

Stained Glass 101

hands-on info for the hobbyist

by Brian McMillan

Exploring Acid Etching and Sand Etching

Etching glass is a simple technique that can add extra details to your stained and fused glass projects. Acid etching refers to using a commercially available cream to frost the surface of glass. The active agents in the cream are hydrochloric and hydrofluoric acids—two chemicals which demand to be treated with respect. Read the instructions on the containers thoroughly and follow them to the “T.”

Always wear rubber gloves and safety glasses when working with acid etching cream, and work in a well ventilated area. The idea is to cover the areas of the glass that you don't want to frost with a resist. The areas which are to be frosted will be exposed to the acid. Traditionally, bees wax was painted on

to the surface of the glass for this purpose. However, this is messy and requires a high degree of skill to be successful. A number of

companies make rub-on stencils which can be used with acid etching cream. They come with good instructions on their use, so I am going to use my space here to teach you how to make your own stencils.

Making Stencils

Many materials can be used to make your own stencils. The most common are sold as sandblast resists and should be available at your local stained glass shop. Sold in either full rolls or by the square foot, they are available in white or clear. I prefer the clear.

Clean your glass thoroughly. Use a fine tipped permanent marking pen to draw your design onto the glass. This eliminates the problem of lining up the design if you draw it onto the resist. Cut a piece of resist which is larger than your piece of glass by an inch all around. Peel the paper backing from the resist, allow the center of the resist to sag onto the center of your glass piece, then let go of the sides. Use a fid to rub the resist firmly onto the glass, pushing from the center out to the sides. You want to avoid air bubbles. Use a sharp craft knife to cut out your design. Push the point of the craft knife under the parts of the stencil you wish to remove and pull them off. Burnish the resist firmly onto the glass and remove any adhesive residue.

For the best etching results, the manufacturer recommends placing your closed jar of etching

cream in hot water for 15 minutes, then shaking it well before using it. Follow all safety instructions on the container. From my experience, it is vital that you apply a thick layer of etching cream over the exposed glass as quickly as possible. Dab the cream onto the glass using a brush (I use a flux brush). If you apply the acid too thin, you will have a blotchy appearance and you may see the brush marks. Allow the etching cream to work for 6 minutes (or the time recommended by the manufacturer). While waiting, use your brush to move the cream around from left to right, then up and down, for an even finish. Use plenty of running water to wash the acid off your glass and dry it with a cloth. Before you remove the stencil, make sure that the etching is even. If not, clean the offending area again—there might have been a finger print, cutter oil, or resist adhesive preventing the acid from working—and repeat the etching process.

What is Sand Etching?

Armour Products has just introduced a new product called the Sandetch Glass Etching System. This is a great alternative to using acid. It is a two part system consisting of a nonflammable and non-ozone depleting propellant and the Sandetch abrasive, which is the same material we use in our sandblasting system, brown aluminum oxide. The two working parts are connected together using a housing with an actuator button which, when depressed, blows the abrasive at the glass and frosts the surface. The main difference between the look of sand etching and acid etching is that sand etching is streak free and the surface is pitted, putting more sparkle in the glass.

When you are using the Sandetch tool, you are blowing the aluminum oxide all over the place, so it is a good idea to do the work outside or in a booth. Armour Products also markets the Inflate-A-Booth. I think that this is an ingenious concept. It is made of clear plastic with inflatable sides, a zippered top to put in and remove your glass projects, and openings for your hands. However, if you desire, you can make your own booth using a card board box and a piece of clear acetate over a hole in the top for visibility.



To use the system, place your glass and Sandetch system in the booth. Depress the activator button, hold the nozzle about 1/2 to 1" away from the glass, and move the sandblaster from side to side, or in a small circular motion, until all the exposed glass areas have been uniformly etched. Before you remove the resist, make sure that all the exposed areas are blasted to your satisfaction.

With a little bit of practice, you can achieve some shading of your blasted areas by selectively



removing the resist and blasting some areas longer than others. Spend some time with clear window glass and experiment. If you get hooked, you will

definitely want to look into a full scale sandblasting setup—but that is another article.

Effective Uses for Sand Etching

Here are some good examples of how you can use these techniques are to add details to fused glass jewelry or tiles (by removing iridescent or dichroic surfaces to create designs), or to add a person's name or logo to a bevel (as seen above), or decorate light colored cathedral glass for a window, suncatcher or jewelry box.

So, now that you are armed and dangerous... go forth and be creative.



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