

# GLASS PATTERNS

— Q U A R T E R L Y —

Winter 2014

Volume 30 • No. 4

## Wildlife Issue

### Stained Glass

Leaded Owl

Painting on Glass

Designing  
with Bevels

Sea Horse Panel

Kaleidoscope

### Fused Glass

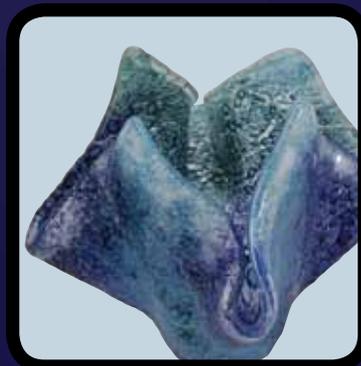
Bubble Glass Vase

Good Fusing Habits

Frit Snowflake Bowl

### Etching

Dichroic Fox



Volume 30 No. 4

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## From the Editor

### Through the Eyes of the Artist

The staff at Glass Patterns Quarterly devotes thoughtful consideration into each issue so that it develops as a creative process. We hope you continue the process with your own imagination and feeling. In other words, look at the projects from your own perspective and through the assessment of your glass supply. If we offer a stained glass pattern and you make it with fused glass instead, is it still a stained glass pattern? No, that was not intended to be a riddle but rather a question to ask yourself. We can get caught up in labels, at times, on whether something is used for stained glass, fused glass, 96 or 90 COE, or mosaic tile. At GPQ, we always offer a mixture of fused and stained glass projects, then fan out from there with painting, etching, mosaics, and other glass mediums.

As you tear out the 16-page pattern insert, look at the patterns through different eyes. For example, could you use the Paned Expressions Tiger Face for fused glass or as a template for painting? Of course! Could you make Holly Stedman's Ammonite entirely of stained glass and hang it on hooks instead of mounting it on a stand and using bevels? You bet. Could you make Wesley Wong's Twin Koi into a mosaic tabletop? Absolutely! Can you see where I'm going with this? We hope you take our examples and run with them. Together, Glass Patterns Quarterly and our author/artists have created patterns and projects through our eyes, but we are counting on your objectivity to complete the process. That is how innovation is born.

This issue is our second annual Wildlife Issue. The vibrant animal kingdom offers much inspiration to glass artists and beyond. We are excited to showcase additional underwater designs this year along with traditional habitats that have the qualities that ensure a visceral connection.

Just as the wildlife varies in geographic locations, we hope GPQ's wide variety of patterns finds its way into your glass studio where design development is sure to take place.

Encouraging you to make great glass,

*Delynn Ellis*

Delynn Ellis  
Managing Editor



Flying through the Clouds  
by Cathy Claycomb

#### Upcoming Submission Deadlines

<b>Spring 2015</b>	<b><i>Glass in the Garden, Glass Flowers, Planters, Birdbaths, and Garden Art</i></b>
Editorial	December 20, 2014
Ad Closing	January 20, 2015
Ad Materials	January 30, 2015

<b>Summer 2015</b>	<b><i>Something for Everyone— Designs in Your Favorite Glass Genre</i></b>
Editorial	March 20, 2015
Ad Closing	April 20, 2015
Ad Materials	April 30, 2015

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# Snowy Owl

## An Introduction to Leaded Glass

*Design, Fabrication, and Text by Chantal Paré*

*"Alone and warming his five wits,  
the white owl in the belfry sits."*

*Alfred, Lord Tennyson*

Visionary architect Frank Lloyd Wright is renowned for the bold ways in which he integrated stained glass windows into his house and building designs. His stark lead/zinc lines employed the full range of came widths, favoring a sober, simple aesthetic based on symmetric vertical lines and repeated angles. Further emphasizing the primacy of the line work was his choice of the plainest clear float glass with only a rare accent of color. His windows are at once austere, timeless, and inspiring.

The snowy owl, camouflaged by white feathers in his arctic environment with a smattering of subtle black angular markings and intelligent amber eyes, is ideally suited to a Frank Lloyd Wright interpretation. The resulting design would make quite a statement for the front door or large picture window of a modern home in a northern climate.

Despite its ambitious 19-1/2" x 54-1/2" dimensions, this project is a relatively inexpensive proposition. The float glass can be purchased from local windowpane repair shops, many of which routinely salvage and recycle this material as part of their jobs. Spectrum's elegant cord textures enhance the many vertical lines and the Vecchio's combination of delicate seeded air bubbles and irregular texture are beautifully understated. Thus, these two glasses are the perfect complement to the very elaborate muntins that make up this snowy owl.

### **Spectrum Glass Co.**

100C Clear Cord, 2 Sq. Ft.

1009CSF Black Cord, 2 Sq. Ft.

180.8V Pale Gray Vecchio, 1 Sq. Ft.

110.2V Pale Amber Vecchio, 1 Sq. Ft.

### **Additional Glass**

3 mm Clear Float Glass, 12 Sq. Ft.

### **Came**

3/4" U-Channel Zinc Came, 3 strips

1/4" H-Channel Zinc Came, 3 strips

3/16" H-Channel Flat Lead Came, 5 strips

5/32" H-Channel Round Lead Came, 3 strips

1/8" H-Channel Round Lead Came, 2 strips

### **Tools and Materials**

Gum Arabic #1059 Black Reusche Stencil

Metallic Silver Marker 60/40 Solder

Soldering Flux Whiting (Calcium Carbonate)

Spatula Soft Mallet Horseshoe Nails

Masking or Electrical Tape Liner Paintbrush

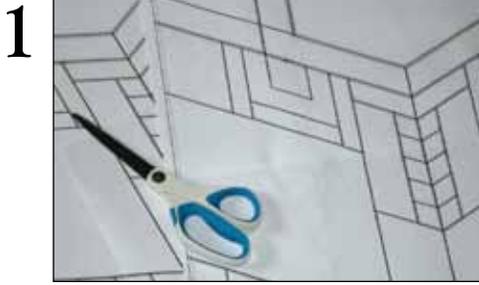
Kiln Light Box Came Miter Saw

Putty Putty Knife Carpenter Square

Burnishing Brush



Make two copies of the pattern, one for assembly and the other to use as a template for cutting out the individual glass pieces.

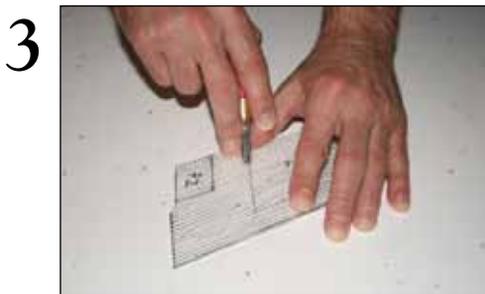


Cut out the glass pieces.



Only the pieces to be cut in the Spectrum Black Cord need to be cut out and traced with a metallic colored marker. I have traced those so that the texture is displayed on the interior-facing surface. All of the other pieces can be traced directly onto the transparent glass using a ruler as a guide.

Score just inside the marked lines, then break.



If you are using a scoring guide, the angles of the diagonal lines are 26 or 154 degrees. With all of the straight cuts on the float glass, expect minimal grinding adjustments.



Clean the glass pieces for the bird's eyes and the hexagon for his forehead.



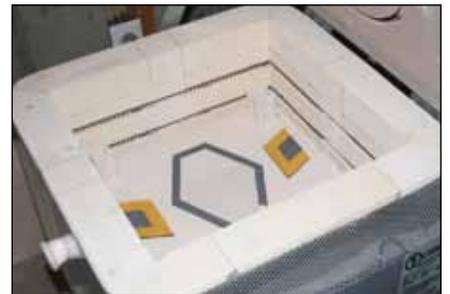
These are the only three pieces that will be painted, so they must be cleaned first. Use some whiting on a moist rag and clean the glass until it whistles as you rub it, then rinse off and dry.

Paint the glass pieces with the help of backlighting from the light box.



Using a spatula, mix 1 teaspoon of black paint powder sprinkled with a tiny amount of gum arabic and water until you reach the viscosity of heavy cream. Let the paint dry and scrape off any unwanted irregularities with a wooden fib or a paintbrush with its distal end made into a point with a pencil sharpener.

Carefully place the glass in the kiln on primed shelves.



I used the firing schedule below with a cool 1100°F maximum temperature in order to preserve the glass texture. Remember that all kilns are different, and you may have to alter the schedule to fit your own kiln. After the program is finished, allow it to cool to near room temperature before opening the kiln.

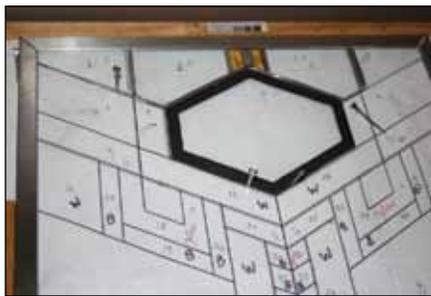
Segment 1: Ramp 550°F/hr to 900°F and hold 5 min.  
 Segment 2: Ramp 9999 (AFAP\*) to 1100°F and hold 10 min.  
 Segment 3: Ramp 50°F/hr to 986°F and no hold.  
 Segment 4: Ramp 9999 (AFAP\*) to 950°F and no hold.  
 \*as fast as possible

Prepare a jig to contain the project as you lead it.



Use a miter saw to cut out the frame for the jig from the 3/4" U-channel zinc came. A carpenter square will help to ensure perfect corner angles.

8  
*Cut and place the lead pieces, securing their placement with horseshoe nails, and gently tap them into place with a soft mallet.*



Generally work your way from top to bottom and from left to right.

9  
*Set the miter saw to 26 degrees to cut the zinc came at the proper diagonal angles.*



10  
*Vary the came thickness, using the final project photo as a guide, or follow your own muse.*



Very delicate came requires attention to detail and precision cutting. It's easy for the glass pieces to pop out of the small lead channel. Set the pieces from top to right.

11  
*Set down the vertical lead pieces on the owl's belly to avoid breaking them up with the transverse cuts.*



12  
*Lead the chevrons, treating each area between these vertical lines as blocks.*



Finish the bottom row and close up with the mitered U-came from the frame.

13  
*Place electrical or masking tape solder guides on all of the wide joints on the zinc came before you begin to solder.*



14  
*Solder the window.*



Solder the joints on the first side of the project. Now gently turn the project over lengthwise, making sure not to apply torsional forces that might crack the glass, and solder the second side.

15  
*Squeeze putty under the came with a putty knife on both sides of the project.*



16  
*Give the window a final cleaning.*



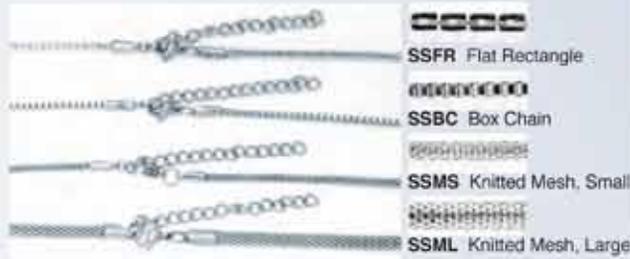
Throw a fistful of whiting on the puttied window and brush vigorously with a burnishing brush along and against the lead lines as well as in a circular motion until the zinc shines and the lead turns dark gray. Wash, scrape any excess putty, then clean again.

**GPO**

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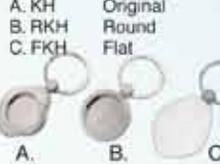
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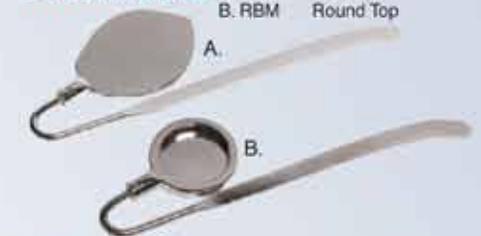
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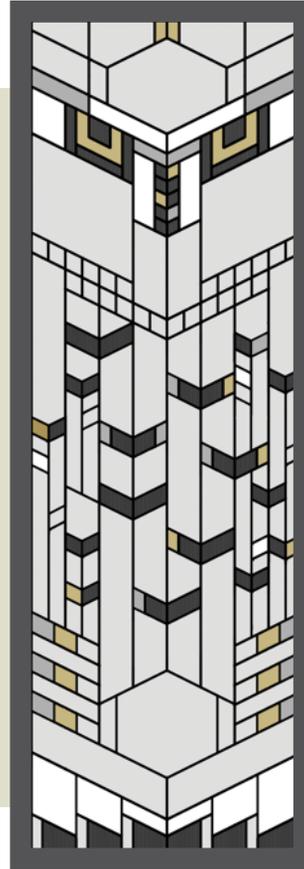
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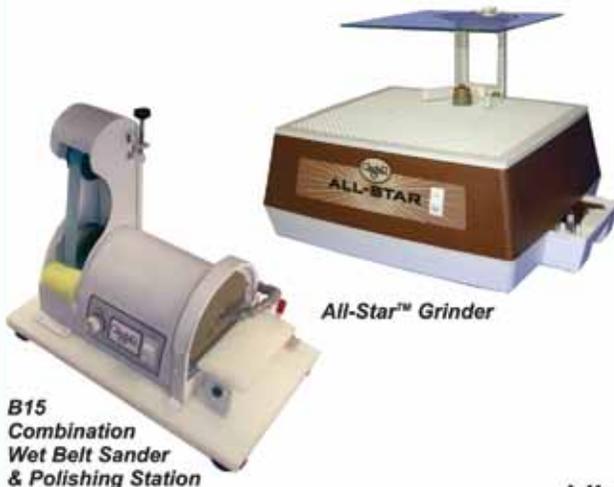
*A decade ago, Chantal Paré quit the fast-paced world of molecular biology to devote herself to the full-time pursuit of glass. She's liable to melt it, blow it, break it, paint it, or cast it, sometimes just to show it who's boss. Nothing else comes close to creating an object through which light can 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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# Flying through the Clouds

## A Different Way of Looking at Painting on Glass

*Design, Fabrication, and Text by Cathy Claycomb*



**H**ead glass. It's the leading edge of molten glass as it goes through the rollers of a mixing table on its way to becoming a large sheet of stained glass. Sometimes, still in its molten state as it travels through the rollers, a portion of it catches on the table causing a wrinkle or flap or ruffle. I call it the "cookie dough edge." For anyone who knows my work, I use a lot of head glass and find it to be a lovely raw material. Hopefully the illustration of this project will prove interesting enough that you might desire using head glass in your own projects.

As a result of my work, I have many smaller pieces of head glass left over. I save them simply because of their unique beauty with the hope that a project will arise suited for their use. For this project I decided that I would try to paint images on pieces of the head glass, using one side—perhaps even two sides or multiple pieces of glass. Take that journey with me and let's have some fun.

### **Glass**

Various Head Glass Pieces, Scrap

### **Tools and Materials**

Wood Block Sandpaper Tape

X-Acto® Knife Wood Glue

Wood Stain or Black Matte Spray Paint

Opal Black Matte Color Magic Glass Paint



1



*Start by making a wood base to hold up the glass design when it's finished.*

If the glass is going to stand as I envisioned, a base to hold it steady must be engineered. I set about cutting some grooves in a block of wood to accomplish holding the glass in the proper position. For those who do not have access to that type of cutting equipment, I thought several pieces of standard lumber could easily be obtained and probably cut to length by the lumber department of a large hardware store.

I started with a standard 2" x 2", added a length of lath, the wood base upon which one would apply plaster for a wall (usually about 5/8" x 1/4") then another piece of 2" x 2". Of course, this can be accomplished with other lumber configurations depending on your vision of the finished work. (You'll actually see a tomato stake pressed into service later on.) Multiple grooves could be configured with thinner sections of wood, even those found at the hobby store. Try to select pieces that allow a 1/2" depth to the groove, with that groove wide enough to accept the thickness of the piece of glass.

The glass length can exceed the length of the base as you see on this project, or the base length can exceed the length of the glass. Your work, your choice.

Glue all of the sections together, making sure that the bottom edge is level and even. Brace together with books, bricks, or anything heavy until dry. Add more sections—there's the tomato stake in the center—and stack even more glass. Sand the ends and stain or spray with matte black paint to conceal the seams.



2

Select the glass.



Shown here is a typical selection of what accumulates as I go about my work. When I am starting a new project, I choose several pieces that seem to relate to each other and often wonder if they can be used to portray wildlife, a favorite subject of mine. Additionally, I wonder if several pieces, displayed in layers, could portray a story or even a mood.

For this project, I wanted a cathedral or wispy color that would allow a pattern to show through. There was a piece of glass that reminded me of how clouds might look as geese fly through them. I also spied a piece that reminded me of the tops of trees they might be flying over.

After making your selection, trim the glass to a perfect right angle to produce some clean lines before starting the project.

3



4

Clean both sides of the glass thoroughly, as well as your hands, to provide the best surface for the best painting results.



5

Cut the pattern of the flying geese apart and arrange the birds in any configuration you please.



I used four of the geese, but you might want to use less or more to make your work uniquely yours. Enlarge or reduce the pattern as desired.

6

If using a less transparent glass, make marks that will allow you to position the pattern pieces on the design.



The wispy markings in the glass did not allow me to see the main bird for the front side. For the sake of learning how to deal with this situation, I will demonstrate. Remember, if your glass is transparent enough, you simply paint the front of the glass because you can see the pattern clearly from underneath the glass.

In this case, I could not resist the opaque wispy white that imitates the clouds, a glass that would not allow the pattern to be seen through the glass. Therefore, as I cut the pattern apart, I placed it on the front where I would like to see it and made marks that would register it into position when I taped it to the back and took it to the light table.

Having access to a light table is very useful, but if you don't have one, tape the pattern and the glass to a sunny window. Since the glass pieces are relatively small, the weight of the glass should not be an issue. Just don't leave it unattended. Even a small piece of glass might sag from its tape and fall if left for a period of time.

**7**  
*Position and secure the main figure on the back of the glass and begin to paint on the front of the glass.*



I keep an additional copy of this main subject near me to help translate the design if it is still hard to see. Black Matte Opal Color Magic Glass Paint was chosen for this process, since the matte has a high-end look against the shiny glass. Using black simulates a silhouette, especially the images on the back of the glass, or perhaps the effect of a subject being backlit from the brightness of the sun. It applies in a very opaque manner, and I found very little need for opacity touch-ups.

