GLASS PATTERNS®

QUARTERLY

Winter 2021

Volume 37 • No. 4

Winter, Wildlife, and Landscapes

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Volume 37 No. 4

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Glass Patterns Quarterly®

Table of Contents

Winter 2021 Volume 37 Number 4

Above: Parrots *by Terra Parma.*

On the Cover: Big Bird The King Penguin *by Lislie Gibbs Photo by Jon Gibbs.* Winter Woods *by Dionê Roberts and* Cardinals *by Kat Patrick.*

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Above: Brutalist Owl *by Chantal Paré.*

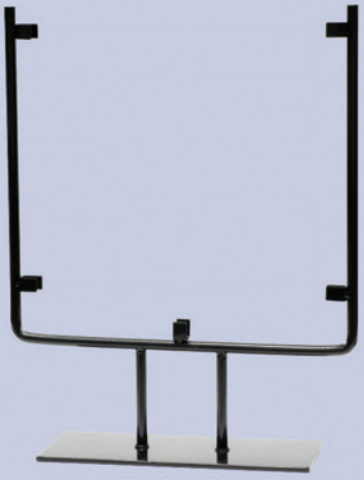
Upcoming Submission Deadlines

Summer 2022	***Garden, Beach, and Nostalgia***
Editorial	February 20, 2022
Ad Closing	April 20, 2022
Ad Materials	April 30, 2022

Fall 2022	***Autumn, Halloween, Christmas, and Holidays***
Editorial	May 20, 2022
Ad Closing	July 20, 2022
Ad Materials	July 30, 2022

AANRAKU

SQUARE STANDS



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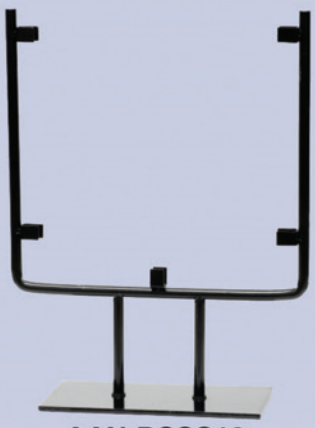

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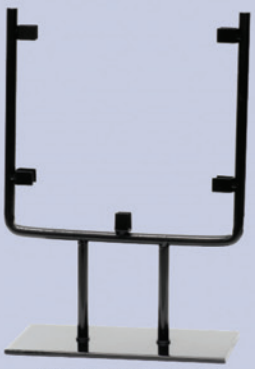
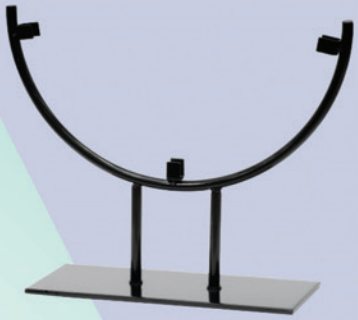


AAN-DSSS08
8-inch Square Stand

ROUND STANDS



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12-inch Round Stand

AAN-DSRS10
10-inch Round Stand

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Mountain Bear
An Introduction to Stained Glass

Design, Fabrication, and Text by Alecia Richardson

A mountain is an elevated portion of the earth's crust. Its steep, sloping sides and high peaks are covered in snow caps. The bear silhouette in the design depicts snow covered mountains. This project is a basic beginner design for all levels of glass artists.

Glass

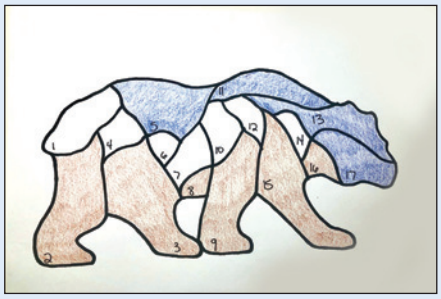
Light Amber/White Opal, Scrap
White/Sky Blue Opal, Scrap
Feather White, Scrap

Tools and Materials

Scissors Sticker Paper Toyo Pistol Grip Cutter
Running/Breaking Pliers Grinder 7/32" Copper Foil
Permanent Markers Pushpins Rubbing Alcohol
Nokorode® Paste Flux 60/40 Solder
Hakko FX-601 Soldering Iron Kwik-Clean® Flux Cleaner
Novacan Black Patina Cotton Swabs/ Rounds
Fine Steel Wool Handy Hangers®

1

Make two copies of the pattern.



One copy will be on regular paper to use for laying out the glass pieces, and the second will be on a full sheet of sticker paper to adhere to the glass.

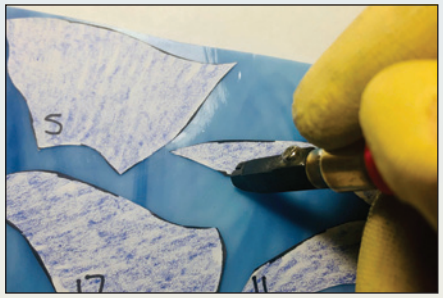
2

Cut out the pattern pieces from the sticker paper and stick them to the glass.

I prefer sticker paper, since the pattern pieces tend to stay in place better than when they are glued onto plain paper.

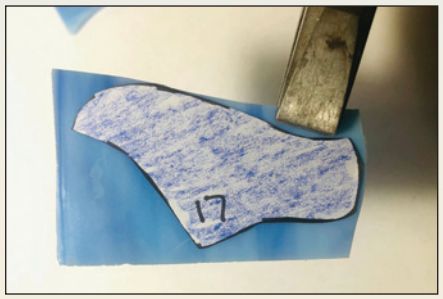
3

Score the glass as close to the pattern pieces as possible.



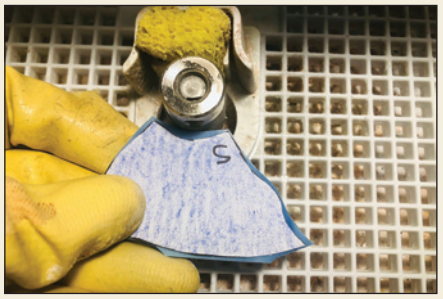
4

Use running/ breaking pliers to separate the individual pieces.



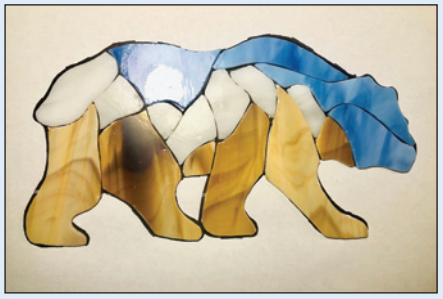
5

Grind all of the pieces to get the best fit.



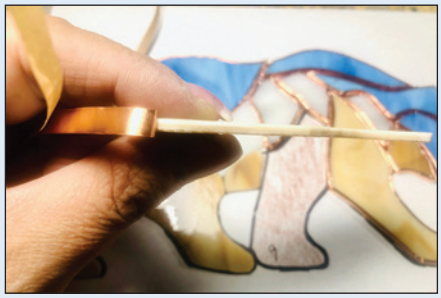
6

Remove the stickers and clean all of the glass edges with alcohol before assembling them on the layout copy.



7

Apply copper foil to the edges of all the glass pieces.



Try to get the foil on as evenly as possible before burnishing all sides of the foil onto the edges of the glass pieces.

8

Use pushpins to secure all of the glass pieces in place on the layout pattern.

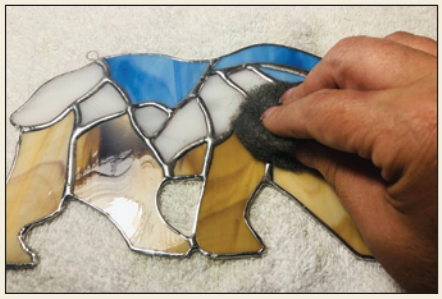
9

Solder all of the pieces together.

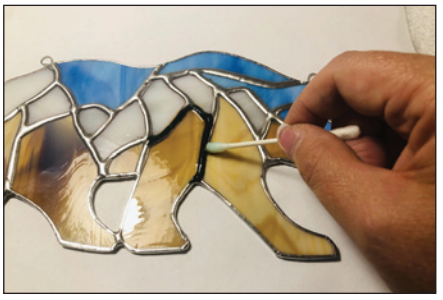
Now is also the time to add the hangers if you plan to hang your bear.

10

Clean the glass thoroughly with Kwik-Clean, buff all of the solder lines with fine steel wool, and clean again.



11 *Use a cotton swab to apply patina to the solder line if desired, then give the panel a final polish.*



You could also skip adding the black patina to the solder lines for a different look. The choice is yours. GPQ

Alecia Richardson has always loved art from a very early age. She grew up drawing, painting, and trying many different crafts before she found her muse in stained glass in 2016. A self-taught stained glass artist, Alecia draws all of her own patterns and uses "out of the box" glass techniques, specializing in copper foil overlays and hand painting on glass. To learn more about her art, please visit www.linktr.ee/AleciasExpressions.

the

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Emperor Penguins

Design, Fabrication, and Text by Cindy Dow Savary
Photographs by Cindy Dow Savary and Gerry L. Savary

Emperor penguins are the tallest and largest of all penguins with a life span of 20 years. They are endemic to Antarctica and are a threatened species due to climate change. Although they are technically birds, they do not fly, nor do they build a nest.

The story of the emperor penguin is a story of survival and love, where mom and dad work together to bring new life into the world. It is a remarkable journey where different groups of penguins, also known as colonies, travel from all over to the place where they were born. They walk continuously day and night up to 70 miles until they reach their destination. When they get tired, they move along on their bellies. With the terrain constantly changing, it is a miracle that they make it to what could be called a family reunion.

Creating Your Own Designs

When I decided to start drawing my own patterns, I reached out to Justin Behnke to be my mentor. He confessed that he really had not done much analysis of other pieces, but he graciously agreed to set some time aside to look over my pattern. He did not redraw my pattern but instead gave me suggestions for me to think about. After all, if he had just given me the solution, what would I have learned?

Justin shared that often design is about looking at windows you like and thinking through why they work. My first thought was about the placement of the penguins, the ice shelf, the ocean, the iceberg, and the sun. I knew I wanted to show the happy side of this journey and not the bitter cold and endurance of their eight-month-long quest. Since I was dealing with a subject matter that had few vivid colors, I decided to exaggerate the sun and place it in the middle of the design. I also looked at a lot of penguin pictures to get a sense of the family unit and thus the placement of the penguins.

Since a penguin has some sleek contours with minimal detail, Justin also pointed out that executing a piece is as much about line quality as glass selection. He suggested that I emphasize the elegant curves to define the planes of the animal's anatomy. He also told me that when he designs a piece, he tries to differentiate layers of depth. In the case of my ice shelf, for example, that may mean flat surfaces upon which the penguins sit and vertical surfaces underneath. He explained that it is like looking at stairs.

I went through three renditions, each time looking at it to see if there was anything that needed to be changed before finalizing this 28" x 8-1/2" pattern. I hope I have encouraged you to try your hand at drawing your own patterns, knowing that having a mentor is a key element. Thank you, Justin Behnke.

Building the Panel

To begin, make two copies of the pattern, one to use as a template and one for cutting out the pattern pieces. Cut out the pattern pieces using foil shear scissors. This allows for space between each piece for the foil. Be sure to number the pattern pieces and mark them for grain direction. I like to use a letter or letters for the color followed by a number. For larger panels, I like to color the pattern to get a feel for what glass colors I want to use.

Wissmach Glass Co.
WO-2180 Light Violet/Opal Crystal Wisspy
for Ice Shelf, 1/2 Sq. Ft.
WO-96-15 LUM Cornflower Blue Transparent
Luminescent for Sky, 1 Sq. Ft.

Additional Glass
Pearl Opal Mix
for Penguin Bellies and Iceberg, 1/4 Sq. Ft.
Black Waterglass for Penguin bodies
and Beaks, 1/4 Sq. Ft.
Remaining Colors Cut from Scrap
Orange for Penguins
Yellow Orange for Sun and Penguins
Red Mottle for Sun
Blue for Ocean
Gray for Baby Penguin
Red Orange for Sun
Red Ripple for Sun Center

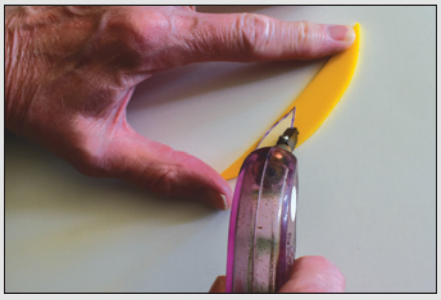
Tools and Materials
Foil Pattern Scissors Toyo Pistol Grip Cutter
Grozing and Running Pliers Grinder
Small Paint Brush Permanent Markers
Morton Layout Block System Pushpins
Rubbing Alcohol Paper Towels X-Acto® Knife
7/32" Black-Backed Copper Foil
Aanraku Foil Burnish Roller Lathekin/Plastic Fid
Nokorode® Paste Flux 60/40 Solder
Hakko® FX-601 Soldering Iron Safety Glasses
Kwik-Clean® Nitrile Gloves JAX® Pewter Black
Novacan Black Patina Liva Stained Glass Polish
Cotton Rounds/Swabs Horseshoe Nails
Hammer 1/2" U-Channel Zinc Came
Scotch-Brite® Pad Handy Hangers®
Silver or Gold Marabu Relief Paste

1

Glue the pattern pieces to the glass.

I like to first glue the paper pattern pieces to tag board for extra stability when grinding.

2



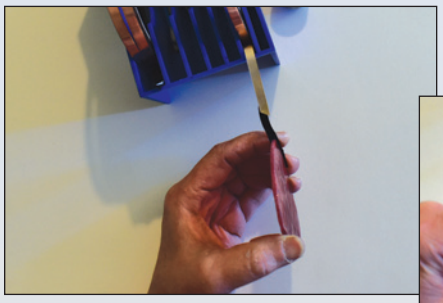
Score as close to the pattern as possible.

3

Use running and grozing pliers, as needed, to separate and remove any excess glass.

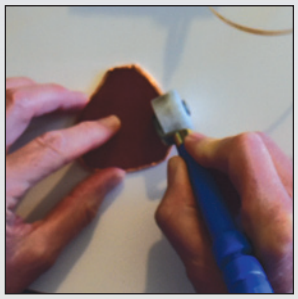
4

Use a grinder to smooth out any rough edges.



5

Foil the glass pieces.



Before foiling, clean each piece with rubbing alcohol and dry, then apply the foil to all of the glass pieces. I use 7/32" copper foil on regular glass pieces and 1/4" foil on thicker pieces. For the pieces with inside curves, first place several pieces of foil on the curve, then foil on the edge like you normally would. Be sure to pinch the edges with your fingers and burnish with the roller until the foil is smooth on all sides.

6

Place the pieces of glass on the layout copy.

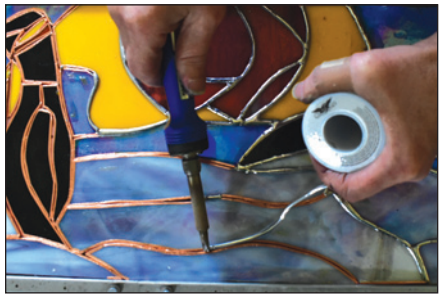
I use the Morton Layout System to keep all the pieces in place.

7

Apply flux to the copper foil lines using a regular small paint brush.

8

Tack-solder each joint before running a smooth, raised bead of solder on the front and back.



9

Thoroughly clean the panel using Kwik-Clean to remove any residual flux.

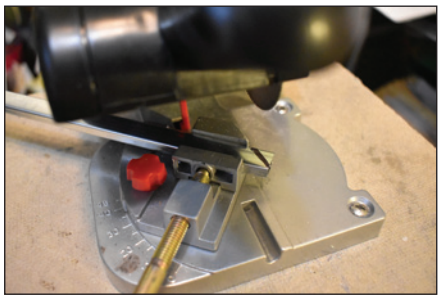
10

Apply the Novocan black patina.

Be sure to wear gloves. I use a paper towel to blot the extra patina so that it does not run down the panel. Afterwards, clean the piece again with Kwik-Clean.

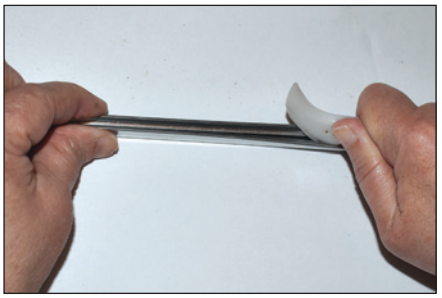
11

Mark the direction of the cut on the U-channel zinc came before using the 2" cut-off saw.



12

Apply the U-channel zinc frame.



Use a plastic fid/lathekin to open the channel on the zinc came. Gently secure the glass into the zinc came by tapping it with the soft end of the hammer. In order to add the Handy Hangers, cut a notch in the U-channel zinc came at both ends of the top piece.

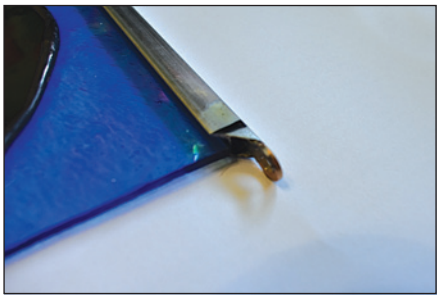
13

Apply flux where the soldered lines meet the U-channel zinc came, then solder.

Before soldering the U-channel zinc came at the corners, place tape between the seams. This makes for a cleaner solder line.

14

Add the Handy Hangers.



Tin the Handy Hangers with solder. Also apply flux and solder to the inside of the U-channel zinc came where the Handy Hangers will be secured. Add the top U-channel zinc came with notched ends and solder the seams.

15

Scuff up the U-channel zinc came with a Scotch-Brite pad before adding JAX Pewter Black to the zinc came.

16

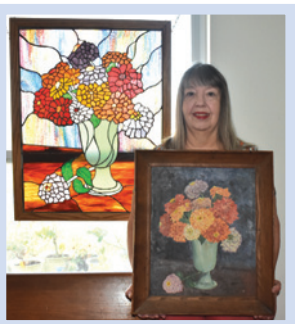
Polish the panel.

Add a thin layer of Liva Stained Glass Polish and let it dry. Wipe off the panel using cotton rounds. For those hard to get reach places, use cotton swabs.

17

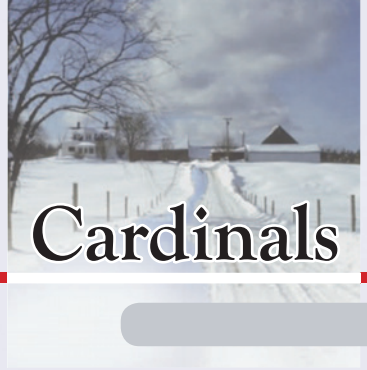
Use Silver or Gold Marabu Relief Paste to create the eyes on the penguins.

Now it's time to hang the panel so you can enjoy a reminder of these truly unique creatures. GPQ



Cindy Dow Savary has always had a passion for art and has been a crafter all her life. After retiring in August 2017, Cindy took her first stained glass class in April 2018, and by June 2019 her work was exhibited at the City of Round Rock Texas Library. From that showing, Cindy received her first commission to repair a piece that would become part of a new Airbnb called Annabella's Studio in Round Rock, Texas. The client, Lisa Loftus-Adams, wanted to honor the memory of her friend, Charlie, the original artist.

