Instructions:

Note: When planning the design for the front and back of your project, remember that a small area around the perimeter of the design will be lost to the solder border. For a perfect fit, use a ruler or trace the glass directly onto paper. Use scissors to cut out the design and carefully trim any excess paper protruding over the edges of the glass (Fig. 1).

1. Thoroughly clean the glass. Sandwich your design between the two glass slides, being careful to avoid transferring thumbprints to the inside of the glass.

2. Use a ruler to measure the perimeter of the glass pieces. Cut a length of foil 1" longer than the amount you'll use for the project and taper the end to help the folded corners lay better (Fig. 2).

3. Remove a small section of the foil's adhesive backing and center the glass in the middle of the foil (Fig. 3). Fold the foil onto the glass as you evenly wrap the edges. With your fingers, carefully fold the corners over as you reach them. Once the glass is surrounded with a foil border, burnish the foil using the burnishing tool (Fig. 4).

4. Place the project on your work surface and apply the glass flux around its perimeter, coating the copper foil (Fig. 5). The more flux you use, the more spitting will occur during the soldering process.

5. Cut a piece of solder that is at least 7" in length. It will begin to attract heat as you work with it, so for additional safety, hold it with a pair of pliers.

6. Hold the solder in your non-dominant hand and place the iron tip just above the foil. *Note*: The soldering iron should be held in your dominant hand, positioned with the tip perpendicular to the project's surface. Hold the iron like a large cutting knife, since this provides more control over the process.

7. Place the solder on the tip of the iron above the point where it touches the foil. Let the solder melt and flow down the tip as you move along the seam (Fig. 6). Continue to push the solder into the tip and work along the seam until you reach the end. *Note:* Heating an area too often with the iron will cause the copper foil to release from the glass and possibly melt. Soldering the area more than three times or applying the heat of the iron directly to the exposed surface may cause the glass to crack. If you have an inconsistent rate of applying the solder, it might flow over the sides or be irregular along the surface. If the iron is too cold or the surface of the foil is dirty, the solder may not adhere to the foil. More times than not, beginners will "tin" the perimeter with a thin layer of solder. This looks fine and some designers stop there, but your project might be susceptible to water seeping in from the sides during the cleaning process or the foil might pull back from the surface of the glass. If you don't like the look or are wary of the results once tinned, repeat the soldering process.

8. For a smooth surface, solder in one direction without stopping until you reach the end of the seam.

Always avoid applying the solder with a back and forth motion. When ending a seam, do not lift the iron up from the project, but continue pulling off the surface to avoid forming small burrs at the corners of the project instead. *Note:* As you solder, be sure to continually clean your tip with a moist sponge to remove impurities and flux residue, and always make sure you're tinning the tip with the Sal Ammoniac Block. If the surface of the solder border is less than perfect, consider oxidizing the solder after the project is completed. This gives more depth to the design and adds more character to the creation. Before you patina the solder, make sure it is thoroughly clean. The black flecks and syrup-like residue that may appear on the project are easily removed during the cleaning process.

9. When one side is complete, carefully turn the project over with tweezers and repeat steps 6-8. *Note:* After the first pass around the project, you may find that it is easier to solder the perimeter by holding it with a soft clamp, which will allow you more control over the soldering process. Use caution, however, since the hot solder may drop from the project and splatter onto your work surface.
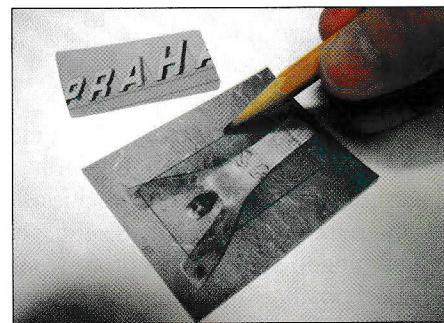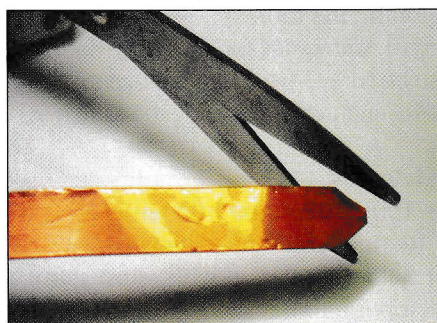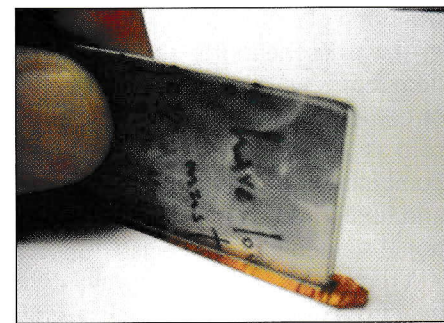

Fig. 1

Fig. 2

Fig. 3