**8**  
*Continue to fill in and add details to the main design.*



Shake the bottle with every reload of the brush. This is far less tedious than it sounds, since every brush reload went a long way. The paint fluidity was perfect. Most importantly, the stiff brush applicator inside the cap allowed for some very fine detail.

Overall, the painted image had a very smooth finish when dry, despite occasional touch-ups. The paint turned from shiny to matte in just a few minutes, assuring me that it was finger-touch dry so that painting on the reverse side could begin.

**9**  
*Scrape away any small mistakes before the paint cures (usually 24 hours) with the point of an X-Acto blade.*



**10**  
*Choose the two smaller birds to be painted on the back of the glass.*



**11**  
*After the birds have been positioned as desired, trace the edge of the glass to ensure their exact placement when you turn the glass and the pattern over and begin painting on the back.*

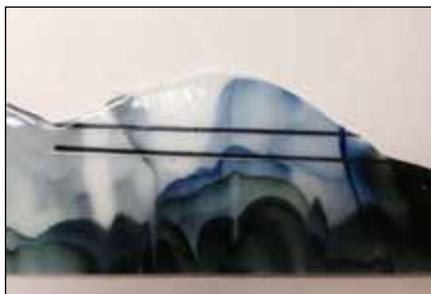


**12**  
*Fill in the outlines of the birds with marker to make them easier to see through the glass.*



Paint the birds on the back of the glass, allow them to dry, and make any adjustments with the X-Acto blade if necessary. Before moving on, take a look at the painted glass. Match it with the foreground glass and determine if any additional subject matter is necessary. As you can see in the finished piece, I have decided to add an additional small bird to the right of the main subject bird.

**13**  
*Mark and cut away the excess glass and include it as an extra design element in front of the main design.*



There is a bit of excess glass that remains to the right of the glass arrangement. Waste not, want not is my motto, so why not use that as sort of an additional embellishment.

I calculate that only a small piece of glass is necessary, since I do not want to cover the lovely fold in the tree top glass that is already cut. I have marked the 1/2" that will sink into the groove of the base, with the top line indicating what will ultimately show. Cutting away the excess glass, I can now make my right angle cuts on the side. Voilà! I insert the glass into my prepared base, and we have a little something extra.

I hope that by this time you are beginning to imagine the possibilities of this technique and are having a good time planning a few more projects.

**GPO**



### Zimbabwe Afternoon

Here's another design that I had fun creating—a matriarch elephant in the heat of the African plains. Her family plays nearby with her favorite acacia trees as the only shade. Because this glass is far too opaque to apply a pattern as we did for *Flying through the Clouds*, most painting on this piece was done freehand.

*Cathy Claycomb, a glass artist whose work is displayed in private collections across the globe, is the owner of Hidden Images in Glass and The Claycomb Group. Cathy continues her career in marketing while developing her series of Hidden Glass classes, "Let's Learn Something Different," which she teaches across the country. These intermediate and master-level classes include Hidden Images, Wall Jewelry, Sticks and Stones, Floating Rondels, and Glass Straight Up. Cathy is also a writer for the stained glass industry and the author of two tutorial videos, Hidden Images in Glass and Sticks and Stones. You can view her glass art and class schedule at [www.cathyclaycombart.com](http://www.cathyclaycombart.com).*

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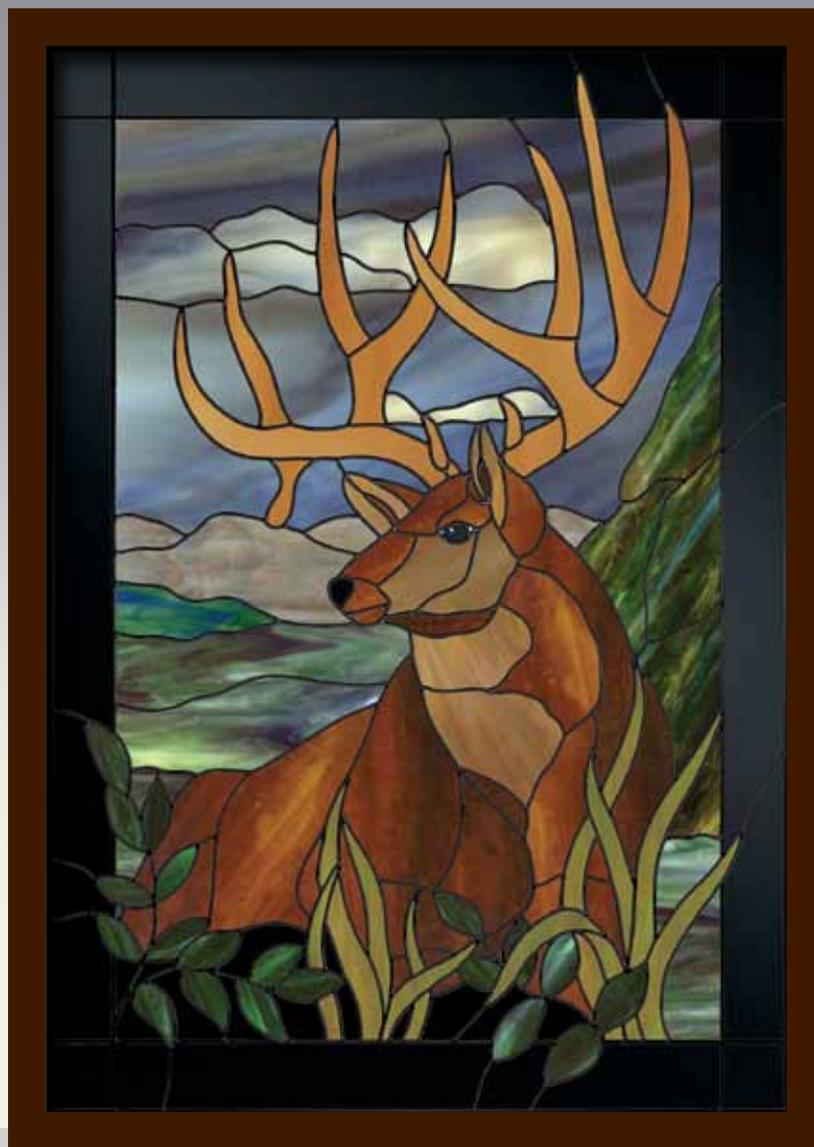
Available at your favorite Art Glass Distributor and Retailer.

# Midnight Watch

*Design by Mary Harris, Text by Darlene Welch*

Mary Harris has once again captured the majestic appearance of animals in their natural habitat. This 20" x 28-1/2" stained glass panel is part of the many patterns offered on her website, [www.bestglasspatterns.com](http://www.bestglasspatterns.com). The collection includes elk, deer, pheasants, horses, buffalo, big horn sheep, bears, and many other wild creatures. The artist reminds us once again of her ability to bring these creatures to life in glass.

As always, the careful selection of glass colors and grains adds to the realism of the deer and his habitat, while the greenery in the foreground lends a three-dimensional effect to the design. To add the gleam in this mule deer buck's ever vigilant eye, a touch of white glass paint could be used. A different season of the year could also easily be depicted by selecting different colors for the foreground and background. Those who love nature and wildlife would welcome this striking work of glass art into their homes as a reminder of the great outdoors. **GPO**



## **Wissmach Glass Co.**

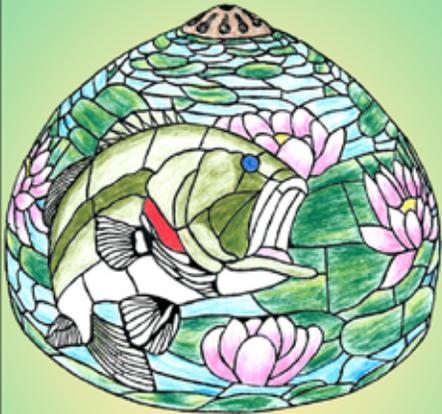
- 155-LL Dark Purple/Green/Light Opal/Crystal for Deer, 3 Sq. Ft.
- 77-L Light Brown/Yellow Green/Opal for Deer, 2 Sq. Ft.
- 317-L Dark Amber/Opal for Antlers, 3 Sq. Ft.
- 65-D Medium Brown/Blue/Dense Opal for Sky, 4 Sq. Ft.
- 503-D Opal/Dark Gray/Brown for Clouds, 2 Sq. Ft.
- 65-L Medium Brown/Blue/Light Opal for Distant Background, 1 Sq. Ft.
- WO-709 Green/Amber/White Opal for Pine Tree, 1 Sq. Ft.
- WO-330 Light Opal/Crystal/Yellow Green/Blue for River, Scrap
- WO-61 Green/Brown/Opal/Crystal for Background, 2 Sq. Ft.
- 245-L Medium Amber/True Green Streaky/Opal/Crystal for Grass, 1 Sq. Ft.
- 100-L Dark Green/Opal for Leaves, 2 Sq. Ft.
- BLACK for Border, Background, Eye, and Nose, 4 Sq. Ft.

## **Tools & Materials**

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

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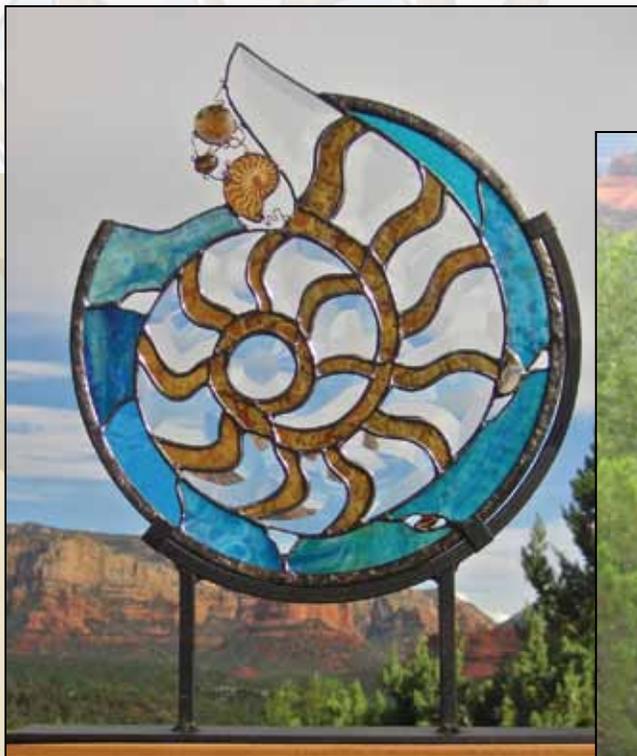
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# Ammonites

## Advanced Tips for Designing with Bevel Clusters

*Design, Fabrication, and Text by Holly Stedman*



*Ammonites #1*



*Ammonites #2*

Ammonites are an extinct group of marine invertebrates that we can only study through fossils today. Their spiral shape can be compared to the living Nautilus species. This pleasing, escalating shape is repeated over and over in nature, which makes it a timeless addition to your glass collection.

### **Ammonites #1**

Coffee/Yellow/Dark Brown for Interior, 1 Sq. Ft.  
White/Tourquoise Blue/Lime Green/Gold Pink  
for Border, 1 Sq. Ft.

### **Ammonites #2**

Black Gold Irid for Interior, 1 Sq. Ft.  
Red Bariolle Glass for Border, 1 Sq. Ft.

### **Tools and Materials**

Copper Foil to complement Patina Color  
Normal Stained Glass Hand Tools Grinder  
Patina Solder Flux Glass Polish  
Pattern Paper Copy Paper or Tagboard  
Pushpins 3/8" U-Channel Zinc  
Came Bender Chop or Hack Saw  
Wrought Iron 12" Crescent Stand  
EC-300 Snail Shell Bevel Cluster

### **Optional Decorating Components**

18-Gauge Tinned Copper Wire Glass Jewels  
Ammonite Fossil

## The Bevels

While this pattern features a stock bevel cluster, you can substitute glass of your choice. I am partial to the beautiful quality of light and reflections that bevels impart. If you are using the bevel cluster shown, be sure to retrace the outline of each bevel onto the pattern, since the pieces may vary slightly from one cluster to another.

Bevels and bevel clusters are not always created perfectly or consistently. It may be necessary to grind them to make minor adjustments to the bevels to allow the circular arc to flow. When grinding the bevels, place a piece of tape, such as blue painter's tape, on the backs of the bevels to prevent scratches from developing. Bevels are very "soft" glass, so don't be too aggressive when grinding, or you could easily overgrind.

This cluster is intended to be assembled with all of the bevels touching or "gathered together," but I chose to separate the bevels to give the finished work the look of a fossilized ammonite.

## Sheet Glass Colors Between the Bevels

Notice the differences between Ammonites #1 and #2. The spaces between the bevels in #1 are all equally spaced, whereas the spaces between the bevels in #2 are graduated—very narrow in the center of the panel and gradually wider toward the perimeter. The pattern included in this issue is for Ammonites #1. However, you can easily make adjustments to the pattern if you prefer the look of Ammonites #2.

The glass used in #1 is exactly the same mottled color of my fossil ammonite used in the decorative accent in the top of the panel. (How cool is that!) The Black Gold iridized glass in #2 has the same gold luster as pyritized ammonites—those whose fossilized matrix is naturally replaced by iron pyrite, aka fool's gold. The fossil ammonite featured in this piece is a remarkably well-preserved, stunning specimen.

It's sometimes possible to require only 1/2 square foot of these stained glass colors *if* you use a glass that has no grain and make no mistakes. However, unexpected things happen, so I think it's best to plan on the one square foot that is indicated in the materials lists.

## The Outer Border

For #1, I chose the Blue/Turquoise glass to represent the watery world once inhabited by these prehistoric creatures. Ammonite #2 features exquisite red Bariole glass, a French mouth-blown glass. I used it to add drama alongside the Gold Irid glass and sparkling bevels. There are no right or wrong choices here, so go with whatever speaks to you.

Leave some spaces open, close them up if you desire, or insert interesting decorative components. I used several antique Czechoslovakian jewels to add some indiscreet bling.

## The Display Stand

For this project, I chose a display stand and checked it for its exact measurements before cutting the glass. You may need to tweak your pattern slightly to allow for any differences in diameter or curvature. Lay the stand on its side and trace the inner arc onto the pattern paper. This will dictate the outer border for the panel. The pattern provided in the pullout section allows for an extra 1/4" for the added width of the zinc, not for its overall width.

## Assembly

After the glass has been cut, ground, and foiled, lay it out on the master pattern. Using sturdy pushpins, carefully hammer the pins around the perimeter to keep the glass from migrating. With your glass in such close proximity to the metal pushpins, be especially careful to avoid chipping the glass.



*Laying out the glass and bevels on the pattern*

Notice the inside perimeter line on the pattern in which the glass is contained. The darker, outer diameter line is the border in which the frame will be positioned.

I prefer that the bevels be elevated a wee bit to give the appearance that they are more on the same plane as the surrounding glass. To achieve that, before soldering, cut about 6 thicknesses of copy paper a little smaller than each of the bevels. Stack and position the paper beneath each bevel, thereby giving them the desired lift.



*Using copy paper to lift the bevels to the same visual plane as the surrounding glass*

After all of the glass pieces have been soldered and framed, add any decorative components such as jewels, glass nuggets, stones, fossils, or other found objects that you desire. Clean each element with alcohol before foiling. I use 1/8" wide foil, but you can trim the foil to the desired width before you foil using small, sharp, embroidery-type scissors. Tin each component, being careful not to get too much heat build up, since that might crack the jewels or nuggets. Ouch!

Randomly curl and bend the tinned copper wire to artfully anchor the elements to the soldered edges of the glass and bevels. Using needle nose pliers, attach the fluxed wire to the components, then to the panel itself. I prefer to use Canfields Quik-Set solder, which sets up just where and how I like. If you use this, remember to adjust the iron's heat a little cooler than normal.

Adding some sort of decorative components in the open space at the top gives additional strength to an otherwise weak structure as well as some very interesting pizzazz.

As a finishing touch, I like to add decorative solder to the zinc frame surface for a nice rustic look. Apply your favorite patina, clean, wax, and *enjoy!*

**GPO**



Ammonites #2 detail of the decorative extras



Holly Stedman has been creating stained glass since 1984. She shares her talents through classes in her studio for beginning and intermediate classes in stained glass and fusing. Through her teaching as well as magazine articles and her book, *Splendor in the Glass: Creating Stained Glass Beyond the Ordinary*, her goal is to stimulate and encourage in others an excitement and curiosity for self-expression through creativity.

In addition to expressing her love for the dynamic qualities of glass through her unique style, Holly also enjoys her adventurous side. Whether she's trekking and canoeing in the high arctic, sailing and snorkeling the Caribbean, caving, or backpacking in the Grand Canyon, all have provided inspiration and a definite influence on her artistic endeavors. Holly and her husband have made their home in Sedona, Arizona, since 1992. You can reach her by e-mailing [info@SedonaRRP.com](mailto:info@SedonaRRP.com).

Editor's Note: We found multiple sources online for the glass and supplies listed. Please check with your favorite supplier.

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# Sea Horses

## Little Fishes without Scales

*Design, Fabrication, and Text by Leslie Gibbs*

Photography by Jon Gibbs

There is just something enchanting about watching a sea horse as it clutches onto eel grass or coral in a desperate dance to keep from being washed away by the strong currents of the sea. The nimble little creatures are not very good swimmers, so they depend upon their rapidly oscillating dorsal fin to power them along. In order to survive, a sea horse must hide from predators, since they cannot outpace them. They are able to change color to match their surroundings and become “invisible” both to predator and prey.

Maybe it's their ability to adapt to their surroundings by changing color from drab to neon or that they engage in elaborate courtship rituals. More likely, though, it's the fact that the male of the species carries and gives birth to the babies that endears the little critters to me. Whatever the reason, I am charmed by sea horses and wanted to create this 7-1/2" x 13" panel so I can share this one with you. Enjoy!

