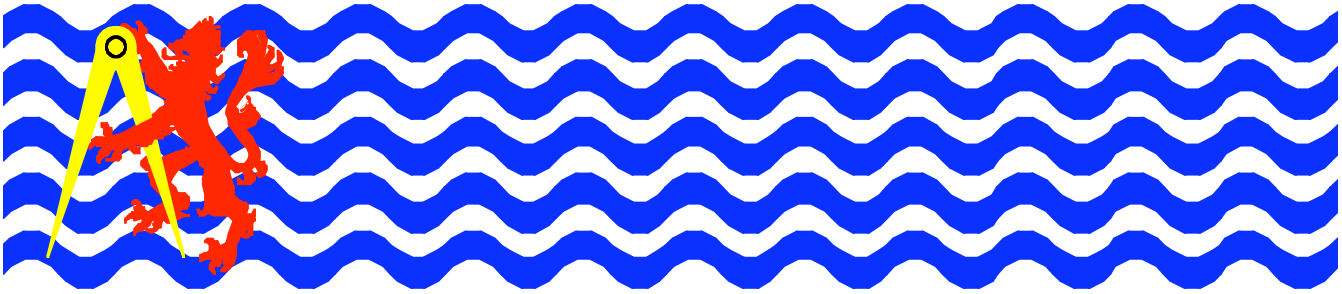

Stained Glass Windows for Every Event

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by Master Tomas Fraser

Glass is a medium as old as history. The same early cultures that discovered bronze also found a way to combine several substances creating glass. The properties of fused silica, the major intergradient of glass, are those of neither a conventional liquid nor a solid. Technically known as a "supercooled liquid," glass does not crystallize on leaving the furnace. Instead it remains uniform in consistency. This property gives glass of all kinds – opaque or transparent, clear or colored – a unique refractive, sparkling quality when penetrated by light.

The art of stained glass has always occupied a special place in the popular imagination. The translucent, radiant quality of the medium produces an aesthetic experience different from any other art form.

The history of stained glass is rooted in architecture. For its effects, most stained glass depends on a spatial and structural context. The embodiment of heaven experienced in the interior of a great church filled with stained glass glittering with all manner of jewel-like materials. In the Middle Ages, churches were the meeting place of heaven and earth. The stained glass depiction of great events added an element of power and majesty.

Stained glass windows are a fundamental part of the medieval experience we are recreating for everyone around us. How can we bring this part of medieval thinking and experience to our events? Real stained glass windows are expensive, fragile, heavy, and difficult to store and move. The balance of this article describes a method for making simulated stained glass windows with tissue paper and fabric. This method of making stained glass like windows is inexpensive, reasonably durable, light, and easy to store.

With a stained glass window, it's the aesthetic experience of the translucent, radiant quality the medium produces. The window produces an image and color by allowing light to pass through it unlike an illumination that relies on light reflecting off its surface.

Tissue paper applied to a fabric panel using clear gloss polyurethane and black enamel paint for highlights and details can reproduce most of the effects of stained glass windows.

Making a simulated stained glass window.

The first step is to decide on the design and size of window. The design is always the hardest step. You have to think about where the window will be used. This helps to nail down the size quickly and begins to limit the subject mater of the design. My first window was a simple abstract picture of a scorpion figure 1. It helped me understand the construction techniques needed to simulate stain glass windows using tissue paper on fabric. From here, I and others have produced more complicated and detailed windows for al-Barron Midwinter feast.

Figure 1, Experiment

Use familiar subjects when trying new projects like a coat of arms or geometric design and look at all kinds of pictures of stained glass windows for characteristic patterns of design. The techniques described here are very similar to though used to produce real stain glass windows but substituting colored paper, white muslin, clear polymer, and paint for the traditional stain glass materials and the method the new materials impose. For this demonstration we will used a coat of arms.

Next, make a full-scale drawing of your window design like the one shown figure 2. You also need to make a colored drawing of the window for reference when making the tissue pieces.