Cindy has continued to create panels to honor the memories of loved ones including her mother, who died in 1959. With the help of an artist, Michal Adams, Cindy was able to create a panel after one of her mom's oil paintings, Zinnias in a Vase, *and is now beginning to create her own patterns. For more of Cindy's work, visit www.instagram.com/cindy.savary.77 or go to www.facebook.com/APassionForGlassByCindySavary.*



Cardinals

Design by Kat Patrick, Fabrication and Text by Carrie Deutsch

There are a couple of pattern makers who are my favorites. I like to scroll through their patterns looking for one that "speaks" to me, which is how I came across this beautiful cardinal pattern by Kat Patrick

Cardinals were one of my mother's favorite birds. She loved to listen to them sing to each other, saying that their songs had the ability to rejuvenate us in the moments we need strength the most. They are uplifting and a happy sign that those we have lost will live forever as long as we keep their memories in our hearts.

Unlike most birds, cardinals don't typically migrate in the winter seasons. Instead, they stand tall and proud during difficult times and come out stronger than before. They also offer a bright spot of color during the winter months, reminding us of all the good things to come and how bright always comes through the dark and cold conditions. To me, the cardinal represents devotion, hope, strength, leadership, pride, determination, and protectiveness of its loved ones—all characteristics that we humans aspire to possess.

I saw several wonderful cardinal designs, but I kept going back to this rather intricate, detailed pattern. This panel is the size of the stationary 17" x 41" glass pane in my bay window. I can envision it there during our long Upstate New York winters giving me a spot of color. It also seems to speak to the part of my brain that loves a challenge. Each panel I make teaches me something new. The detail in this piece certainly tested my skill and patience, which provided a great sense of satisfaction.

Wissmach Glass Co.
WO-28 Orange/Opal Wisspy
for Female Bird Crest and Beak, Scrap
EM47 Medium Amber English Muffle
for Flower Shading, Scrap
51-DDXXM Dense Opal/Crystal
for White Wispy Flowers, Scrap
58-D Medium Amber/Opal/Crystal
for Flower Centers, Scrap
WO-28 Orange/Opal Wisspy
for Red Male Birds, Scrap

Youghiogheny Opalescent Glass
9000SP Red Stipple for Border, 1 Sq. Ft.
1000 HS L Soft White Opal Cotton Ball
for Snow, Scrap
1302SP Silver Yellow Ice/Amber/Brown Stipple
for Female Bird, Scrap

Additional Glass
Cerise Ruby Light for Male Birds, Scrap
Clear Granite Texture for Background, Scrap
Blue/Green Vertigo Texture
for Contrasting Leaves under Birds, 1/4 Sq. Ft.
Medium Amber Ripple
for Female Bird Head and Body, Scrap
Black Hammered Glass
for Inside Border, Scrap
Medium Green for Holly Leaves, Scrap
Waterglass Medium Green
for Holly Leaves, 1/2 Sq. Ft.
Red/White Wispy Fusible
for Male Bird Wings, Scrap
Black Opalescent
for Black Markings on Birds, Scrap
Rust Cathedral/Cobblestone Texture
for Female Bird, Scrap

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60/40 Solder Hakko® FX-601 Soldering Iron
Kwik-Clean® Flux Remover Nitrile Gloves
Novacan Black Patina Dauber
3/4" U-Channel Brass Came Plastic Scrubby
Mothers® Carnuba Wax Clarity Polish
Soft Rags Cut-Off Saw

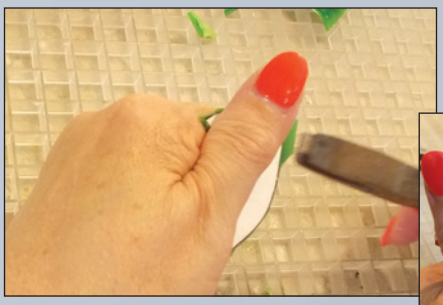
1

Cut out the pattern pieces and adhere them to the glass.

Everyone has his or her own way of doing this. I was taught to cut the pattern apart and glue the pieces to the glass. I use pattern shears to avoid the pattern growing after the glass pieces have been foiled. The shears allow the space needed.

2

Score the glass as close to the pattern paper as possible.



3

Use breaking/grozing pliers to break off any excess glass.

4

Grind each cut piece.

I try to cut as close to the pattern as possible, so I don't have to spend a lot of time grinding.

5

Fit each piece of glass to the pattern.

I place the ground, cleaned pieces on my pattern as I go so I can see how they are fitting. If any adjustments need to be made, I can then make them before moving on. To make sure that the panel remains square, I normally use the Morton Layout System, depending on the size of the project, but anything with straight edges can be used—yardsticks, for example.

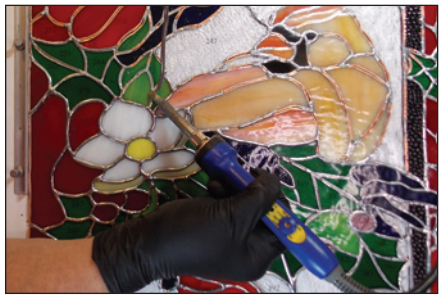
6

Foil the glass pieces, making sure that all of the pieces are clean, and place them on the layout pattern.

I use a variety of sizes—7/32", 3/16", or 5/32"—depending on the thickness of the glass. The object is to have nice, even foil lines. Make sure to look for the little tags where the foil didn't line up and trim those off.

For deep curves, I have found that if I warm up the foil by running my fingers over it a few times, it will generally smooth out nicely. If the foil splits, use some foil over the split and trim off the excess.

7



Flux and solder the panel.

I use Classic 100 Gel Flux, then tack-solder at the joints and begin running a nice, smooth, rounded bead. Once I am done soldering the first side, I clean off all the flux residue using Kwik-Clean Flux Remover. Then I flip the piece and solder the backside.

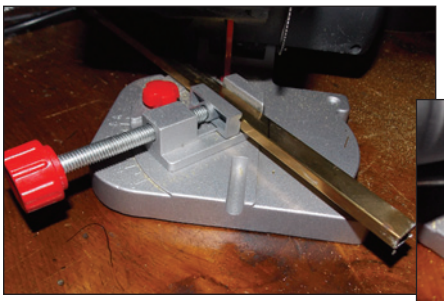
8

Once you have cleaned the panel to remove any residue of flux, apply the Novacan black patina.

Put a little patina in a plastic cup and use a dauber to apply it to the solder lines. Once you've covered all the lines, wipe off any excess patina with a paper towel, then rinse both sides and pat dry.

Once the panel is dry, use a soft rag to apply wax to the panel. (I use cut-up T-shirts). I prefer to use Mother's Carnuba Wax on my pieces, but you can use whatever you like. Before the wax is dry, use another soft rag to buff it up. Continue to buff until you do not see any more black coming off on the rag. To remove any dried wax in tiny crevices, you can use a fingernail brush.

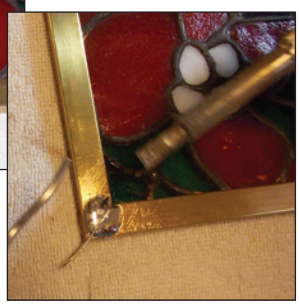
9



Choose your framing and cut the came pieces to size.

I used 3/4" brass came for this piece. My husband is the pro at this, so I give him the panel to get the measurements, and he cuts the came using a cut-off saw.

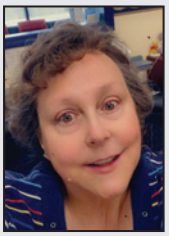
10



Once the frame has been added, solder the corners, add loops for hanging, and give the panel a final polishing.

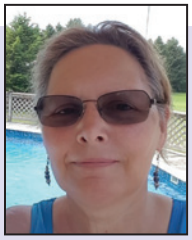
I use wire in the top corners as loops to attach a chain for hanging. This is easily done by laying the wire along the joint line before soldering the corners.

Take the time to attach the panel to the frame wherever there is a solder line that extends to the frame. Once that is done, clean up the panel again and touch up the patina, if needed. To finish, give the panel a final polishing. I use Clarity Polish for that. Make sure to polish the frame as well. **GPQ**



Carrie Deutsch has always had a passion for color and has been a crafter all her life. She likes reading, cooking, and scrapbooking, plus spending time with her family and volunteering in her community. After her father died in 1986, she looked for something she could immerse herself in to take her mind off her loss. In this search, she stumbled into a stained glass shop in Cary, North Carolina, and fell into the proverbial rabbit hole of stained glass.

One of Carrie's favorite stages of any glass project is looking over her many sheets of glass to find just the right colors and textures. She has been creating stained glass items for close to 30 years. The artist finds her glasswork very therapeutic and feels that the world goes away as she immerses herself in a project. You can find more of her artwork at www.facebook.com/Carriebearcreations.



Kat Patrick has been creating glass art for over 30 years and started out working with Heart Stained Glass. The patterns Kat creates are so realistic and full of life. She has the ability to take the most rudimentary drawings and create magical works of art. You can find more about Kat and how to purchase her stained glass patterns on Facebook at Katz Creations in Stained Glass.

Woodland Deer Ornament

Design, Fabrication, and Text by Lidia K. Anderson

In Native American legends, the deer is seen as a messenger and a symbol of power. I see the deer as one of natures' natural beauties, simply majestic! This 4" x 4-1/2" deer ornament serves as a reminder of this magnificent creature's strength and splendor.

Glass

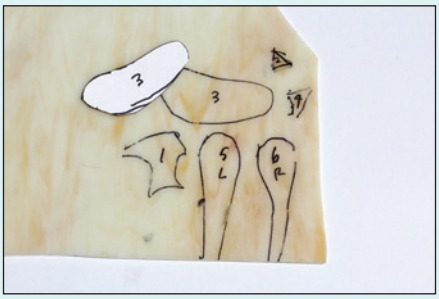
Desired Glass Type and Color, 7" x 7"

Tools and Materials

7/32" Copper Foil Flux Flux Brush 60/40 Solder
Safety Glasses 18-Gauge Copper Wire, 4" (2)
14-or 16-Gauge Copper Wire, 4" Round Needle Nose Pliers
Jump Ring Ribbon for Hanging Polishing Compound
Wire Cutters

1

Trace the pattern onto the glass and cut out the glass pieces.



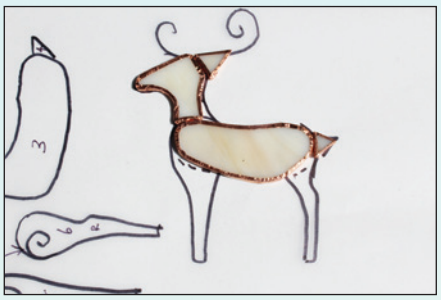
Cut out the pattern pieces from cardstock and trace them onto the glass with a permanent marker. Cut out the glass pieces and grind the edges smooth. Be sure to wear safety glasses while grinding the glass. I like to do a final grind with a mirror grinding bit so that the edges are rounded. Wash and dry all of the glass pieces.

2

Use 7/32" copper foil to foil and burnish all of the glass pieces.

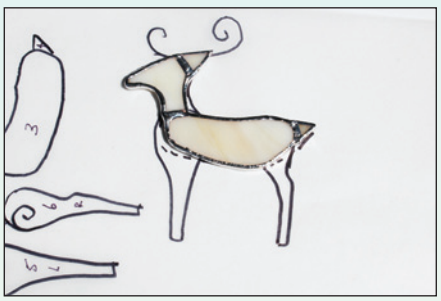
3

Arrange the pieces except for the legs as shown.



4

Flux all of the foil, tack-solder at all of the intersections to stabilize, then solder all of the pieces together.



5

Flux and tin-solder the fronts and backs of the legs, left and right.

6

Overlay the legs as shown, lining them up at the top of the body, and tack-solder the intersections until secure.

7

Turn down the temperature slightly on the soldering iron, turn the piece over, and bead-solder all the edges.

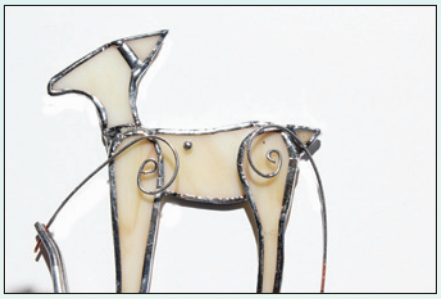
8

Using the round needle nose pliers, curl one end of both pieces of the 18-gauge copper wire.

Flux the wire and tin both sides.

9

Attach the wire pieces to the legs.



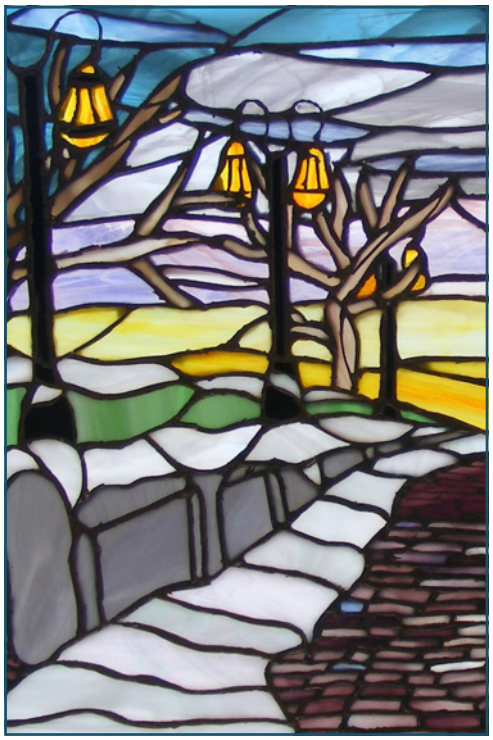
Position a curled wire embellishment on top of each leg and tack-solder a point on the top of the body to secure them in place. Cut the wires with wire cutters so that they are flush with the edge and solder in place.

10

Curl the ends of the heavier gauge wire pieces with the needle nose pliers, then flux and tin-solder both sides.

Use either 14-gauge or 16-gauge copper wire. Caution: Always hold the wire with a pair of pliers as you're soldering, since the copper will get extremely hot.

Walking in a Winter Wonderland



Artist: Steve Granieri

Artist: Gabriele Bryant of Glass ArtScapes LLC

11

Position the antler pieces at the top of the head as shown on the pattern and solder in place.

Turn the piece over and repeat.

12

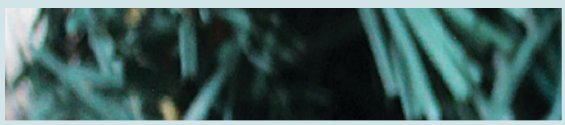
Add a hook for hanging.

Solder the jump ring to the top of the antler, then wash, dry, and polish the ornament. String a ribbon through the jump ring, and it is ready to hang in a window. Now you have a beautiful ornament to remind you of nature's wonders. Wishing you Harmony and Happiness. GPQ

Lidia K. Anderson of L.A. Glass is a native of Sydney, Australia, and it was there that she began her formal education in art. In her second year of college, she moved to the United States and received her BFA from Bowling Green State University in Ohio.

Lidia spent the next ten years as art director in the field of television. Recognizing the stresses of the advertising world, she took the opportunity to find other forms of artistic expression. Her love of glass was born, and she allowed this creative energy to guide her. What evolved were works of art that integrated into a more common understanding of functional living.

The larger body of Lidia's work is represented by some of the finest art galleries in the nation. She has had the privilege of exhibiting with the world-renowned artist, Dale Chihuly, and has also completed a restoration of eighteen stained glass windows at a chapel in Ohio. To view more of her work, visit www.etsy.com/shop/LAGlass.



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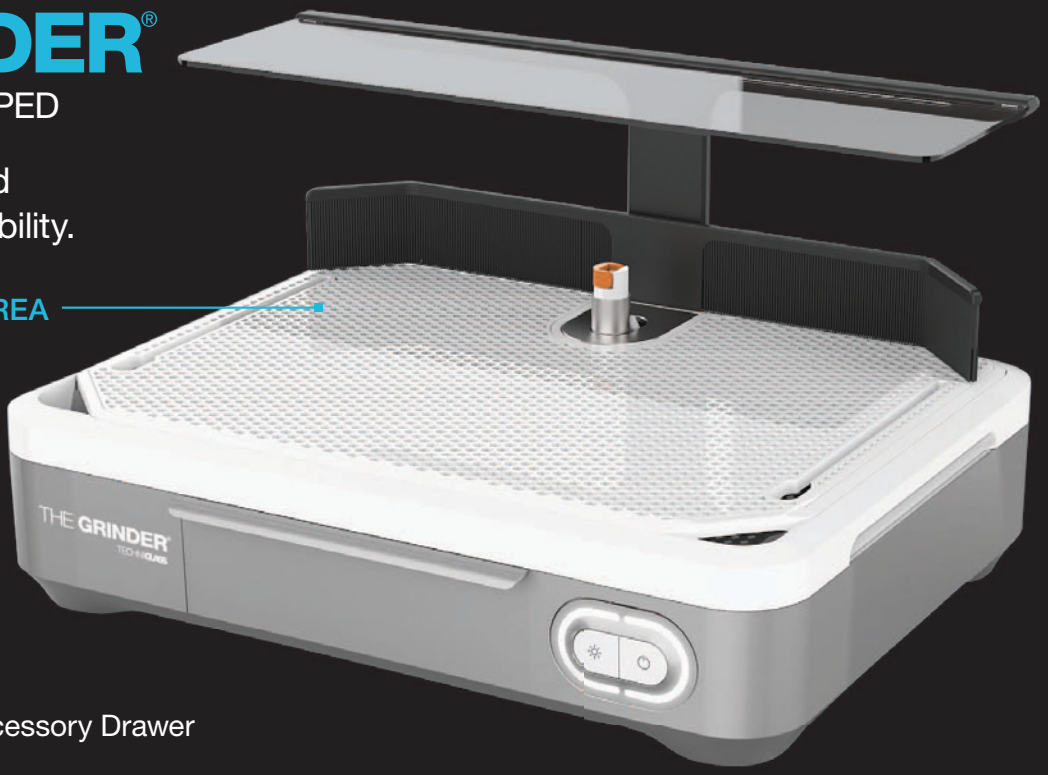

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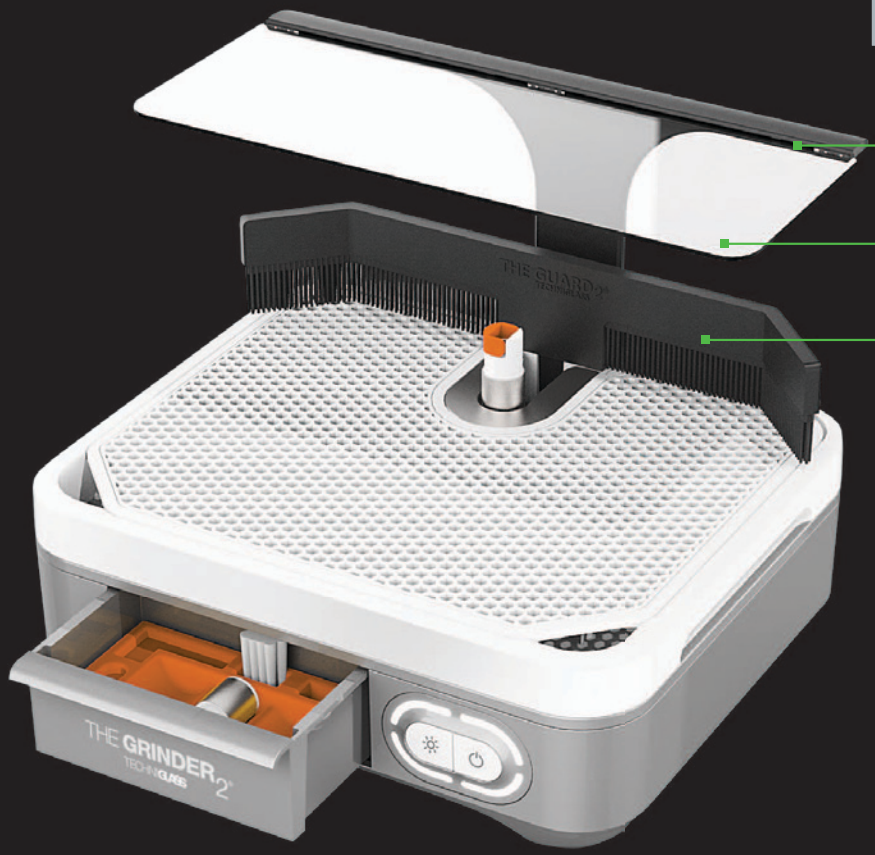

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Praise

Design, Fabrication, and Text by Pat Chase
Photography and Computer Support by Michelle Renée

Praise is the cover angel for my first edition of my *Angel Companions* pattern book. She was one my earlier designs, and I enjoyed creating this beautiful angel again. This creation is different than the original angel design in that it has a few less pieces, since I streamlined the skirt for easier cutting. For this 14" x 10" angel, I used mostly all iridized glass for my choices to really make her shine. This is an advanced skill-level pattern due to the 3-D effect and the fact that there are 57 pieces in total.

