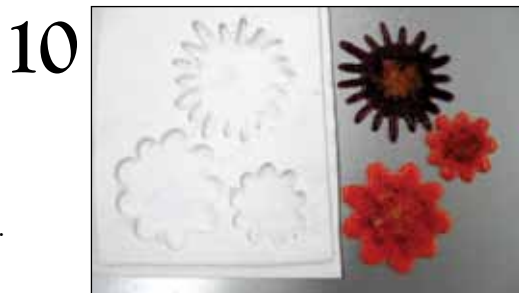


Play with the frits and sprinkle darker or lighter areas on each of the flowers.

Full-fuse the filled fiber paper mold according to the firing schedule at the end of the tutorial.



After firing, carefully remove the fired flowers from the fragile fiber paper mold.



If you are very careful and do not damage the mold, you can reuse it until it falls apart. Just keep it in a sealed plastic bag or container. If you decide to toss it, roll it up in a bunch of wet paper towels and bag it up as trash.

11

Scrub the backs of the fired flowers with water and a toothbrush.



The fired flowers will have some fiber paper stuck to the backs, so scrub them really well in the sink with water and a toothbrush.

12

Use a diamond file to remove any sharp little points from the flowers and set aside.



Now on to the next step.

Screen Printing the Bottom Glass

13

Place the silk screen on the white glass.



Place the white glass smooth side up with the rolled edge to the right. **Tip:** If you roll up a little piece of tape, sticky side out, you can put it on the back of the glass to secure it to the table so that the glass doesn't move. Place the silk screen on the glass.

14

Tape down the screen on the table.



Tape the top edge of the screen to the table, lining up the bottom edge of the tape with the top edge of the glass. The screen is bigger than the glass, so you will be taping it to the table.



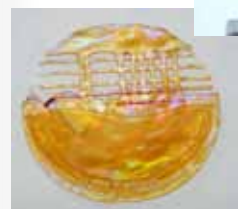
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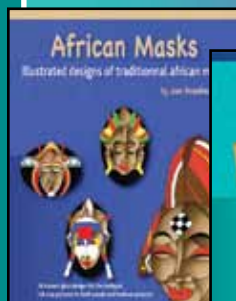
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15

Pull the screen tightly as you tape down all four sides to the table.



The screen must be taped down as tautly and smoothly as possible. Any bagginess will make for a blurry image. Try to line up the edges of the tape with the edges of the glass to avoid any extra paint spilling through the screen. If your tape is narrow, you can use more tape. This is where you really have to take your time.

16

Check one more time to make sure that the screen is smooth and the tape is secure.



Shake the green and blue paints for 30 seconds each. Now you're ready to print!

17

Apply the paints across the top of the screen.



Squirt a heavy line of blue paint at the top edge from the center to the right. Squirt a similar line of green paint from the center to the left edge. This will give you a two-tone effect.

18

Push the paint through the screen with the squeegee.



Hold the squeegee at a 45-degree angle. You don't want to bend the squeegee as if you're buttering bread. Instead, you are using the bottom knife-like edge of the squeegee to force the paint through the screen.

19

Hold the top of the screen as you pull the squeegee straight down.



Hold down the top of the screen as you pull the blue paint on the right with the squeegee from top to bottom. If there are any missing spots, go back to the top and pull again. If you go in the opposite direction—bottom to top—once you've done the initial pull, that will give you a blurry print.

20

Squeegee the green paint on the left side of the screen.



Go back to the top and now pull the green paint on the left from top to bottom. Scoop up any extra paint from the bottom. If the colors haven't mixed up too much, you can put the paints back in the bottles.

21

Carefully pull the taped screen away from the glass.

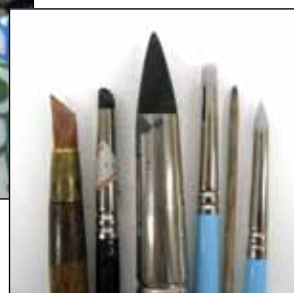


Throw away the tape, wash the screen with water, and pat dry.

22



Use a wipe out tool to remove any smudges from the printed glass and set the glass aside to dry.



I like to keep a variety of wipe out tools in my toolbox. Sometimes also called "Clay Shapers," you can find these rubber tipped tools at craft and ceramic stores. They are great for removing smudges and for adding painterly effects. Wood skewers and sharp chopsticks work great too!

Hand Lettering the Top Glass

23

Select the appropriate size painting tip.



Color Line tips come in a variety of sizes. Each one has a little groove on the side indicating the size, with one groove being the finest and three grooves being the widest.

24

Select the one-groove finest size tip and push it onto the bottle of black paint.



Before you do that, be sure to shake the bottle for 30 seconds. If you refer back to the project picture, you will see that the black lettering wraps around three sides of the irid piece of glass, with the rolled edge on the right.

25

Squeeze the bottle as you write the words along the bottom edge of the glass.



Starting at what would be the top edge of the glass, squeeze the bottle and write the words "How does your garden grow?" about 1/4" from the edge. Have a wet paper towel nearby to wipe away any mistakes.

26

Repeat the words until all three sides are lettered and set aside to dry.



Now on to the next part.

27

Light a candle and use it to heat and bend the green stringers into leaf shapes.



It's useful to hold the glass with tweezers. Make about six leaves with long stems so that you will have a variety to choose from. Don't worry about cleaning off the black soot. It will burn away.

28

Arrange the bent stringers on the irid glass and fill in the leaves with green paint.



Stack the lettered irid glass on top of the printed white glass, lining up the long straight edges to the left. The rolled edges on the right should be offset like the pages of an open book. Arrange the fused flowers and shaped stringer leaves on top. Fill in each leaf with a little green paint. It will be tricky if the leaves don't lie flat, but you can do it!

29

Use the mosaic nippers to break off small chunks from the yellow and white scrap glass.



If you have coarse yellow or white frit, you can use that.

30

Top the fused flowers with the bits of yellow and white glass to add more detail.



31

Fire the piece according to the tack fuse schedule at the end of the tutorial.