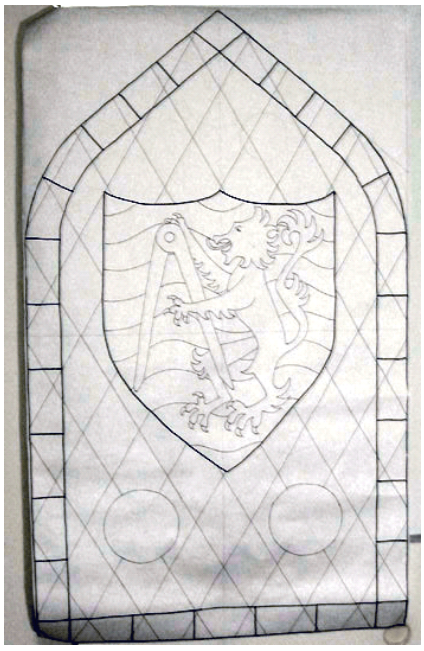

Figure 2, Full Size Drawing

What Do I Need for the Job?

Once you have come up with a satisfactory design, you will need the following tools and materials for this project:

Tools:

- A Miter Box and Saw to cut square corner joints
- Hammer
- Staple Gun or Stapler
- Scissors
- Measuring Tape
- Long Straight edge
- X-Acto Knife
- 1" wide paint brush
- Some fine tipped brushes for line work between pieces and details

Materials:

- Wood for the window frame (1x2), length equal to two time the drawing height plus two time the drawing width plus some extra for clearance
- Eight, 6p Box Nails
- A number 2 pencil
- Enough light weight, white muslin or similar material to make the window
- Assortment of colored tissue paper to make all the pieces of the window

- Clear, water clean up, polymer like Minwax Polycrylic or similar product, Always use these types of coating in a well ventilated area, a pint is enough to put 6 to 7 coats on a 2 foot by 3 foot window
- Semi gloss black latex paint for line work and details, a pint will go a long way

Make A Stretcher Frame:

Now you can figure out how large the stretcher frame you will need for the window. If the plan is to leave the window on the frame, make it about 1 inch larger than the design on all sides. If the plan is to take the window off the stretcher frame, to roll it up when not on display, or mount it differently allow 3 to 6 inches more space on all sides. This extra border allows room for other attachments for hanging the window for display. Once you have your dimensions you can make a satisfactory stretcher frame using 1x2 inch wooden pieces. Just make a simple lap joint at the corners screwing or nailing the pieces to gather as shown in figure 3. Square cuts are important to get a square frame. Also, large windows will need extra internal pieces for proper support and stiffness.

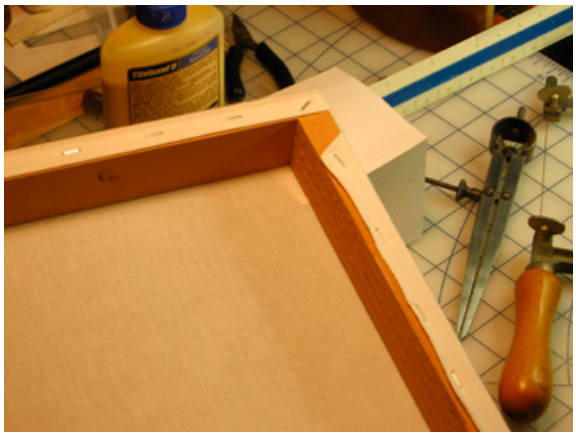

Figure 3, Corner Joint of Frame

The next step is to coverer the frame with the fabric backing for the window. When choosing a fabric backing for your window. The fabric needs to be thin enough to let light shine through. Most lightweight white cotton or cotton blends will work. I typically use white muslin sheeting. To attach the fabric to the frame you need either a stapler or a staple gun. Cut the fabric about 3 inches bigger than the frame on all sides.

To attach the fabric to the frame, start on one edge; fold the fabric edge under about a half an inch. Then center the piece on the back face of the frame and staple it down leaving an inch or two between staples, see figure 3. Now move to the opposite end of the frame, starting in the center; wrap the fabric around the frame and gently stretch until the wrinkles smooth out and staple to the back face of the frame. Work from the center of an edge to the corners while stretching and attaching the fabric. It is important not to stretch the fabric too tight because the clear polymer will cause the fabric to shrink and tighten up on the frame. Now attach the fabric to the remaining sides of the frame as described above.