I believe that angels represent love, protection, hope, guidance, blessings, and more. When I look at *Praise*, she gives out such a spiritual quality and a calming effect. We are all in need of positivity and healing during these difficult times. With our angel guides, we can overcome obstacles, learn to be kind to each other, and discover how to be tolerant of our differences as we strive to make a better world full of love and acceptance. Blessings to all!

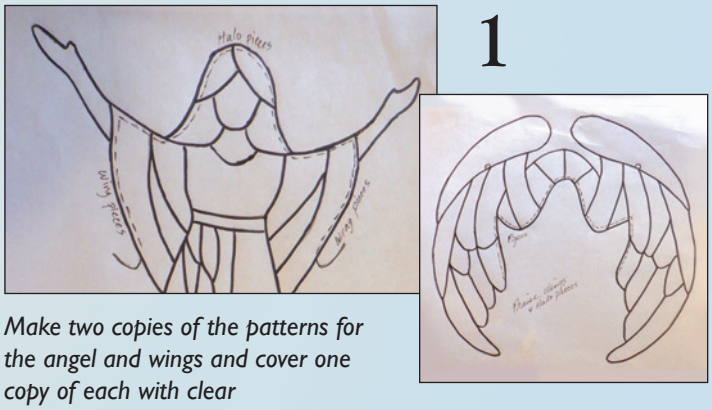
Glass

Iridescent Pink Champagne
for Dress, 10" x 7"
Iridescent Clear/White/Pink Wispy
for Wings, 20" x 10"
Iridescent Opal White
for Sash, 8" x 3"
Blonde for Hair, Scrap
Flesh for Skin, Scrap
Translucent Yellow Textured Glass for Halo, Scrap

Tools and Materials

Light Box Glass Cutter Grozing/Breaking Pliers
3/16", 7/32", and 1/4", Copper Foil
18- to 20-Gauge Copper Wire Black Sharpie® Marker
Self-Adhesive Paper Glue Stick
UHU® Tac Removable Adhesive Putty 0000 Steel Wool

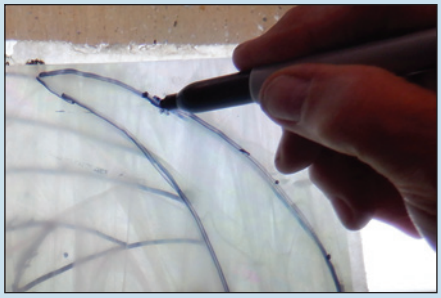
1



Make two copies of the patterns for the angel and wings and cover one copy of each with clear self-adhesive paper.

You will be placing the foiled pieces on the covered pattern using UHU Tac adhesive to secure the pieces as you solder and assemble the design.

2



Using a light box, trace the pieces onto your glass with a Sharpie marker.

3

Score the line with the glass cutter.

When cutting out opaque pieces, use a paper pattern attached with a glue stick. When using glass with a texture, reverse your pattern and cut on the smooth side.

4

Use breaking pliers to separate the glass pieces.

5

Grind all of the glass pieces to insure a better fit, then clean and foil.

I use 3/16" copper foil on the inside seams and a wider width on the outside edges to give extra strength.

6

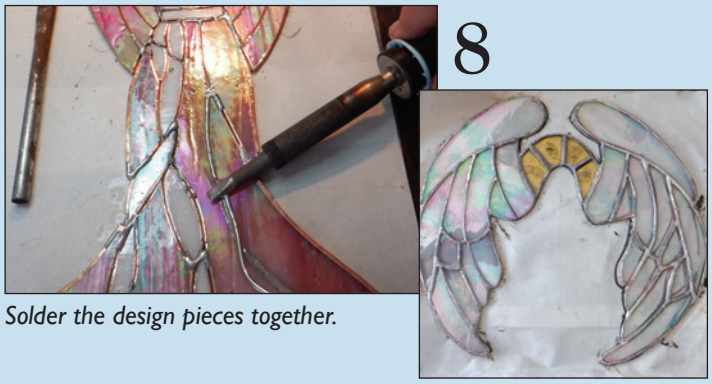
Apply a small amount of UHU Tac to the back of each glass piece.

This tac is removable upon completion and very reusable.

7

Assemble the foiled pieces on the pattern.

8



Solder the design pieces together.

First tac-solder the glass pieces to hold the design together, then finish-solder all of the seams on the front side of both the Angel and the Wings/Halo sections.

9

Make two hanging loops with 2" pieces of 18- to 20-gauge copper wire.

Twist the copper wire using two grozing pliers, one on each end, to make the loop and twist the ends.

10

Before attaching the hooks, align them to the back of the Wings/Halo section.

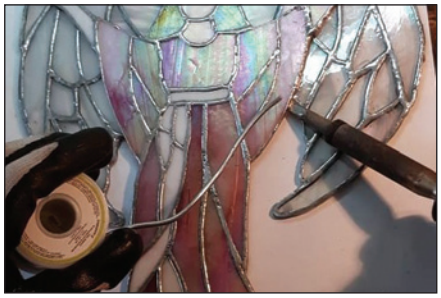
Align the hooks at the seams where the circles are indicated on the pattern and trim as needed. Then tin-solder with a hot iron and solder the hooks onto the design.

11

Finish-solder all of the seams on the back side of both sections.

12

To complete the 3-D effect, attach the figure to the Wings/Halo section.



Use the dotted lines on the patterns as your guide. Tac-solder where the connections are made on both the front and back sides.

Buff the seams with 0000 steel wool. To finish, clean the panel, apply black patina to the solder lines, and polish the completed piece. Now hang your finished design in a bright window and enjoy *Praise*.

GPQ

A lifelong crafter, Pat Chase found stained glass art in 1996 when she was offered a used box of tools for a low cost from a studio near her home in Maltby, Washington. Deverie Wood was the owner, teacher, and later her mentor, who also gave Pat invaluable publishing advise. Over the years, she has continued to develop her skills by just "doing it" and learning under good teachers. She has also always had the loving support of her husband and biggest fan, Stephen Chase. Many thanks also go out to her friend, Michelle, for all her help and support.

Pat started making seashell windows and lamps that incorporated real shells, glass nuggets, and extra solder drops, all made from her original drawings, to create unusual art pieces. Then she discovered drawing her famous angel patterns, which have been very well received over the years. She has since published two Angel Companions pattern books with all original designs that are available through PonyGal Productions at AngelGlassArt.com and on Facebook at Angel Glass Art. Pat can also be contacted directly at 360-385-3457 and ponygal67@gmail.com.

Brutalist Owl

Design, Fabrication, and Text by Chantal Paré

"Fashion is a form of ugliness so intolerable that we have to alter it every six months." Oscar Wilde

Brutalism is an architectural style that has its roots in the 1950s. The resulting wave of concrete buildings, which were at once industrial, massive, and foreboding, had a decades-long permeating influence on arts and crafts. Jewelry became bulky, organic, and asymmetric. Wall decorations were a primitive combination of sheet metal with raw edges and horseshoe nails. Ceramics adopted an aesthetic inspired by lava with dripping glazes and pitting in a palette of glowing red orange with contrasting gray and black.

Stained glass evolved to chunky dalle de verre that was chipped and faceted with hammers and cut with wet saws, held together in a prominent matrix of concrete and epoxy resin. Fashionable colors featured cobalt blue offset by white, punctuated by a few harsh primary colors. The style reached its apogee in the late sixties and early seventies.

This explosion of abstract art left little room for representation, with one notable exception—owls. There were so many owls, one could even say they were the mascot of brutalism.

The owl in this project borrows many elements from the brutalist era. The Wissmach Figure C glass imitates dalle de verre. The color scheme is that of lava, the owl's toes are made of horseshoe nails, and he is decorated with large, rough-edged copper pieces. He's scrawny, lopsided, and really fun to create!

Wissmach Glass Co.
17LL White Opal/Red Orange Streaky for Eyes, 1/2 Sq. Ft.
EM220 Cobalt Blue English Muffle for Eyes, Scrap
49 Dark Amber Figure C for Body, 1 Sq. Ft.
45 Medium Amber Figure C for Legs, 2 Sq. Ft.
Youghiogheny Opalescent Glass
SP-700 Gray Ice for Body, 1/2 Sq. Ft.
Additional Glass
3 mm Clear Float Glass for Background, 2 Sq. Ft.
Tools and Materials
Oil-Filled Carborundum Wheel Glass Cutter
Glass Breaking Pliers Miter Saw
Fine-Tipped Black Marker
0.2 mm x 100 mm x 1000 mm Copper Foil/Sheet
1/2" Black-Backed Copper Foil
7/32" Black-Backed Copper Foil
Small Craft Scissors or Fid Aviator Snips
Flux and Flux Brush 60/40 Solder
1/4" U-Channel Zinc Came
14-Gauge Pretinned Copper Wire Masking Tape
Black Patina Rubber Gloves Patina Remover
Acetone Nail Polish Remover

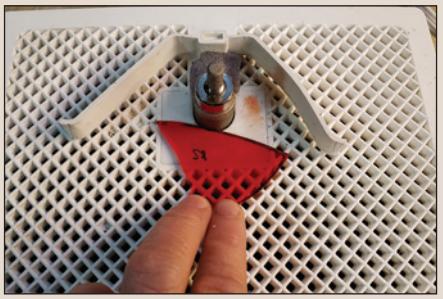
1

Number the pieces on the pattern and trace them onto the glass.

2

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

3



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

4

Wrap all of the glass edges with the 1/2" black-backed copper foil.

Carefully crimp the edges of the foil with the sides of small craft scissors or a fid. Cut out pieces of the 1/2" black-backed foil and stick them to the gray feather pieces.

5

Wrap the horseshoe nails in foil.

Cut a 1" piece of the 1/2" black-backed foil and wrap it around the head of the nail. Use the 7/32" foil to wrap the rest of the nail in a spiraling pattern.

6

Make a jig, using a carpenter's square for the right angles, then place the pattern and the foiled glass pieces inside.

7

Flux and solder the glass pieces.

Brush the copper foil lines with flux, one small area at a time, and solder the pieces together taking care to make a nice bead over each line. Leave some space around the edges of the project free of solder to be able to slip on the zinc frame later. Gently let the solder drop onto each feather decoration, allowing it to cool and stabilize before flooding it with more solder. Remove the project from the jig, flip it over, and solder the other side.

8

Cut the zinc came with a hacksaw or electric miter saw to create a frame around the project.

Use masking tape as resist to ensure straight solder edges at the corners. Fold over two 1-1/4" lengths of pretinned 14-gauge copper wire to form hooks and solder them in the grooves of the uppermost joints in the frame. Tack-solder all of the lead lines that join the frame.

9

Tin the horseshoe nails.

Hold them with pliers while tinning the nails, as they will become quite hot.

10

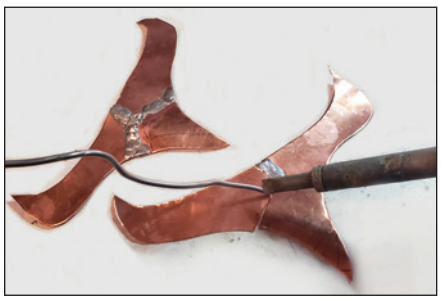
Solder the horseshoe nails to the frame to make the owl's toes.

11

Cut out the decorative pieces for the head and wings and trace them onto the copper sheet.

Cut the copper sheet with aviator snips.

12



Solder the copper sheet pieces for the beak and horns together.

In keeping with the brutalist aesthetics, make the work rough and uneven.

13

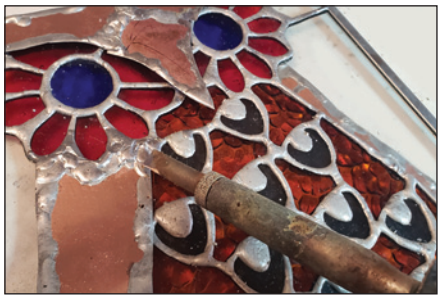
Tin the outer edges of the two head pieces and wings.

Add extra solder in a few random spots to make the piece look even more uneven.

14

Fasten the head pieces to the zinc frame with solder, then fasten the tips of the horns together.

15



Solder the top of the wings to the bottom eye feathers.

The owl's right wing is soldered on the front of the project, and his left wing is soldered on the back.

16

Clean the owl with soap, pat dry, and apply the patina.

Pour a bit of the patina solution and spread it on the lead lines with rubber gloves. Do not patina the copper, but if some patina accidentally darkens it in places, it will fit the brutalist style. Clean with flux and patina neutralizer. Remove any trace of the markers on the glass using a bit of acetone nail polish remover and hang your owl in a bright window. **GPQ**

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

Lately, Chantal is concentrating her efforts in glass painting. In her free time, she also draws and self-publishes patterns in a variety of styles ranging from Victorian to geometric that are available at www.free-stainedglasspatterns.com.

Victorian Tulip Scroll

Design by Paned Expressions Studios, Text by Darlene Welch

The Victorian Era, which spanned the years of 1840 through 1900 during the reign of Queen Victoria, is known as an age of opulence. Residential stained glass panels, which were created mainly for entrances and stairway windows, often featured a strong border surrounding a geometric background and a central figure with flowing leaves and florals. This 24" x 15" design is a beautiful reminder of that era's charm, grace, and elegance.

Victorian Tulip Scroll is just one of nearly 120 designs that can be found on the *Tradition!* pattern CD from Paned Expressions Studios. Included in this collection are traditional, entryway, and sidelight panels designed as rounds, half rounds, transoms, and sidelights featuring florals, trees, birds, and landscapes. The patterns are provided on the CD in color as well as black and white in JPG, TIFF, and Glass Eye formats for both PC and Mac, which makes them easy to resize, reshape, and recolor. The designs also cover all levels of glass expertise, so there is something for everyone. Visit www.panedexpressions.com for this and many other wonderful patterns from Paned Expressions Studios. **GPQ**

Wissmach Glass Co.
14-R Gold Pink/Silver/Opal/Crystal for Flower, Scrap
78-L Medium Amber/Green/Light Opal Crystal
for Stylized Leaf Design, 1 Sq. Ft.
WO-152 Yellow Green/Dark Green/Opal/Crystal Wisspy
for Stylized Leaf Design, 1 Sq. Ft.
WO-264 Medium Purple/Yellow Green/Sky Blue/Opal/Crystal
Wisspy for Stylized Leaf Design, Scrap
WO-567 Opal/Champagne Wisspy for Background, 3 Sq. Ft.
WO-58 Dark Brown/Green/Opal/Crystal Wisspy
for Inner Border, 1 Sq. Ft.
112-L Dark Green/Dark Amber/ Light Opal/Crystal
for Outer Border, 2 Sq. Ft..

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

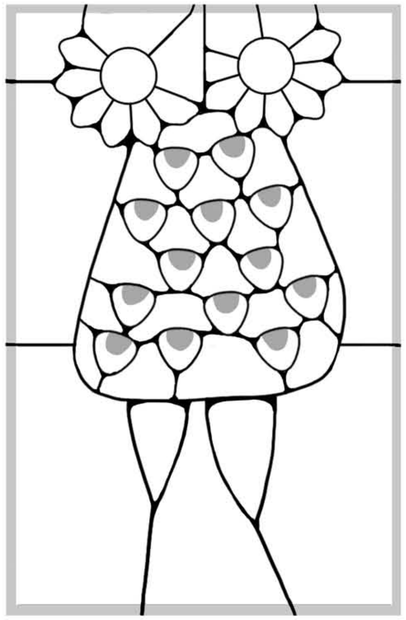
Welcome

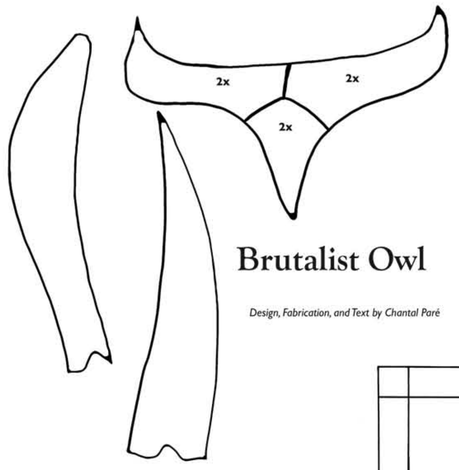
Design by Lisa Vogt, Text by Darlene Welch

This lovely fairy offers a "Welcome" for all to view beautiful florals and a wooded landscape in this design by Lisa Vogt from her *Garden in Bloom* pattern book. The collection includes ten designs, all 16" x 20", that feature fairies and flowers, including pansies, spring bulbs, water lilies, and fuchsia blossoms, plus insects and butterflies. You'll find a list of glass colors on the pattern sheet.

Garden in Bloom is just one of the many pattern collections available from award-winning artist and author Lisa Vogt, whose work has been exhibited in major cities throughout the United States. Be sure to visit www.lisajvogt.com to learn more about the artist. You'll also want to browse through her extensive pattern collections and read glowing testimonials from her students.