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That's it! At home, I have my finished panel displayed on a clear acrylic easel from the craft store, which allows me to easily move it from tabletop to window ledge depending on my curatorial mood that day. If you prefer, you could always drill holes and add a chain instead to make a wall hanging. To personalize the design further, you could vary the colors, use different patterned silk screens, cut different shapes from the fiber paper, or select your favorite quote to go around the edges.

Oh, no! Now we're back to the problem of narrowing the choice to just one idea. Ah, that's glass for you. **GPQ**

Firing Schedules

The following are suggested schedules for full fusing and tack fusing used in this tutorial. Just remember that all kilns fire differently, so you may need to make some adjustments for your own kiln.

Full Fuse Schedule for Flower Shapes

Segment 1: Ramp 300°F/hr to 1450°F and hold 10 min.
Segment 2: Ramp 9999 (AFAP*) to 950°F and hold 30 min.
Segment 3: Ramp 200°F/hr to 700°F and no hold.
Segment 4: Ramp 9999 (AFAP*) to 100°F and no hold.
*as fast as possible

Tack Fuse Schedule for Final Assembly

Segment 1: Ramp 200°F/hr to 1225°F and hold 90 min.
Segment 2: Ramp 9999 (AFAP*) to 1350°F and hold 15 min.
Segment 3: Ramp 9999 (AFAP*) to 950°F and hold 3 hrs.
Segment 4: Ramp 200°F/hr to 700°F and hold 60 min.
Segment 5: Ramp 9999 (AFAP*) to 100°F and no hold.
*as fast as possible

Carmen Flores Tanis is a mixed media crafter and designer who specializes in combining diverse materials in unusual and unexpected ways. She has been working with glass for over 15 years and delights in sharing her discoveries with fellow artists. She loves to make things!



The artist is a Designer Member of the Craft and Hobby Association (CHA) and is vice president for the Southern California Chapter of CHA. She has designed projects for Sulky, iLovetoCreate, Ann Butler Designs, Bella Crafts Quarterly, and Glass Patterns Quarterly, and is on the design teams for etchall and Smoothfoam.

Carmen teaches glass and crafting classes regularly at Coatings By Sandberg and the ABC Adult School as well as at Ed Hoy's International and the Glass Craft & Bead Expo. She lives in Glendale, California, with her beloved husband Bruce. You can see more of her work and find out about upcoming classes at www.madcraftskills.com and www.florestanisstudio.com.

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Embellished Garden Lantern

Design and Fabrication by Alysa Phiel, Text and Photography by Jane McClarren

You can find metal lanterns for purchase just about anywhere these days at department and big box stores alike. Most lanterns have removable float glass as well as your choice of luminary—from battery operated or wax candles to LED lights and twinkling strands. You can take these beauties from indoors to outdoors and brighten any patio or garden. They make a great 3-D display for glass panels of any kind, but today we are going to fuse a lovely garden design and display on four sides. If you haven't made a lantern with your own glasswork displayed, it's time you did.

To start, you will be replacing the purchased lantern panels with the clear 96 COE glass sheet. Remove the glass panels from the lantern. We used a #701.561.11 black 17-1/4" IKEA lantern, which needs to be constructed. Trace the glass panels with permanent marker onto the clear 96 COE glass. The amount of glass required for the panels will vary depending on the size of the original lantern panels. Using the glass cutter and running pliers, cut new glass panels from the 96 COE glass.

The panel for the lantern door should be smaller than the three side panels. Lay out all four panels side by side with the bottom edges aligned on the white paper work surface, leaving a small amount of space between the panels.



96 COE Glass

Clear Sheet Glass, 2-4 Sq, Ft.

Fine and Medium Frit for Green Field

Aventurine Green Translucent

Fern Green Opal

Dark Green Translucent

Lime Green Opal

Ming Green Translucent

Lemongrass Opal

Opal Frit for Wildflowers

Marigold Opal

Medium Blue Opal

Hydrangea Opal

Cherry Blossom Opal

Coarse Frit for Accents

Clear

Yellow Opal

Turns Pink Opal

Clear Iridescent or Clear Dichroic Frit (optional)

Powders

Sky Blue Translucent

Additional Glass

Variety of Green, Teal, Amber, and Purple Stringers

2-3 Precut Clear Butterflies

Dichroic Scrap on Black

Tools and Materials

Glass Cutting Tools Mosaic Nippers

Krylon or Other Metal Paint in Desired Color (optional)

Craft or Butcher Paper Newspaper

Permanent Marker Clear Silicone Glue

Pump Hair Spray Fine Glass Sifter Respirator

Lantern with Removable Glass Panels

Clear Glue or GlasTac Firing Glue

Kiln Paper Glass Grinder Tweezers

Mold with 90-Degree Angle

Begin to sprinkle the darkest green frit on the bottoms of the lantern panels.



Using the frit jar cap, sprinkle Aventurine Green frit, or the darkest green you have selected if you are using your own color selection. The colors you see in the tutorial are listed at the beginning of the tutorial, but feel free to experiment with other colors. Sprinkle the frit along the bottoms of the panels about 1/4 to 1/3 of the way from the bottom of each panel. **Remember that it's important to always wear a respirator mask or other breathing protection any time you are work with glass frits and powders to avoid inhaling the glass particles.**

2

Create curves and different frit density between the panels.



The frit should flow continuously from panel to panel.

3

Using your fingers or the jar cap, continue adding other colors over the dark green.



Add the additional frit colors from darkest to lightest. Make sure that you are using a variety of opal and translucent frits.

Note: Fine textured frits work well for filling in any void areas. Lemongrass gives the look of sunlight reflection.

4

Add more frit as you desire.



Finish with the lightest color frit. For our project we used Ming Green for some sparkle. You do not want to layer the frit too densely, since you want the light to show through the panels.

5

Finish covering the clear glass with translucent blue powder and coarse clear frit, then set with a coating of hair spray.



Use the sifter to cover the remaining portion of clear glass with the blue powder. Cover the glass evenly and make sure you are using a translucent powder. The powder should be sprinkled all the way to the green frits. You want the sky and ground aligned.

Sprinkle the coarse clear frit over areas of the green frit. Also add clear frit more lightly about an inch above the green frit. Clear coarse frit adds dimension to the fusing of the frits.