### **Wissmach Glass Co.**

VM201 Mottled Cast Green for Sea Grass, 3" x 5"

WO-101 Dark Green/Opal/Crystal Wissy  
for Sea Grass, 3" x 5"

250-D Aqua Green/Opal/Crystal  
for Body Front and Back, 6" x 12"

### **Additional Glass**

Deep Royal Blue Iridescent for Border, 6" x 9"

Clear/Turquoise/White for Background, 10" x 12"

Turquoise for Center of Body and Tail, 5" x 10"

Emerald Green Rainbow Iridescent

for Face, Tail Tip, Inner Dorsal Fin, and Face, 4" x 6"

### **Tools and Materials**

3/8" Zinc Framing 3/16" Silver-Backed Copper Foil

1/4" Grinding Bit 1" Grinding Bit Needle Nose Pliers

Horseshoe Nails Alcohol Wipes X-Acto® Knife

G-S Hypo Cement® 21-Gauge Wire

Steel Wool Homosote Board

Aluminum Braces and Pins (optional)

Blu-Tack Reusable Adhesive Flux Cleaner

Black Patina Kem-O-Pro Polishing Wax

Paper Towels Pencil Soft Polishing Cloth

Tweezers Toothpick Black Marking Pen

Flat-Backed Cabochons or Faceted Jewels (various sizes)

1 Tiny Flat-Backed Jewel Masking Tape

Hanging Hooks (optional) Light Box (optional)



1  
*Make two copies of the pattern, one for the layout and one to cut, and number each section of the pattern.*



2  
*Cut all of the glass sections and place them on the layout sheet.*



3  
*Grind each section of cut glass, clean them, and set the sections down on the layout sheet.*



4  
*Mark the glass where the jewels that represent the bubbles will be added.*



Select three or four flat-backed cabochon or faceted jewels of different sizes in sea colors. I chose three jewels, but it's up to you how many bubbles you would like to add. Glass nuggets could also be used, but they don't work as well. A little later, you will need one small flat-backed jewel for the eye. I chose blue, but the color choice is up to you.

5  
*Using the 1/4" grinder bit, place the section of glass against the bit using the outline of the jewel as your guide.*



Hold the glass firmly and begin to drill. Keep the bit and glass wet and rock the glass section back and forth to get a secure hole started.

6  
*Gradually "flatten" the glass and continue drilling until the head of the bit emerges.*



7  
*Enlarge the hole to fit the jewel by circling around the bit, remembering to keep it wet.*

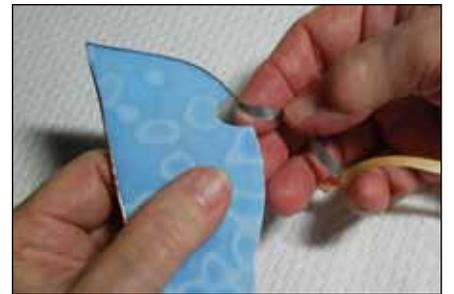


8  
*Check to see that the jewel fits the hole and leave a little room to allow for the copper foil.*



Clean the opening and the jewels well and set aside to foil.

9  
*Foil all sections of the flat glass.*



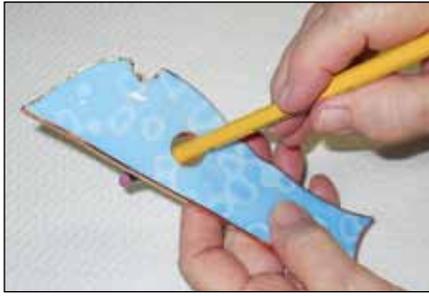
Before foiling the holes for the jewels, clean the inside of the hole and the jewel well using alcohol wipes.

10  
*Cut a small strip of copper foil and align the foil inside the hole.*



11

Using a pencil, flatten the foil inside the hole and along the edges.



15

Cut strips of wire and solder them onto the body of the sea horse.



12

Wrap foil around the jewel.



You may need to trim the foil to fit.

Following the pattern, cut sections of 21-gauge wire the width of the segments on the sea horse. Use needle nose pliers to slightly curve each wire section. Tape the sections onto the sea horse body, securing the wire at each end with masking tape. It may be easier to just do three or four segments at a time. If you have a light box, that will make alignment easier. If not, darken the segment lines on the pattern with black marker to make them easier to see.

Working one segment at a time, remove the masking tape from one end of the wire and hold the wire down on the solder line, then flux and solder the wire to the body. Remove the tape from the other end of the wire and repeat the process. Create a more realistic appearance to the sea horse segments by melting a "bump" of solder where it connects to the ends of the wire. Continue until all of the wires are soldered in place. If the wire stubbornly resists the solder, scrub the wire well with steel wool and try again. This step does require patience, but it's worth it!

13

Using horseshoe nails or aluminum braces, secure the glass sections in place on the pattern.



The jewels may need to have support added beneath them to avoid their sinking into the panel. I use a small bit of Blu-Tack or any other reusable adhesive to level and lift the jewel.

16

Add the zinc framing.



14

Apply flux to the front of the braced panel and solder the entire front of the panel.



Cut the 3/8" zinc to fit the panel and secure it in place with horseshoe nails. Solder the zinc corners and wherever the zinc meets a solder line. Flip the panel and repeat on the back of the panel, being sure once again to protect the jewels with paper towels.

Remove the braces and place the panel front side down onto several layers of paper towels to protect and support the jewels. Proceed to flux and solder the back of the panel. Clean both sides well with flux remover.

17

Attach the hanging hooks.



If you choose to add hanging hooks to the panel, support the hooks with a section of scrap glass and solder one hook at each end of the panel's top. Clean both sides of the zinced panel with flux remover and let dry.

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18

Apply black patina to both sides of the panel, including the zinc framing.



Rinse off all of the patina residue and let the panel dry. Don't fret about the wire work if it does not turn as dark as the solder lines. It makes for an interesting contrast. Apply a coat of Kem-O-Pro glass polishing wax to the back of the panel, including the zinc, and let dry. Turn the panel over and repeat the process.

19

Using a soft cloth, gently buff the panel to a bright shine.



You can use an old, soft toothbrush to shine up the areas covered by wire work. Put a small section of paper towel or cloth over the bristles of the toothbrush to remove the dry polish from hard to reach areas and bring them to a glossy shine.

20

Attach the small eye jewel to the panel with the G-S Hypo Cement.



Using the pattern as a guide, align the spot where the eye of the sea horse will be attached. Holding the gem with either your fingers or tweezers, dab a small amount of the G-S Hypo Cement onto the back of the small flat-backed gem and position the eye onto the sea horse. Let the adhesive dry.

If you cannot find a tiny flat-backed gem, you can use a solder blob that is flat on one side, or you can grind down a larger gem. Since this eye bit will not be soldered or patinated, you may even find a suitable flat-backed gem at your local craft/hobby store.

From their equine heads to their prehensile tails, sea horses are unique among undersea creatures. In ancient times, fishermen believed that sea horses were the miniature offspring of the horses that pulled the chariot of Neptune, the Roman god of the sea. These fishermen must have been swigging a lot of primo Italian grappa. But whatever the reason, these most unfishlike of fishes have fascinated us for centuries, so display your panel and raise a glass to toast your work with whatever beverage you fancy.

GPO

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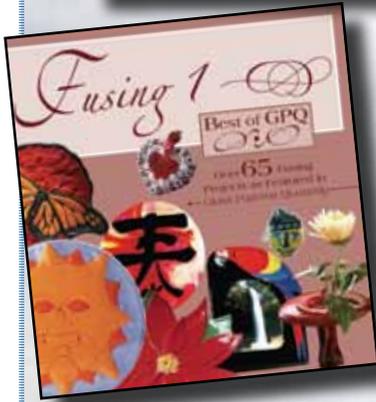


Leslie Gibbs began her artist's journey roaming around the United States, Mexico, and Europe. She finally landed in South Florida, where she set up her easels and crates of glass and proceeded to plug in the kilns. Since then, Leslie has published numerous articles for glass art magazines and eleven books of stained glass patterns.

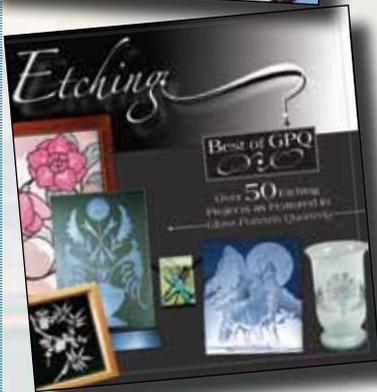
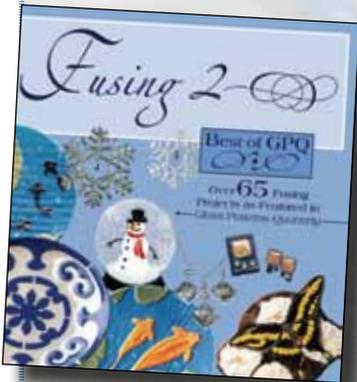
Exploring new techniques helps Leslie convey her vivid mental images into colorful art glass. She approaches glass design with serious, studied drawings and a wicked sense of humor. Visit [www.LeslieGibbsStudio.com](http://www.LeslieGibbsStudio.com) to learn more about Leslie and her art.

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# Best of GPQ



On each of the Fusing 1 & 2 CDs you'll find a collection of sixty-seven fusing and kiln-fired projects in PDF format.



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Eric Markow (left) and Thom Norris (right) with their Paragon Pearl-56. Eric and Thom spent several years developing the woven glass technique shown above. Photo by Marni Harker.

## “We love the even, consistent heat of the Paragon Pearl-56” — Markow & Norris

Eric Markow and Thom Norris are noted for creating woven glass kimonos, which have been called “impossibly beautiful.” The kimonos weigh an average of 125

pounds. peepholes in the front, two vent holes in the top, mercury relays, and a ceramic fiber lid. The Pearl-56 firing chamber is 30” wide, 56” long, and 16 ½” deep (top to bottom).

Eric and Thom fire their glass in nine Paragon kilns. “Now that we’ve done all our testing, and have actually cooked sculpture in the Pearl-56, it is our favorite kiln and we love the even, consistent heat,” they said recently.

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Autumn Sunset Kimono by Markow & Norris. The partners fire their glass in Paragon kilns. Photo by Javier Agostinelli.

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# Mad Etching Skills

## Etched and Stacked Dichroic Running Fox

*Design, Fabrication, and Text by Carmen Flores Tanis*



**W**hy etch only one layer when you can etch three? If you read my article in the Fall 2013 issue of *Glass Patterns Quarterly*, then this will show you yet another way to etch dichroic glass using Mad Craft Skills™ Printable Resist Film. This sweet little dichroic fox is caught mid-leap as he runs in front of a grove of etched trees.

I've always been fascinated by children's book engravings where a single character, be it person or animal, is depicted against a background in such a way as to invite the reader's imagination to come up with his or her own story. Inspired by such illustrations, I drew my own story frame using pen and ink on white paper, which I then scanned into my computer. I was thrilled that the Printable Resist was able to capture the tiny scratchings of my pen in such detail.

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B&B Etchall Etching Cream® Squeeze Bottle

Paint Brush Protective Gloves Plastic or Glass Dish

Yellow or White Fine-Tipped DecoColor® Paint Marker

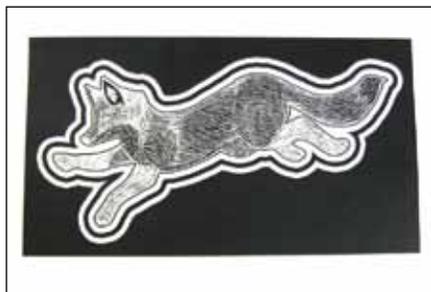
Sharpie® Marker Non-Acetone Nail Polish Remover

All Natural Orange Cleaner MAC Multipurpose Craft Glue

For this project I used a “floating frame.” You’ll find them at the craft supply store in the framing section. They are basically backless picture frames where the photo is sandwiched between two pieces of clear glass and thus appears to float. I replaced one of the pieces of clear glass with a sheet of thin black glass. If it’s too thick it won’t fit in the frame, as I found out.

A little bit of glass glue at the end affixed the fox to the etched glass, so I didn’t have to worry about compatibilities or fear losing the etched image when the clear glass was heated. You’ll have fun with this project, and your head will be swimming with ways to adapt it to use in your own artwork!

1  
Scan the artwork for the fox at 300 dpi from the “How-To/Free Patterns” section on the GPQ website and use a laser printer to perform a test print on plain white paper.



This is very important: You *can’t* use an inkjet printer with the resist film. You need the toner from a laser printer or copier. The toner contains plastics and carbon that make for an effective resist. I have had very good results using the HP LaserJet and the Samsung CLP-300. Be sure to set your print quality for high.

If you don’t have a laser printer, you can take your black-and-white artwork to the copy shop. They can print it onto the resist film using one of their toner copiers.

2  
Tape the resist to the printout.



The resist film has a dull side and a shiny side. Be careful when handling the blue film to avoid scratching the all-important powdery dull side. You want to print on the dull side, so make sure to load the sheet correctly for your particular printer in the same orientation as if you were printing a sheet of address labels.

Once you run a sheet of resist film through the laser printer, you cannot print on it again, so here’s a nifty trick. Cut a piece of resist film a little bigger than the test print you just made on white paper and use a little bit of clear adhesive tape to attach it right on top of the print. Try to keep the tape on the very edge of the resist film so that it doesn’t interfere with the printing.

Now feed the sheet back into the printer and print the image again. No wasted film! Peel the resist film from the white sheet of paper and remove the adhesive tape.

Scan and print the artwork “Fox Background 1 for Clear Glass” and “Fox Background 2 for Black Glass” onto a sheet of resist film. Because of their large size, each will take an entire sheet of resist film, so there is no need to do a test print on white paper. Set the background resist film printouts aside for now.

3

Trim the resist.



Working with the fox printout, trim the printed resist film to the exact size of the glass, leaving two tabs on opposite corners. These little tabs will help you later when you check on the progress of the transfer, and cutting the film to the exact size of the glass will help you with alignment.

4

Heat up the glass.



To adhere the resist film onto the dichroic glass, use an electric pancake griddle along with a plastic or nonstick spatula and a pair of oven mitts. If you don’t have a griddle, you can use an electric skillet.

Clean the glass with glass cleaner or alcohol and dry it well. Set the glass on the griddle, dichroic side up, and set the heat to about 100°F or “low.” Slowly heating the glass like this helps avoid any cracking and will help the resist to stick more easily.

5

After about five minutes when the glass is warm to the touch, carefully and quickly place the resist film, dull side down, onto the glass.



Line up the edges of the film with the edges of the glass. The film should stick to the glass very lightly. If the film doesn’t stick yet, don’t worry. Just turn the heat up a little and try again in a minute or two.

6

Once you’ve placed the film onto the glass, use the edge of the spatula to firmly rub and burnish down the film onto the glass.



Squeeze out any trapped bubbles, being careful here. Because some griddles are not completely flat, your glass might crack if you press down on it on an uneven area of the griddle. Once you get familiar with your griddle and know which areas are the flattest, you can put some muscle into burnishing the film. Wear an oven mitt and hold the glass down with one hand to help as you burnish with the spatula.

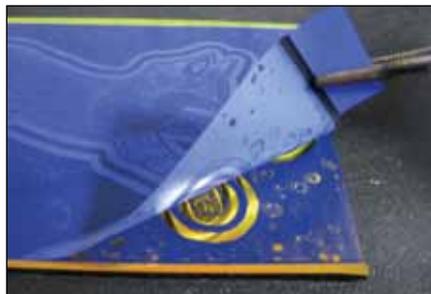
Now it's time to turn up the heat. This will take a little bit of experimenting on your part to find the optimal temperature for your particular griddle or iron, because all appliances vary. The final temperature should be between 275°F and 325°F on a griddle or electric skillet. For my griddle, I raise the controller setting to 325°F.

Let the glass cook for about five minutes, then burnish again. You'll see the image through the blue film begin to darken and turn black as it starts to melt and transfer onto the glass.

At this point you can better gauge the temperature of the griddle. If the blue film is starting to curl up at the edges or your image is looking a little smeary, then the griddle is too hot and you need to turn the heat down a little.

Now flip the glass over so that it's film side down on the griddle. Let it heat about another five minutes.

7 *Flip the glass back over, film side up, and use the spatula to burnish the film down again, then use the tweezers to gently peel back one of the tabbed corners.*



If you bend down and look through the blue film, you should start to see that there are now large clear areas where the black resist has transferred from the film onto the glass. If nothing has transferred at all, then turn the heat up on the griddle a little. It takes 10 to 15 minutes of heating, checking, burnishing, and flipping for all the black resist to transfer onto the glass.

8 *Cool down the glass by transferring it to ceramic tile.*



When you see that the film is pretty clear with little or no black when you lift first one corner of the film off the glass then the other, burnish it down one last time and move the glass onto the ceramic tile or other heatproof surface. Let it cool for a minute or two. The film will cool more quickly than the glass, which helps the now sticky resist transfer more easily onto the glass.

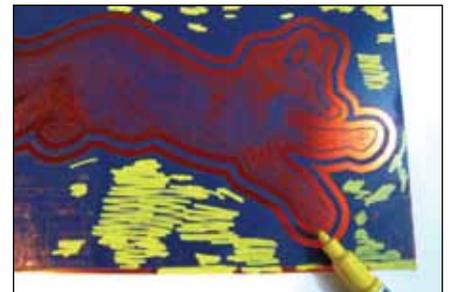


*Use the tweezers to peel the blue film from the glass.*

You should be able to see that most of the black resist has transferred from the blue sheet to the glass, leaving a mostly clear plastic backing sheet with just a few flaws of stubborn black dots of resist. Flaws happen when dust or air bubbles are trapped in between the glass and the film. As long as the areas with the most important detail have transferred, then everything is still okay. We will patch up those missing spots next.

What if the important areas of your image smeared, or you realize that your blue film had a scratch in it? It's easy to start over. Use some non-acetone nail polish remover to remove any resist from the dichroic, and you are ready to begin again with a fresh print of your design.

10 *Use the DecoColor® paint marker to patch up any spots where the resist did not transfer to the glass.*



This brand of paint marker works great as a resist on its own. I prefer the yellow or white just because it is easier to see. On a piece like this where there is so much dichroic in the open areas of the background, I like to double-ensure the resist by painting over it with the paint marker. Let the paint dry at least 10 minutes.

11 *Trace the fox onto the vinyl.*



Now wouldn't it be a shame to waste all that lovely dichroic around the fox? Let's save it! Cut a piece of clear adhesive vinyl the same size as your piece of dichroic glass. Place it on top of the clear plastic backing sheet and trace the fox outline onto the vinyl with a Sharpie. Use scissors to remove the center section. No need to be super accurate.

