



PELI GLASS PRODUCTS B.V.

Oster Silver Stains - An Introduction

Glass is a unique medium – alive with color, form and transparency – and glass painting can add a new dimension to your work, as you add lines, create textures and shading. Glass painting is applied in layers and fired in a kiln, often at different temperatures, so plan your approach before beginning.

The use of silver stains is one of the timeless forms of stained glass painting, in fact, the term “stained glass” comes from the use of silver stain on both sides of the window to give the glass a permanent yellow color – the silver nitrate stain actually penetrates the glass – ranging from light lemon through deep amber to near orange tones.

Oster Silver Stains are hand ground on a glass slab using a muller – there is a lot of effort and care that go into the production of every ounce of stain. There are three stains available:

Ancient Walpole. A rich golden stain, can even border on orange, this stain was named ‘Walpole’ from the town of its creation and ‘ancient’ because the depth of color resembled stains from previous centuries.

Ancient Winchester. This stain is deep but not as intense as the original Walpole. It is extremely clear and is less likely to ‘metal’ than the Walpole.

Ancient Lemon. A pale yellow stain, can be blended with the other two to achieve the desired effect.

RECOMMENDED TOOLS

For mixing:

- Glass slab, 20 x 20 cm
- Glass muller or palette knife
- Water jar
- Respirator or dust mask, disposable
- Gloves, latex

Brushes:

- All sizes, all shapes can be used. Soft brushes to apply the paint, stiffer brushes to create shadow effects. Consider make-up brushes for soft effects.
- Badger brush – size 3-4 inches

GETTING STARTED

Oster Silver Stains are sold by the ounce (28 g) in powder form, and are made up of silver compounds mixed with a carrier medium such as ochre or clay to make the paint more visible while using. They will keep indefinitely and are highly concentrated, so a little goes a long way.

Observe appropriate safety precautions when using these paints.

MIXING

Oster Silver Stains are generally mixed with water (distilled is best) or white vinegar. The choice and proportions of mixing agents depends on the painting technique and individual preferences. There is already a binder in silver stain, so adding gum arabic is unnecessary.

1. Place some silver stain on the glass slab.
2. Add water or white vinegar. Be careful – at the moment that liquid is added; a poof of paint powder may come off the paint. Do not inhale the paint powder.
3. Use the glass muller or palette knife to mix thoroughly. The final consistency will depend on the depth of color desired, but will generally range from thinner than india ink to yoghurt.

PAINTING AND FIRING

Glass should be clean. If the wet paint pulls in on itself even after cleaning the glass, try rubbing the glass with a small amount of wet paint, then rubbing clean.

If painting on float glass, be sure to paint on the non-tin side. Residual tin on the glass will interfere with the uptake of the silver stain. Use a short-wave UV lamp to determine which side is the tin side, it will glow with a milky white coating.

Softer glass absorbs silver stains more readily, and silver stains may turn blue glass green. Test first to avoid unwanted surprises.

Oster Silver Stains can be blended with each other and other types of silver stains; but not with other types of paint.

Silver stains should not be applied over other paints that have been previously fired (such as grisailles) but transparent paints and enamels may be applied over silver stains that have been fired.

Careful, these stains are very aggressive on metals and paintbrushes, use separate equipment and clean immediately after use.

Silver stain is traditionally applied to the back of the glass and fired at approximately 621-635°C (1150-1175°F) with the silver stain side down. Protect whatever the silver stain comes in contact with during firing. However it may be fired up, which prevents staining of the trays. If firing down, add approximately 14°C (25°F) to the firing temperature but be careful not to over fire or melt the glass.

To protect oven shelves, calcium carbonate (also known as whiting or chalk) may be sprinkled over the shelf so that the staining occurs in the whiting. The discolored whiting is then discarded as it will leach out silver stain and affect any glass that is subsequently fired over it.

As soon as the kiln reaches the desired temperature, turn it off. If you have a peep hole in your kiln, you can put a scrap piece of freshly painted glass (black/brown) next to the piece(s) with silver stain. If the color turns from dull to shiny, you are done.

Silver stains normally turn darker with higher temperature. If silver stain has been fired and is not dark enough, it may be reapplied over the same area and refired.

After firing, wipe, wash or scrape off the ochre residue.

Firing is dependent on the oven type and geometry, the requirements of the specific paint, the size and thickness of the glass. That said, some broad guidelines:

Generally, 3 mm thick glass pieces with a surface area smaller than 400 cm² (62 in²) can be fired as fast as possible to temperature, held at temperature if desired, then oven off and allowed to cool. For a gas oven, allow it to cool to 150°C (300°F) then crack the oven open 2 cm. Open oven fully below 100°C (212°F). For an electric oven, can open peepholes below 600°C (1110°F), crack oven open 5 cm at 200°C (390°F) and open oven fully below 100°C (212°F).

Pieces larger than approximately 400 cm² should be warmed more slowly and during the cooling should be allowed to anneal 5-10 minutes at a temperature 515-550°C (1004-1022°F) depending on the type of glass.

So experiment! You must find for yourself what works best for you.

REFERENCES

- Discussions with Clifford Oster.
The British Society of Master Glass Painters, "The Birth of Ancient Walpole Silver Stain",
http://www.bsmgp.org.uk/downloads/Walpole_silver_stain.pdf.
Dorothy L. Maddy, "Silver Staining", Stained Glass Magazine, Fall 1984.
Discussions with Hans van der Valk.