Glass Patterns Quarterly®
Pullout Pattern Sheet Winter 2021

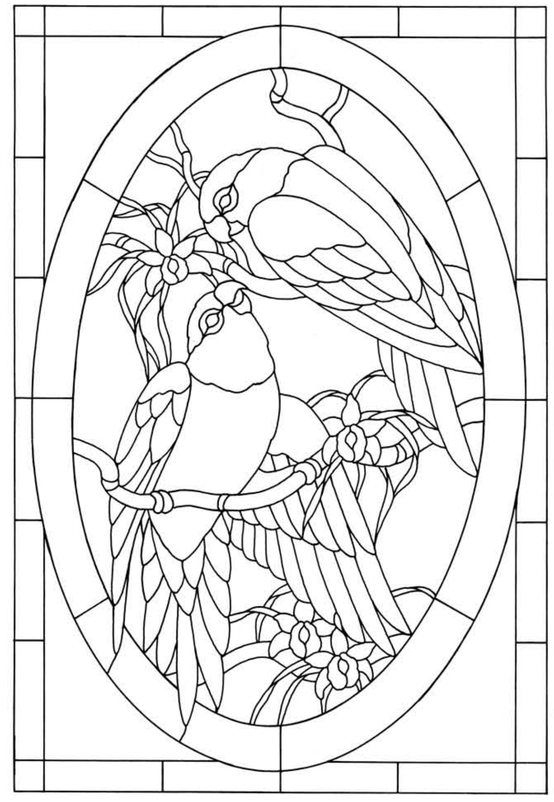




Brutalist Owl

Design, Fabrication, and Text by Chantal Paré

Wissmach Glass Co.
17LL White Opal/Red Orange Streaky for Eyes, 1/2 Sq. Ft.
EM220 Cobalt Blue English Muffle for Eyes, Scrap
49 Dark Amber Figure C for Body, 1 Sq. Ft.
45 Medium Amber Figure C for Legs, 2 Sq. Ft.
Youghiogheny Opalescent Glass
SP-700 Gray Ice for Body, 1/2 Sq. Ft.
Additional Glass
3 mm Clear Float Glass for Background, 2 Sq. Ft.



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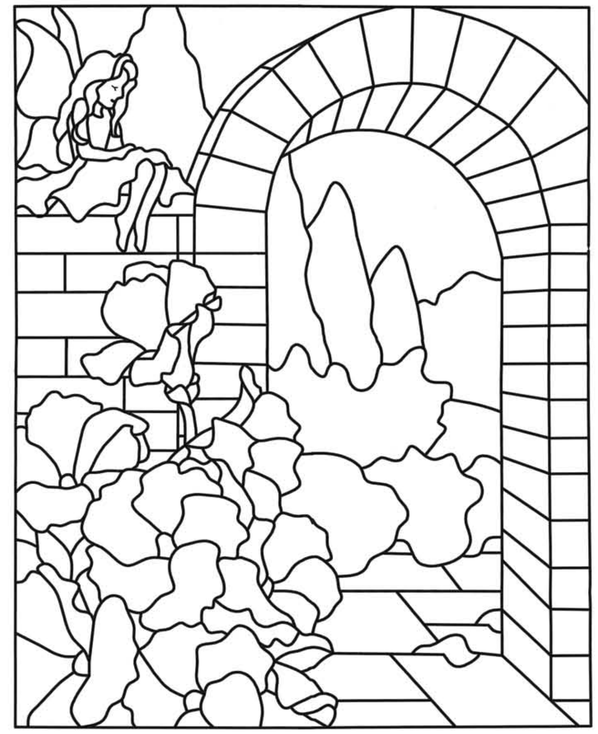
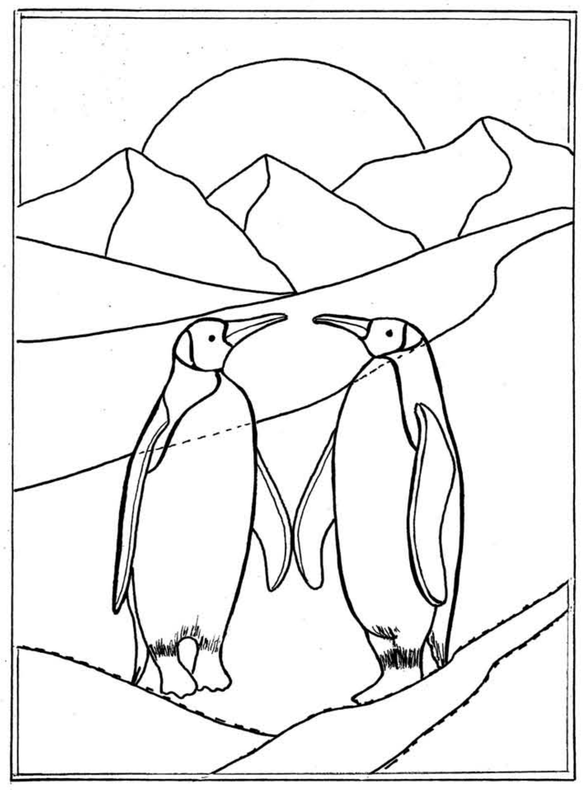
Welcome

Design by Lisa Vogt

Wissmach Glass Co.
557-L Medium Gray/Light Opal for Inside of Stone Archway, 1 Sq. Ft.
613-L Williamsburg Blue/Light Opal/Crystal for Stone Wall, 1 Sq. Ft.
600-D Dense Opal/Light Gray for Stone Wall, 1/2 Sq. Ft.
65-L Medium Brown/Blue/Light Opal for Garden Floor, Scrap
WO-57 Medium Green/Opal/Crystal Wisspy for Background Trees, 1/2 Sq. Ft.
100-SP Dark Green/Light Opal for Background Landscape, 1/2 Sq. Ft.
WO-708 Light Green/Dark Green/White Opal Mystic Wisspy for Background Landscape, Scrap
188-L Gray Blue/White Light Opal for Sky, 1/2 Sq. Ft.
87-LL Sky Blue/Opal/Crystal Streaky for Dress, Scrap
WO-14 Gold Pink/Opal/Crystal Wisspy for Wings, Scrap
WO-522 Opal/Crystal/Light Champagne Wisspy for Face, Arms and Legs, Scrap
145-SP Dark Amber/Crystal Opalescent for Hair, Scrap
25-LL Orange/Green/Opal/Crystal Streaky for Flowers, 1-1/2 Sq. Ft.
1-L Silver Yellow/Light Opal/Crystal for Flower Centers, Scrap
112-LL Dark Green/Dark Amber/Opal Streaky for Flower Leaves, Scrap
Tools and Materials
7/32" Copper Foil Flux Solder
Black Patina 1/2" U-Channel Zinc

Enlarge to desired size





Big Bird
The King Penguin

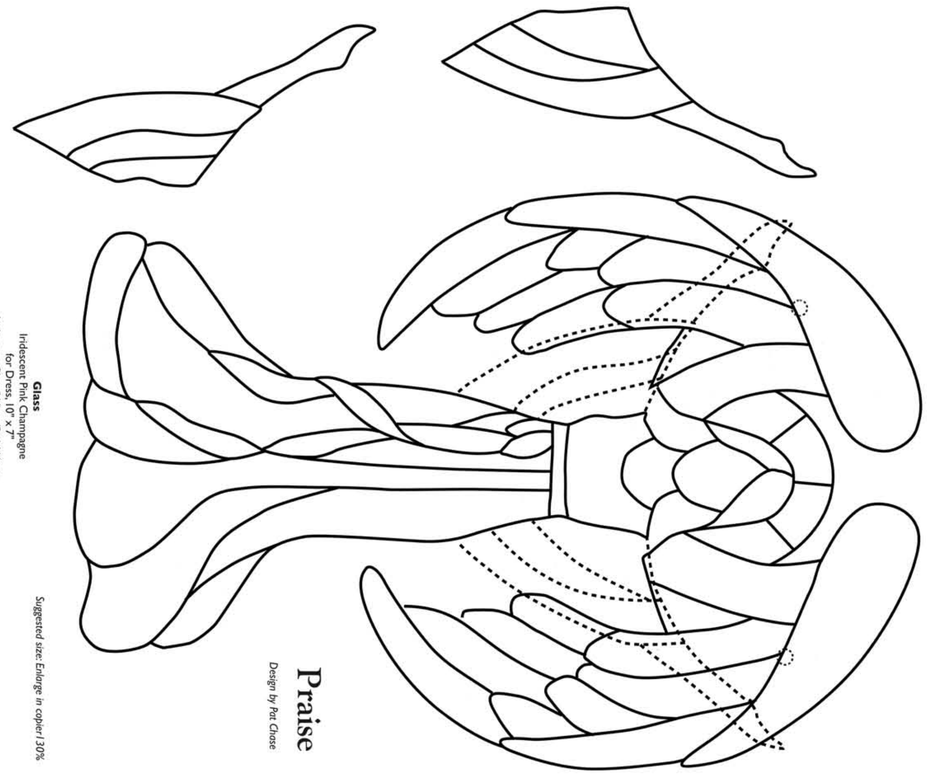
Design by Leslie Gibbs

Wissmach Glass Co.
613 IR Williamsburg Blue Iridescent
for Mountain Shade, 3" x 5"
Additional Glass
Thin Steel Blue for Sky, 3" x 8"
Thin Tangerine for Sun, 2" x 4"
White Ring Mottle for Snow Side of Mountain
and Background Snowfall, 8" x 10"
Firelight White Textured
for Upper and Bottom Snowbank, 4" x 7"
90 COE Glass
White Rainbow Iridized
for Penguin Base Bodies, 6" x 12"
Thin Black Iridized
for Penguin Flippers, Back, and Head, 5" x 6"
90 COE Frit
Marigold Yellow for Penguin Chest Collar, 1 Tbs.
Orange OP for Penguin Cheek and Chest, 1 Tbs.
Clear with Clear Iridized Frit
for Snowfall Overlay, 4" x 8"

Parrots

Design by Terra Parma, Text by Darlene Welch

Wissmach Glass Co.
23-L Light Green Light Opal/Copper Red for Leaves, 1-1/2 Sq. Ft.
155-LL Dark Purple/Green/Light Opal/Crystal Streaky for Vines, 2 Sq. Ft.
266-L Light Mauve/Light Opal for Flower Petals, Scrap
140-D Medium Purple/Dense Opal/Crystal for Flower Petals, Scrap
2-D Yellow/Dense Opal/Crystal/for Flower Centers, Scrap
57-LL Medium Green/Opal/Crystal Streaky for Bird Heads, Scrap
Black Dense Black for Eye, Scrap
01 Crystal for Eye, Scrap
112-LL Dark Green/Dark Amber/Opal Streaky for Bird Body, 1-1/2 Sq. Ft.
264-LL Medium Purple/Yellow Green/Sky Blue/Opal/Crystal for Bird Wings, 1 Sq. Ft.
330-L Light Opal/Crystal/Yellow Green/Blue for Wing Tips and Tail 1 Sq. Ft.
55-D Amber/Green/Dense Opal/Crystal for Bird Beak and Feet, Scrap
315-D Medium Amber/Dense Opal for Background, 6 Sq. Ft.
WO-706 Light Amber/Brown/White Opal Mystic Wisspy for Border, 4 Sq. Ft.
Tools and Materials
7/32" Copper Foil Flux Solder
Black Patina 1/2" U-Channel Zinc

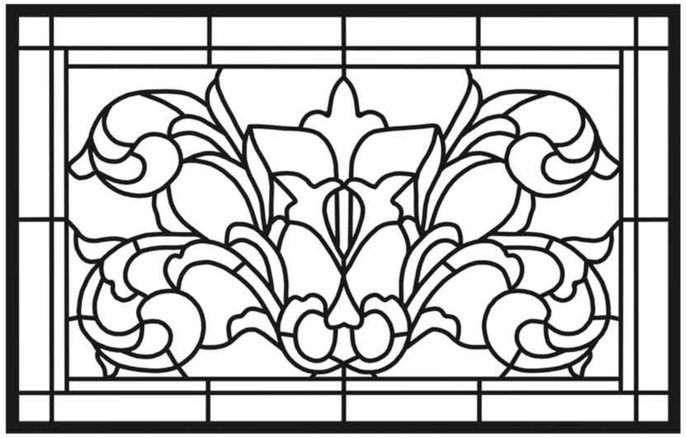


Praise

Design by Pat Chase

Glass
Iridescent Pink Champagne
for Dress, 10" x 7"
Iridescent Clear/White/Pink Wispy
for Wings, 20" x 10"
Iridescent Opal White
for Sash, 8" x 3"
Blonde for Hair, Scrap
Flesh for Skin, Scrap
Translucent Yellow Textured Glass
for Halo, Scrap

Suggested size: Enlarge in copier 130%

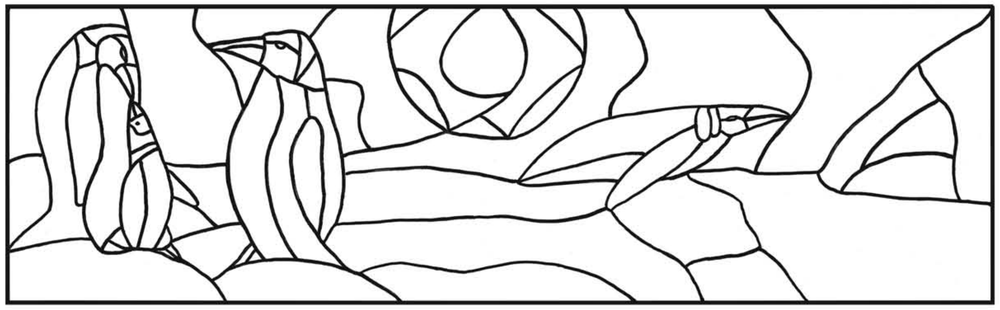


Victorian Tulip Scroll

Design by Paned Expressions Studios

Wissmach Glass Co.
14-R Gold Pink/Silver/Opal/Crystal for Flower, Scrap
78-L Medium Amber/Green/Light Opal Crystal
for Stylized Leaf Design, 1 Sq. Ft.
WO-152 Yellow Green/Dark Green/Opal/Crystal Wisspy
for Stylized Leaf Design, 1 Sq. Ft.
WO-264 Medium Purple/Yellow Green/Sky Blue/Opal/Crystal
Wisspy for Stylized Leaf Design, Scrap
WO-567 Opal/Champagne Wisspy for Background, 3 Sq. Ft.
WO-58 Dark Brown/Green/Opal/Crystal Wisspy
for Inner Border, 1 Sq. Ft.
112-L Dark Green/Dark Amber/ Light Opal/Crystal
for Outer Border, 2 Sq. Ft.

Enlarge to desired size



Emperor Penguins

Design by Cindy Dow Savary

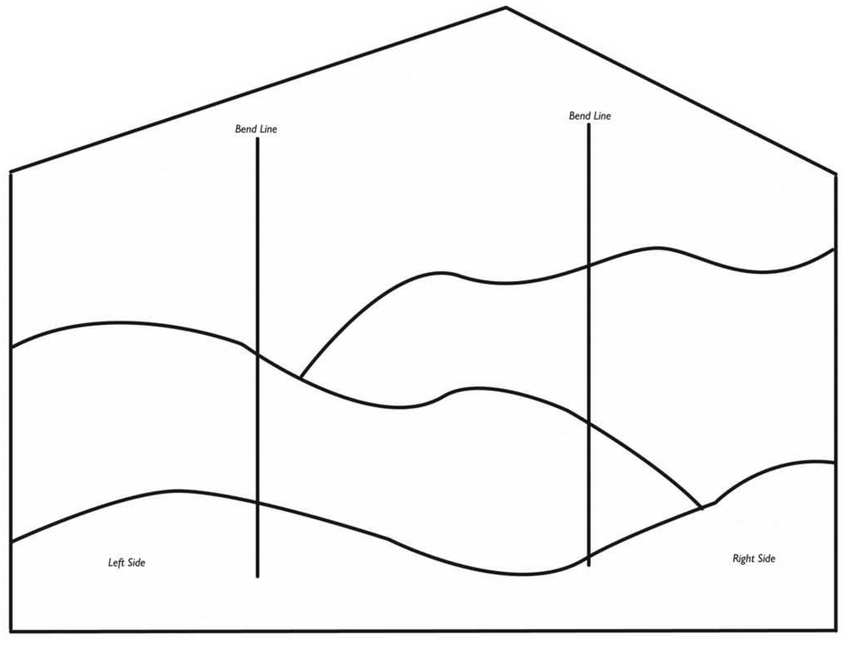
Wissmach Glass Co.
WO-2180 Light Violet/Opal Crystal Wisspy
for Ice Shelf, 1/2 Sq. Ft.
WO-96-15 LUM Cornflower Blue Transparent
Luminescent for Sky, 1 Sq. Ft.
Additional Glass
Pearl Opal Mix
for Penguin Bellies and Iceberg, 1/4 Sq. Ft.
Black Waterglass for Penguin bodies
and Beaks, 1/4 Sq. Ft.
Remaining Colors Cut from Scrap
Orange for Penguins
Yellow Orange for Sun and Penguins
Red Mottle for Sun
Blue for Ocean
Gray for Baby Penguin
Red Orange for Sun
Red Ripple for Sun Center

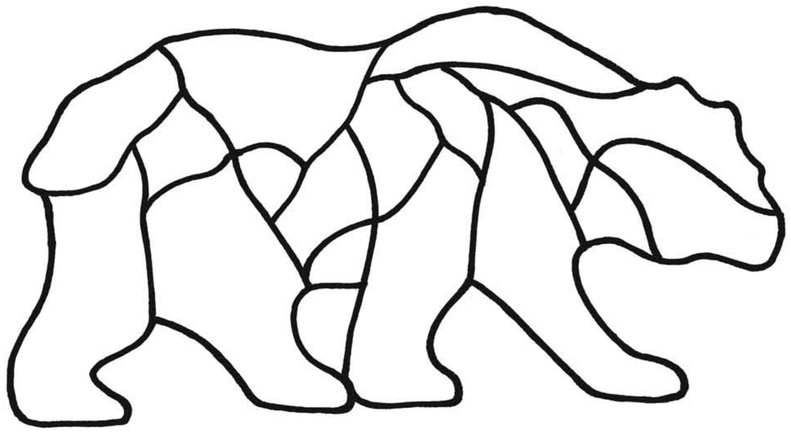
Landscape Lampscape

Ambient Art Lighting, A Cordless Way to Illuminate Your Artwork

Design, Fabrication, and Text by Petra Kaiser

Wissmach 96 Glass
96-03 White for Stand, 5" x 11"
96-57 Crystal/White for Design Background, 7" x 12"
96-50 Turquoise Green for Design, 7" x 3"
96-13 Deep Sky Blue for Design, 7" x 3"
96-35 Blue/Olive Green for Design, 7" x 3"
Additional Glass
Clear or White, 5" x 1/2"
Random Glass Pieces in Desired Colors





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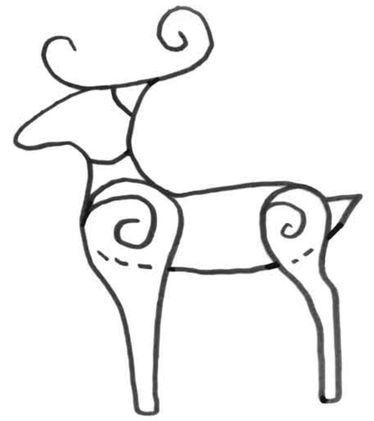
Mountain Bear

