# Stained Glass Edge Treatments

## Stained Glass 101

by Brian McMillan

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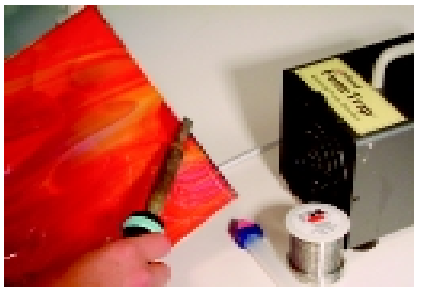
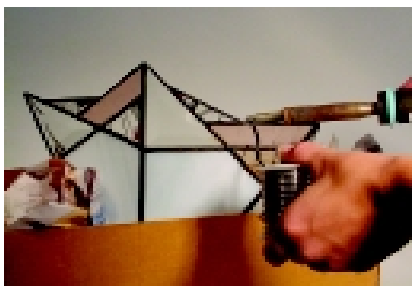
### Edge Treatments

I believe that **the** most important finishing touch on any stained glass project is the edge treatment that you use. Your choice will add visual interest as well as strength to your project.

The simplest thing is to build up the edges with solder. I say simple—but few people do it properly. First of all, let's define what we are trying to accomplish. We are not simply covering the foil with a thin coat of solder. The goal is to end up with a smooth rounded seam that will add strength to the foiled edge. Remember that over time, the adhesive backing on the foil will lose its stickiness and it is the solder which is going to supply the strength. Melt a drop of solder on the tip of your iron and draw it along the front surface of the copper foil and then the back surface. This is just to color the foil silver and is referred to as "tinning."



If I am soldering a small panel, I like to place it between two heavy objects (I use boxes with lead scraps in them) which are slightly shorter than the panel. For a lamp or a vase, place it in a box with crushed paper. Keep the edge you wish to build up level and apply solder one drop at a time. The key here is **one drop** at a time. Don't draw the solder as it will follow the iron and leave too thin a bead. Place a drop, lift your iron, let the solder set (you can tell by the change in appearance from shiny to matte), move over the width of your iron tip and repeat. Practice overlapping slightly to eliminate bumps. If the solder runs away from your iron then the edge isn't level (horizontal) and you must adjust it accordingly. You can buy a small inexpensive level at your local hardware store if necessary. Using a temperature controlled iron with a 700˚ tip, I find that using 50/50 solder works best for this process. (If you are using a different iron or a different temperature tip, you may find that another solder works just as well or better for you.) The glass gets very hot, so be careful. Rubber kitchen gloves will keep your hand cooler.



### Decorative Elements

Often it is nice to add a decorative element to the edge of your projects. Consider soldering chain such as jewelry box chain, ball chain (those brass balls that are used to turn lamps on and off) or twisted wire to your foiled edge. I use a lot of ball chain on my projects. It is available in many sizes. I use 1/8" brass chain on smaller projects and 3/16" and 1/4" nickel plated brass chain on the larger ones. On the large projects (usually lamps and window hangings), this serves two purposes. It has a decorative element plus it adds strength.

Wire can be easily twisted using a power drill or a Morton Twister. Cut a 3' piece of tinned copper wire (I use all gauges from 22 to 12), stretch it in a lead vise and fold it in half. Slip the looped end through an eye ring (available from any hardware store) which you have placed in your drill. Slip the two ends of wire into a lead vise, pull the wire tight and slowly allow the drill (or Morton Twister) to twist the wire. The longer you twist the wire, the tighter the pattern will be.

Start by tinning the copper foil edges front and back. Tack solder your chain, wire or ball chain to one corner and then tack it every inch or so all the way around the perimeter of the project until you arrive back where you started.

Get a drop of solder on your iron tip. Hold the iron on the level edge and let the solder flow off the tip and between the metal parts. If you use too much solder, the holes in the chain will be totally filled and this will defeat the purpose. If this happens, melt off the excess and experiment until you get the look you are after.

Aside from giving you a beautifully finished edge, the above edge treatments add substantial strength to your work. It will take much more abuse before the glass breaks. (You know all those things that should never happen—but do—such as grandma knocks the lamp against the wall while she is cleaning it, etc.)

### Hanging Hardware

An important question that I am often asked is, "Where should I place the hanging rings on a panel?" If your panel is round or oval, and less than 12" in any direction, you should be able to place the rings anywhere you want to, if you have soldered on chain or wire. The extra strength of the chain will be sufficient to support your piece. If your piece is a square or rectangle that is less than 12" in any direction, and you have soldered on chain or wire, you should be able to hang your piece from the corners successfully.

However, if you are just soldering lead came on the edge or simply building the solder up on the edges of the copper foil, the rings will eventually pull the foil or lead away from the piece. The rings must be soldered into a solder seam. This is something which should be considered at the design stage. You should decide where you will place the rings and then make sure that you have a solder seam at those spots on the design. The rings should then be soldered so that the bottom of the ring is soldered into the back of the solder seam right where it joins the border material.

**Happy crafting!**