

# Mastering Mounting



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## *Running Hot and Cold*

Back in the December 1999 installment of “Mastering Mounting,” one of the most asked questions for that past year was, “Do I still need my dry mount press?” It’s an interesting question and even more viable now. Just a few years ago, I thought we would see straightline mat cutters side-by-side with CMCs fore-

wonder if the fear of the unknown, (which surrounds today’s digitals and heat sensitive items), is going to drive the nails into the coffin of the dry mount press. Perhaps, but in any event, let’s stroll down memory lane.

### *Early Dry Mount Presses*

Back in 1948, Seal Products of Naugatuck, Connecticut introduced its first mechanical press. The first generation was called the Fotoflat Series, and was manufactured with a preset thermostat with no variations. It was developed specifically for use in the photographic industry and to accompany Fotoflat® tissue-core adhesive which had been developed in 1938. It was a thin tissue with extra thick wax-based adhesive applied to either side which melted at very low 150°F-175°F temperatures, making them safe for photographs. Tests indicate, however, that it may not have been the best choice for long-term bonding of photographs.

Subsequent press series included the Generation Two Masterpiece 350 with its distinctive waffle pattern and the red and green lights on top giving it the nickname “frog eye.” Generation Three, Four, and Five presses all had the familiar smooth top appearance with the black crossbeam, with Generation Four introducing the Masterpiece 500T in 1979. Today we have the Masterpiece 500T-X complete with thermostat and controls.

### *Adhesive Development*

Kodak Dry Mounting Tissue was originally developed and marketed from 1906 to



Photo 1: Roller laminators are available 24" to 66" wide from an assortment of manufacturers. They often have the capabilities of roller mounting and laminating both hot and P-S adhesives and cold laminates.

er, but it appears CMCs may be taking over the job of mat cutting. It’s time to realize we are truly in the new age of technology. We will forever have the classic arts but we will also have computer-generated art.

I have talked for some time now about the trend in mounting of reverting more to the cold mounting methods of 10 years ago over the hot ones of today. I

1934. In 1934 an improved version requiring less heat at 200°F-275°F (240°F at one minute being the average temp/time) and providing better adhesion was released and available until 1974. Since mounting presses in the early 1970's had poor temperature regulation and did not have thermostats or dials to check temperatures, it was difficult to check press temperatures at all. As a result, many RC (resin-coated) photos were damaged when exposed to tem-

peratures too hot for them.

It was replaced by Kodak Dry Mounting Tissue, Type 2, made specifically for RC photos. Though

developed for photographs, it has a tissue-core of glassine (a nonporous material) with recommended mounting temperatures between 180°F-210°F. Though the temperatures were again lowered, the nonporosity of the glassine tissue made perfect mounting difficult to achieve. Trapped air between the nonporous RC photo and the glassine could bubble the bond. On the other hand, glassine core tissues will bond fiber-based photos nicely because of the image porosity of these photos.

In 1953, Seal added MT5 for fiber-based photos to its adhesives line. Originally formulated at higher 205°F-225°F temperatures, it competed with Kodak Dry Mounting Tissue for mounting fiber-based photos at those hotter temperatures. Later MT5 was reformulated to lower temperatures of 180°F-205°F. It too has a glassine core, and fine for fiber-based, but not for nonporous RC photos. ColorMount (180°F-200°F) was introduced in 1973 exclusively for RC photographs, then remodified in 1975 to accommodate both RC and fiber-based.

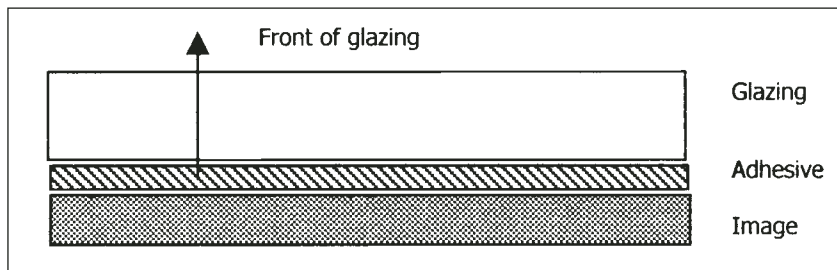
### ***Temperature Observations***

It seems that all adhesives had been developed for much hotter temperatures than we currently prefer for our photos and images. Hotter temperatures meant faster bonding. In fact, the more technological we became, the lower the heat tolerances seemed to be. It became preferable to use lower temperatures for longer dwell times, rather than hotter temperatures with shorter dwell times. This is because

lower temperatures mean safer bonding. With the advent of digital imaging, the temperature issue is back at the forefront. What began in the 80's with thermographic inks and spread to thermographic FAXs, paper, and tickets has ended up with a need for cooler, (if not cold), mounting.