Spray the entire surface of glass with the pump hair spray. Hold the hair spray about 8" above the glass and do not spray directly onto the glass. Spray into the air instead to allow the hair spray to mist onto the frit surface.

6

Break the stringers into varying lengths to create stems for the flowers.



Arrange them as desired over the green frit layers.

7

Build flowers at the top of the glass stringers using pieces of the opaque colors of coarse frit.



The flowers should vary in size and shape. Spray with hair spray to set the frit.

8

Add clusters of medium opal frit colors in all of the areas on top of the green frit to create the look of wildflowers.



The clusters should be created in varying sizes in both vertical and horizontal directions to provide the most variety in the design. When you are happy with your design, spray with hair spray to set the frit.

As an optional addition to the design, you can lightly sprinkle clear iridescent or dichroic glass over the blue powder to add some sparkle to the sky to represent sunlight or rain—your call. Spray with hair spray to set.

9

Prepare the glass for the butterflies.



Select the colors and textures of dichroic you desire for the butterfly pattern. The glass for the butterflies should be COE compatible, but they don't have to be the same COE as your panels. Use the mosaic nippers to create pairs of small scraps in various shapes to use for the butterflies.

10

Assemble the butterflies.



Cover the butterfly cutouts with glue or GlasTac. Using the tweezers, arrange the dichroic scraps in a symmetric design on the butterfly and continue building the butterfly as desired. When you are finished making as many butterflies as you want, fire the four lantern panels and the butterflies using the dimensional firing program provided at the end of the tutorial.

11

Use spray paint to change the color of the lantern frame if desired.



If you choose to change the color of the purchased lantern, lay out the lantern frame pieces on newspaper or another surface that won't be ruined with the paint. Spray each piece of the lantern frame evenly with Krylon or any other metal covering paint. The color we selected was Matte Aqua.

Once dried, turn the frame pieces over and spray the other side. Make sure that you also spray all of the inside and outside edges and all of the sides of the open lantern door. Allow all of the frame pieces to dry completely.

12

Arrange the fused butterflies over the right-angle inside edge of the mold.



If the mold has not been prepped with kiln wash or mold spray, you can lay the butterflies on a scrap of kiln paper. Slump the butterflies using the slump program provided at the end of the tutorial.

When you are rebuilding the lantern, you may need to touch up some spots with paint once the lantern has been put back together. When the touchups are complete, insert the new decorated glass panels into the lantern.

Using a glass grinder, create a flat surface along the center of the butterflies where the glue can adhere to the panel.

13



Attach the butterflies to the door panel.

14



Determine the placement of the butterflies, then place the lantern on a surface with the door panel parallel to the work surface. Using clear silicone Glue, adhere the butterflies to the door panel. Allow the glue to dry completely. Now add a pillar candle or white LED lights to the interior of your lantern, step back, and enjoy!

GPQ



Alysa Phiel, a regular contributor to Glass Patterns Quarterly for the past seven years, is a third-generation glass artist with 30 years of experience having been taught by her grandparents, long-time glass artists who owned their own studio for 12 years. Alysa then owned

and operated Creations in Glass with her mother for 10 years. She has also shared beginning to advanced classes with hundreds of students over the past eight years as the Director of the Warm Shop at Sonoran Glass School in Tucson, Arizona.

Recently Alysa opened her own studio, Wild Desert Glass, where she continues to create custom projects in addition to offering instruction in fused glass, stained glass, and mosaics. The artist's creativity and range of knowledge make her a fantastic teacher for students looking to create any type of glass art. She constantly experiments with new techniques and materials and helps others challenge themselves and expand their own skills as artists.

Alysa's work, which ranges from fused functional pieces and wall art to mosaic furniture and fountains, can be found in private collections all over the country. She also has numerous commissioned stained glass windows installed in homes and churches all around Tucson.

Fusing Schedules

Always remember that each kiln fires differently. You may need to make adjustments in these schedules to work with your own particular kiln.

Dimensional Fuse Schedule

- Segment 1: Ramp 100°F/hr to 300°F and hold 15 min.
- Segment 2: Ramp 150°F/hr to 1050°F and hold 10 min.
- Segment 3: Ramp 250°F/hr to 1420°F and hold 60 min.
- Segment 4: Ramp 9999 (AFAP*) to 950°F and hold 90 min.
- Segment 5: Ramp 100°F/hr to 800°F and hold 10 min.
- Segment 6: Ramp 300°F/hr to 100°F and no hold.

*as fast as possible

Slumping Schedule

- Segment 1: Ramp 400°F/hr to 750°F and hold 10 min.
- Segment 2: Ramp 400°F/hr to 1000°F and hold 15 min.
- Segment 3: Ramp 400°F/hr to 1150°F and hold 20 min.
- Segment 4: Ramp 600°F/hr to 1240°F and hold 10–40 min.**
- Segment 5: Ramp 9999 (AFAP*) to 1000°F and hold 30 min.
- Segment 6: Ramp 90°F/hr to 960°F and hold 60 min.
- Segment 7: Ramp 120°F/hr to 750°F and hold 10 min.
- Segment 8: Ramp 300°F/hr to 100°F and no hold.

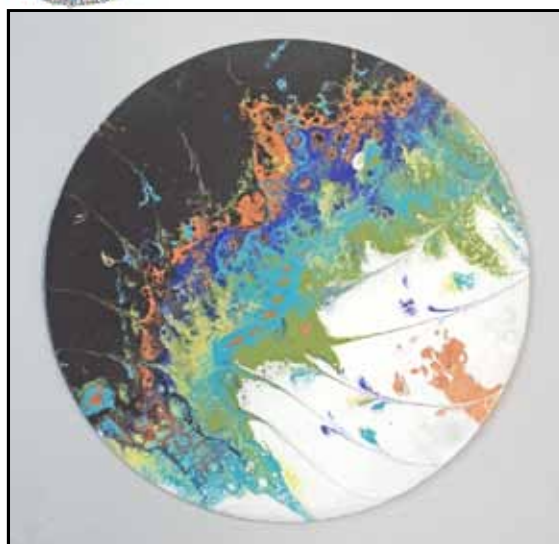
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Bluebird Tile

Design, Fabrication, and Text by Lisa Vogt



Happiness is a garden in bloom. This charming 8" x 8" bluebird scene may be small, but it's just the right size to bring the beauty of summer into your home or garden. Despite the detail, this tile is fast, easy, and *fun* to make.