*Continued on Page 50*

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# Walleye

*Design by Mary Harris, Text by Darlene Welch*



The walleye, native to Canada and the Northern United States, is a favorite catch for many anglers. The outward facing eyes of this species give them an advantage when fishing at night, since they give off a certain “eyeshine” in the dark while they are hunting their prey. Montana artist, Mary Harris, brings us a 12"-diameter free-form stained glass design that captures the energy and spirit of the walleye, one of the many patterns that can be found on her website, [www.bestglasspatterns.com](http://www.bestglasspatterns.com)

Fishermen often look for days and locations where there is a good “walleye chop,” or rough water, which is well represented in this panel by the swirling colors of blue and white in the Steel Blue Baroque glass from Spectrum. Mary also allows the fish to break free from the confines of the main outer border, giving the scene additional realism and a three-dimensional feel. Any glass enthusiast who loves wildlife and the great outdoors will enjoy creating this project. **GPO**

### **Spectrum Glass Company**

BR/Steel Steel Blue/Clear Baroque® for Center Background, 1 Sq. Ft.

OA335-55SF Nautica Opalart™ for Outer Background, 1 Sq. Ft.

100W Clear Waterglass® for Bubbles, Scrap

622-7S Forest Green Opal for Fish Top, 1/2 Sq. Ft.

325-2S White/Light Green for Fish Bottom, 1/2 Sq. Ft.

828-72S Seafoam Green/White for Fins, 1 Sq. Ft.

818-52S White/Rosy Brown for Mouth, Scrap

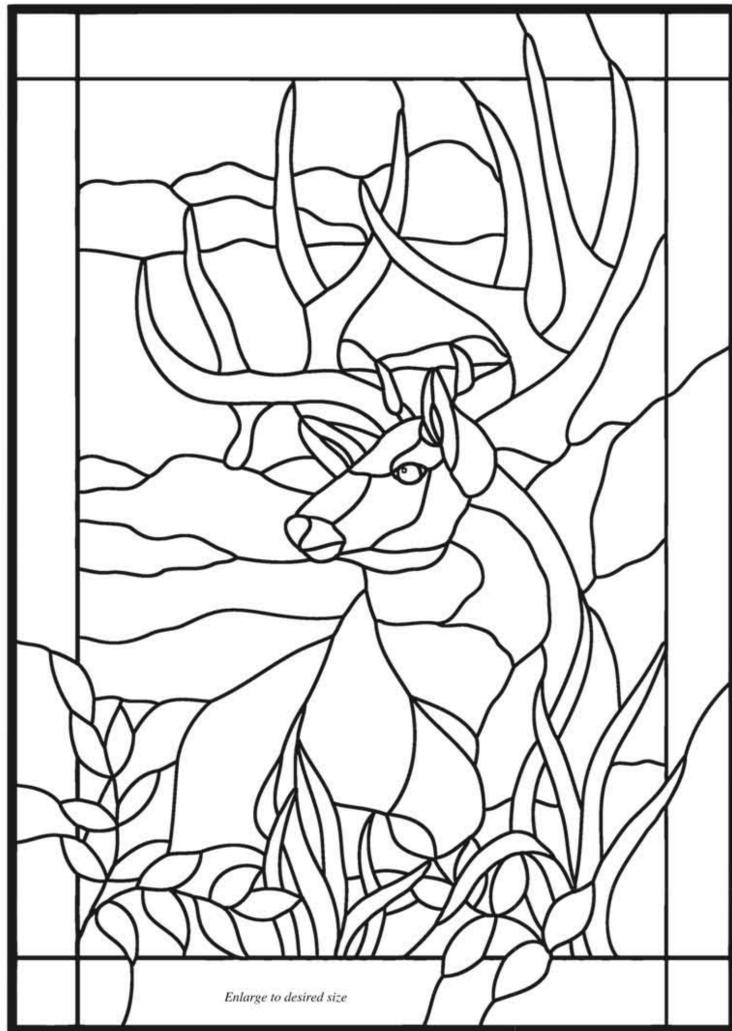
### **Tools and Materials**

7/32" Copper Foil Flux Solder

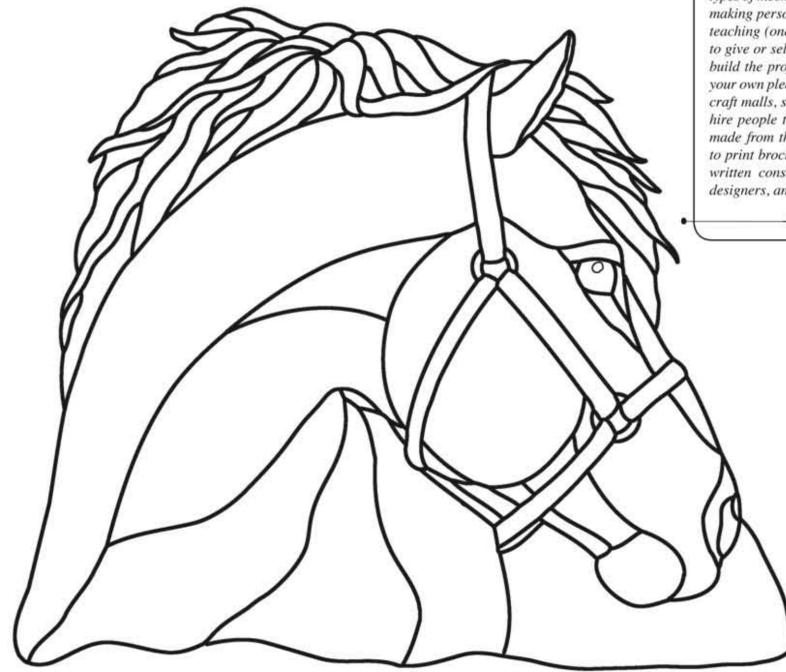
Black Patina 1/4" U-Channel Lead

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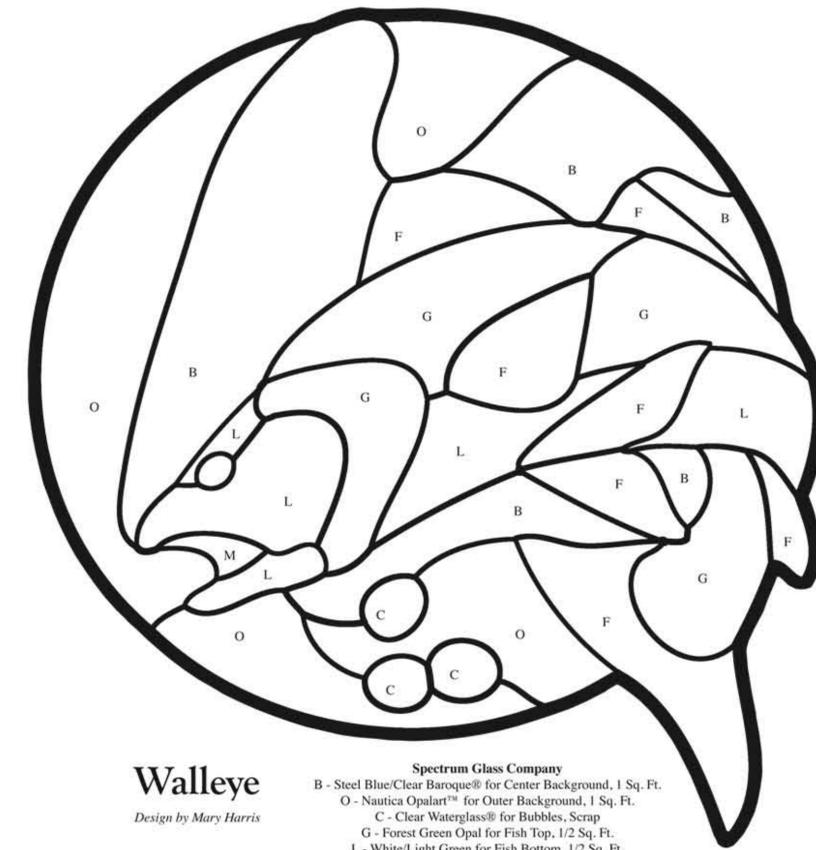
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### Looking Back

Design by Mary Harris  
**Uroboros Glass**  
 Honey/Amber for Nose, Scrap  
 Blue/Gray for Horse, 3-1/2 Sq. Ft.  
**Spectrum Glass Co.**  
 Black/White/Clear Baroque™ for Mane, 2 Sq. Ft.  
 White for Horse Head, Scrap  
 Rosy Brown Opal for Halter Straps, Scrap  
 Pale Amber/White for Halter Rings, Scrap



### Walleye

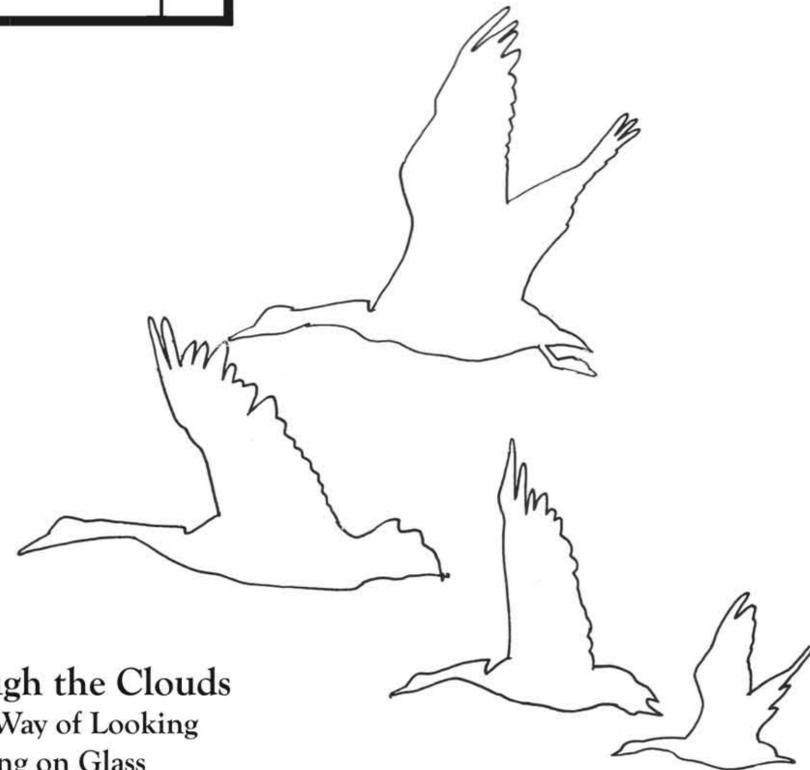
Design by Mary Harris

**Spectrum Glass Company**  
 B - Steel Blue/Clear Baroque® for Center Background, 1 Sq. Ft.  
 O - Nautica Opalart™ for Outer Background, 1 Sq. Ft.  
 C - Clear Waterglass® for Bubbles, Scrap  
 G - Forest Green Opal for Fish Top, 1/2 Sq. Ft.  
 L - White/Light Green for Fish Bottom, 1/2 Sq. Ft.  
 F - Seafoam Green/White for Fins, 1 Sq. Ft.  
 M - White/Rosy Brown for Mouth, Scrap

### Midnight Watch

Design by Mary Harris

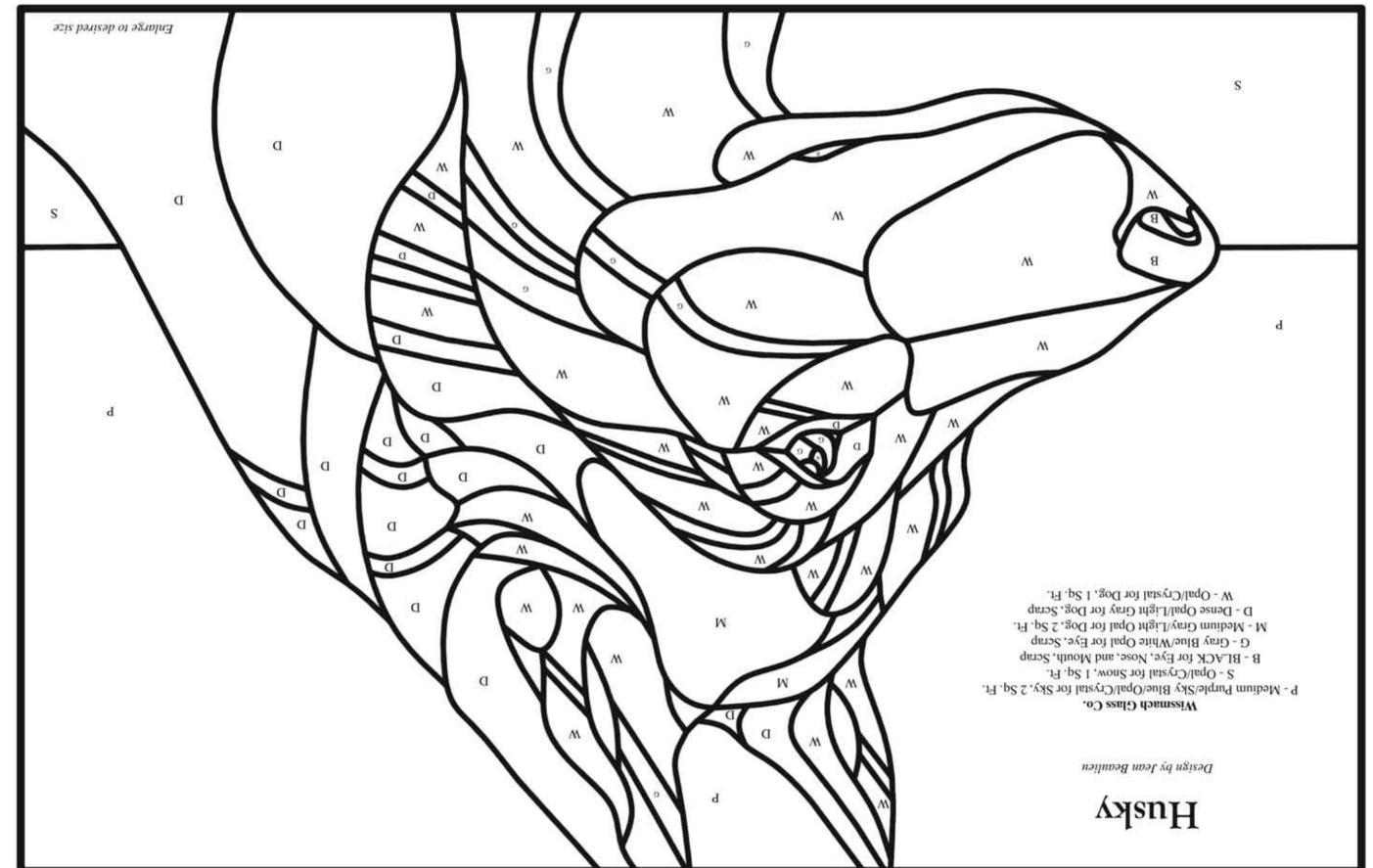
**Wissmach Glass Co.**  
 Dark Purple/Green/Light Opal/Crystal for Deer, 3 Sq. Ft.  
 Light Brown/Yellow Green/Opal for Deer, 2 Sq. Ft.  
 Dark Amber/Opal for Antlers, 3 Sq. Ft.  
 Medium Brown/Blue/Dense Opal for Sky, 4 Sq. Ft.  
 Opal/Dark Gray/Brown for Clouds, 2 Sq. Ft.  
 Medium Brown/Blue/Light Opal for Distant Background, 1 Sq. Ft.  
 Green/Amber/White Opal for Pine Tree, 1 Sq. Ft.  
 Light Opal/Crystal/Yellow Green/Blue for River, Scrap  
 Green/Brown/Opal/Crystal for Background, 2 Sq. Ft.  
 Medium Amber/True Green Streaky/Opal/Crystal for Grass, 1 Sq. Ft.  
 Dark Green/Opal for Leaves, 2 Sq. Ft.  
 BLACK for Border, Background, Eye, and Nose, 4 Sq. Ft.



### Flying through the Clouds A Different Way of Looking at Painting on Glass

Design by Cathy Claycomb

**Glass**  
 Various Head Glass Pieces, Scrap



**Wissmach Glass Co.**  
 P - Medium Purple/Sky Blue/Opal/Crystal for Sky, 2 Sq. Ft.  
 S - Opal/Crystal for Snow, 1 Sq. Ft.  
 B - BLACK for Eye, Nose, and Mouth, Scrap  
 G - Gray Blue/White Opal for Eye, Scrap  
 M - Medium Gray/Light Opal for Dog, 2 Sq. Ft.  
 D - Dense Opal/Light Gray for Dog, Scrap  
 W - Opal/Crystal for Dog, 1 Sq. Ft.

