

The Reluctant Glazer's Tale (Revised 23 May, includes notes on Museum glass)

I've never really liked the look of photographs behind glazing. Other than leaving the photograph unprotected, I wondered what was available. Here's what I found. Please feel free to correct any mistakes that I've made: this is all fairly new to me. By the way, 'glazing' can refer to materials other than glass.

Why?

Apart from physical protection of the surface, there appears to be a good case for protecting many, if not all, types of photographs from UV light and atmospheric pollutants.

Varnish and other coatings

I've been experimenting with these for both matte and glossy inkjet prints for a few months. It gives some matte prints a finish that is reminiscent of the Holy Grail of digital printing: air-dried fiber-based silver gelatin paper ie traditional photo paper. There can be big problems achieving dust-free, even results. Success can be rewarded with stunning quality.

Though it deserves treatment at greater length, here are some brief introductory notes.

Solvent-based sprays in aerosol cans

I've tried Macdonald Sureguard, Lumijet Imageshield and Premier Printshield. All of these protect against UV.

Sureguard

Sureguard gives the deepest gloss on gloss paper, but it is also the most obnoxious of the three, by far. Even using it in the back yard makes me worried about polluting the neighborhood. I leave the coated prints outside the apartment for a day or two because of the slow evaporation of the last of the solvent.

Printshield and Imageshield

The other two are much less unpleasant to use, but good ventilation and a mask intended for use with solvents (Janovic, \$40 - \$45) are still recommended. They don't alter the surface as much as Sureguard, but they do reduce or eliminate 'gloss differential' or 'bronzing' when pigment inks are used with gloss paper. They increase the density range of images printed on gloss paper, but not by as much as deeper gloss coatings such as the Sureguard and other gloss varnishes. I've noticed a loss of maximum density (ie blacks are lightened) on pigment matte prints treated with these - one or two coats cause a barely perceptible loss and four coats show a definite loss of density, verging on smokiness. Midtones are deepened, at least for the tests I've made. This is a similar effect to over-inking with black pigment ink.

Water-based varnishes

I've experimented most with Golden UVLS Polymer Gloss. Dick Blick on Bond St is a good source of Golden finishes. This can be brushed, rolled or sprayed on after diluting with distilled water. It can give a deep gloss with gloss paper and a pleasing semi-gloss finish on matte papers. In all cases it increases the density range of the prints - you can get lovely deep blacks with pigment inks. Dye-based inks, of course, can achieve the same deep blacks without overcoating.

There is some evidence to suggest that UV filtering compounds may cause yellowing after a long period in contact with paper. An isolation coat could prevent that by keeping the UV inhibitors away from the paper. Golden GAC-500 is a suitable isolation coat. Golden Soft Gel Gloss is more difficult to use, but it will work.

Spraying can be done with the 'Preval' spray unit (about \$5 from Janovic) or with HVLP spray guns. Golden UVLS gloss and GAC-500 can be sprayed.

Number of coats

Golden recommend four coats of UVLS if brushed or rolled, more if sprayed.

Glazing

Acrylic

eg Cyro Acrylite OP-3, AR OP-3 and OP-3 P-99

Acrylic has a number of advantages over glass, especially if you are transporting it. It gives inherently greater protection against UV than glass (the acrylic itself filters UV, while glass needs a coating to achieve the same degree of UV protection). The big disadvantages are that it scratches more easily and it holds static charge - thus attracting dust. Acrylite AR OP-3 has an abrasion resistant coating.

Clear UV

This has no surface coating or texture to reduce glare. Cyro Acrylite OP-3 is a common UV reducing acrylic sheet. I would suggest Acrylite AR OP-3 as the optimum choice for most purposes. Light Impressions sell 16x20 sheets of Acrylite AR OP-3 for \$30.

Non-glare

This is available from Light Impressions as Acrylite OP-3 P-99 and Tru Vue Conservation Reflection Control glass. A non-glare finish is a surface texture that diffuses otherwise specular reflections - but it does not eliminate them. This also has the effect of reducing the density range of the image - the shadows tend to become smoky. The texture is etched onto glass and embossed onto acrylic. Non-glare glazing does not reduce the total amount of reflected light at all, it just diffuses it. The greater the distance between the glazing and the image, the more the surface texture will degrade the image definition as well as dulling the image.

Light Impressions sell 16x20 sheets of Acrylite OP-3 P-99 for \$27. The Conservation Reflection Control glass is slightly cheaper. I've been quoted \$84 for a 16x20 sheet of Acrylite OP-3 P-99 from a framer (price for the Acrylite alone, labor was extra). Personally, I'm not convinced that non-glare glazing is right for photographs and I believe that when many photographers hear of 'anti-reflective' glazing they actually think of 'non-glare' finishes and therefore dismiss them.

Anti-reflective

This is similar to the coating found on camera lenses and eyeglasses. It is the most expensive. It actually reduces the amount of reflected light and does not degrade the image density or definition. Many framers offer this type of glass, so if you aren't having frames made you just need to find a

framer who is willing to sell you sheets - but be prepared for enormous mark-up. I've been quoted \$105 for a 16x20 sheet of Tru Vue Museum and \$94 for UV Denglas. The place to go is Rosen Paramount, 45 E20th St, 212 532 0820 - they open at 8 am. A 16x20 sheet of Tru Vue Museum will cost you \$48 from them and they usually stock it.

The types of anti-reflective glazing, with UV protection unless noted otherwise, are:

UV Denglas

Water White Denglas (no UV filter)

Tru Vue Museum

Tru Vue Optium Museum (acrylic)

Schott Amiran TN

The Schott Amiran TN glass is laminated: two sheets of water-white Amiran glass are bonded together with an inner laminate. This reduces the likelihood of damage to the artwork if the glass is broken, and it also reduces the likelihood of breakage in the first place - similar to laminated windshields. The glass is anti reflective and the laminate provides UV protection. This stuff is charged at around \$72 per square foot from a framer.

Tru Vue Museum

This glass is available from Rosen Paramount. Though they seem to have it in stock, it is best to call ahead. Here's what I did with cut sheets:

First I washed them gently in warm soapy water to remove all traces of the kerosene used as a cutting tool lubricant, then rinsed them in plain water. Patting them dry immediately after rinsing prevents the formation of drying marks in the coating. Then I placed them on clean sheets of plain paper, and cleaned any remaining marks off them with glass cleaner and Delicate Task Kimwipes (from B&H). One of those microfibre lens cleaning cloths would also be useful - this stage is very like cleaning coated lenses, just on a larger scale. Placing them on plain paper rather than anything with a pattern, such as old newspaper, helps you to see the marks. If you buy factory-cut sheets you will not need to wash them. In future if I am going to use a factory-cut size, I will order from Rosen in plenty of time.

Immediately after brushing and blowing the dust off, I put the glass into the frame. There is a right way and a wrong way to put the glass into the frame. One edge of each original sheet will have printing on it, which includes "This side towards artwork. Score other side" or words to that effect. You will probably have to remove that writing before framing - easily achieved with acetone or nail polish remover. After removal, I have found that the writing can still be made visible by breathing on the glass. Alternatively you can leave a tiny part of the writing on. Cut sheets may not have any edge with writing on, of course. Then you need to examine the cut edge: the scored side will show the tiny chip marks from the cutter, the other side will show the clean break. The clean break should go towards the artwork. If you have a cut sheet that still has writing on, it is worth checking that it was scored on the correct side.

Helen Bach, May 2005