Many of my designs originate from drawings that I make on the computer in my office, but sometimes I like to go out into my studio and let the designs evolve organically. I may have a theme or direction in mind, but not much else. I let my creative mood, the mysteries of glass, and the magic that lives in my studio take over. This freestyle approach is thrilling, because it brings a new life back to a familiar art by inspiring unique project ideas.

When creating this piece, I wanted to make a springtime scene that included a bird. The rest of the design came together as I worked,

which resulted in a combination of different techniques that gave the garden theme a deeper, more interesting quality. An unusual mix of methods makes this simple design more exciting to create and ramps up the intricacy and overall appeal of the finished artwork.

The tile-size format makes this a great practice piece. Use it to experiment with innovative techniques that you can further develop to take your projects in exciting new directions.

Most fused glass is built on a plain clear or white glass base. Instead of thinking of the base simply as a platform, consider it as an additional place to add to the design. Include details that will enhance the surface design to intensify the visual impact of the artwork. Here I'm creating lush underbrush, faint leafy accents, and a crisp blue sky to create a cheerful backdrop for my garden scene.

96 COE Glass

White for Base, 1 Sq. Ft.
Clear for Design Layer, 1 Sq. Ft.
Orange/White for Flowers, 1/8 Sq. Ft.
Cobalt Blue/White for Bird, 1/8 Sq. Ft.
Opal Yellow for Bird Beak, Scrap

Frit for Base Layer

Amazon Opal Powder
Fern Green Opal Powder
Cobalt Blue Opal Powder

Frit, Stringers, and Noodle for Design Layer

Yellow Opal Medium
Red Opal Medium
Turquoise Blue Opal Medium
Dark Green Opal Fine
Dark Green, Olive Green, and Purple Stringers
Dark Green Noodle

Tools and Materials

Respirator or Dust Mask Plastic Spoon
Sifters Stiff Paper Razor Knife
Scissors Fuser's Glue Toothpick
Glass Grinder Glue Stick Candle
Matches Tin Cup Small Paint Brush
Sawtooth Hangers E6000 Adhesive
Slumping Mold (Optional)

Before you jump in, here are some tips for designing the base layer.

- Apply only powder-size frit to the base glass. This minimizes the number and size of any bubbles that might form.
- Use opal, high-contrast colors. This ensures that the colors are true to the original glass selected and not muddy mixes. It also gives you strong color density that appears solid, not diluted.
- Start with the lighter frit colors. Then layer the darker colors on top, in moderation, to ensure that the lighter colors show through.
- Don't be skimpy when applying the powders. The frit should cover the white glass completely and evenly. If you question whether you have enough frit, add more.
- Finally, you should always use a respirator or other breathing protection any time you are working with glass frits and powders to avoid inhaling any glass particles.

Cut the white glass square and sift the Amazon Opal and Cobalt Blue Opal powder frits onto the white base.

1



Start by cutting the white glass into an 8" square. For the lush underbrush, sift the light green opal powder along the bottom of the glass. Create a graceful arch that reaches up toward the top corners. Be sure to leave room at the top of the white glass for sifting the opal blue powder to make the sky.

2

Cut a stencil for the ferns and use the Fern Green Opal powder to add the ferns to the base.



Using the pattern as a guide, cut a fern stencil out of stiff paper with a razor knife. Place the stencil on the powder-covered glass and sift the Fern Green Opal powder frit over the stencil.

I use a file folder or some poster board for my stencils. If handled carefully, these stencils are reusable. Otherwise you can buy a plastic leafy stencil from a craft store.

3

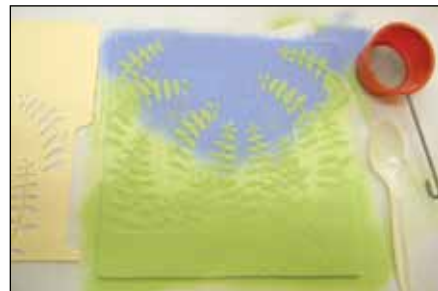
Carefully remove the stencil.



Dump the excess frit from the stencil onto a spare sheet of paper to collect later.

4

Repeat the fern pattern as many times as you like.

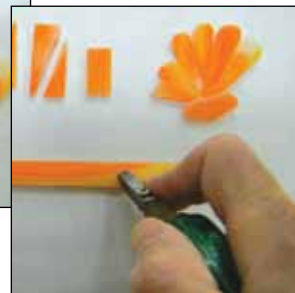


Be sure to extend a few ferns up into the blue sky to soften the hard edge between the green and blue backgrounds. Set the frit-covered glass aside in a safe location where it won't be disturbed. Cut an 8" x 8" piece of clear glass for the design layer before moving on to the flowers and bird.

5



Use the pattern as a guide for cutting the flowers.



If you prefer a more organic shape, you can also cut a 3/8" strip of opal orange glass into 1" pieces. Next divide the orange pieces in half diagonally to make a series of triangles in varying sizes. Make one rectangular-shaped piece per flower for the front petal.

6

Round out the flower petal edges with the grinder.



Dry and clean the ground glass. Assemble the flowers on the clear glass layer.

7



Using the pattern as a guide, cut the bird out of opal blue glass.

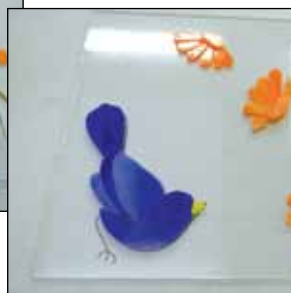


Grind the cut glass to improve the shape and fit. Dry and clean the bird pieces, then assemble them on the clear glass base.

8



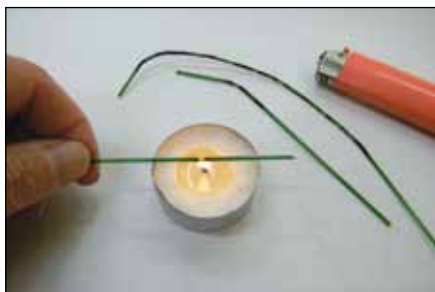
Glue the cut bird and flower pieces to the clear base with fuser's glue, applying the glue with a toothpick.