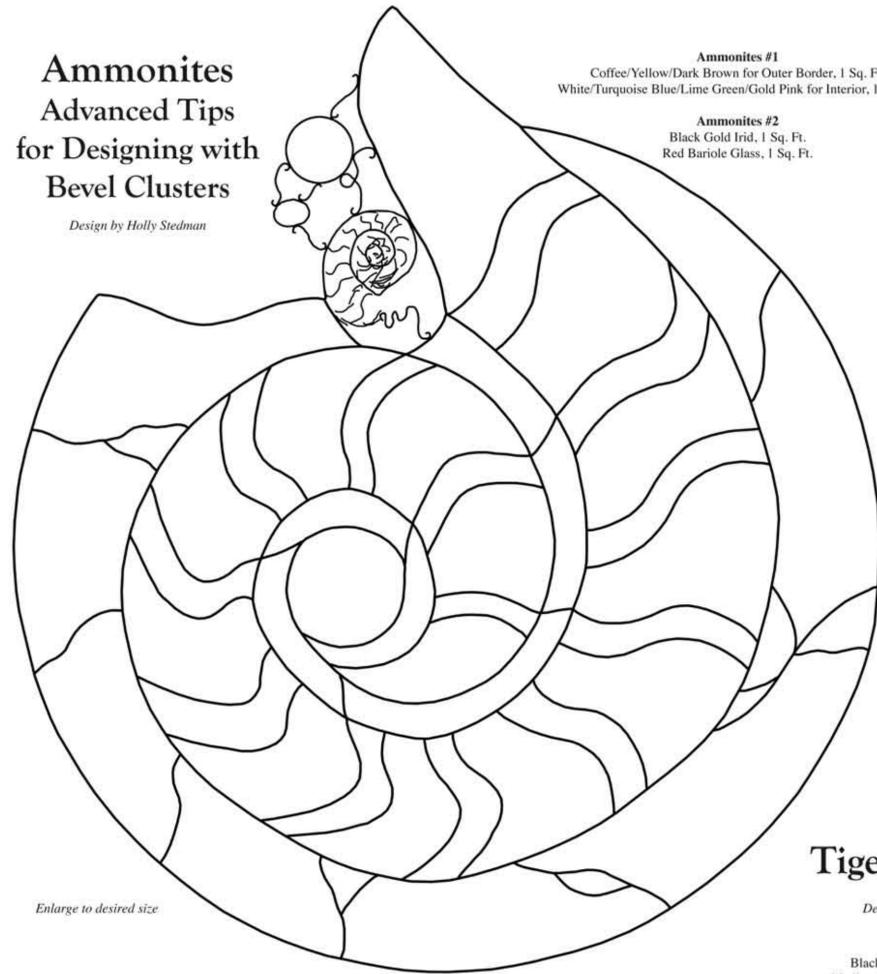
Design by Jean Beaulieu

### Husky

# Ammonites

## Advanced Tips for Designing with Bevel Clusters

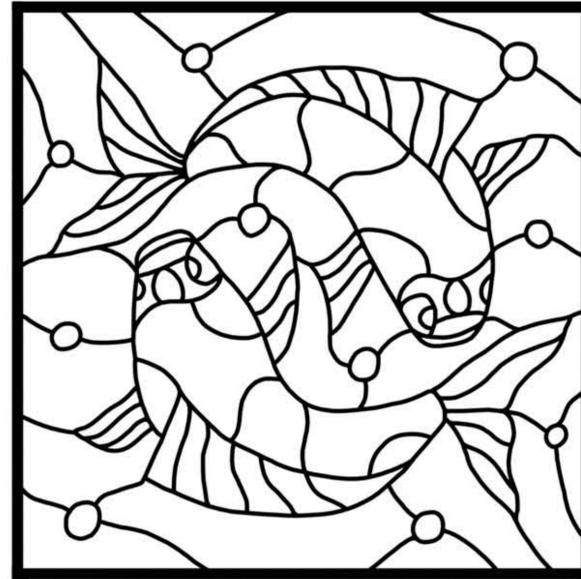
Design by Holly Stedman



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**Ammonites #1**  
Coffee/Yellow/Dark Brown for Outer Border, 1 Sq. Ft.  
White/Turquoise Blue/Lime Green/Gold Pink for Interior, 1 Sq. Ft.

**Ammonites #2**  
Black Gold Irid, 1 Sq. Ft.  
Red Bariote Glass, 1 Sq. Ft.



Enlarge to desired size

# Twin Koi

Design by Wesley R. Wong

**Wissmach Glass Co.**  
Dark Blue/Medium Green/Opal/Crystal for Water, 3 Sq. Ft.  
Pale Blue/Green for Bubbles, Scrap  
White Opal/Red/Orange for Fish Body, 2 Sq. Ft.  
Opal/Crystal for Fish Body, 1-1/2 Sq. Ft.  
Light Amber/Opal/Crystal for Fins, 1 Sq. Ft.  
Orange/Opal/Crystal for Fins, 1-1/2 Sq. Ft.  
BLACK for Eyes, Scrap

# Tiger in Your Face

Design by Paned Expressions Studios

**Spectrum Glass Company**  
Black for Tiger Stripes and Eyes, 2 Sq. Ft.  
Medium Amber/White for Tiger Stripes, 2 Sq. Ft.  
Clear/White for Tiger Stripes, 2 Sq. Ft.  
Amber/Green/White for Eyes, Scrap

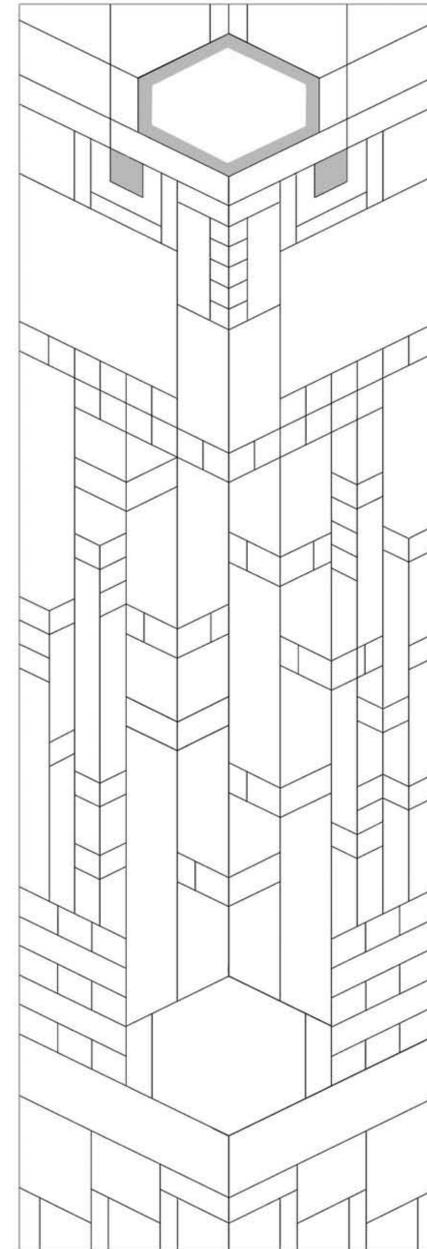


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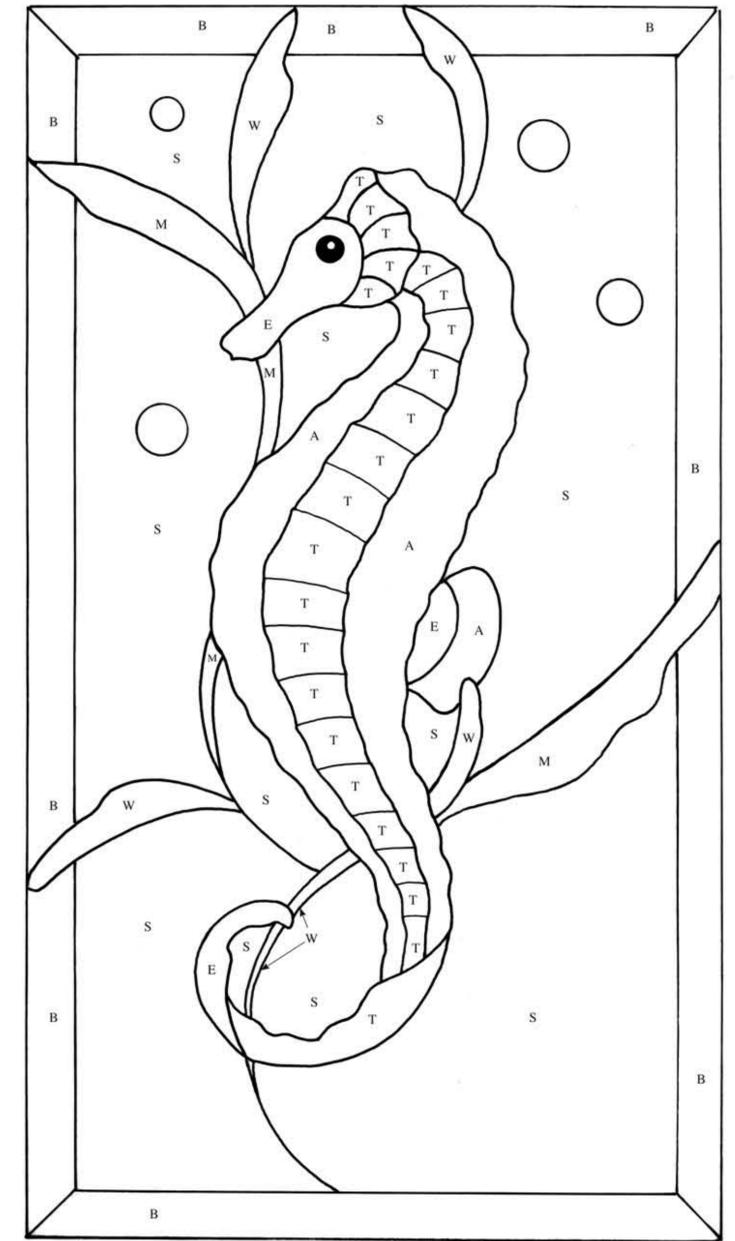
# Snowy Owl

Design by Chantal Paré

**Spectrum Glass Co.**  
Clear Cord, 2 Sq. Ft.  
Black Cord, 2 Sq. Ft.  
Pale Gray Vecchio, 1 Sq. Ft.  
Pale Amber Vecchio, 1 Sq. Ft.  
**Additional Glass**  
3 mm Clear Float Glass, 12 Sq. Ft.



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# Sea Horses Little Fishes without Scales

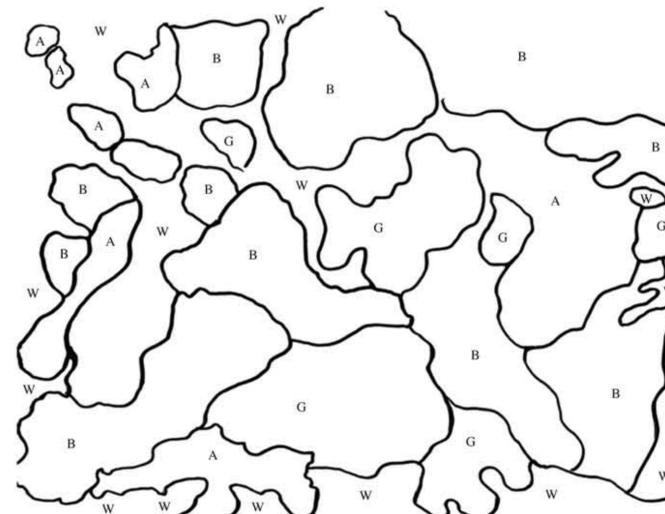
Design by Leslie Gibbs

**Wissmach Glass Co.**  
M - Mottled Cast Green for Sea Grass, 3" x 5"  
W - Dark Green/Opal/Crystal Wisppy for Sea Grass, 3" x 5"  
A - Aqua Green/Opal/Crystal for Body Front and Back, 6" x 12"  
**Additional Glass**  
B - Deep Royal Blue Iridescent for Border, 6" x 9"  
S - Clear/Turquoise/White for Background, 10" x 12"  
T - Turquoise for Center of Body and Tail, 5" x 10"  
E - Emerald Green Rainbow Iridescent for Face, Tail Tip, Inner Dorsal Fin, and Face, 4" x 6"

# Ocean Vases

Design by Janet Zambai

**Spectrum Glass Company**  
System 96° Clear, 9" x 12" (2)  
Clear Krinkle Textured, 9" x 9" (optional)  
System 96° Medium White Frit  
**Unique Glass Colors**  
*NT Colors*  
Outline White  
*Artisan Colors*  
A - 600 Azure  
B - 603 Royal Blue  
G - 604 Teal Green  
607 Mystic Blue  
608 Teal Blue  
W - 615 White Glo  
*UGC Materials*  
UGC Glass Medium  
Small Fine-Tip Applicator Bottle



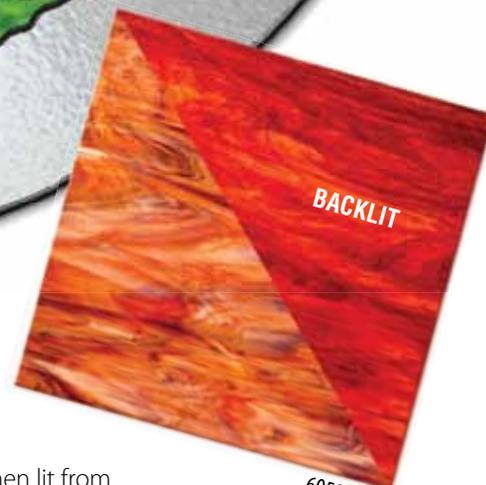
Dione Roberts



# More New Stained Glass Products

Just in time to create a glowing fall palette, we've added two gorgeous new Pearl Opals and two delicately pale Amber textures to our Stained Glass line.

**Autumn Flame** is rich with luscious Red tones that become a fiery field of deep RED when lit from behind. The glass is used prominently in the pattern above creating a very dramatic and eye-catching piece.



6051-83CC  
Autumn Flame

Continuing in shades of autumn, we present **Golden Honey** with its rich Amber strands entwined with Pearl and Clear resulting in an elegant, sophisticated addition to the Pearl Opal Family.



6011-83CC  
Golden Honey



110.1A  
Palest Amber Artique



110.1RR  
Palest Amber Rough Rolled

And last, but definitely not least, we offer a lighter shade of pale in the Transparent Amber lineup. There's nothing like warm, earthy, Amber — but sometimes a subtle tint is all you need. Our new **'Palest Amber'** shade is just that, and is available in lively Rough Rolled and Artique® textures.

"Cider House Blooms" (above) from the book *Contemporary Florals* by Dione Roberts, is currently being featured as one of the large patterns in *The Score*, issue 125.



**Spectrum  
Glass**

[spectrumglass.com](http://spectrumglass.com)

**Mad Etching Skills**  
**Etched and Stacked Dichroic Running Fox**  
*Continued from Page 30*

12

*Remove the backing sheet from the vinyl and adhere the vinyl to the dichroic glass.*



Make sure not to cover up any of the fox image. Only the outer areas should be covered with vinyl.

13

*Apply the Etchall etching cream.*



Let's etch! For this part, I like to wear latex gloves and work either outdoors or in a well-ventilated room on a table covered with newspapers. A good tip is to pour the Etchall into a squeeze bottle. It doesn't matter whether the bottle is little or big. It will give you much more control over the application of the cream than if you just scoop it out of the jar. Squirt some Etchall onto a brush and paint it generously all over the dichroic glass.

If you're working on a hot day and you find that the cream has dried, yet there is still some dichro visible on the glass, just add a little more cream and let it etch a little longer. It will take about ten minutes for the etching cream to work its wonders.

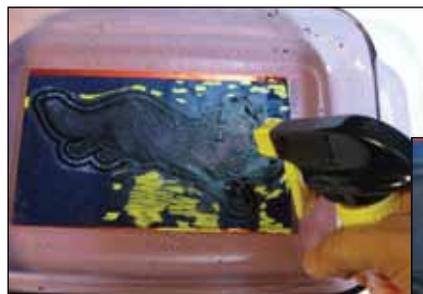
14

*Once you see that all the color has disappeared from the glass, wash off the etching cream under running water and pat the glass dry with a paper towel.*



You'll notice that all of the etched dichroic areas have turned black and the resist now looks purple. Cool! Next comes the magic part.

15



*Peel off and discard the clear vinyl, then remove the DecoColor paint marker.*



Use a little squirt of the all-natural orange cleaner and wipe the paint marker off with a paper towel. Set the piece in plastic or glass dish.

16



*Remove the black resist by splashing a small amount of nail polish remover on the little fox in the dish.*



Let it stand for about 5 minutes, then wipe away the now softened resist with a paper towel. Rinse under running water. Beautiful! And just look at how we saved all that gorgeous dichro surrounding the little fox!



17



*Cut out the fox with a ring saw.*



You'll notice that there is a thick black line right next to the fox surrounded by a thick dichroic line—I'll call this line "cut"—then another black line, then the large surrounding dichroic area. Guide the ring saw blade along that thick dichroic "cut" line to cut out the fox. Save the extra dichroic areas for another project.

To really make the dichroic pop and soften the cut edges, fire-polish the etched dichroic fox. My favorite fire-polishing schedule is included at the end of this article.

18

*Apply the resist to the black glass.*



Remember those two other resist film printouts that we made earlier? Working with the black glass first, repeat the above steps to apply the "Fox Background 2 for black glass" resist film.

19

*Once the resist is applied to the black glass, touch up any flawed areas with the paint pen.*



You need to be aware when working with a smooth, nondichroic glass that it is a little trickier to get the resist to adhere smoothly over large unbroken areas, as in the areas between the trees. Flaws are much more common than when working with dichroic glass, which has a rougher surface and grabs onto the resist very easily. To ensure that there is no undesired etching going on, use the paint pen liberally on these two sheets of glass and let the paint dry for at least 10 minutes.

20

*Apply a thick coat of Etchall to the black glass.*



If you apply it too thinly you will get brush strokes, so be generous with the Etchall. Now remove the Etchall, paint pen, and resist from the black glass as you did before and set aside.

Remove the two pieces of clear glass from the floating frame and set one aside. You know the drill. Apply the resist film sheet printed with the "Fox Background 1 for clear glass" image to the remaining piece of clear glass. Touch up any flaws with the paint pen. Before you etch, however, cover the back of the clear glass with a piece of

clear adhesive vinyl. We don't want to accidentally etch the clear back with an etching spill. We skipped this step on the black glass because it is opaque, and any etching accidents on the back would never be seen. Etch and clean up the clear glass as usual.

21

*Place the now etched clear glass on top of the etched black sheet and place both pieces of glass in the frame.*



22

*For the final touch, spread a little MAC Multipurpose Glue on the back of the fox and press him into the place on the clear glass.*



Be careful not to use too much glue to avoid it spreading out and ruining the etched design on the clear glass. Let the glue dry for at least one hour before moving the glass.

Now that you know the techniques, try using your own artwork to create a fabulous decorative frame. Try using different colors of dichroic glass, unusual frames, or even think about using mirrors. So much to etch—so little time. Enjoy!