An Introduction to Stained Glass

Design, Fabrication, and Text by Alecia Richardson

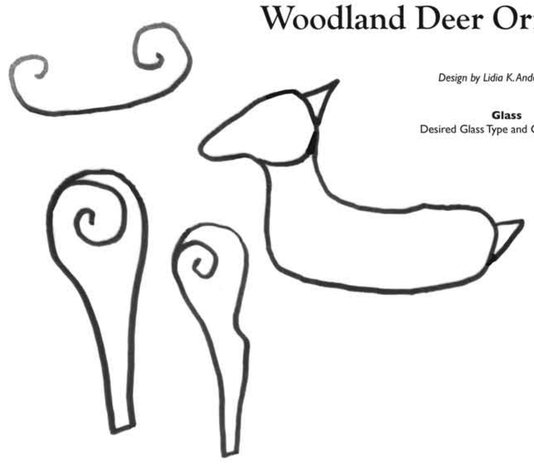
Glass
Light Amber/White Opal, Scrap
White/Sky Blue Opal, Scrap
Feather White, Scrap

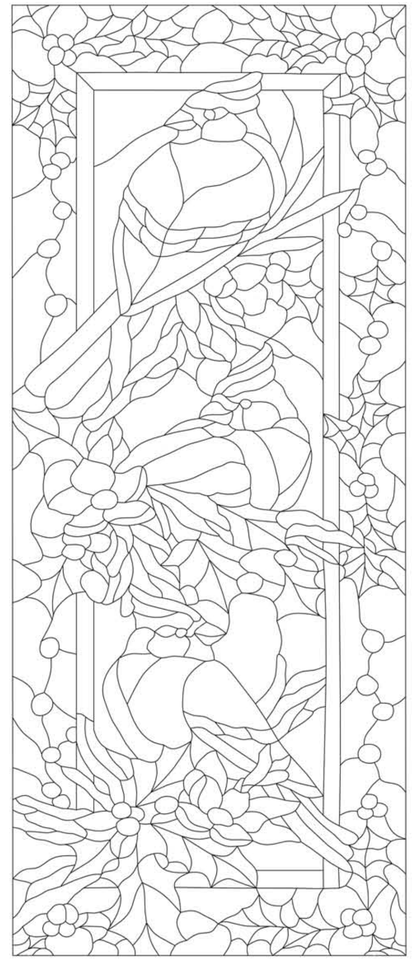


Woodland Deer Ornament

Design by Lidia K. Anderson

Glass
Desired Glass Type and Color, 7" x 7"





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Cardinals

Design by Kat Patrick

Wissmach Glass Co.
WO-28 Orange/Opal Wisspy
for Female Bird Crest and Beak, Scrap
EM47 Medium Amber English Muffle
for Flower Shading, Scrap
51-DDXXM Dense Opal/Crystal
for White Wispy Flowers, Scrap
58-D Medium Amber/Opal/Crystal
for Flower Centers, Scrap
WO-28 Orange/Opal Wisspy
for Red Male Birds, Scrap
Youghiogheny Opalescent Glass
9000SP Red Stipple for Border, 1 Sq. Ft.
1000 HS L Soft White Opal Cotton Ball
for Snow, Scrap
1302SP Silver Yellow Ice/Amber/Brown Stipple
for Female Bird, Scrap
Additional Glass
Cerise Ruby Light for Male Birds, Scrap
Clear Granite Texture for Background, Scrap
Blue/Green Vertigo Texture
for Contrasting Leaves under Birds, 1/4 Sq. Ft.
Medium Amber Ripple
for Female Bird Head and Body, Scrap
Black H Black Hammered Glass
for Inside Border, Scrap
Medium Green for Holly Leaves, Scrap
Waterglass Medium Green
for Holly Leaves, 1/2 Sq. Ft.
Red/White Wispy Fusible
for Male Bird Wings, Scrap
Black Opalescent
for Black Markings on Birds, Scrap
Rust Cathedral/Cobblestone Texture
for Female Bird, Scrap

Parrots

Design by Terra Parma, Text by Darlene Welch

Parrots are among the cleverest of birds, and most are noisy and sociable. Their beautiful colors and ability to imitate the human voice have made them popular as pets since ancient times. This loving pair is captured perfectly by Terra Parma in this 20" x 30" design from her *Images by Terra* pattern collection and is used with permission from Stained Glass Images.

The green and blue streaky glasses from Wissmach Glass used for the bird bodies and wings provide a lovely, soft look reminiscent of feathers, while the flowered vines are a reminder of the natural habitats where parrots are found. Set against a Medium Amber background and surrounded by Light Amber, Brown, and White Mystic Wisspy borders, this striking panel is the perfect project for any glass art enthusiast who loves birds. You'll find a list of glass colors on the pattern sheet. GPQ

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Big Bird
The King Penguin

Design, Fabrication, and Text by Leslie Gibbs

Photography by Jon Gibbs

Although once known as the largest of the 18 species of penguins, the King is actually second in height to its close relative, the Emperor penguin. But that distinction does not seem to concern these tuxedoed waddlers. Their main concern seems to be scarfing down as many as 2,000 fish in a single day, which may account for their portly profile. However, these epic hunters also have chicks to feed back home, so they store a good amount of their catch in their bulky bellies for the kids waiting anxiously back on land. This is not an easy venture, because often when they return home, they are met by blubbery roadblocks of elephant seals whose intentions are both unpleasant and immoral. (You will have to research that tidbit on your own.)

Home for the King penguin is in the Antarctic, mainly on Resurrection Island, which is known for its brutal weather conditions. If you want to visit these colorful birds, you will need at least an icebreaker and mittens. It will be far easier to recreate them in the comfort of your studio, so let's begin.

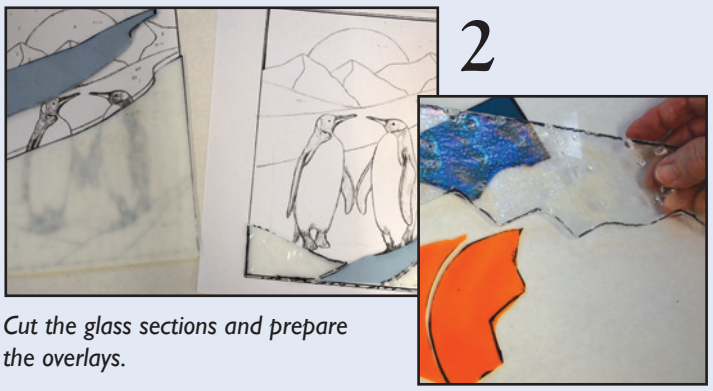
Wissmach Glass Co.
613 IR Williamsburg Blue Iridescent
for Mountain Shade, 3" x 5"
Additional Glass
Thin Steel Blue for Sky, 3" x 8"
Thin Tangerine for Sun, 2" x 4"
White Ring Mottle for Snow Side of Mountain
and Background Snowfall, 8" x 10"
Firelight White Textured
for Upper and Bottom Snowbank, 4" x 7"
90 COE Glass
White Rainbow Iridized
for Penguin Base Bodies, 6" x 12"
Thin Black Iridized
for Penguin Flippers, Back, and Head, 5" x 6"
Clear with Clear Iridized Frit
for Snowfall Overlay, 4" x 8"
90 COE Frit
Marigold Yellow for Penguin Chest Collar, 1 Tbs.
Orange OP for Penguin Cheek and Chest, 1 Tbs.
Tools and Materials
7/32" and 3/16" Silver-Backed Copper Foil
Fine-Tipped Paint Brush
White and Black Glassline Paints
Soft Brush Small Spoon Craft Adhesive
Toothpicks Cotton Swabs Soft Cloths
Novacan Black Patina Liva Stained Glass Polish
Kwik-Clean® Flux Remover Paper Towels
Homasote® Board Old Toothbrush
U-Came Zinc Silver and Black Sharpie® Pens
Craft Scissors Handy Hangers®
Ring Saw (Optional) 1/4", 3/4", and 1" Grinding Bits
Rubber Gloves Cotton Balls

1

Make at least 3 copies of the pattern.

You will need extra copies, since there are overlays for the snowfall, penguins, and lower snowbanks. Also make a copy of the pattern showing the overlay edges, which will be cut in to accommodate the framing.

2



Cut the glass sections and prepare the overlays.

Using one copy of the pattern, cut out the sections for the mountains, snowfall, penguins, and lower snowbanks. Set them aside.

Next cut the snowfall glass on the reverse side because of the frit. Be sure to support it with paper towels. Now cut the sky, sun, and lower snowbanks. Each of these sections must be cut 1/8" in on the edges, since they will be layered and will not fit into the zinc channel. They will butt up against the channel instead.

Cut the penguin base body in one piece, then cut the flippers, back, and head separately. Finish cutting all of the remaining glass sections.

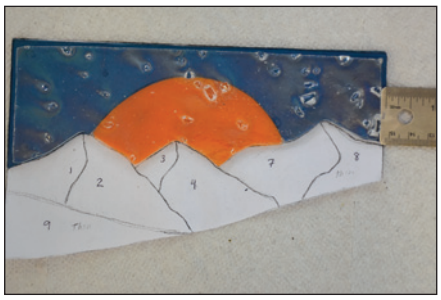
3

Grind the glass pieces.

Following the copy of the pattern with the indented margins, grind the snowfall, sky, sun, and lower snowbank overlays. Grind all the rest of the glass, base glass sections, and all of the penguin sections. Clean all of the glass sections and set aside.

4

Glue the sky and sun in place.



Working with the snowfall glass face down on a soft surface, use several small dots of craft adhesive and a toothpick to secure the sky and sun in place. The sky will extend 1/8" beyond the snowfall on the top and sides. Let the adhesive dry.

5

Fuse the sky pieces together.

Support the glued sky, sun, and snowfall piece and carefully place it in the kiln. Vent the kiln to burn off the adhesive and slowly ramp the kiln to 900°F. Close the kiln and slowly ramp to a tack fuse, approximately 1450°F. Always monitor your kiln, since they all react differently. When you're satisfied that the firing is complete, let the kiln cool to room temperature.

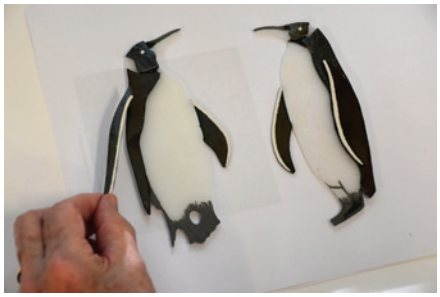
6

Add the highlights to the penguins.

Separate the cleaned penguin sections and use the white Glassline paint and a fine-tipped artist paint brush to paint the white highlights along the flippers and a small dot for the eye. Use the black Glassline to paint the penguin feet, belly fur, and top of the bill. Let the paint dry.

7

Attach the penguin pieces to the white base.



Using a toothpick, add small dots of adhesive to the backs of the painted flippers, heads, and backs of the penguins. Attach these to the white base glass. Separate the center flippers from the body. They will be soldered to the body after fusing. The birds will now have 3 layers of glass. Let the adhesive dry.

8

Add some color to the tuxedos.

Paint some adhesive onto the cheek patches of both penguins and sprinkle the orange frit onto the patches. Brush any excess frit off of the birds. Paint a "collar" of adhesive onto the upper chest of the penguins and sprinkle with more orange frit on about 3/4 of the area, then sprinkle yellow frit onto the rest of the area. Brush off any excess frit and let the adhesive dry.

9

Fuse the birds.

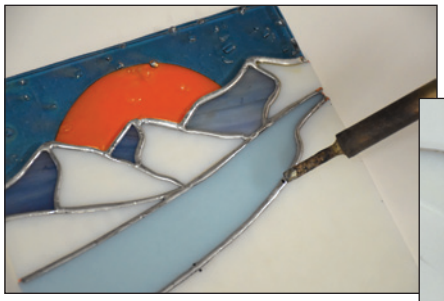
Once again, we are going for a tack fuse, so carefully place the penguins on the kiln shelf. Separate the center flippers from the body of the penguins. Vent to burn off the adhesive.

Slowly ramp to 900°F, close the kiln, then slowly ramp from 1400°F to 1450°F degrees or until you are satisfied and haven't lost the dimension of the 3 layers. Let the kiln cool to room temperature.

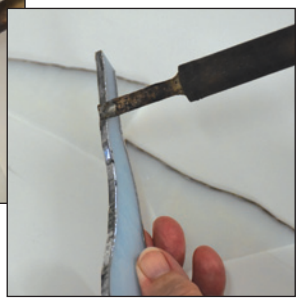
10

Foil the rest of the glass sections.

Use a wider foil on the fused sky/sun section. On the glass pieces that will be overlays, foil in just a few areas where the glass will butt against the framing. Foil the penguin bodies just up to the neck and foil the inner sections of the center fins.



11



Solder the entire base section, front and back.

Flux and solder the sections that will be overlays on the front and back, including the penguins, but don't bead the solder on the overlays or attach them to the background glass. Solder the center flippers to the bodies of the penguins. Apply black patina to the soldered overlays, then clean them and set them aside.

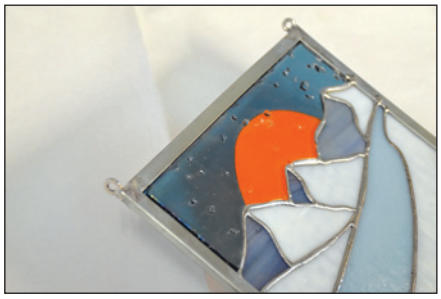
12

Frame the panel.

Secure the zinc framing around the panel with horseshoe nails. Solder the zinc at the corners and wherever it meets a solder line on the panel.

13

Insert Handy Hangers into the zinc channels at the top of the panel and seal them in place with solder.



14

Clean the panel and apply black patina.

Clean the panel with flux remover, rinse, and apply black patina to the zinc framing as well as the front and back of the panel. Clean the panel again and let it dry in preparation for applying the overlays.

15

Add dimension to the panel by adding the overlays.

Position all of the overlay sections onto the panel following the placement in the pattern. Flux only the areas that will contact a solder line or the zinc framing. The penguin on the left side will touch solder lines on his upper body along with an overlay at the tip of his tail. The penguin on the right will touch a solder line of an overlay on the bottom of his feet and a solder line near his chest and back. Solder the overlays onto the panel, then touch up the solder lines with black patina, clean, and set them aside to polish.

16

Polish the panel.

Using a soft clean cloth, apply a thin coat of polish to the snow, mountains, and penguins. Don't apply polish to the sun/sky/snow section because of the frit. When the polish dries to a haze, buff it carefully with a soft cloth. You may need a toothbrush to get into the tighter areas of the panel.

There you have it—two happy, well-fed King Penguins home from their nautical foraging and ready to feed their chicks, who may have been waiting several months for dinner. That reminds me. I too have hungry chicks to feed, and although they have not had to wait months for dinner, I hope they will enjoy their meal of regurgitated fish, which I call "Subantarctic Surprise." Follow me for more recipes and bring your mittens! **GPQ**

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

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

Glass Patterns Quarterly® Design Contest

Prizes
$400 Cash plus Additional Prizes

Theme
Summer: create a design that symbolizes your love for all things summer. Entries are open to four different categories—Mosaic, Copper Foil, Leaded, and Fused. There will be one winner for each category.

Eligibility
***Must be at least 18 years of age* to enter.**

Official Rules
Only one entry per person. By participating, each entrant acknowledges that entry materials, including high resolution images/pattern designs, become the property of Glass Patterns Quarterly®. Once you submit your entry, the submission is final and may not be modified or edited.
Only entrant's original work may be submitted. Entries also cannot have been previously published and must not infringe upon any copyright rules or trademarks. Plagiarizing the work of others will result in disqualification. Entrant understands that Glass Patterns Quarterly® will post the photos/pattern designs submitted for the contest on our website, social media sites, and in the magazine, and grants Glass Patterns Quarterly® permission to do so.

How to Enter
Email Kathy@glasspatterns.com with your name and contact info along with an attachment of an image of the completed project and/or pattern design. Images must be in JPEG format and should not exceed 15 MB. All entries must be received by 2/20/22.

Content Guidelines
Content cannot be sexually explicit or suggestive, unnecessarily violent, derogatory of any ethnic, racial, gender, religious, professional, or age group, be profane or pornographic, or contain any nudity. Content cannot promote alcohol, illegal drugs, tobacco, firearms/weapons, or any political agenda.

Judging
At the conclusion of the contest, a panel of judges made up of professionals within the glass industry will determine the contest winner in each group.

www.GlassPatterns.com

Just Another Day at the Office
Firing Schedules for Kiln Formed Glass

Text, Photography, and Diagrams by Bob Leatherbarrow

by Bob Leatherbarrow

Firing schedules for kiln formed glass are commonly expressed as a graph that starts at room temperature, heats up to a process temperature such as full fuse, cools to annealing conditions, and ultimately cools back to room temperature. Each segment of the schedule corresponds with a change in the slope of that graph. Most artists think of schedules as a continuum with the main focus on achieving a successful full fuse, tack fuse, or slump. I take a different approach.

Creating Within the Ductile Zone

The graph of the firing cycle can be divided into two distinct regions with vastly different behaviors (Figure 1). Between room temperature and 1000°F, glass behaves mainly as a brittle material that breaks when subjected to stresses that are greater than the strength of the glass. Above 1000°F, glass is an amorphous solid with chemical bonds that break over a wide temperature range, so above 1000°F glass behaves as a ductile material that bends at lower temperatures and melts together at higher temperatures in the ductile zone.

It is in the ductile zone that we do all of our creative work in kiln formed glass. We "live" with glass in the brittle zone where it breaks when dropped. We "work" creatively, however, with glass in the ductile zone where it is bonded together and shaped.

The properties of glass that are the most important in heating or cooling through the brittle zone are the coefficient of expansion and heat conduction. Glass is a poor conductor of heat. As glass is heated in the brittle zone, the glass surface will heat and expand more quickly than the interior, which is cooler and has expanded less because of poor heat conduction. If the difference in expansion between the surface and interior of the glass is great enough, the glass will break by thermal shock.

Similarly, the first cooling back down through the brittle zone after the glass has heated to a process temperature has to be done slowly enough to allow the surface and interior of the glass to contract at the same rate in a process called annealing. The main goal when initially heating through the brittle zone is to avoid breakage due to thermal shock. The main goal when cooling back down through the brittle zone is to prevent breakage due to improper annealing and/or thermal shock.

The properties of glass that are most important in the ductile zone are surface tension, viscosity, and heat conduction. They control relative melting temperatures of glass colors and the thickness of the unconstrained glass when it does melt. The main goal in heating glass in the ductile zone is to get the best visual outcome possible such as a fully fused piece that is bubble free or a well-shaped slump.

Three Distinct Zones

Rather than thinking of the firing cycle as a continuum with a focus on the process temperature, I prefer to think of it as three distinct and relatively independent zones: initial heating through the brittle zone, heating to a process temperature, and ultimately annealing and cooling back to room temperature. A very simple model for this three-step approach is to think of the firing cycle as just another day at the office (Figure 2).

The initial heating equates to heading to work without having an accident (thermal shock). The route to work might be fast down an expressway or it might involve slowing and stopping because of traffic jams. The speed equates to the heating rate in the brittle zone. Fast rates apply to thin pieces. Slow rates apply to thicker pieces, pieces that vary in thickness, pieces with lots of surface design elements, or significant differences in viscosity. Plan the ramp rate to avoid that accident.