Use the smallest amount possible to prevent hazing.

9

Bend an assortment of stringers into a variety of soft shapes in the candle flame, leaving a few of them straight for a nice linear look.



Bending stringers is fast and fun. Here are some tips to make it easier.

- You have to place the stringer directly in the candle flame for it to bend.
- Put only a little pressure on the stringer. If you push too hard, it'll break instead of bend.
- The stringer is hot within one inch of the flame, and it will be a **lot** hotter than you think! Set it aside to cool before cutting it to size.
- The black soot left behind by the flame will burn off during fusing.
- The advantage to using a candle in a tin cup is that it contains the hot wax and reduces messy cleanups.
- Noodles can be bent in the candle, but they take more time and patience.

10

Arrange the stringers on the clear glass around the flowers and bird.



11



Use a spoon to add the Yellow Opal and Red Opal medium frit for the secondary flowers.



12



Use a small paintbrush to clean up any extra frit.



13

Carefully place the clear layer with the bird and flowers on the white base layer.



14



Fire to a full fuse temperature using the suggested schedule at the end of the tutorial.



15

Glue two sawtooth hangers with E6000 on the back of the fused glass and hang the tile on a wall.



If you prefer, you can also slump the glass to make a dish using the optional slumping schedule at the end of the tutorial. Either way, you can enjoy your garden in bloom all year long. **GPQ**

Firing Schedules

Note that all kilns fire differently. Test-fire these guides in your own kiln and make adjustments as needed.

Full Fuse Guide

Segment 1: Ramp 300°F/hr to 1300°F and hold 30 min.
Segment 2: Ramp 500°F/hr to 1465°F and hold 10 min.
Segment 3: Ramp 9999 (AFAP*) to 960°F and hold 40 min.
Segment 4: Cool to room temperature.

Optional Slumping Guide

Segment 1: Ramp 300°F/hr to 1265°F and hold 10 min.
Segment 2: Ramp 9999 (AFAP*) to 960°F and hold 40 min.
Segment 3: Cool to room temperature.

*as fast as possible



Lisa Vogt discovered glass while pursuing an education in fine art. For more than twenty-five years, this award-winning artist has drawn upon her fine arts background and own sense of style, drama, and whimsy to combine this historic medium with innovative glass techniques for limitless design possibilities. Her work has been on exhibit in major cities throughout the United States.

Lisa is the author of fourteen design books and a series of instructional videos in addition to frequent articles for industry magazines and fiction for publication. She also lectures at national and regional seminars and has been a featured artist on HGTV, PBS, and Glass Patterns Quarterly Webinars. A huge supporter of public art, Lisa regularly contributes artwork for auction to benefit local, regional, and national charities. Her home and studio are located north of Tampa Bay in Wesley Chapel, Florida, where she resides with her husband and two daughters. Visit www.LisaVogt.net to find out more about her work and seminars.

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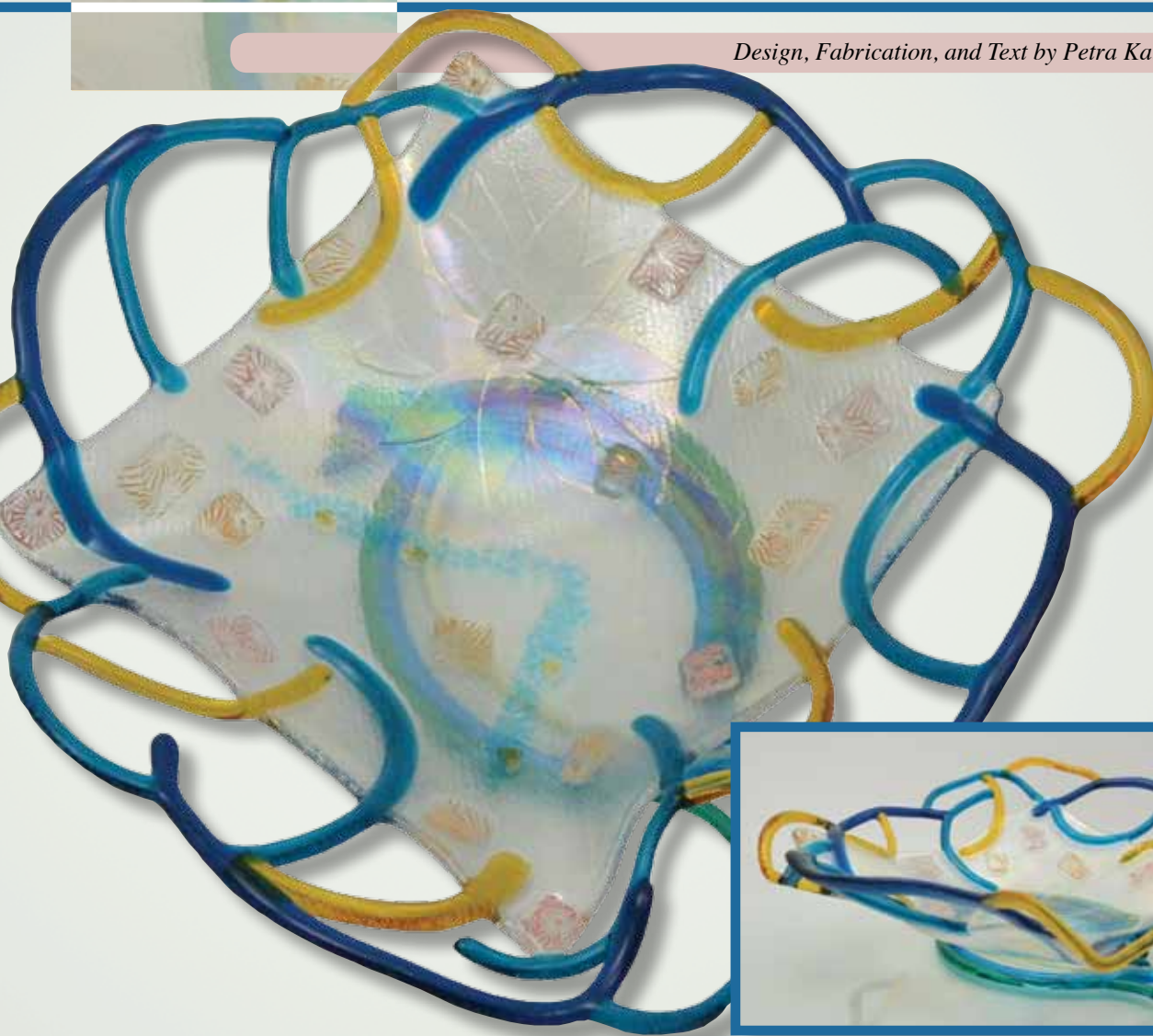
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Let the Glass Grow