**GPO**

#### **Carmen's Favorite Fire-Polishing Schedule**

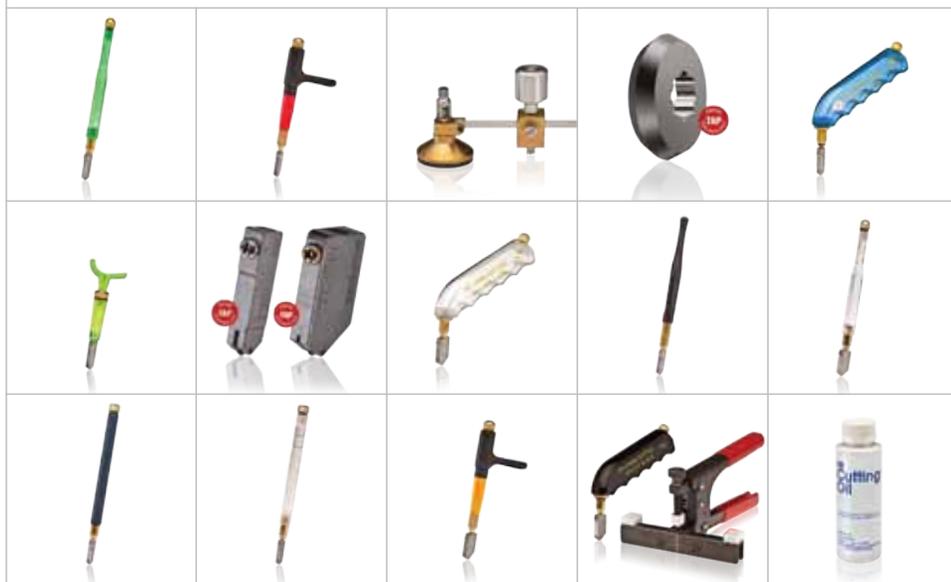
- Segment 1: Ramp 800°F/hr to 250°F and hold 5 min.
  - Segment 2: Ramp 800°F/hr to 500°F and hold 5 min.
  - Segment 3: Ramp 800°F/hr to 750 °F and hold 5 min.
  - Segment 4: Ramp 600°F/hr to 1250°F and hold 20 min.
  - Segment 5: Ramp 600°F/hr to 1350°F and hold 10 min.
  - Segment 6: Ramp 9999 (AFAP\*) to 1000°F and hold 10 min.
  - Segment 7: Ramp 200°F/hr to 975°F and hold 20 min.
  - Segment 8: Ramp 200°F/hr to 750°F and hold 1 min.
- \*as fast as possible

Each kiln is different, so you may have to adjust the top temperature for optimal results when fire-polishing.

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*Carmen Flores Tanis is a mixed media artist, crafter, and designer who specializes in combining diverse materials in unusual and unexpected ways. She has been working with glass for about fifteen years and delights in sharing her discoveries with fellow artists.*

*A Designer Member of the Craft and Hobby Association, Carmen has two successful online craft supply stores. She has designed projects for Etchall, Jacquard, Smoothfoam, KoolTak, and iLovetoCreate. Her secret to crafting happiness is patience, practice, and power tools.*

*Carmen teaches glass and digital classes regularly at Coatings By Sandberg in Orange, California, and craft classes at the Sawdust Arts Festival in Laguna Beach, California. She lives in Glendale, California, with her beloved husband, Bruce, who gives her invaluable advice on her crafting ideas, including the newest entitled Mad Craft Skills kits for glass, metal, wood, and leather. You can see more of Carmen's work at [madcraftskills.com](http://madcraftskills.com) and [florestanisstudio.com](http://florestanisstudio.com).*



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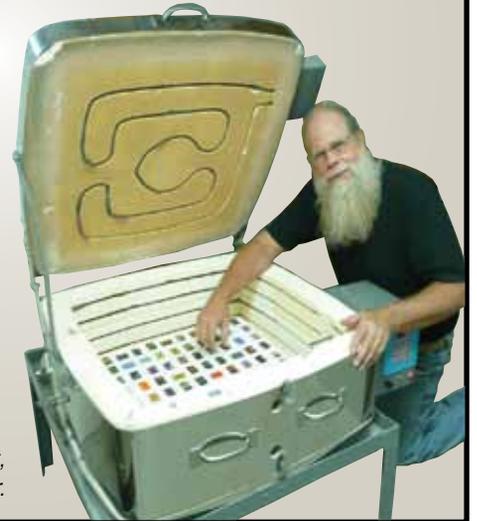
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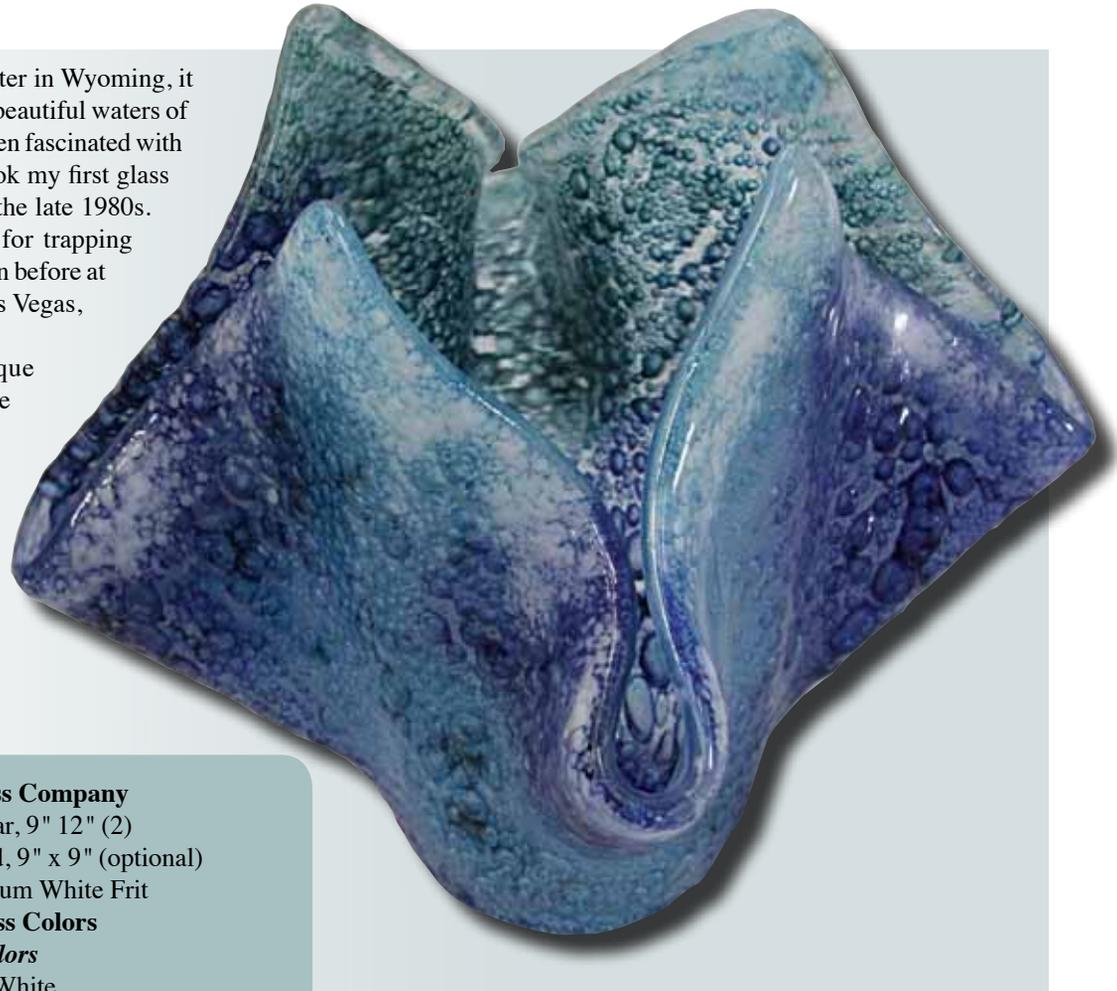
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# Ocean Vases

*Design, Demonstration, and Text by Janet Zambai*

When the weather turns to winter in Wyoming, it is a great time to head to the beautiful waters of the Caribbean Sea. I have always been fascinated with bubbles in glass from the time I took my first glass fusing class from Gil Reynolds in the late 1980s. I even taught a unique technique for trapping bubbles in glass that I had never seen before at the Glass Craft & Bead Expo in Las Vegas, Nevada.

When I heard about the Unique Glass Colors (UGC) product line called Artisan Colors, I was pretty excited, because they create bubbles when they are fused between two pieces of glass. On our last trip to the Caribbean, I took some photos of the beautiful water and I wanted to try to capture that in glass using the Unique Glass Colors.



**Spectrum Glass Company**  
System 96® Clear, 9" 12" (2)  
Clear Krinkle Textured, 9" x 9" (optional)  
System 96® Medium White Frit

### **Unique Glass Colors**

#### *NT Colors*

Outline White

#### *Artisan Colors*

600 Azure

603 Royal Blue

604 Teal Green

607 Mystic Blue

608 Teal Blue

615 White Glo

#### *UGC Materials*

UGC Glass Medium

Small Fine-Tip Applicator Bottle

#### **Tools and Materials**

Photo of Water    Mixing Palette    Small Palette Knife

Respirator    Paper Towels    Small Paint Brush

Non-Latex Nitrile Gloves    Fuse Master Super Spray

Thinfire Shelf Paper    Water

Floral Former Molds    Sharpie® Marker

Kiln Wash    Kiln Posts

I use mostly System 96 glass for fusing. For this project I started with two 9" x 12" pieces of clear. Wishing to try a comparison with another type of glass, I also used two pieces of 9" x 9" Krinkle clear textured glass, which is not System 96, just one of the standard Spectrum clear textures.

Unique Glass Colors can be used on any type of glass. You can add the colors to both sides of the top piece of glass, as well as to the top of the bottom piece. However, don't apply UGC to the bottom piece that will be resting on the kiln shelf, since that would make it stick to the shelf. Now that you have your materials together, let's get started.

1  
*Print your favorite photo of water, then place the image under the clear, smooth fusible glass to use as a guide.*



This photo was taken while I was on vacation.



2  
*Apply the Outline White to the glass with a small applicator bottle.*



Use the UGC Outline White in a small-tipped applicator bottle to paint the outline for the white lines from the bubbles in the water on top of the bottom piece of glass. The Krinkle glass already has a watery looking texture, so you don't really need the Outline White for that.

3  
*Prepare the UGC Artisan color powders by mixing them with the UGC Medium.*



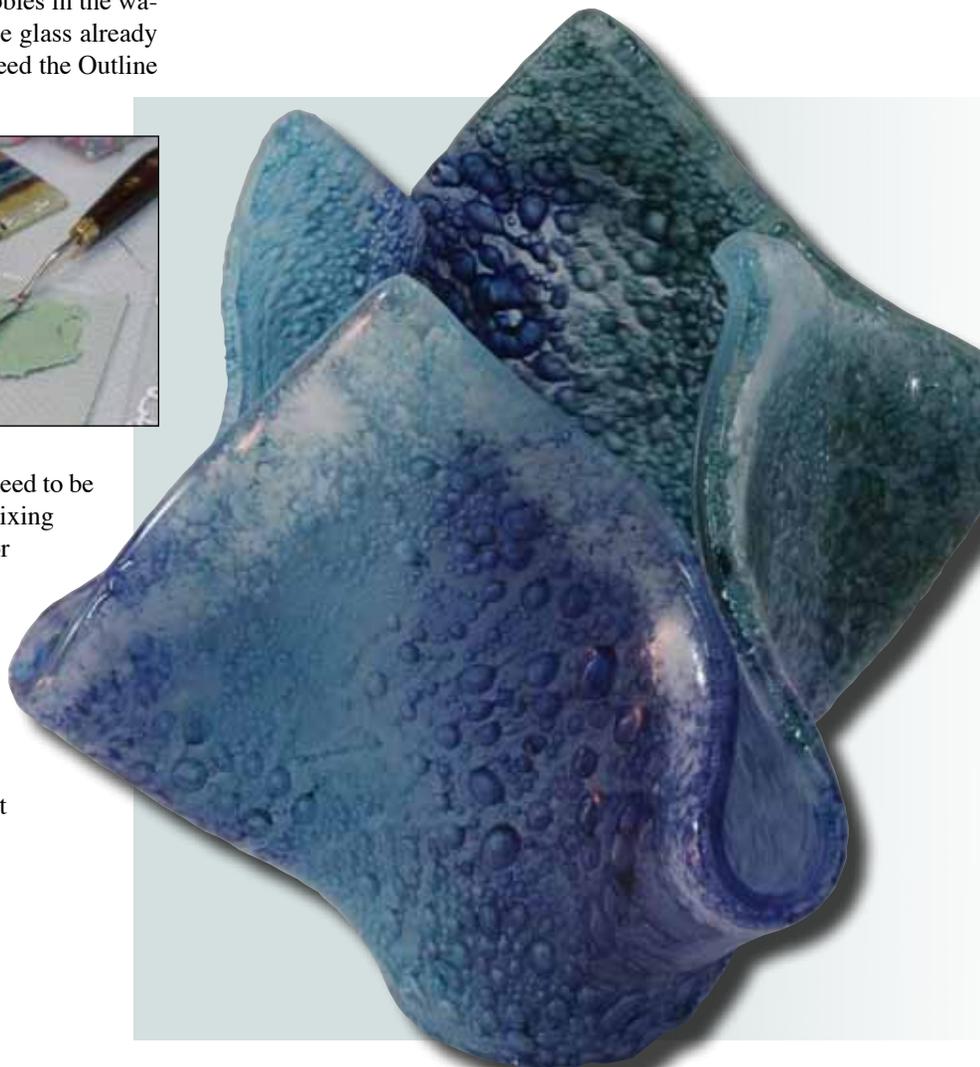
UGC Artisan colors come in powder form and need to be mixed with UGC water-based Medium. When mixing the paint, you want to be sure to wear a respirator to avoid breathing the powder. Using a piece of clear glass for a palette, open one of the colors of UGC powders. Stir the powder with a small palette knife, then put a small amount on the palette. Add a few drops of the liquid mixing agent and stir to mix with the powder, starting with a ratio of 1:1 until you achieve a consistency of thick cream. You may want to experiment a bit with the consistency.

4  
*Pour the mixed color off of the palette onto the Krinkle glass.*



This is a color, not a paint, so the instructions will tell you to apply not by brushing the color on, but rather to "push, puddle, and pool" the color. Use a brush to let some of the color drip off of the glass palette with the assistance of the palette knife, applying the paint in swatches of color. Once you mix the powder with the mixing agent, you will notice that the colors of the powder are not what they will look like when fired.

5  
*Create patterns of color on the clear and Krinkle glasses.*



Apply some of the colors in a pattern on the top of one of the pieces of clear glass as well as on the textured side of one of the pieces of Krinkle glass.

6

*Swirl the colors together, but do not mix them.*



Put a fairly thick coating of color on the textured side of the piece of Krinkle glass and let it dry. Now take the second pieces of clear glass and the Krinkle glass and set them on top of the first pieces. The Krinkle glass should be texture to texture, since you will want to apply the color to the textured sides of both pieces of Krinkle glass.



7

*Draw a pattern on top of the glass to follow when applying the color to the second piece of glass.*



Trace around the color shapes with the Sharpie to create a pattern for applying the color to the underneath side of the glass piece that will be on top. Once you have the pattern marked for what will be the top layer of glass, turn it over and add color to that piece as well. Remove the Sharpie before you put the piece in the kiln. I tried to keep the same colors in the shapes so that when I put the top piece of glass on the bottom piece, the color shapes were the same color.

Let the two pieces of glass dry completely. If there is moisture in the color, it is possible that the glass will break when it is being fired. Before firing, the paints will look like camouflage fabric.

When all of the paint is dry, stack the two System 96 clear pieces with the painted sides facing each other and do the same with the two pieces of Krinkle glass. You can also apply color to the top surface, if you want, but the bubbles will be tiny and have a different quality. For these two pieces, I did not apply any of the UGC colors on what will be the top surface when the piece is finished.

8

*Apply the Fuse Master Super Spray using an airbrush or a regular paint brush.*



The Krinkle glass is not tested compatible for fusing, so you will want to apply a coat of Fuse Master Super Spray to the top surface of the top piece of glass to keep it from devitrifying when it is fired. I use an airbrush, but you can also just brush it on with a paint brush.

9

*To complete the watery look, add System 96 white medium frit around the outer perimeter of both pieces before firing to give the look of foamy bubbles.*



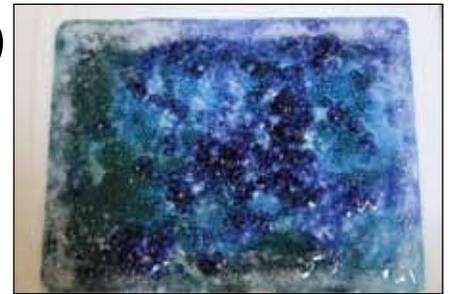
Cut a piece of thinfire shelf paper to put under each piece of glass. I fired to a full fuse using the following schedule. Your kiln may vary, but this is what worked for me in my Evenheat 2541. This schedule is given as a guideline.

- Segment 1: Ramp 240°F/hr to 1050°F and hold 45min.
  - Segment 2: Ramp 50°F/hr to 1250°F and hold 45 min.
  - Segment 3: Ramp 240°F/hr to 1465°F and hold 1 min.
  - Segment 4: Ramp 9999 (AFAP\*) to 950°F and hold 2 hrs.
  - Segment 5: Ramp 250°F/hr to 750°F and off.
- \*as fast as possible

Allow the kiln to cool to room temperature before opening.

10

*When the pieces are cooled to room temperature, remove them from the kiln.*



11

*Apply kiln wash to the floral formers and place them in the kiln on kiln posts.*



I always cut a piece of thinfire shelf paper and put it on the mold for extra protection.

12

Center the pieces of the ocean glass on the molds.



Be careful that they don't touch each other or the sides of the kiln. Fire the glass using the following suggested drape firing schedule, once again making adjustments for your own kiln if necessary.

- Segment 1: Ramp 150°F/hr to 1050°F and hold 30 min.
  - Segment 2: Ramp 240°F/hr to 1235°F and hold 4 min.
  - Segment 3: Ramp 9999 (AFAP\*) to 950°F and hold 1 hr.
  - Segment 4: Ramp 250°F/hr to 750°F and off.
- \*as fast as possible

Let the kiln cool to room temperature before opening. Then take your beautiful pieces out of the kiln and enjoy! If they are a little wobbly, you can grind the bottoms with a lap wheel or stick some clear bumper pads on the bottom. These pieces can be used as a vase, or you can get little flickering lights that look like candles to put inside. That way you won't run the risk of having them break because of the heat from the candle flame.

**GPO**



Janet Zambai is a Wyoming native who has resided in Casper most of her life. She combines a variety of techniques in her glasswork, including traditional stained glass, sandblasting, painting, and fusing. Her art can be found in private collections throughout the United States plus several countries around the world.

Janet specializes in custom residential, commercial, and liturgical commission work, creating unique pieces for her clients using every technique except blown glass. She creates everything from art glass and cabinet doors, church windows, and walls of sandblasted glass to custom donor walls, painted glass, frit painting, vessel sinks, pendant lights, and skylights above lobbies of hotels. Visit [janetzambai.net](http://janetzambai.net) to learn more about Janet and her glass art.