Once the glass has successfully entered the ductile zone, using the "just another day at the office" analogy, it is time to do the job properly. Focus on getting the best visual outcome possible. Fire to prevent bubbles in fully fused pieces, get crisp tack fused outlines, or have slumped pieces that are well shaped with even rims and minimal marks from touching the mold. Doing the job properly involves understanding and using the properties of glass such as surface tension and heatwork to get the desired effect. How you got to work—that is, how you heated through the brittle zone—does not have any bearing on how you will do the job properly.

Once the job is done using the "just another day at the office" analogy, it is time to get home safely, accident free, relaxed, and stress free. This involves cooling the glass back into the brittle zone and annealing the glass to prevent stress within the glass, then cooling back to room temperature without thermally shocking the glass. Again, how you get home safely has little bearing on the job done that day.

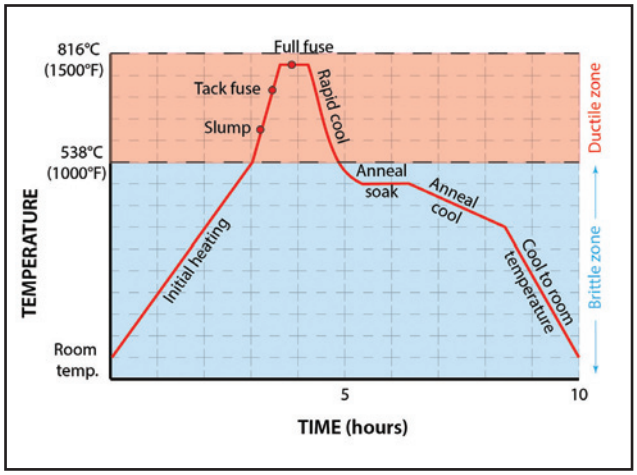


Figure 1. The typical firing cycle as a graph that depicts the heating of glass up to a process temperature and back to room temperature as a continual process through both the brittle and ductile zones.

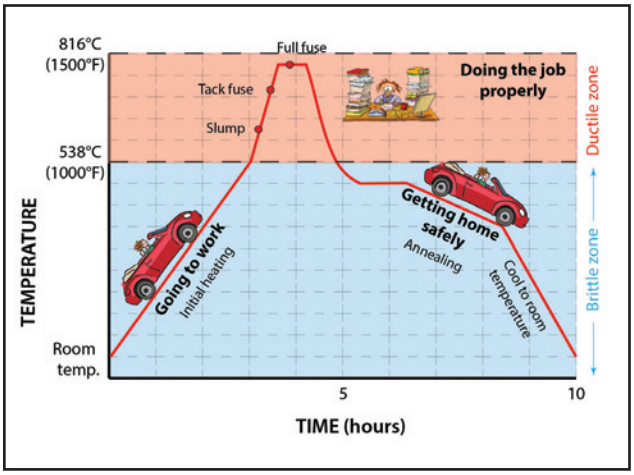
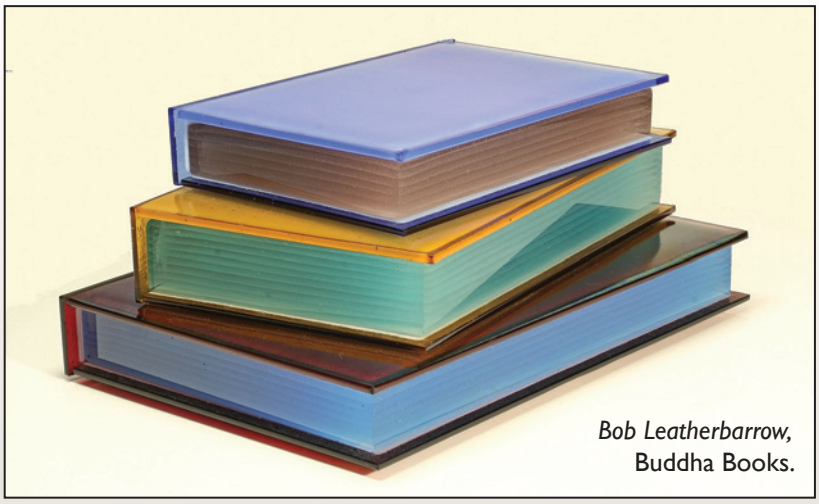


Figure 2. The firing cycle as a three-step process of initial heating up through the brittle zone (heading to work), heating to a process temperature in the ductile zone (doing the job properly), then annealing and cooling back to room temperature in the brittle zone (getting home safely).



Bob Leatherbarrow,
Buddha Books.

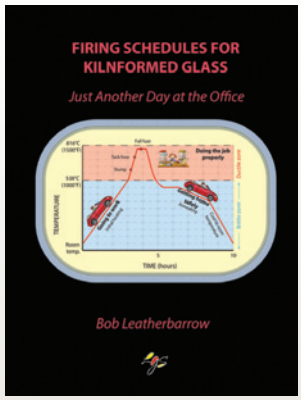


Figure 3. Cover image of FIRING SCHEDULES FOR KILNFORMED GLASS: Just Another Day at the Office *by Bob Leatherbarrow.*

The Perfect Analogy

This analogy of just another day at the office might seem a bit hokey, but it has improved my success rate in firing kiln formed glass. It allows me to focus on the relationship between the design of the piece and the relevant glass properties at each segment of the overall firing schedule. It also helps me to design the appropriate schedule for that part of the firing cycle. Each part of going to work, doing the job properly, and getting home safely is programmed independently of the other two, and the three component schedules are combined to make an overall schedule that is entered into the controller. The resulting schedule is based on a "dialogue" between the artist and the glass that is based on facts and experience rather than relying on the capricious kiln gods and goddesses for a successful outcome. It works for me.

If you are interested in following this approach consider buying my ebook *FIRING SCHEDULES FOR KILNFORMED GLASS: Just Another Day at the Office, available at www.leatherbarrowglass.com (Figure 3).* This extensive review is based on understanding the properties of glass, making critical observations throughout the firing cycle, and my 30 years of experience in working with kiln formed glass. GPQ

Bob Leatherbarrow established Leatherbarrow Glass Studio in Calgary, Alberta, Canada, in 1988 and has created original kiln formed glass ever since. Known for his innovative styles, techniques, and designs, he has taken an experimental approach to developing unique textures and color palettes using glass powders. His glass bowls and sculptures explore the subtle hues and delicate beauty of naturally occurring textures and encourage the viewer to ponder their origin.

In 2008 Leatherbarrow moved his studio to Salt Spring Island, British Columbia, where he continues to make glass and write e-books on his signature techniques. He has also been a popular instructor on both the national and international kiln formed glass scenes. Visit www.leatherbarrowglass.com to learn more about his work.

Kiln Casting With Plaster Powder

Design, Fabrication, and Text by Mark Lauckner

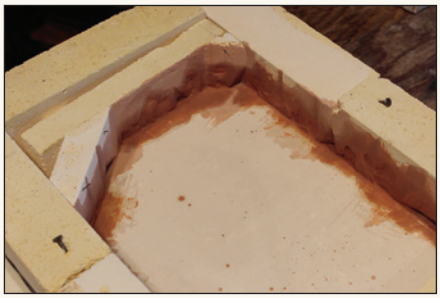
Dry plaster powder can be used to retain the original shapes of glass pieces on the surface of kiln castings. When dry plaster powder reaches 1100°F, the loose powder will stiffen enough to maintain form while the glass slowly flows in and around it. When cooled, the plaster powder can be brushed off and reused.

I wanted to create a thick casting that resembled chipped and chiseled amber or salt rock, like the salt rock lamps that have a chipped outer surface and reveal different densities throughout when backlit. Using dry plaster powder is a good way to create this effect in kiln cast glass.

For this project, I created the wood stand by gently charring the surfaces of a block of 2x4 construction grade lumber with a plumbing torch to accentuate the wood grain, then gave it two coats of varnish. To finish, I ran the block of wood through a table saw to produce the groove used for holding the glass. I like the effect—the appearance of very old wooden furniture.

90 or 96 COE Glass
Scrap Glass in Desired Colors
Tools and Materials
Plaster Powder Kiln Bricks
Wood Screws Stainless Wire
Shelf Primer Kiln Shelf
Hand Saw Screwdriver
Pliers Paint Brush
Kitchen Knife

1



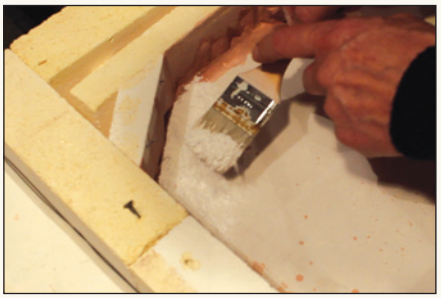
Use kiln bricks to build the mold dam.

Molds for thick kiln castings can be easily formed using kiln bricks. These are known as "insulating fire brick" or IFBs and cost around $5.00 each from potters' supply shops. Dismantled old pottery kilns are a great source for these. I cut them with a tile saw or a hand saw into various shapes for building a dam around the outside of my design.

The bricks can be chipped, drilled, screwed, rasped, and sanded easily with common woodworking tools. They do contain free silica, which is also known as crystalline silica. The dust created from shaping the bricks is a health concern, so I always work with them outdoors to minimize dust in my shop.

For this project I chipped the sides with a butter knife to imitate the chiseled effect I wanted on the edges. I did not chip the bottom, because I wanted a nice, even surface to set into the base. After the kiln brick pieces are laid out on a kiln shelf, I bind them with a piece of stainless steel wire wrapped around the outside, pin them together by wiggling and pushing short pieces of wire into them, and screw them together with long wood screws. When the dam is secured, I paint the insides with a decent coat or two of shelf primer. The wire expands slightly when heated, so it is used mostly to hold the mold all together while I screw and pin it together and apply the shelf primer.

2



Prepare the plaster bed.

There are many different types of plaster. Most will work fine. I prefer Pottery Plaster or Hydrocal, both available from potters' suppliers. Plasters to avoid are Hydroperm, which has a foaming agent, and Drystone, which has formaldehyde and curing agents. Also avoid using drywall "mud," which is not plaster.

I prefer to prefire the plaster powder to at least 1200°F before use. Plaster is hygroscopic, meaning it is a solid and attracts moisture from the air. I find that prefiring the plaster drives out the moisture that can compromise the surfaces of the cullet in the mold, slightly etching the glass. This can lead to devitrification. I gently tap the handle of a paint brush with loaded up bristles to evenly disperse the plaster powder.

For this project I am applying 1/4" of plaster powder to the kiln shelf, right up to the edges where the kiln brick mold dam begins. Using 1/4" is shallow enough to press my 3 mm design pieces into. If the plaster powder is too deep, my design may sink down too far and plaster powder may move too far up the sides of the pieces.

3

Prepare the front face image and texture.

I precut the feature pieces, which are a slightly darker color than the majority of the scrap volume, and carefully place them on the plaster bed. Then the chiseled effect is created using additional pieces arranged randomly throughout the rest of the plaster bed.

This first layer is the most important, since it will be the 3-D relief on the front face of the resulting casting. I carefully press these individual pieces about halfway down into the soft plaster powder, being very careful not to disturb the distribution of the soft powder, because every detail will be transferred to the glass.

4

Fill the mold.

After the design features are pressed into the powder, start to gently apply the second layer. I always rinse and dry the scrap glass cullet pieces before use to produce a much cleaner result. Dust can contain organic materials that leave traces of ash, and glass dust can trap tiny, tiny fizzy bubbles.

The score lines from glass cutters can leave crazed edges, which also trap rows of tiny bubbles, so I chip off the cut lines from my scraps with tile nippers before I include them in thick kiln castings. I am very careful not to splash the powder while adding chips, because plaster can rise up and become trapped between the pieces of glass.

The following layers can be added without as much care. For this project I am adding a handful of light amber, then a handful of clear chips, randomly placed, to build up the volume. I always hump up the volume in the middle of the mold, making sure that no glass pieces are touching the mold dam sides. This produces a flow of volume outward from the center toward and rising up the dam sides until it levels out. The result is a nice rounded edge on the casting that requires no cold working later. Alternatively, glass pieces touching the sides will melt and flow down and inward, leaving behind sharp points around the finished edge.

5

Fire the piece.

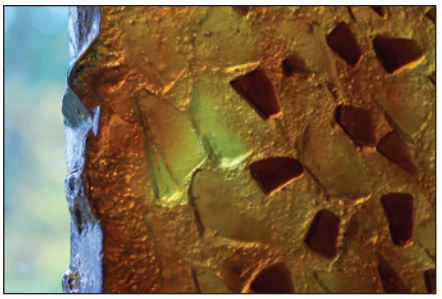
There's no risk of heating small pieces too quickly, so a fast ramping speed is okay. I prefer 600°F per hour or less, because I like how a slow melt traps less air. A fast ramp-up where the top of the cullet pile melts first can form a molten cap, which can trap air below.

Starting at 1300°F, I like to peek in and see the progression. As soon as the glass volume (hump in the middle) has flowed out to fill the extremities (corners and areas of small detail) I stop the firing. This is typically at 1400°F or so for 90 and 96 COE glass.

Kiln casting with pieces of scrap glass can indeed trap air bubbles, so I stop the firing before the glass becomes hot enough for bubbles to start to rise. I like to anneal for 2 hours for every 1/2" of thickness, so 4 hours for a project like this, then another 4 hours to ramp down, specifically through the strain point.

6

Dismantle the mold, remove the glass slab, and brush off any plaster powder before mounting in the wood stand.



If I intend to use the mold dam for multiple projects, I carefully remove the screws and separate the sides. After removing the glass slab, I can brush off the plaster powder and save it for reuse. A bristle brush and water is usually all that is required to remove the remaining plaster. Occasionally a bit of plaster powder will be wedged down in a sharp crevasse and may require a bit of picking with a pin or dental tool. Water-pressure spraying is always an option too. GPQ

Mark Lauckner has been working in glass since 1977, first in stained glass, then lampworking in 1979, warm glass in 1984, and hot glass since 1996. He has operated The Glass Foundry for 26 years, a production hot shop and fusing studio, with an adjacent gallery located on Salt Spring Island, British Columbia, the "arts mecca" of Western Canada.

The artist has remelted over a quarter of a million pounds of scrap glass and created over 180,000 cast and pressed glass items. His iconic line of marine and rainforest themed recycled glass giftware is available in 70 galleries and gift shops across North America. He has also redesigned equipment used in warm and hot glass studios to make them more energy efficient.

Mark's glass furnace designs have been in use in over 30 countries for 20 years. Being completely self-taught, he has developed "outside the box" glassmaking processes that have not been seen elsewhere, notably bending the rules in warm glass. Mark has also instructed dozens of kids and adult summer classes annually at The Glass Foundry since 1998 and has produced over 100 tutorial videos for warm glass, hot glass, equipment building, and mold making. For more info on Mark Lauckner and his work, visit www.theglassfoundry.com and www.facebook.com/MarkLaucknerGlass.

Glass Confetti Tray

Design, Fabrication, and Text by Ann Klem

Ready to make a fun, functional tray? Think confetti, think clear and transparent glass, then let's get started!

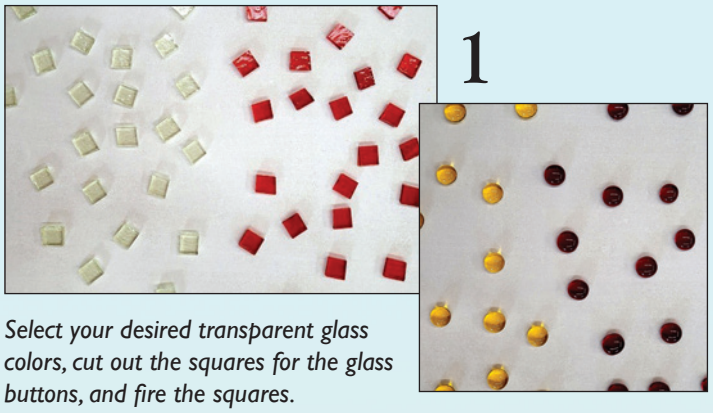
Preparing the Tray Base

To begin, clean all of the glass before cutting. Next you will need to cut two pieces of the Clear 3 mm glass to fit your tray slumping mold using your glass scorer and glass breaker. Note that the tray base can be the exact shape of your slumping mold, or for more excitement, it can be a new shape that still fits your mold, like the trapezoid shape that I am using here with my rectangular mold.

Next sift a thin, even layer of the clear glass powder over one of the clear glass tray pieces that you cut earlier. This will become the bottom layer for the tray. Place this bottom tray layer on a primed kiln shelf or on a piece of shelf paper. Now place the top layer of clear glass directly on top of the bottom layer. Once the base of the tray is ready, it's time to prepare the colored transparent glass buttons.

90 COE Glass
Clear 3 mm for Tray Base,
2 Pieces to Fit Slumping Mold
Four or More Transparent Colors for Design Buttons, 3" to 4" Squares
Deep Royal Blue
Yellow
Red
Orange
Kelly Green
Violet
Sky Blue
Turquoise Blue
Spring Green
90 COE Frit
Clear Glass Powder
Medium Black Frit (optional)
Tools and Materials
Glass Scorer Running Pliers/Glass Breaker
Slumping Mold Mold Release
Glass Powder Sifter Kiln Primer Coated Kiln Shelf
Kiln Furniture ThinFire Shelf Paper
Optional Tools
Flat Lap Glass Grinder
Tile Saw with Diamond Blade

Creating the Glass Buttons



Select your desired transparent glass colors, cut out the squares for the glass buttons, and fire the squares.

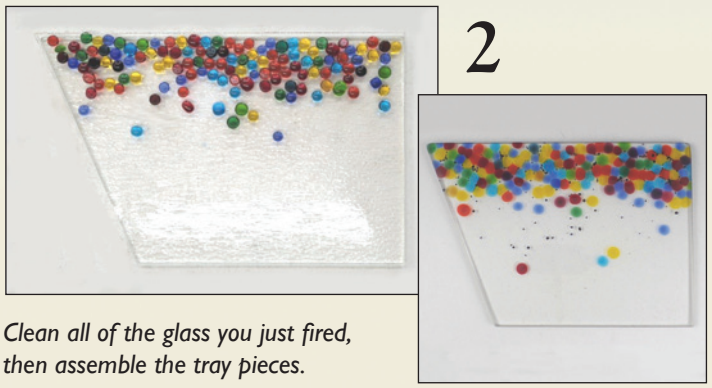
Cut the colored transparent glasses that will be used for the glass buttons into 3/8" squares using your glass scorer and running pliers/glass breaker. If you have room on your kiln shelf at this point, spread out the 3/8" squares of colored transparent glass on the shelf so that they are separated from each other by about 1/4". No touching allowed!

If you do not have room to fire the tray and the buttons at the same time, then fire your clear glass pieces first using the full fuse firing schedule below. Then fire the transparent colored pieces in a separate firing using the same full fuse firing schedule. Remember that all kilns fire a little differently, so you may need to make some adjustments to fit your own kiln.