Design, Fabrication, and Text by Petra Kaiser



One of the lessons that stuck with me from an art professor was the importance of working with the specifics of the materials at hand. The properties of glass the professor liked to see enhanced are translucency and fragility. I also like to work with some subtle design effects, so today I want to show you some ways I came up with to incorporate those requirements into a piece of art. In this tutorial you will learn how to make a relief with Papyros paper, keep the texture in a clear pattern glass, fuse bend strips together without an extra layer, and slump glass into the Kaiser Lee Board Mold System. Let's get started.

Wissmach Glass Company

96-01 Luminescent Clear, 8" x 8"

96-11 Honey

96-18 Emerald Coast

96-16 Sapphire blue

Textured Florentine Clear, 2 strips

Tools and Materials

Rose and Bright Orange Multi Pen Enameling Paint

Papyros® Paper Scraps 15" x 15" Fiber Fabric

15" x 15" Kaiser Lee Board Shelf Black Marker

Kiln Wash Powder Nylon Stocking

Boron Nitride Spray Mosaic Cutter

3 Half-Round Stainless Steel Molds

Kaiser Lee Board Drape Triangles

Forming Glass Strips into a Half Round Shape

Select the half-round mold that you will be using to bend the strips of glass.

1



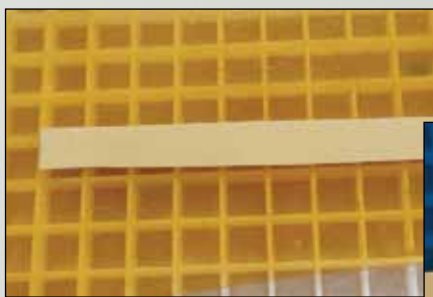
You can use any half-round mold you have in your studio. I happen to have a few made out of stainless steel by a metal shop in town.

2

Measure the length of the strip.

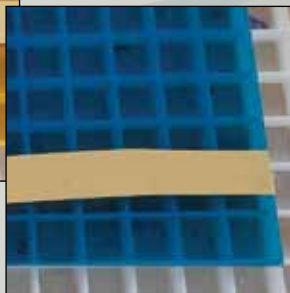


The best way to measure the right length is to use a strip of paper and bend it around the mold. Bend it on one end and cut it about 3 mm wide and 1/8" smaller than the bend.



3

Cut the glass into the desired length before you cut it into strips using the strip pattern.



4

Use a previously cut strip to mark the 5/16" strip width on the glass with a black marker.



5

Score and cut the strips.



As we have shown in a previous *GPQ* article, score several strips and run the one that is the farthest in from the edge. Then use the rule of half and keep separating the strips.

6

Center the strips on the mold and fire in the kiln using the suggested draping schedule.



It is easy to center the strips on the mold. You know when they are centered, since they won't fall to one side or the other. In this case, I used 3 different sizes of curves in 3 different colors. Firing them is fast and easy. Just remember that each kiln fires differently, so you may need to make adjustments in the slumping schedule.

Segment 1: Ramp 9999 (AFAP*) to 1180°F and hold 10 min.

Segment 2: Off.

*as fast as possible

Preparing the Shelf and Center Piece

In this case, I prepared my kiln shelf by using a 15" x 15" piece of fiber cloth to cover the same size Kaiser Lee Board kiln shelf. This size fits perfectly in my 16" x 16" kiln.

7

Apply kiln wash powder to the fiber cloth before placing flower petals on the cloth.



Use kiln wash powder inside a nylon stocking to dust the cloth with a thin layer of kiln wash powder, then place 10 flower petals on the cloth. The petals were cut out of scrap pieces of Papyrus kiln paper. I am counting on the texture of the cloth and the paper to create a subtle design and add delicate interest to the piece.

8
Place the luminescent clear glass with the luminescent (smooth) side down toward the kiln shelf.



Adding the Bend Strips

When you let the glass grow with curves, make sure that the strips are not too wide or too narrow. The ideal size is around 5/16 of an inch. It is also important that the ends of the strips are straight in order for them to fuse together correctly. Clean the strips before you begin to arrange them.

9
Arrange the curved pieces in the kiln on top of the luminescent clear glass square.



When I started to place the fired and cleaned curves, I had no particular plan except to connect them to the base glass and each other. After I had made a few different arrangements, I ended up with something like what is shown here.

10
Make sure that all of the curves are touching.



Do not leave any open spots along the perimeter, since they will go straight when you drape the final piece.

Preparing the Textured Glass

11
To keep with the flower theme, add a few small squares of Wissmach Florentine textured glass.



In order to keep the texture, I filled the grooves with enamel paints. For one strip I used Multi Pen Enamel in Bright Orange, and for the other I used Rose.

12
After the colors are dry, scrape off the enamel from the top of the texture, leaving just the paint in the grooves.



13
Cut some squares from the flower strip with the mosaic cutter and place them on the clear square, paint side down.



The piece is now ready to fuse fire according to this suggested firing schedule. Remember to make any adjustments necessary for your own kiln.

Segment 1: Ramp 600°F/hr to 1000°F and hold 10 min.
Segment 2: Ramp 9999 (AFAP*) to 1400°F and hold 10 min.
Segment 3: Ramp 9999 (AFAP*) to 900°F and hold 45 min.
Segment 4: Ramp 100°F/hr to 700°F and hold 1 min.
Segment 5: Off.