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# Husky

Design by Jean Beaulieu, Text by Darlene Welch



Any dog sled racing aficionado is familiar with the alert, ready-to-go look of the husky. The athletic and energetic nature of these dogs is displayed here in this 20" x 13" design from Jean Beaulieu from his book, *Dog Breeds 2: Illustrated Designs of Man's Best Friend*. These thirteen full-size patterns for the stained glass hobbyist can be used for both panels and free-form projects.

The patterns in this volume are very detailed, which adds to their realism and beauty. Due to some intricate cuts, they are better suited to an intermediate or advanced glass hobbyist or artist. Some of the smaller cuts such as the pupil of the eye and the mouth as well as the nose could be added using black glass paint, if desired.

**GPO**

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188-L Gray Blue/White Opal for Eye, Scrap

557-L Medium Gray/Light Opal for Dog, 2 Sq. Ft.

600-D Dense Opal/Light Gray for Dog, Scrap

51-DDXXM Opal/Crystal for Dog, 1 Sq. Ft.

## Tools and Materials

7/32" Copper Foil Flux Solder

Black Patina 1/2" Zinc U-Channel

Black Glass Paint (Optional)

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# Growing Good Habits for Successful Kiln Work

by Dennis Brady

Good kiln working habits create good projects, so it follows that the more good habits you have, the more good projects you will create. The opposite also applies for poor habits, which need to be weeded out. Let's look at some good habits you will want to adopt.

## A Good Habit Check List

Taking time to prepare your kiln before beginning a project will go a long way toward ensuring a successful outcome. The following good habits are things that need to become a part of your kiln working routine.

- **Triple-check firing schedules.** A small mistake in your program can result in a destroyed project. It's a very good habit to triple-check all firing schedules you program into your kiln by habitually doing it in three steps:

1. Write down the firing schedule you plan to use.
2. Program the firing schedule into your kiln.
3. Turn the kiln on, then review the firing schedule to confirm it's correct.

- **Be patient with kiln wash.** More thin coats is always better than fewer thick coats. Allow each coat to thoroughly dry before applying the next coat. The residual moisture in kiln wash is a common cause of bubbles. Placing a kiln shelf or mold on top of the closed lid of your kiln while it's firing will speed up drying. Apply at least four coats. Six is even better.

- **Prepare kiln shelves.** It's a good habit to have two kiln shelves for each kiln. This allows you to always have one kiln shelf prepared with kiln wash ready for immediate use. It's a good habit to do this as soon as you empty your kiln. Replace the shelf that was in the kiln with the prepared shelf. While the shelf you removed is still warm, apply a single thin coat of kiln wash and set it aside ready to swap it for the other shelf after the next firing.

- **Keep a kiln log.** You can use a detailed record of firings (if possible with photos) to refer to when you want to do a project you have tried before. If there are any suggestions for improvement (fire longer or hotter, for example) be sure to note that in your records.

- **Clean kiln lids.** Make sure you keep your kiln lid clean. In time, all kiln lids drop bits of brick dust. Make it a habit to routinely sweep the lid and either vacuum or blow out the element grooves in both the lid and the walls.

- **Check the elements.** Perform routine maintenance on the kiln elements. They expand when heated, and after repeated firings, they stretch and push out from the element groove. Allowing them

to stay out will allow them to stretch much more. Push any loose elements back in and hold them in place wherever needed with extra element pins.

- **Segregate glasses with different COEs.** A single, tiny piece of different COE glass can destroy a project in which you've invested a lot of time and materials. I use both 90 and 96 COE routinely and sometimes 82 COE float glass. I keep different COE glass in completely different parts of the shop, and small scraps are kept in clearly marked containers. If your own studio space isn't big enough to permit doing that, take great care to label the COE on the glass with a sticker or a marker pen. This is where being fastidious is a fine habit.

- **Plan ahead to prevent the need for corrections.** Few corrections work. Trying to fix something that failed is more likely to make it worse than better. Most often, the only thing that comes from trying to fix a failed project is wasted time and increased frustration. One of

the very best habits any artisan can have is the habit of planning ahead to prevent mistakes rather than hoping to get lucky and have a "happy accident." If you want to get lucky, buy lottery tickets. Don't gamble with your glass projects.



Reviewing the program



Drying a kiln shelf on a hot kiln

## Important Considerations

Don't assume that everything you've heard about the rules for kiln working glass is true. Remember the following truths as you create your own glass art.

- **Slower isn't always safer.** It's popular with glass artisans to assume it's always safer to ramp at a slow rate. *Not true!* It's *usually* safer, but not always. There are times when ramping slow causes the problem you're trying to avoid and ramping fast prevents it. Assumptions cause accidents.

- **Different kilns read temperature differently.** How glass responds to heat is predictable, but how accurately each kiln reads temperature is not predictable. Because one kiln produced

perfect results when fired to a specific time and temperature doesn't mean that the same results will come from a different kiln. If you fire glass to 1450°F in one kiln, you would expect to get exactly the same results if you fire glass to 1450°F in any other kiln. If you get different results, it's because one of the kilns isn't accurately reading the temperature. Don't assume your kiln reads temperature accurately until you have carefully tested it.

- **Temperature isn't the same everywhere in your kiln.** The only place your kiln records temperature with any degree of accuracy is level with the thermocouple. It will be cooler below that level



David Alcalá

and warmer above that level. You should allow for that when you position your kiln shelf.

• **Compatibility isn't just COE.** Equally important is viscosity—how liquid the glass becomes at different temperatures. Don't assume all glass softens at the same temperature. Black glass softens at a lower temperature than white glass. Transparent glass softens at a lower temperature than opal glass. You need to learn how to allow for different viscosity just as much as you need to allow for different COEs and make a habit of considering that in your firing schedules.

• **Longer time is not the same as higher temperature.** When cooking food, different cooking times produce different results than higher temperature. The same applies when you cook glass in a kiln. Perform test firings for both increased temperature and increased time before deciding which results you prefer.

### Dare to Experiment

Sometimes the best way to do something is the way you haven't tried yet. Experiment, but be prepared for failure, which is part of learning. Almost all experimentation is governed by the "Goldilocks Principle." As in the story of the three bears, the first try will be "too hot," the second try "too cold," and not until the third try will it be "just right." Perhaps the one most valid assumption is this: If you haven't tried it before, assume it will fail.

As you experiment, don't be tempted to look for shortcuts. Most of the time, the only real shortcut is getting it right the first time. This doesn't mean not experimenting. It means not assuming a shortcut will work until you have experimented with it. Trashing all of your bad habits and replacing them with good ones is usually the best shortcut of all, because good habits create good work. **GPO**



Vacuuming kiln element grooves



Inserting a new element pin

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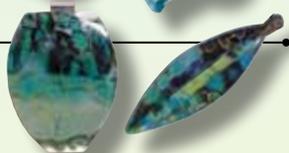
**Randy Wardell**

January 8



**Tanya Veit**

January 13, February 7



**Lisa Vogt**

January 20 and 22



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**Tony Glander**

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*Coldworking* February 24

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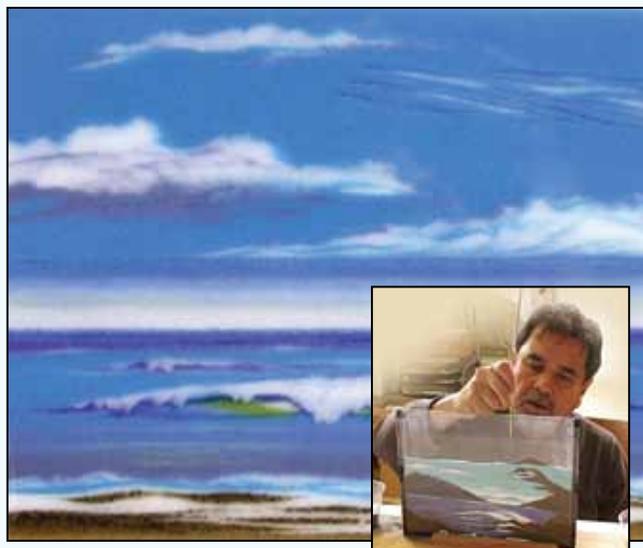
Visit the Glass Expert Webinars™ link under "What's New" at

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for more details and local times.

*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. 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](http://www.debrady.com) to learn more about Dennis and his art.*



GPQ was saddened to learn of the passing of master frit artist, David Alcala, on September 6, 2014. As one of the top instructors and innovators in the glass industry, he selflessly shared his techniques and discoveries with others in many classes throughout the United States, Canada, and Europe. We were also privileged to feature him as a well-loved teacher in the magazine's Glass Expert Webinar™ series.

David used the techniques he had learned over the years he spent as a master sand artist to develop, along with kiln forming artist Gil Reynolds, a new glass binder know as Flexi-Glass. It became the foundation for his revolutionary vertical approach to creating beautiful images with glass frit. David was honored and respected by many, not only for his contributions to the world of kiln formed glass art but also for his kind and generous nature. He will be greatly missed by all who had the good fortune to know him.

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# Kaleidoscopes with a New Twist

by Kylie McGowan

Custom kaleidoscopes now have an added twist from Triangle Manufacturing's lazy Susan bearings. Meet Steve Failows, your friendly handcrafting kaleidoscopist. His company, Made in the Shade Kaleidoscopes, uses genuine Triangle lazy Susan bearings as a revolving mechanism in his popular turntable style of kaleidoscopes.

Failows, a self-taught kaleidoscopist, doesn't produce your average toy store, vending machine scopes, but rather grand, handcrafted, elaborate kaleidoscopes. Made in the Shade Kaleidoscopes are created out of fossils and crystals for five-foot-tall floor models and intricate custom orders.

## Moving from Stained Glass to Kaleidoscopes

Steve Failows, who has spent thirty years as a full-time, self-employed artist, owned a storefront stained glass business in the 1980s on Long Island, New York. A customer inquired about kaleidoscopes and Failows had everything *but*, so a few weeks later he made a small one. Failows says that the first person he showed it to bought it. That was in 1984, and he has been making them ever since. In 1993 when Steve moved to Sedona, Arizona, he decided to specialize in kaleidoscopes and says, "They've only gotten larger and more one-of-a-kind since then."

The assorted pedestals include crystals, fossils, wood, and stone. The majority have dual stained glass wheels and unusually ample viewing ports of up to six inches wide, which allows for comfortable viewing with both eyes. The kaleidoscopes range from small, handheld styles to grand floor models. The largest kaleidoscope that Failows creates is fifty-five-inches tall with a twenty-two-inch-long kaleidoscope and a seven-inch-wide viewing port.

Failows' kaleidoscopes are made from slip cast ceramic with a variety of low-fire glazes to match the unique crystals, fossils, and wood on which he mounts them. The fossils are his favorite to work with because of the "intriguing thought that they were swimming in an ancient sea a very long time ago before I got my hands on them." His craziest requests for custom kaleidoscopes have been a "Day of the Dead" scope mounted on top of a reproduction, life-size human skull and a "powder room scope" mounted on a freestanding toilet paper holder.

## Easy Turning Thanks to Lazy Susan Bearings

Steve's best-selling kaleidoscope is the turntable style, which uses a three-inch Triangle lazy Susan bearing. Failows credits the popularity of this model to the fact that it is more interactive than the others, since the viewer can change the colorful show simply by changing what is in the rotating tray. Past themes for the turntable kaleidoscopes have included everything from Christmas decorations, M&Ms, peanuts, and candy kisses to marbles, flowers, and funny junk drawer findings.



The lazy Susan bearings have a smooth, gliding motion that complements Failow's turntable kaleidoscope design. The bearings allow for easy revolution, which insures that the continually changing view through the scope will never be the same. These bearings do not require a center rod for rotation, have a low-profile design, and are manufactured to the highest quality standards with the best materials using a reliable, consistent, and accurate design process. All of those features add to the consistency in ease of turning that is required for the manufacture and smooth operation of these beautiful kaleidoscopes.

**GPO**

*Artist Steve Failows' creations are sold in exclusive galleries around the country. Visit [www.scopesbysteve.com](http://www.scopesbysteve.com) for more information on available scopes and custom orders. For more information regarding Triangle Manufacturing's extensive product line and customization capabilities, visit [www.TriangleOshkosh.com](http://www.TriangleOshkosh.com).*



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# Twin Koi



Design by Wesley R. Wong, Text by Delynn Ellis

**K**oi fish can be found in many domestic landscapes around the world due to their beautiful coloring and hearty nature. Constructing an outdoor or interior wildlife water habitat is an excellent way to enjoy underwater creatures as well as water loving plants and insects.

Koi is the Japanese word for carp. They are known for their wide variety of colorful markings, most commonly associated with bright orange and peach scales.

While they are mainly used for decorative purposes today, these fish have a legendary history in both Chinese and Japanese cultures that associates the fish's symbol with such characteristics of good fortune, success, longevity, and perseverance.

Using a combination of Wissmach opalescent glass, as show here in this 18" x 18" panel, will give you the variegated colors found in the koi's environment. This pattern and the glass selections will also translate seamlessly into a mosaic project. The design comes to *GPQ* from California artist Wesley R. Wong. You can see more of his work at [www.glasstastique.com](http://www.glasstastique.com).

**GPQ**



#### Wissmach Glass Co.

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322 Pale Blue/Green for Bubbles, Scrap

WO-17 White Opal/Red/Orange for Fish Body, 2 Sq. Ft.

51-DDXXMSP Opal/Crystal for Fish Body, 1-1/2 Sq. Ft.

WO-325 Light Amber/Opal/Crystal for Fins, 1 Sq. Ft.

27-D Orange/Opal/Crystal for Fins, 1-1/2 Sq. Ft.

BLACK for Eyes, Scrap

#### Tools and Materials

7/32" Copper Foil Flux Solder

Black Patina 1/2" U-Channel Zinc

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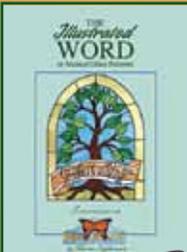
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## The Illustrated Word

### in Stained Glass Patterns

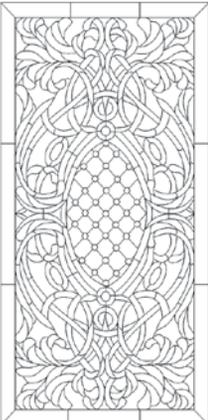






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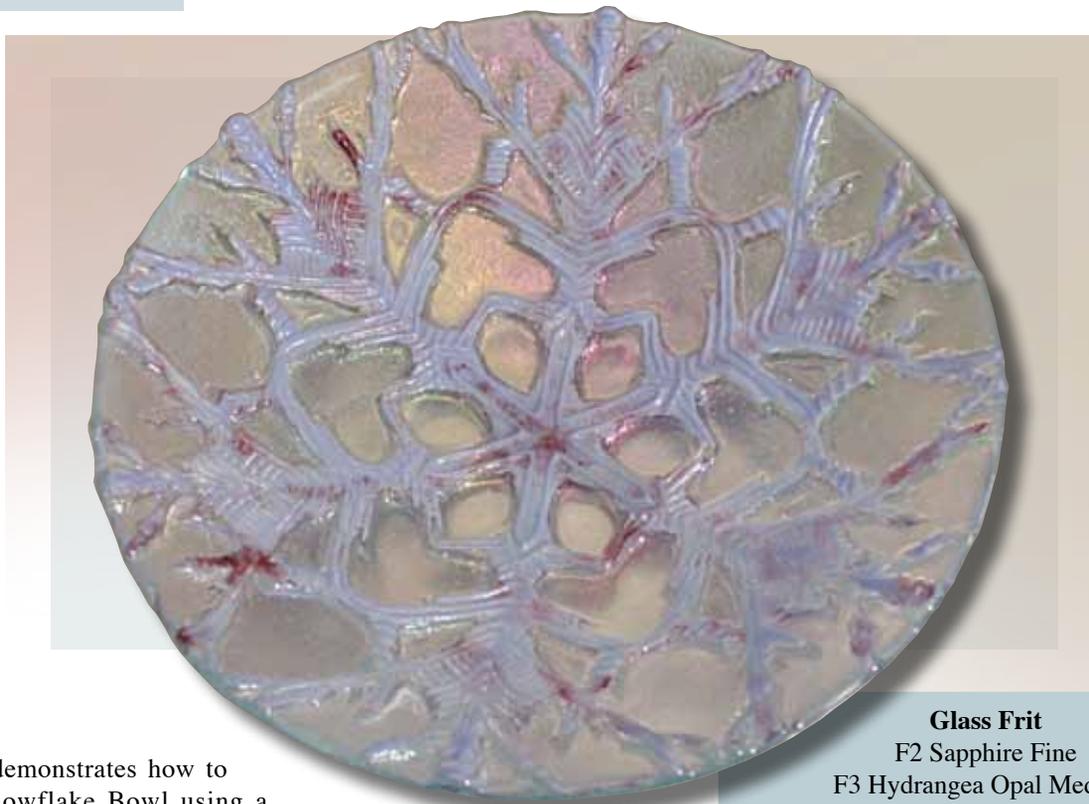
Mark-34 Medium 3' x 4'  
All stock sinks are 8" deep

# 1

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# Snowflake Texture Bowl

*Design, Fabrication, and Text by Kelly McHugh*



This guide demonstrates how to make a Snowflake Bowl using a Creative Paradise Inc. DT28 mold. Glass suggestions are included, but artists can choose to use any assortment of frit colors and combinations that they like. The following materials were used to create the Snowflake Bowl featured in this tutorial.

Begin by treating the mold with the MR-97 Boron Nitride Mold Release Spray in a well-ventilated area. Several light coats with a short waiting period in between is preferable to one heavy coat. Shake the can well before use and hold the can upright while using to assure proper distribution of the product. It is important to turn the mold at various angles to make sure that the mold wall is evenly coated.

## Glass Frit

F2 Sapphire Fine  
F3 Hydrangea Opal Medium  
F2 Hydrangea Opal Fine  
F2 Turns Pink Striker Fine  
F2 White Glass Fine

## Additional Glass

Clear Iridized Glass  
Clear Glass

## Creative Paradise Inc. Molds

#DT128

#GM125

## Tools and Materials

Glass Cutter 1" Kiln Posts Soft Paintbrush  
MR-97® Boron Nitride Mold Release

1

*Place the frit in the snowflake crevices of the mold.*



Sweep any stray frit into the crevices with a soft paint brush, being careful not to brush off the MR-97.