Full Fuse Firing Schedule

Segment 1: Ramp 400°F/hr to 1100°F and hold 45 min.
Segment 2: Ramp 400°F/hr to 1250°F and hold 45 min. (allows colors to strike/bloom)
Segment 3: Ramp 400°F/hr to 1460°F and hold 15 min. (top temperature)
Segment 4: Ramp 9999 (AFAP*) to 900°F and hold 45 min. (annealing temperature)
Segment 5: Ramp 150°F/hr to 700°F and no hold.
*as fast as possible

Assembling and Slumping the Tray



Clean all of the glass you just fired, then assemble the tray pieces.

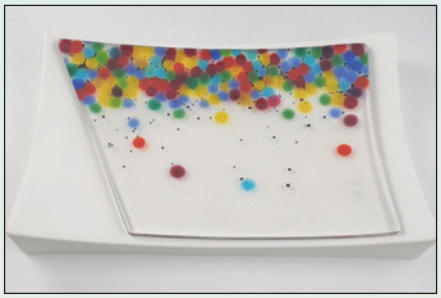
Spread a number of buttons on one side of the clear glass using about a third of the space. Make sure that all of them have their flat bottoms down. You can let a few seem to escape toward the center as shown in the photo. Be sure to keep the buttons at least 1/4" away from the edge to prevent bulging. If desired, you can sprinkle some black medium frit among the buttons for added interest.

Line your kiln shelf with shelf paper and place it on your kiln shelf. Fire the buttons using the tack fuse schedule below, remembering to make any adjustments, if needed, for you own kiln.

Tack Fuse Firing Schedule

Segment 1: Ramp 400°F/hr to 1100°F and hold 45 min.
Segment 2: Ramp 400°F/hr to 1250°F and hold 45 min. (allows colors to strike/bloom)
Segment 3: Ramp 100°F/hr to 1425°F and hold 15 min. (top temperature)
Segment 4: Ramp 9999 (AFAP*) to 900°F and hold 45 min. (annealing temperature)
Segment 5: Ramp 150°F to 700°F and no hold.
*as fast as possible

Clean the tray, straighten and smooth the glass edges as needed, and slump the tray to finish.



Clean your assembled and fired tray. If any sides of the glass have bulged because of the buttons, you can now use your tile saw to cut the edge straight again and make the edge smooth by grinding, or you can simply grind the edge to make a flat side using a flat lap grinder.

Coat your slumping mold with a release material and place it on kiln furniture above your kiln shelf so that air can circulate around the mold itself. Do not place the mold directly on the kiln shelf. Now place the assembled tray on the mold so that it is positioned to slump correctly. To finish, fire according to the slump firing schedule, making any necessary adjustments.

Slump Firing Schedule

Segment 1: Ramp 300°F/hr to 900°F and hold 45 min.
Segment 2: Ramp 100°F/hr to 1210°F and hold 30 min. (conservative schedule to allow for uneven thickness of glass)
Segment 3: Ramp 9999 (AFAP*) to 900°F and hold 45 min. (annealing temperature)
Segment 4: Ramp 100°F/hr to 700°F and no hold.
*as fast as possible

Your tray should now be complete. Enjoy!! GPQ

Kiln Scluptures by Ann

Inspired by science fiction, black holes and nature's processes, Ann Klem's creations start with an idea and a design. Then comes the cut, cast, fold, grind, and polish. Her creations give her a chance to explore the fluid forms of glass and how colors react with each other.

Often beginning by creating the "block of glass" either in the kiln or by laminating pieces together, Ann cold works the block to create the final sculpture. Other pieces are created by casting the glass in the kiln and allowing the glass to flow into a plaster mold. Folding glass is accomplished with multiple kiln firings and sandblastings to a single sheet of glass.

Ann admits to three addictions—glass, color, and ice cream. She is also a tool junkie. In addition to the kilns, she employs a variety of grinding and cutting tools that use air and electric power and, of course, water. While making lots of sludge, beautiful sparkling and matte finish creations emerge. Visit www.annklem.com to learn more about Ann and her glass art.

Winter Woods

Fabricated by Dionê Roberts and Akalia Woods, Design and Text by Dionê Roberts,

Take a walk through birch-filled woods on a moonlit winter evening and you'll see the designs that are so much a part of the bark found on these remarkable trees. Capturing this striking scene in glass provides a way to remember those quiet evening strolls and celebrate the wonders of nature.

96 COE Glass

Sky Blue Transparent for Background, 8" x 10"
White or White/Brown Opalescent for Birch Trees, 4" x 11"
Charcoal Gray for Rocks, 8" x 4"

96 COE Glass Frit

Medium Dark Blue Transparent for Sky
Medium Blue Topaz Transparent for Sky
Pewter Gray Opal Fine Frit for Sky
Medium White Opalescent Frit for Snow
Coarse White Opalescent Frit for Snow
Fine Black Frit for Rock Shading

Tools and Materials

8" x 10" Picture Frame
Reusche Best Black paint
Palette Knife Gloves
Stiff Bristled Brush Fan Brush
Blue Painters Tape Glass Cutting Tools
Mosaic Cutter Plastic Spoon
Small Brush Mask Pipette
Nonareosol Hair Spray Silicone

1

Add the black stripes to the White/Brown opal glass.

Mix the Reusche Best Black paint with a palette knife and a small amount of water to a consistency of heavy cream. Dip the tips of the fan brush into the black paint and brush irregular strokes across the width of the 4" x 11" White/Brown opal glass. Make your strokes organic and uneven. Use the edge of the fan brush to also make some vertical lines in an irregular pattern.

2

Use the stiff bristled brush to add a splatter pattern.

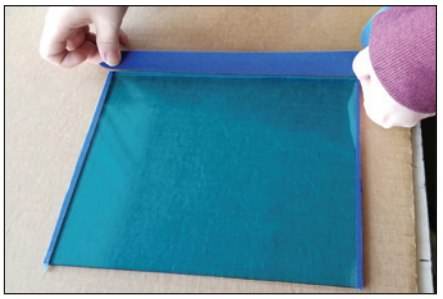
Load some paint onto the stiff bristled brush. Wearing gloves, run your finger across the bristles to add a spatter pattern to the glass. Fire the glass to mature the paint according to the firing schedule below. Remember that all kilns fire differently, so you may need to adjust the schedule to fit your own kiln.

Firing Schedule

Segment 1: Ramp 300°F/hr to 800°F and hold 10 min.
Segment 2: Ramp 9999 (AFAP*) to 1150°F degrees hold 10 min.
Segment 3: Off.
*as fast as possible

3

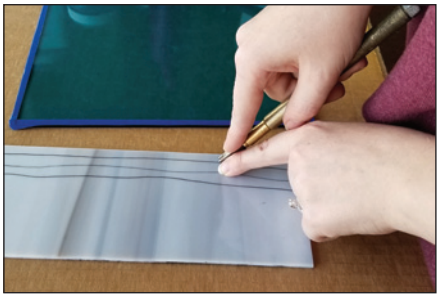
Cut the Sky Blue background glass to fit the picture frame opening.



Remove the glass from the picture frame and save it for another use. Cut an 8" x 10" piece of the Sky Blue Transparent fusible glass. Measure the lip on the back of the frame. The lip on this frame was 1/8", so blue painters tape was placed around the Sky Blue glass 1/8" in to mask the edges and help the piece fit into the frame when the design is finished.

4

Cut the White/Brown painted and spattered piece of glass, cutting the length of the glass, to make the birch trees.



Decide how many trees you would like in your piece and cut them out on the unpainted side of the glass. The tree trunks should be uneven.

5

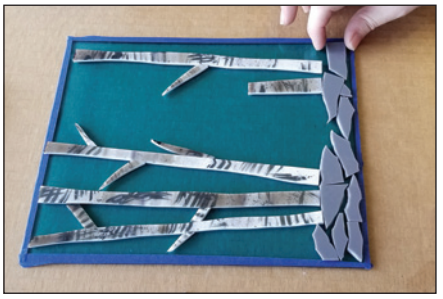
Place the trees onto the glass and cut some short branches to add to the trunks.

When placing the main tree trunks, make sure that they sit to the edge of the blue painters tape. Trim the trees with a glass cutter so that they are about 1-1/2" from the bottom of the Sky Blue glass. An uneven number of trees on one side of the design and an even number on the other makes it more interesting. Also feel free to add a short stump.

Using your glass cutter, cut some pointed branches to add to the trees, then use the pipette to glue them in place with the nonaerosol hairspray.

6

Cut some rocks to add to the bottom of the design.



Nip irregular pieces of the Charcoal Gray glass into rock-shaped pieces with the mosaic cutter. Arrange them in one layer at the bottom of the piece, butting them up against the bottoms of the birch trees. Using the pipette, glue the rocks in place with the nonaerosol hair spray.

7

Add a partial second layer of gray rocks and glue them in place.

It important on this layer that the rocks sit over the bottoms of the birch trees to suggest depth.

8

Use the spoon to sprinkle on horizontal patches of the blue frits to enhance the night sky.

Using the plastic spoon, create horizontal patches in the center of the night sky with the Dark Blue and Blue Topaz transparent frits. The patches should overlap with the Dark Blue in the center and the Blue Topaz on the top and bottom of the Dark Blue. Use a small brush to remove any of the blue frits that get on the trees. ***Always be sure to wear a mask anytime you are working with frit.***

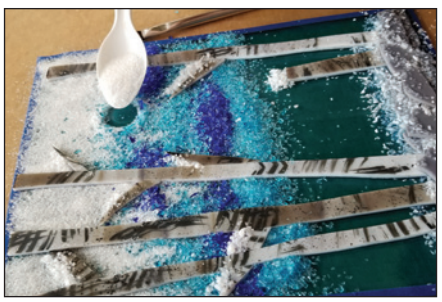
9

Sprinkle the Pewter Gray Opal frit at the top of the night sky and glue in place.

This should overlap into the blues.

10

Create a space for the moon and fill it with White fine frit.



With your finger, make a circular opening in the Pewter Gray Opal frit in the night sky and carefully fill the space with a White fine frit moon. Use your pipette and the nonaerosol hairspray to saturate the frit and hold it in place.

11

Add medium and coarse White Opalescent frit for the snow and Black frit for the rock details.

Use medium White Opalescent frit to create snow on the branches, stump, and rocks. With a small brush, move some of the snow off of the rocks so that the gray shows through. Also add a very fine sprinkling of black frit in some areas of the rocks. Glue all of the frit in place.

Add Coarse White Opalescent frit snowflakes throughout the sky, on the rocks, and on the trees. Carefully remove the painters tape before the glue dries on the piece. Tack-fire the piece to finish, adjusting the schedule below to fit your own kiln. If you decide to use 90 COE glass instead of the 96 COE used here, you will need to adjust the top temperatures and annealing temperatures.

Tack-Fire Schedule

Segment 1: Ramp 300°F/hr to 800°F and hold 10 min.
Segment 2: Ramp 275°F/hr to 1240°F and hold 40 min.
Segment 3: Ramp 9999 (AFAP*) to 1375°F and hold 10 min.
Segment 4: Ramp 9999 (AFAP*) to 950°F and hold 120 min.
Segment 5: Ramp 200°F/hr to 700°F and hold 1 min.
Segment 6: Off.
*as fast as possible

When your fused panel is finished, use silicone to glue it in place inside the frame and add chain or hangers as desired. Now it's time to enjoy your beautiful fused glass artwork. GPQ

Dionê Roberts caught the glass bug early in life. She worked with glass making mosaics, original designed stained glass panels, and fused glass in her spare time. In 1994 the artist made glass her full-time work when she opened D&J's Glassworks in Billings, Montana.

During her glass career, Dionê has had 12 pattern books of glass designs published and continues to design for glass stores around the country. Currently, her passion is painting on glass with kiln fired enamels. She sells her work in local galleries.

Landscape Lampscape

Ambient Art Lighting, A Cordless Way to Illuminate Your Artwork

Design, Fabrication, and Text by Petra Kaiser

This is a two-in-one project. In the first part I will show you how to make a glass stand for your artwork and the new undercabinet cordless LED lights, which can be recharged via USB plug. It's like a dream come true. Those undercabinet lights come in all different sizes. I chose a rectangular one that is 5-1/2" long by 1-3/4" wide and 3/4" high.

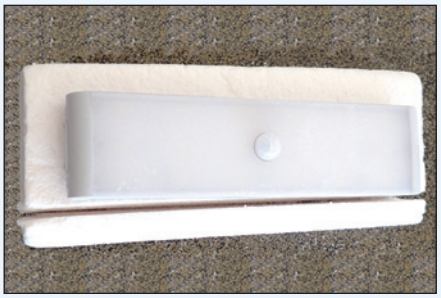
Let me take you through my engineering thoughts. First of all, we need a diffuser, since we don't want to see the single LED lights. I decided that a white piece of glass would fit the bill. The light that I found has a little motion sensor on the top, so I cannot glue it to the underside of the white glass. But that's not an option anyway, since I need to be able to offset the light to turn in on and off and to charge it.

Holding the lamp directly under the glass did not diffuse enough, and I could still see each little LED lamp. Just a little more distance solved that problem. When you follow my step-by-step stand instructions, you will see how simple the solution is, once I chose this one out of the many that were going through my head.

Wissmach 96 Glass
96-03 White for Stand, 5" x 11"
96-57 Crystal/White for Design Background, 7" x 12"
96-50 Turquoise Green for Design, 7" x 3"
96-13 Deep Sky Blue for Design, 7" x 3"
96-35 Blue/Olive Green for Design, 7" x 3"
Additional Glass
Clear or White, 5" x 1/2"
Random Glass Pieces in Desired Colors
Tools and Materials
Cordless LED Under Cabinet Light, 5-1/2" x 1-3/4" x 3/4"
Kaiser Lee Board 1" x 8" x 9"
Gorilla® Glue
Papyros® Kiln Shelf Paper

Part One: Making a Lighted Glass Stand

1



Use a piece of Kaiser Lee Board that is about 1/2" wider than your light source.

From previous mold makings, I have several pieces of Kaiser Lee Board (KLB) lying around. This small rectangle, of course, was a little bit too wide, so I cut off just a small bit. For this particular LED lamp you could use a piece of KLB 4" long, 2" wide, and 1" high.

2

Create the underside holder.

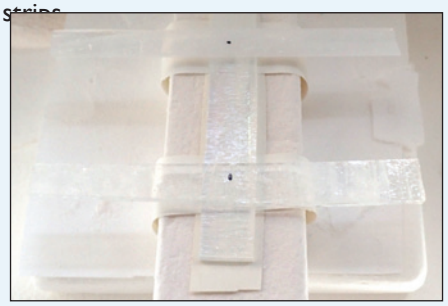
Since the feet have to go down an inch and should also bend about 1/2", I cut the side strips 3" longer than the width of the KLB mold. The center strip does not have to be as long as the lamp, which is lightweight and just needs to rest on something. My center strip is 6" long by 3/4" wide, and the 2 side strips are 5" long by 1/2" wide.

3

Prepare the holder mold for firing by wrapping it with a Papyros strip.

For easy release, I used a Papyros strip a bit wider than my glass pieces, wrapped it around the KLB once, and fixed it with a little piece of tape. I also cut a strip for the center glass piece and placed it under the two strips.

4



Fire the holder.

I happened to have a piece of Papyros paper on my KLB kiln shelf from a previous firing that was ideal for this project. I set my strip construction with the KLB mold on top of it so that the feet would land on the shelf and the preused shelf paper.

You can fire your holder with everything else, or if you have a smaller kiln that will fit only this project, you can speed it up and fire as follows. Remember that you may need to adjust the firing schedule to fit your own kiln, since they all fire differently.

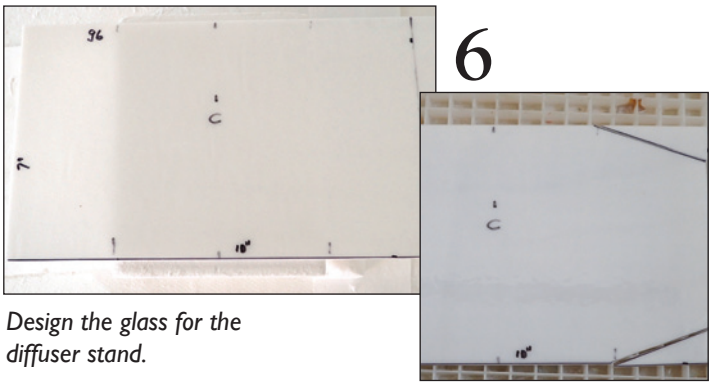
Firing Schedule
Segment 1: Ramp 900°F/hr to 1000°F and hold 10 min.
Segment 2: Ramp 9999 (AFAP*) to 1405°F and hold 10 min.
Segment 3: Ramp 9999 (AFAP*) to 900°F and hold 10 min.
Segment 4: Let cool to room temperature
*as fast as possible

5

Create the stand mold using pieces of KLB.

To create a stand mold, we need to raise the glass piece higher than the holder is. In this case, I added a few strips, which I rounded on the top, to a piece of KLB. You might have guessed by now that I am trying to make do with what I already have. Since you can fire over and into KLB, every piece of Kaiser Lee Board you might have lying around can be used to construct something new.

The small octagon-shaped pieces in the center are little ceramic tiles that we got from the hardware store years ago. They never come in contact with the glass. We are only using them as mold raisers. In this case we made 2 posts of 3 layers, a little trick that Dick G., one of my students, showed me many years ago.

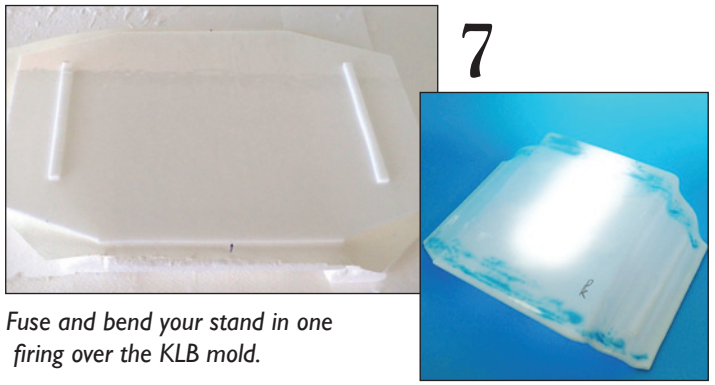


6

Design the glass for the diffuser stand.

Your first consideration is the size. For the lamp and the holder, we need it to be at least 7" long. Also make sure that the side where you want to pull out the lamp will stay open. On the sides we want the glass to go down and hit the kiln shelf to make the stand even and high enough, so I added another 2" on each side.

After that, I thought about ways to make the design a bit more interesting, so I cut off the triangles as marked. For better placement, I also marked the center line on the glass as well as on the mold.



7

Fuse and bend your stand in one firing over the KLB mold.

Once you have the base cut and have set it with a piece of Papyros paper on your mold setup, you are ready to fire, but I wanted to try something else. Will this strip of glass fuse before the glass bends down? Will it slide off? As you can see in the finished piece, I also added some fine frit, using some of the same colors that I will be using for the top part. Use the suggested firing schedule below, making any necessary adjustments for your own kiln.