*as fast as possible

14
Determine what type of final shape you want for the piece.



In order to shape the design, I decided to try a soft slump to keep the shape of the curves. On the other hand, a drape firing will widen the curves and might give you a pleasant surprise. In the end, the glass decided for me. Not all of the curves made a connection in the firing, so draping is out of the question.



15
Slump the piece into a mold made with the Kaiser Lee Board Drape Triangles set.



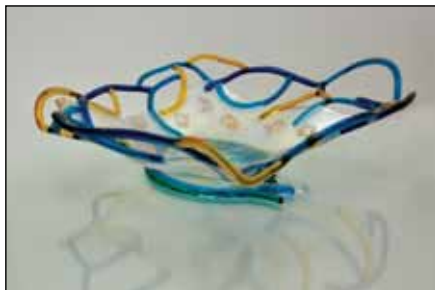
For the slump firing I only changed two numbers, the ramp speed and the target temperature.

- Segment 1: Ramp 300°F/hr to 1000°F and hold 10 min.
- Segment 2: Ramp 9999 (AFAP*) to 1290°F and hold 10 min.
- Segment 3: Ramp 9999 (AFAP*) to 900°F and hold 45 min.
- Segment 4: Ramp 100°F/hr to 700°F and hold 1 min.
- Segment 5: Off.

*as fast as possible

16

To finish,
add a foot to
the bowl.



After firing, the glass piece demanded a foot. Just cut a few more strips, bend them and design them with an oval opening in the center. Place the design on your shelf, fuse it together, and voilà! Now we have advanced a simple bowl to "A Work of Art." **GPO**

For more information on firing with Wissmach glass, please e-mail petra@kaiserlee.com and she will send you the link to a free Firing Suggestions e-book.

Petra Kaiser, internationally renowned kiln formed glass artist and instructor, has a distinctive style that captures Florida sun, light, and water in sculptures, functional glassware, and wearable designs. She is always drawn to 3-D sculptures and abstract shapes, and when first introduced to glass fusing in 1997, she found the available mold options rather limiting. This gave birth to Kaiser Lee Board, a perfect kiln forming medium developed by Petra and husband Wolfgang, that is easy to cut and form into any shape for fusing molds.



Petra loves to teach and shares her cutting-edge techniques and designs with students in her Fuse It Studio and all over the world, and is a regular instructor at the Glass Craft & Bead Expo, BIG Arts, and Edison State College. She has also shared her innovative ideas in three books from Wardell Publications as well as through numerous articles in various international glass magazines. Visit www.kaiserlee.com to learn more about Petra's glass art and workshops.

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Frit Frond Garden

Design, Fabrication, and Text by Dennis Brady



There is no wrong way to compose a garden. Most gardens are perfectly imperfect with stems overlapping, flowers blooming in stages, and ground cover growing in various shades of green and brown. We are going to cover several techniques so that your Frit Frond Garden will include various textures, sizes, and colors to make your fused garden look and feel organic.

There are multiple techniques used for this project including Freeze and Fuse flowers, feathery fronds made from frit, and another element that I like to call vitribulbs, which are thick green stems that drop from the bottom of the kiln. The tube-like organic shape makes perfect stems for the garden and can be used for underwater scenes or branches.

96 COE Glass

Sheet Glass

Clear Glass Base, 8" x 8"

Frit Powders

Opal White, 1/2 Teaspoon

Dark Blue, 1 Tablespoon

Cobalt Blue, 1 Tablespoon

Deep Aqua, 1 Tablespoon

Medium Frit

Light Blue

Dark Blue

Stringers

4" to 5" Lengths in Desired Colors

Tools and Materials

Plastic, Latex, or Silicone Molds Small Brush
Kiln Wash, Kiln Paper, or Ceramic Fiber Paper
Respirator Mask Fusing Glue (optional)
Small Stick or Pencil Eraser Paper Towels
Vitrigraph Kiln

Preparing the Garden with Freeze and Fuse Flowers

With the Freeze and Fuse technique, you will be using powdered frit to fill a mold, adding water to the glass, freezing the molds, then firing them in the kiln. You can use any color of glass you like, but it must be powder. Fine or coarser frit will not work. **Remember that it is essential to use a respirator mask or other quality breathing protection any time you are working with glass frits and powders.**

You'll need a latex or silicone mold for the flowers. That can be a mold that is sold commercially for making candy or one that you made yourself in latex or silicone from a found object.

Start with a plastic, latex, or silicone mold and apply a light sprinkling of white powder.

1



Sift in the blue powder to fill the mold.

2



Add enough water to saturate the powder.

3



Tamp with a stick or the eraser end of a pencil to soak the water into the powder.

4



Pat with a paper towel to remove any excess surface water.

5



Wipe off any excess powder.

6



Place the mold in the freezer for at least 2 hours.

7



8

Take the frozen castings from the freezer and remove them from the mold.



9

Load the glass castings into the kiln and fire using the schedule at the end of the tutorial.



11

With a small brush, push the frit into place, leaving it slightly irregular to look natural.



Vitribulbs

Vitribulbs are formed at the beginning of a vitrigraph pour. The glass forms an elongated bulb as it leaves the pot in the vitrigraph. As it falls, the weight of the glass bulb stretches the glass behind it leaving a stringer as a tail. By cutting the stringer behind each bulb and again near the kiln, you'll end up with a collection of both vitribulbs and stringers to use in your projects.

The project shown was done using a clay pot with a 1/2"-diameter hole. Using a larger hole will create larger bulbs and thicker stringers. With most kilns, using the fast-as-possible firing schedule shown at the end of the tutorial, the glass will start pouring out in about 3 hours.

12

When the first vitribulb forms, let it drop.



13

When the bulb has dropped about a foot from the kiln, bend it back up to create a curve.



10

Prepare the kiln shelf, then add the stringers and frit to the design.



Shown here are some of the castings after firing ready to plant in a glass garden.