2

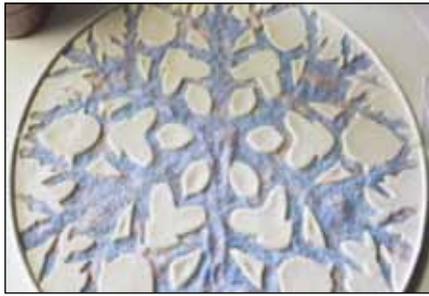
*Keep adding frit until it has filled up the crevices.*



For this piece, F3 Hydrangea Opal Medium was used first, followed by F2 Hydrangea Opal Fine, F2 Turns Pink Striker Fine, F2 Sapphire Fine and, on the top, F2 White Glass Fine

# 3

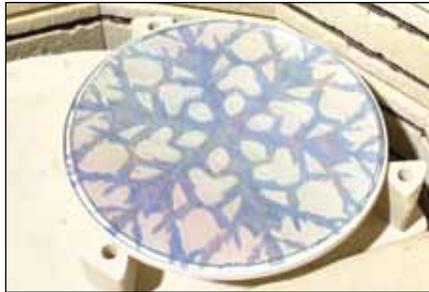
Place two 11-1/4" diameter circles of glass on top of the mold over the frit.



One layer of Standard Clear and one layer of Clear Iridized glass were used to make this snowflake. Place the iridized glass on the frit first with the irid side down, then place the clear glass on after.

# 4

Elevate the mold in the kiln on 1" kiln posts so that the heat from the kiln will be distributed evenly.



Fire the project using the fusing schedule at the end of the tutorial. If your kiln is known to fire hot, adjust the firing schedule down accordingly.

Here is a rule of thumb to help you adjust firing schedules. If your kiln full-fuses at temps below 1470°F, reduce each temperature in the schedule by the number of degrees at which your kiln fuses. For example, if a kiln can completely full-fuse a 4" x 4" coaster with two layers and design elements using a firing schedule at moderate speed (275°F–300°F/hour) with a peak temperature of 1440°F, you will need to take 30 degrees off of the firing schedule found at the end of the tutorial.

Allow the kiln to cool to room temperature and remove the glass from the mold. Wash the glass with soap and water to remove any residual MR-97 from the glass. If you have excessive MR-97 residue, you can spray the glass with a mineral stain remover such as Lime-A-Way and scrub with a scrub brush.

After cleaning the glass, slump it with the snowflake texture up using the Creative Paradise Incorporated #GM125 mold.

See below for the suggested slumping schedule, making any necessary adjustments for your own kiln.

**GPO**

### Fusing Schedule

- Segment 1: Ramp 275°F/hr to 1100°F and hold 15 min.
  - Segment 2: Ramp 200°F/hr to 1225°F and hold 30 min.
  - Segment 3: Ramp 200°F/hr to 1250°F and hold 20 min.
  - Segment 4: Ramp 275°F/hr to 1460°F and hold 10 min.
  - Segment 5: Ramp 9999 (AFAP\*) to 960°F and hold 90 min.
  - Segment 6: Ramp 100°F/hr to 750°F and hold 5 min.
- \*as fast as possible

### Slumping Schedule

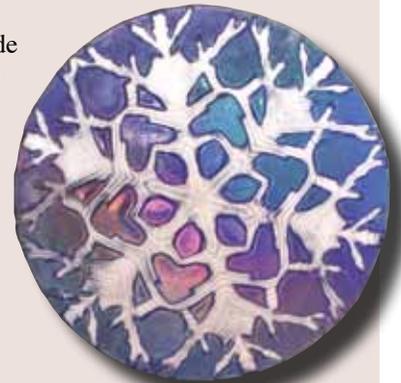
- Segment 1: Ramp 275°F/hr to 1100°F and hold 15 min.
- Segment 2: Ramp 200°F/hr to 1250°F and hold 30 min.
- Segment 3: Ramp 9999 (AFAP\*) to 960°F and hold 90 min.
- Segment 4: Ramp 100°F/hr to 750°F and hold 5 min.

## More Snowflake Texture Design Suggestions

This DT28 Snowflake Bowl was made using an 11-1/4" diameter circle of Clear Irid glass, with the irid side facing down, and backed with an 11-1/4" diameter circle of Pale Blue Transparent. The frit used in the cavity is F2 White Opal. Liquid White Gold was also applied in the details of the snowflake and fired during the slump firing.



This DT28 piece was made using an 11-1/4" diameter circle of Transparent Cobalt Iridized glass, placed irid side down, and backed with an 11-1/4" diameter circle of Standard Clear. F2 White Opal frit was used for this design.



This DT28 piece was made using an 11-1/4" diameter circle of Clear Iridized glass, placed irid side down on the mold, and backed with an 11-1/4" diameter circle of White Opal. No frit was placed in the cavities of the mold for this project.



*Kelly McHugh earned her degree in journalism from Griffith College in Cork, Ireland. She has lived in the Middle East, Ireland, and England, and now resides in Kansas. Kelly is the social media and website content manager for Creative Paradise, Inc., and helps to create projects and write tutorials using Creative Paradise molds.*



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# Tiger in Your Face

Design by Paned Expressions Studios, Text by Darlene Welch



The mesmerizing gaze of this Bengal tiger on the prowl from the pattern collection, *Nature's Bounty - 1*, is an excellent example of one of the principles that Paned Expressions Studios lives by when creating patterns that feature animals. In the words of owners/artists, Janet Parker and Martha Hanson, "It's all in the eyes."

The swirls of color in the orange and white glasses used for the tiger's stripes also provide a realistic, fur-like, textured look in this 18" x 13-1/2" panel. Make this project as a reminder of the beauty and mystery of this endangered species, and visit [www.panedexpressions.com](http://www.panedexpressions.com) for more of the studio's stunning patterns.

**GPO**

## Spectrum Glass Company

Black for Tiger Stripes and Eyes, 2 Sq. Ft.  
317-2S Medium Amber/White for Tiger Stripes, 2 Sq. Ft.  
307S Clear/White for Tiger Stripes, 2 Sq. Ft.  
621-7S Amber/Green/White for Eyes, Scrap

## Tools and Materials

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

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**Paragon Industries** has just added **new features to its F-130, F-240, and F-500 lampworking glass kilns**, which now have 3"-thick firebrick walls. Features that originally came standard only on the F-500 are now standard on the F-130 and F-240 as well. They include a mercury relay to control the cycling of the heating elements and a slide-out mandrel holder that can be adjusted horizontally and vertically without tools. These kilns also now come with sidewall elements that heat from the sides and back, but they can still be ordered with top elements, if preferred, for the same price.

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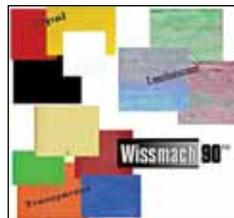


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**Spectrum Glass Company** has **two new catalogs**—one for System 96® glasses as well as the first Spectrum® Stained Glass catalog that the company has printed in several years. Look for them at your favorite supplier or download them from the company's website.

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**D&L Art Glass Supply** is proud to present new **90 and 96 COE variety boxes from Wissmach Glass**. Each box contains ten sheets of 11" or 16" squares that include a mixture of transparent, opal, and luminescent styles. These convenient packs make a great addition to your studio or store. Learn more about these boxes as well as packs from Bullseye, Spectrum, Uroboros, and more on the company's website.

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**AAE Glass** presents a new DVD, **Extreme Fused Glass Jewelry Volume III: Scenic Layering**. **Tanya Veit** shares techniques that are a large part of the reason why her fused glass jewelry is some of the most sought-after in the world. This video teaches glass artists the process and thought behind these magnificent pieces in true Tanya fashion. Discover how Tanya creates the scenes and backgrounds that she uses in her glass art in this full-length instructional DVD.

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The KBW Foundation will be hosting a **seven-day round-trip conference cruise** from Boston, Massachusetts, to New England and Canada beginning on October 11, 2015. All new exciting lectures and workshops will include innovative kiln techniques, kiln firing, stained glass design software, jewelry, photography, glass enameling, screen printing, Verre Églomisé™ techniques, working with lead came, mosaics, and more. Outstanding instructors include Cathy Claycomb, Peggy Pettigrew Stewart, Lisa Richardson Bach, Mike and Randy Glotfelty, and Ann Sanborn. Call Kay and Herb Weiner or visit the KBW Foundation website for more details or to learn about the opportunity to win a \$250 scholarship for workshops on this upcoming sixth annual cruise.

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**Paned Expressions Studios** now offers **downloadable individual patterns** available in three formats: JPG and PDF plus EYE for those who use the Glasseye software. New patterns will constantly be added to the website, and the company is happy to entertain requests. These are brand new patterns not offered before and are not found in the Paned Expressions Studios pattern books on CD.

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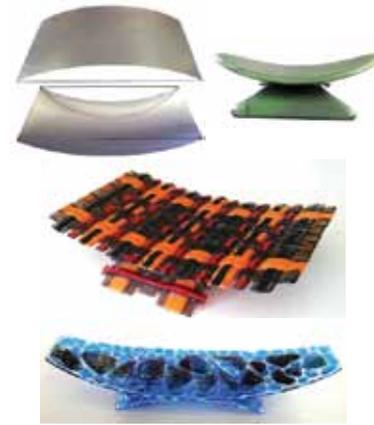


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**Franklin Art Glass Studios, Inc.** is proud to present **two new Pearl Opals from Spectrum Glass Company**, Golden Honey and Autumn Flame. Both



are in stock just in time for creating a perfect fall color palette. Also new to Franklin's Spectrum product line are Palest Amber Rough Rolled and Palest Amber Artique®.



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**Wardell Products** presents the new **S205 BinaSphere Cast-Slump Mold**. One side of the



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[thebuzz@joyoffusing.com](mailto:thebuzz@joyoffusing.com)

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**Spectrum Glass Company** has created new **System 96® Starter Packs** to introduce newcomers to fusing with System 96®. They contain enough glass to create multiple projects and provide a fun and satisfying trial experience. The Discovery Pack includes Opal and Transparent colors plus other colorful glass in different styles, shapes, and sizes, including specialty glasses. An introduction booklet, a step-by-step Project Guide, and POPYROS® Kiln Shelf Paper are also included.

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**Glass Patterns Quarterly** invites you to join the glass industry's best instructors for the upcoming **Glass Expert Webinars™**, a great way



to learn new skills and techniques without leaving home. These live, two-hour seminars include teacher demonstrations and technical videos and slideshows, plus the opportunity to ask questions via "live chat."

Webinars slated for December 2014 and early 2015 include: Fused Glass Breakthroughs with Gil Reynolds (Dec. 18), Joy of Fusing with Randy Wardell (Jan. 8), Make a Fused Sink with Lisa Vogt (Jan. 20), and The Pebble Experience with Tanya Veit (Feb. 7). Call or e-mail to register for these great classes, no traveling required.

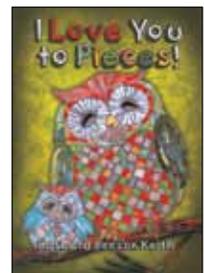
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**Barbara Benson Keith**, author and glass mosaic artist, presents her book, **I Love You to Pieces!**, complete with illustrations featuring her striking stained glass animal mosaics. In this 32-page volume, published by **Brownian Bee Press**, readers will meet 15 parent-child animal pairs including owls, foxes, deer, rabbits, whales, and more, while exploring variations on the repeating rhyme. The book also includes a page describing the mosaic process that she uses to bring her animal portraits to life.

[www.brownianbee.com](http://www.brownianbee.com)



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Send your What's New information to

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# Looking Back

Design by Mary Harris, Text by Delynn Ellis



Whether a horse cranes its neck to nip at flies or a rider pulls the reins to make it turn, the horse's head is seldom still. Montana artist, Mary Harris, created *Looking Back* to be a lifelike rendering of the natural mannerisms of a horse. In this equine design, she expertly captures the essence of a horse in motion.

The glass selected for this 18" x 15" panel features the highly attractive coloring found in horses and other animals, dapple gray, which refers to the multicolor rings or "dapples" found throughout the horse's coat. Mottled glass, with its organic-looking ring shapes that make it so interesting, works perfectly for this adaptation. Mottles were originally engineered by glass artist Louis Comfort Tiffany to give depth and texture to typically flat glass. Spectrum's black-and-white Baroque glass is also used to yield realism to the horse's tousled mane.

Visit [www.harrisartglass.com](http://www.harrisartglass.com) to learn more about Mary and her other striking patterns. There you'll find more examples of her true-to-life style that lends itself to creating authentic designs in animals and wildlife.

GPO

## Uroboros Glass

00-33 Honey/Amber for Nose, Scrap  
00-07 Blue/Gray for Horse, 3-1/2 Sq. Ft.

## Spectrum Glass Co.

BR/6000 Black/White/Clear Baroque™ for Mane, 2 Sq. Ft.

200S White for Horse Head, Scrap

818-72S Rosy Brown Opal for Halter Straps, Scrap

317-02S Pale Amber/White for Halter Rings, Scrap

## Tools and Materials

7/32" Copper Foil Flux Solder  
Black Patina 1/4" U-Channel Lead  
Black Glass Paint White Glass Paint

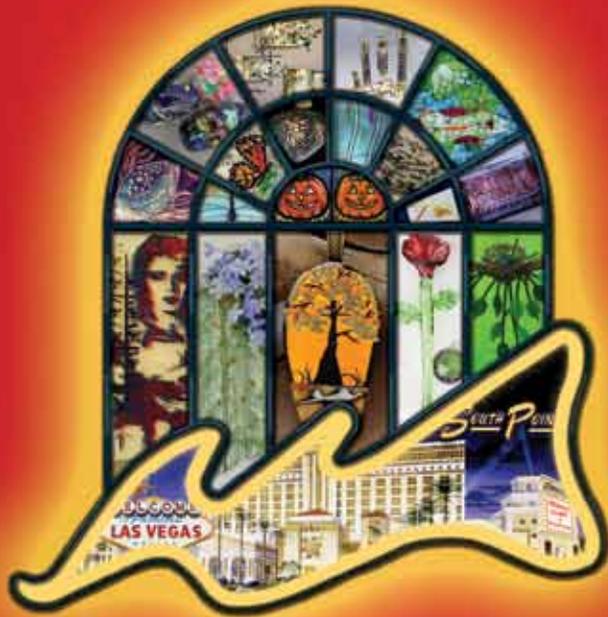
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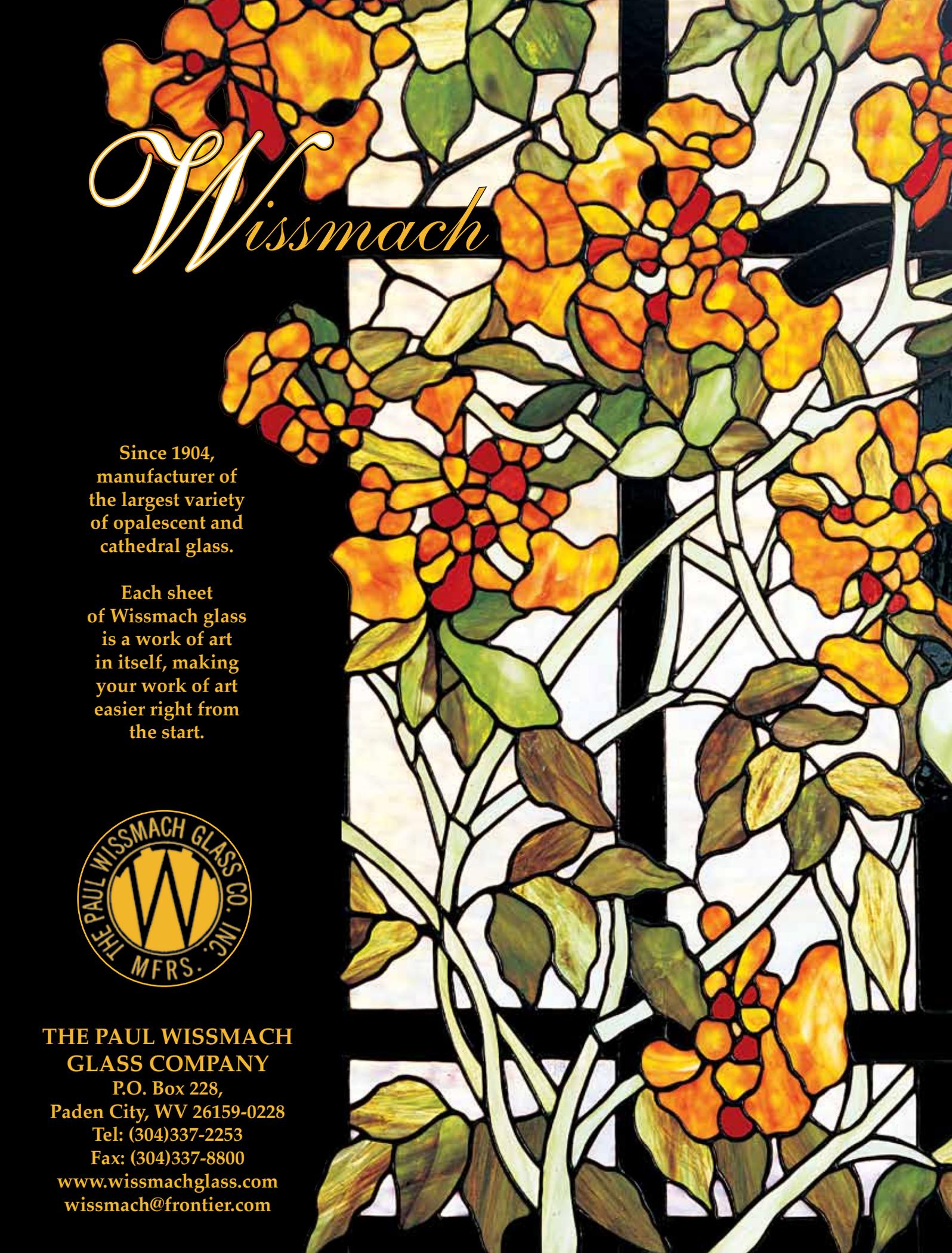
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