The next step is to trace the design on to the fabric backing. This is done after the fabric is mounted on the frame so the design is not distorted while the fabric is stretched on to the frame. Press the design ageist the back of the fabric and trace the design using a pencil on the front. The fabric backing is now ready for the application of the colored paper pieces of the window design.

Test the Tissue Paper for Color Stability:

Before applying any colored pieces to the design you need to test the color stability of the tissue paper. All of the polymer based coating contains solvents and chemicals that may react with the pigment in the paper. The most common problem is bleaching or fading. Blues tend to have the most problems. To test the different color paper, cut a small square of each color and a scrap piece of fabric backing. Apply a coat of the clear polymer to the fabric and smooth the paper

squares to the fabric and apply a second coat of the clear polymer over the paper samples and let dry completely. After the test panel is dry check the colors to see if they have retained the desired intensity. Test other sample as needed if unstable colors are found. Art supply stores do carry high grade colored tissue paper with an extensive color pallet manufactured with high quality dyes these sheets are more expensive over paper available in craft stores but the color is more stable for the got-to-have-it colors.

Attaching the Tissue Pieces to the Fabric:
First, cut out the widow pieces by tracing them the X-Acto knife using the full scale drawing of the window. A light touch with the knife is sufficient to cut the tissue paper. Pieces should be made so they just touch (No more than a 1/16" gap). This allows finer high lighting when adding the finishing touches to the window. It's best to do all of the dark colored pieces first because the tissue paper tends to bleed. It's a good idea to organize the work so small groups of pieces can be applied at the same time. Group size depends on the overall size of the window but 10 to 20 pieces in a group is a good working number. Once the pieces are cut, apply a thin coat of the clear polymer to the area on the fabric backing where a piece fits. Then place the tissue piece on the fabric backing and smooth into place with a light coat of the clear polymer. After placing a group on the fabric backing let them dry completely, this especially true for dark pieces. Don't forget to clean the brush thoroughly with warm water when you stop work.

Sealing the Tissue Pieces to the Fabric:
This is done by applying a thick coat of the clear polymer to the front and back of the fabric backing and let the window dry for 24 hours. Don't forget to clean the brush thoroughly with warm water when you stop work.

Apply a second coat of clear polymer to the front of the window and let dry 24 hours.

Adding the Lines and Details:
Take your time doing this part. Stop when you get tired. Also use a long straight stick about an inch in diameter and about 3 feet long for large windows as a steady rest. Set one end of the stick on the edge of the frame and support the other end with a free hand and position the stick so it is near the spot to be painted. Rest the hand holding the paintbrush on the stick and draw the line or use the stick to guide your hand.

Using a fine brush to do the lines between pieces and add details, dip it in the Black paint to pick up a small amount. Drips are bad and need to be avoided. Start lining at the center of the window between the tissue pieces. A piece of news paper can be used to temporarily cover areas not being worked on that you will be carrying a loaded brush over to catch drips. Be careful not to place the news paper on wet lines. Try for line about 1/8 inch to 3/16 inch wide lines between pieces. When complete let dry completely. Clean the brush thoroughly with warm water when you stop work.

After completing all the line work and detailing, apply two more coats of the clear polymer front and back. Allow twenty four hours between coats of clear polymer. This will increase the strength of the window and improve its resistance to water. Additional coats may be added if the surface still looks, rather flat, not shiny. Clean the brush thoroughly with warm water when you stop work. The finished window is shown in figure 4.

Some Good References:

Elizabeth Wylie, Sheldon Cheek, The Art of Stained and Decorative Glass, 1997, Todtri Productions Limited, ISBN 0-7651-9226-8

Catherine Brisac, A Thousand Years of Stained Glass, 1986, Chartwell Books, ISBN 0-7858-0169-3

Mitchell Beazley, Stained Glass, 1976, Mitchell Beazley Publishers Limited, ISBN 0-5175-2728-6

Figure 4, The Finished Window