Creating the Frit Fronds

This part of the project will require stringers that are approximately 4" to 5" long in any colors that you feel look good with the Freeze and Fuse cast flowers. There is also a mix of transparent light blue and dark blue medium frit. You can mix any colors you prefer, however, as well as mix fine, medium, and coarse frit for a more varied texture. That makes this the perfect project for using frit that you make yourself.



14

Cut the glass stringer left behind the bulb.

Here is a collection of vitribulbs and stringers from melting a pot full of glass.



Assembling the Garden

It's time to assemble the design components on the clear glass base. This project was done on an 8" x 8" clear base, but you can do it on any desired size or color. When I was assembling the design I didn't glue anything down, but you can if you prefer.

15

Set out a straw base from scraps of stringers.



They can be applied loose or prefused together. As an alternative, you could sprinkle out coarse or medium frit.

16

Apply 3 glass fronds.



I'm using 3, but you can experiment with less or more for different looks.

17

Set out assorted stringers and vitribulbs as a grass-and-leaves background for your garden.



18

Start adding the cast flowers.



19

Keep adding more flowers to create the look you like.



20

Spoon out medium glass frit for the grass base.



You can mix different greens or just use one color.



Continued on page 76

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21

Place your garden in the kiln to fire to a tack fuse.



This project was fired on kiln wash but would work equally well on kiln paper or ceramic fiber paper.

GPQ



Firing Schedules

All of the firing schedules are for 96 COE glass. For 90 COE glass, add 20°F to all of the top temperatures. Also remember that all kilns fire differently, so you may need to make adjustments to these schedules to fit your own particular kiln.

Freeze and Fuse

Segment 1: Ramp 200°F/hr to 400°F and hold 30 min.
 Segment 2: Ramp 400°F/hr to 1320°F and hold 35 min.
 Segment 3: Ramp 9999 (AFAP*) to 960°F and hold 60 min.
 Segment 4: Ramp 200°F/hr to 700°F and no hold.
 Segment 5: Ramp 500°F/hr to 300°F and no hold.

Vitrigraph

Segment 1: Ramp 9999 (AFAP*) to 1700°F and hold 90 min.

Frit Fronds

Segment 1: Ramp 500°F/hr to 1350°F and hold 15 min.
 Segment 2: Ramp 9999 (AFAP*) to 960°F and hold 30 min.
 Segment 3: Ramp 500°F/hr to 300°F and no hold.

Tack Fuse Garden Assembly

Segment 1: Ramp 200°F/hr to 1000°F and hold 20 min.
 Segment 2: Ramp 800°F/hr to 1350°F and hold 15 min.
 Segment 3: Ramp 9999 (AFAP*) to 960°F and hold 60 min.
 Segment 4: Ramp 200°F/hr to 300°F and no hold.

Sconce Draping

Segment 1: Ramp 200°F/hr to 1000°F and hold 20 min.
 Segment 2: Ramp 800°F/hr to 1200°F and hold 20 min.
 Segment 3: Ramp 9999 (AFAP*) to 960°F and hold 60 min.
 Segment 4: Ramp 200°F/hr to 300°F and no hold.

*as fast as possible

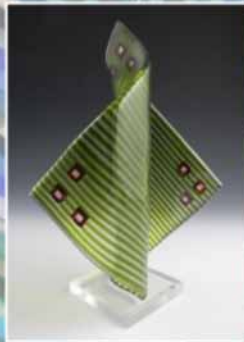
Dennis Brady has been a full-time professional glass artisan since 1980 and currently works with stained glass, fusing, casting, glassblowing, and sandblasting. He has authored and published six books of stained glass patterns plus A Lazy Man's Guide to Stained Glass. Along with his sons, Dane and Jason Brady, he operates several companies. DeBrady Glassworks produces glass art; Victorian Art Glass sells tools, equipment, and supplies; and Master Artisan Products manufactures molds and tools for glass artisans. He has also created the website Glass Campus, which offers over 100 tutorials and videos teaching numerous glass art techniques as well as tips on how to make a living as a glass artisan.

Dennis teaches extensively in his home studio in Victoria, British Columbia, Canada, and as a guest instructor in several other countries. He is also a contributing artist to GPQ's live and recorded Glass Expert Webinars™ and Master Glass Artisan Lecture Series™. His "push the boundaries" approach to experimentation and innovation is always, "How fast can I go until I skid into the ditch?" Visit www.debrady.com to learn more about Dennis and his art.



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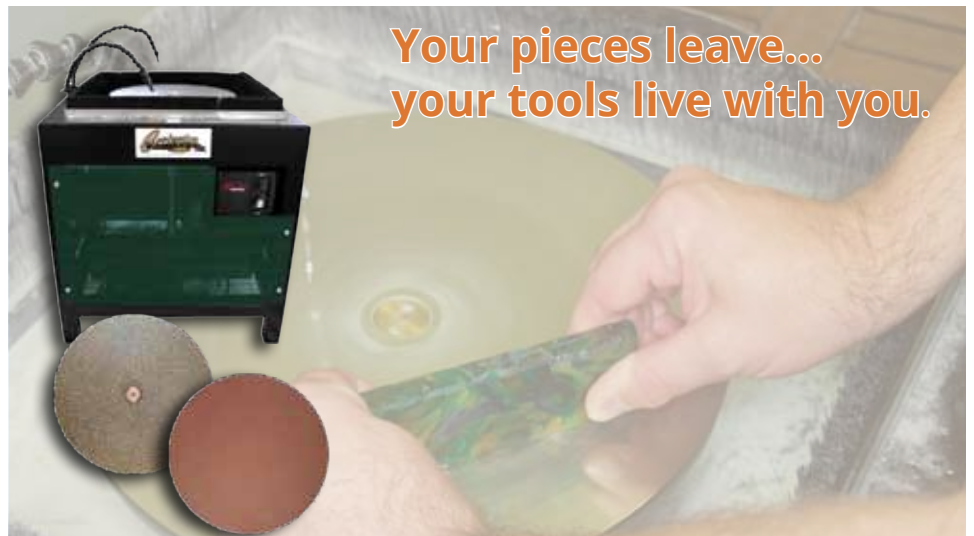
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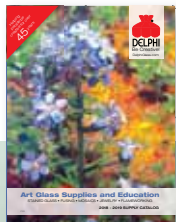
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