Firing Schedule
Segment 1: Ramp 600°F/hr to 1000°F and hold 10 min.
Segment 2: Ramp up 9999 (AFAP*) to 1405°F and hold 10 min.
Segment 3: Ramp down 9999 (AFAP*) to 900°F and hold 60 min.
Segment 4: Ramp down 100°F (AFAP*) to 700°F and no hold.
*as fast as possible

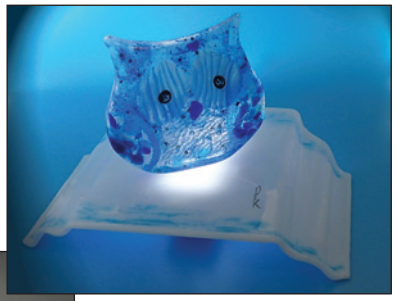
8

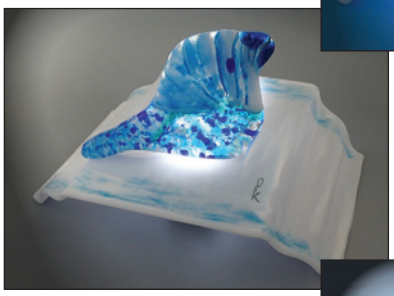
Glue the light holder to the stand.

Don't do as I did. I glued the "holder" too far down. I should have cold-fused the closed part closer to the upper rim. Luckily, it just fits.

A customer of ours introduced us to a two-part glue that seems to be perfect for glass. One part is the glue and the other is water, but you can use any kind of glue that works for you. It does not have to hold a lot of weight or pressure. Now you can use your stand to illuminate all kinds of artwork!

The owl is a project I taught at the Glass Art Symposium 2021.





This is one of my favorite casting molds. I see a bird, but several of my friends thought it is a seal.

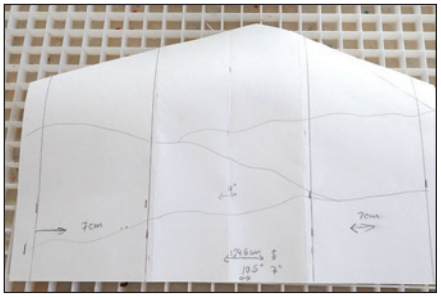
This is one of the reactive art pieces we introduced in our webinar with Maureen James and Marcie Davis.

Part Two: Creating the Landscape Lampscape

One of the themes for this issue is landscapes. I like shapes, and I like abstract art. I have tried my hand at more realistic art, but I did not like it. I throw everything I make that I don't like into the frit or stringer maker and promised myself I would stay away from trying realistic art, but I think my landscape isn't so bad after all.

In the next steps, I will take you from concept to finished lamp. Join me in my journey. I hope you will give it a try and send me some pictures of your interpretation of a Landscape Lampscape.

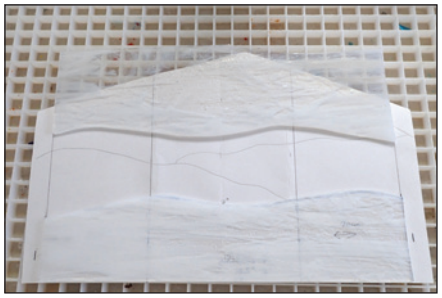
1



Start with a cardboard template.

Whenever I plan a sculpture, I like to use cardboard as a template. It helps me to determine the right size, including the width to height ratio. We added the pattern to the pattern section of this issue. I also used it to cut out the piece of Papyros paper to build and fire our light sculpture on.

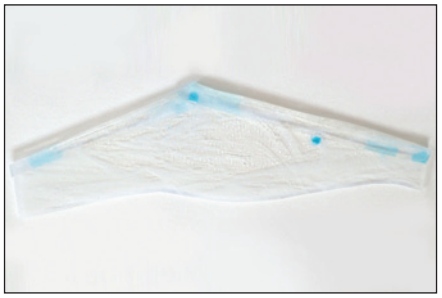
2



Prepare the base glass.

In this step I usually work with a general idea and some random glass pieces like my 96-57 Crystal and White, which I chose as a base glass. It did not have exactly the height I was looking for, but it lead to a more interesting design. I divided it with a wavy line, before I cut off the top triangles to create the slants.

3

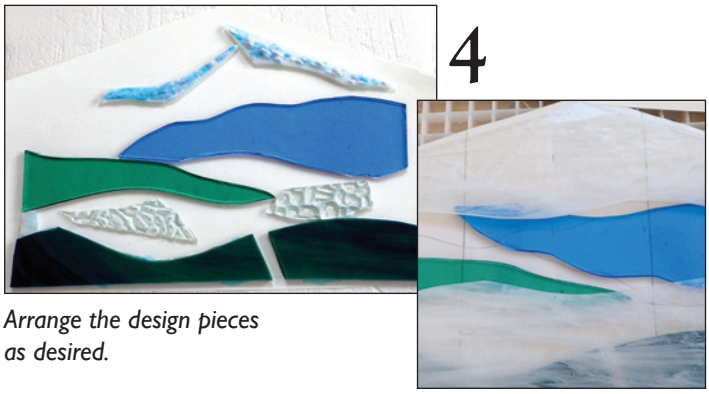


Enforce the top of the lamp.

With two 1/4"-wide strips, I made sure that the top of the lamp has a nice rounded look. I also made sure that the strips would fit exactly and glued them to the underside of the glass.

In addition, I used 2 smaller pieces with some glass powder in purple and some Wissmach Textured glass with some paint in the groves to add interest. Make sure to place the Papyros paper on a kiln shelf ***before*** you start building your sculpture.

4



Arrange the design pieces as desired.

This lamp will be a mix of one and two layer designs using the Wissmach 96-50 Turquoise Green and 96-13 Deep Sky Blue. With standing sculptures, I always like to add a second layer on the bottom part. As you can see, the 96-35 Blue/Olive Green piece of glass did not have the right width, so I cut it apart somewhere to the right in the center part of our lamp.

As I arranged the glass pieces for the design, I made sure that the blue/green glass was touching the crystal/white in some spots. I also filled in the gaps with "homemade" frit that I made from other random pieces. Lately I am on a quest to generate as little "scrap" glass as possible, but so far I am not succeeding. It seems to have a tendency to multiply.

5

Add the finishing touches before firing the design.

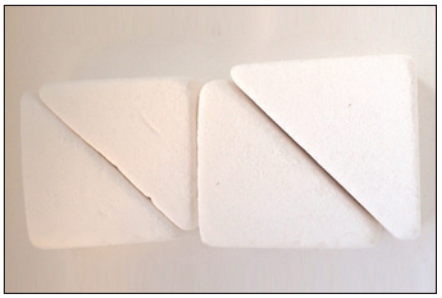
The gap in the base layer lead to another design decision. I placed the prepared Wissmach textured glass on top, and I could dream of walking along this path, right into nature. The little square with my initial logo is at a spot where there is only one layer underneath. I wrote this one with a my go-to enameling paint.

Now set up your kiln shelf in a kiln. If you use a fiber shelf, like Kaiser Lee Board, you can place it directly on the kiln floor. Make any necessary adjustments for firing in your own kiln.

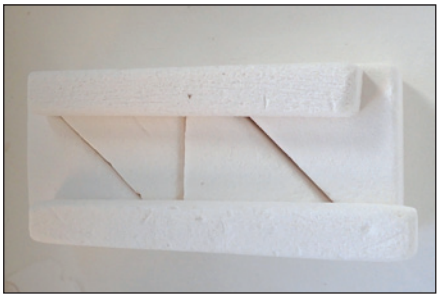
Firing Schedule

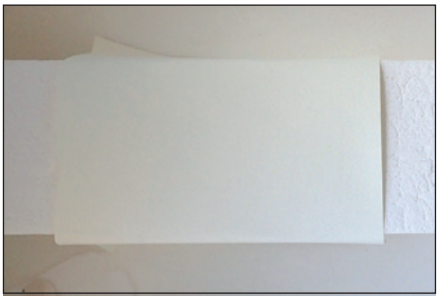
Segment 1: Ramp 600°F/hr to 1000°F and hold 10 min.
Segment 2: Ramp up 9999 (AFAP*) to 1410°F and hold 10 min.
Segment 3: Ramp down 9999 (AFAP*) to 900°F and hold 60 min.
Segment 4: Ramp down 100°F (AFAP*) to 700°F and no hold.
*as fast as possible

6



Create the setup for draping the sculpture.





When I drape my sculpture, I usually look around for pieces of KLB that I already have. In this case I needed a piece 4" wide and at least 7-1/2" long. The setup also needs to be about 4" high. In the images, you can see what I came up with.

It is important that the sides where the glass will come down are closed so we don't have any undercuts. You could just use strips of board, other pieces that are not any wider than 4" together, or a combination of many. I also bend the Papyros paper, which makes it easier for the glass to drape.

7

Drape-fire the sculpture.

All you have to do now is to make sure to center the glass piece on the KLB setup and fire using the schedule below, adjusting it as needed for your own kiln.

Firing Schedule

Segment 1: Ramp 300°F/hr to 1000°F and hold 10 min.
Segment 2: Ramp up 9999 (AFAP*) to 1220°F and hold 12 min.
Segment 3: Ramp down 9999 (AFAP*) to 900°F and hold 60 min.
Segment 4: Ramp down 100°F (AFAP*) to 700°F and no hold.
*as fast as possible

I hope you will enjoy this project. If you have any questions, please contact me at petra@kaiserlee.com. GPQ

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

Petra loves to teach and shares her cutting-edge techniques and designs with students in her Fuse It Studio and all over the world. She has also shared her innovative ideas in three books from Wardell Publications as well as through numerous articles in various international glass magazines. Visit www.kaiserlee.com to learn more about Petra's glass art and workshops.

Kiln Corner
Learning to Master Firing Schedules

by Arnold Howard

Photos Courtesy of Arnold Howard

Some people feel that a firing schedule should give the same results from one kiln to another, because digital kilns are programmed with mathematical accuracy. However, every kiln fires a little differently, so tweaking a schedule is often necessary.

As an eight-year-old, I painted by numbers from kits. I was careful to paint within the lines until my older sister, Kate, taught me to blend the oil colors with my brush. "Don't stay within the lines," she said, as I watched her blend the colors of a collie she was painting.

A published glass firing schedule is like painting by numbers. Though extremely valuable, schedules are meant to be a starting point for your own experiments. Feel free to alter them.

Changing Firing Schedules to Fit Your Own Kiln

Why do results vary from one kiln to another? A large kiln may not be able to keep up with the firing rate of a schedule that was made for a small kiln, since the large kiln takes longer to heat and cool than the small one. A kiln that has elements only in the top will give different firing results than one with elements in the top and walls.

Change the firing schedule by watching the glass as it fuses. *Be sure to wear green #3 firing safety glasses.* Watch through a kiln peephole, a glass window, or even by opening the door of a front-loader half an inch and looking inside for a second. If the glass hasn't fused correctly using the published temperature, change the temperature. Turn the kiln off or skip to the next segment only when the glass looks exactly the way you want and write down that temperature. The next time you fire the kiln, use the new temperature.

In the Skutt ceramic kiln, with elements only in the walls, glass must be fired slowly, which is why a normal glass firing schedule may need to be altered for this kiln.

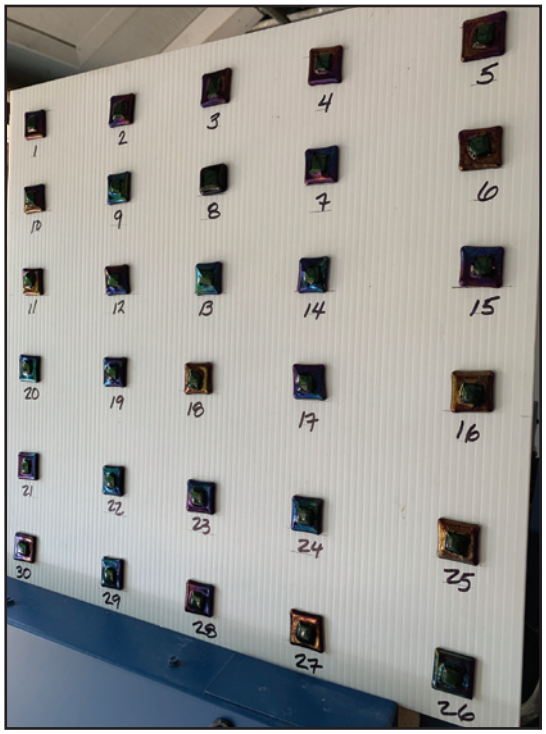
The massive Paragon Pearl-56 has elements in the top, four sides, and bottom, so it fires differently than a kiln with elements only in the top or sides.

Testing the Heat Distribution of Your Kiln

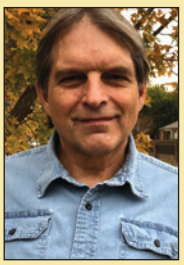
Firing a kiln is like driving a car. An excellent driver is guided by the "feel" of the road and the controls. The more familiar you become with your kiln, the quicker you will fire it by feel rather than only by numbers.

To become familiar with your kiln, run a heat distribution test. Place small squares of glass, stacked two layers high, throughout your kiln shelf, spacing them evenly. Fire them to a tack or medium fuse. After the kiln cools to room temperature, glue or tape the samples to a poster board. The board is a map showing where the cooler and hotter areas of your kiln are.

Whether you fuse glass as the ancients did, with a fire in the desert sand, or you use a digital controller, the kiln is only a tool. No matter what type of control system you use, the results depend solely upon your own creative judgment. GPQ

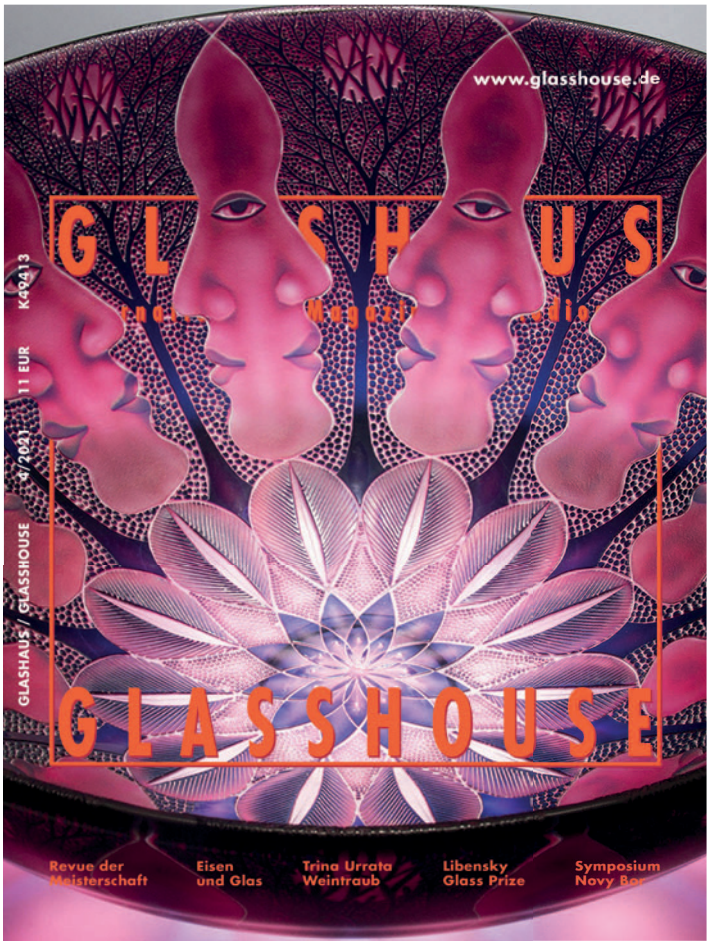


In this heat distribution test, each glass square has two layers. The top layer is smaller than the bottom. Space them evenly throughout the shelf.



Since 1977, when Arnold Howard began working at Paragon Industries, he has seen kilns evolve from switches to touch screen displays. He helped test the early glass kilns, wrote Paragon instruction manuals, and taught kiln classes in America, Australia, and England.

Arnold started Howard Kilns, LLC, a repair and preventive maintenance business, in September 2019 to serve the Dallas-San Antonio, Texas, area and works on all brands of kilns. Feel free to contact him at arnoldhoward@gmail.com.



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Stained Glass Crafters Workbench
7515 Eckhert Rd
San Antonio, TX 78240
210-647-7475
www.sgcworkbench.com

VIRGINIA

Laurel Gallery
2805 Hungary Rd
Richmond, VA 23228
804-672-6804
www.laurelgalleryrva.com

WASHINGTON

Glass Expressions
648 SW 152nd
Burien, WA 98166
206-242-2860

Northwest Garden Bling
44574 SR 20
Concrete, Washington 98237
360-708-3279
www.facebook.com/northwestgardenbling

WISCONSIN

The Glass Garden LLC
25 W Milwaukee St
Janesville, WI 53548
608-754-3718
www.eglassgarden.com

CANADA

Alphabetically arranged by province, city, then store name

Glass Expressions
2925 Comox Road
Courtenay, BC Canada V9N 3P7
250-339-7739

Huronia Art Glass
680 Bay View Dr Unit 3
Barrie, ON Canada L4N 9A6
705-721-1323
www.huroniaartglass.com

Artistry in Glass
5-1615 North Routledge Park
London, ON Canada N6H 5L6
519-641-0443 / 877-386-1116
www.artistryinglass.on.ca

Downey Stained Glass & Gifts
739 Hwy 105
Maugerville, NB Canada E3A 8L1
506-357-3338

Glasscraft
159 Broadway
Orangeville, ON Canada L9W 1K2
519-941-2505
www.glasscraftcanada.ca

Advertisers' Index

Introducing a new addition to the Cress line of Glass Kilns
Our GL717B is the Ultimate Kiln for the home fuser

Patty Gray

In my 30 years of working in kiln-formed glass I have used many different manufacturers' kilns.
I have been fortunate to have Cress Kilns in most of my classes because reliability and consistency is critical to a successful class. Cress kilns has been open to suggestions, I talked to them about building a kiln for both home studio use and classes that runs on a 120v/20amp circuit.
They listened to my input about size and design and built the GL717B.
This kiln is large enough to fuse and slump 15" bowls, and I can fuse eight of my 6"x 6" molds.

- **Generous 17" x 17" x 6.75" Interior**
- **Easy to open, 2.5" thick fiber lid with a strong lid brace and locking mechanism**
- **Firebrick brick floor and sides with dual heating elements, for perfect heat distribution**
- **Comes standard with the user-friendly Bartlett 3 key digital controller**
- **Cress digital controller has room for 4 programs with 8 segments**
- **Slanted control panel for easy use and view**
- **Superior rivited steel casing with solid handles make it easy to move**
- **Long-lasting solid-state relays**
- **Requires a 30 amp 120 volt outlet**

Model	Volts	AMPS	Temp.	Inside Dimensions	Outside dimensions	Plug type
GL717B	120 VAC	18	1700 °F	17X17X6.75"	31" W x 25" D x 21"H	5-20P

Cress Mfg. Co., Inc. 4736 Convair Dr.Carson City, NV 89706
Phone (775) 884-2777 Fax (775) 884-2991Website www.cressmfg.com
Email info@cressmfg.com

Paul Bruni

Jody Bachetti

Are You a Proud User of Wissmach Glass?

Thank you to all participants for sending in your images. If you don't see yours, it might be in one of our upcoming showcases.

You too can participate in this "Friends of Wissmach Glass" artwork showcase.

Please visit wissmachglass.com and search in our blog for "How to participate in showcase?".

Tammie Pursley

Marcia Hopkins York

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