The Fotoflat adhesive has been removed from the current Seal adhesive line. It's interesting that an adhesive which began in 1938, (one that addressed the need for

low delicate temperatures, one that has lived out its years to the point of discontinuation), could end up being an answer to heat sensitivity problems in 2001.



*Diagram 1: The protective glazing is mounted to the face (front) of the image to protect it using a clear P-S or wet adhesive. It may then be placed into a light box if it is a translucent film, a frame. The arrow indicates front of mounting.*

### ***Vacuum Systems Emerge***

During the fine tuning of

adhesives, equipment development did not exactly remain at a standstill. Cold vacuum frames have been around for decades utilizing wet and spray cold mounting adhesives and air pressure to eliminate trapped air and compress the mounting flat. They dominated the market for large format equipment until the industry was swept into new technology with the release of the VacuSeal™ Modular Series Presses in 1986. These hot/cold vacuum presses combined the pressure and heat application of the mechanical presses with the size mounting of the cold vacuum frames.

The advent of the heat vacuum allowed for a user-friendly automatic form of mounting, where the machine predried and applied good pressure for each mounting. And more than just hot mounting adhesives, it now could also cold mount, which expanded the basic time and labor saving press into one with decorative potential. Sound familiar? It was the CMC of the 80's.

### ***The Age of Cold Laminating***

Pressure-sensitive (P-S) adhesives have been in picture framing for a long time but P-S cold plastic laminates have never really taken hold in our market. However, the P-S laminates have been popular in commercial photography since 1980. Prior to that, plastic laminates were only used for encapsulation of ID cards and menus. The rolls of plastic (polyester) laminates for cold mounting are coated one side with P-S adhesive that look much like an oversized roll of Scotch tape and are designed to be applied by using a

large scale roller laminator with no heat (see Photo 1).

P-S laminates are frequently used in the sign and display industry for use in restaurants, public buildings, and food stores, just as we use heat-set surface laminates. These are often disposable items, or ones for short-term use.

The new technology of inexpensive digital images (such as digital photos and inkjet prints, not limited edition giclées) needs to be addressed in the framing market. I will discuss digital items and the results of testing for their heat tolerances in upcoming installments of this column, as well as other articles on handling digital art. This is no simple task and there are few unshakable answers.

### ***Cold P-S Mounting/Laminating***

Suppliers of P-S adhesives and polyester laminates include DuroTech, Hunt/Seal Corporation, Drytac, Tullis Russell Hot Press, and Coda. Cold mounting with P-S rollers is a method that will probably be used in the 21st century more than ever before. Heat sensitivities and the simple possibility of heat sensitivity has brought the industry full circle to the thinking that cold mounting and laminating might be better after all.

Roller laminators come 14" to 64" wide, with prices from \$1500 to \$20,000 with specialized adjustments and controls for pressure and spacing; with silicone rollers; in both tabletop and floor models. They can cold apply both adhesives and over laminates, in addition to face mounting.

### ***Cold Face Mounting***

During the May 2001 ANSI (American National Standard Institute) meetings for the Stability of B/W Prints in Boston, a presentation was made to our committee showing face laminating (mounting) of images to the back of an acrylic sheet (see Diagram 1). This process is fast becoming one of the preferred methods for showcasing photographic and heat-sensitive digitals in some museums.

The images involved in this mounting process are often photographic or digital in nature and generally are considered display images with a duplicate image held in reserve archives. This is a permanent process and face mounting should not be attempted by a custom framer untrained in this technique. Nor is it possible without the proper adhesive and equipment.

Face laminating has been done for years with large-scale, short-term images for advertising. It has been com-

mercially used to mount and display Ilfochrome Classic (formerly Cibachromes) photos thus eliminating the problem of orange peel. Images on Ilfochrome polyester films are also face mounted to acrylic sheet to allow for back lighting in advertising boxes, called lightboxes (those display fixtures often seen at airports and other public areas).

The face mounting method uses either a wet silicone system of application (Durosil by DuroTech) or a dry clear P-S roll adhesive and roller laminator to mount display materials that require durable protection. Face mounting may be used for ordinary prints, translucent or transparent materials against (behind) glass, acrylic sheet, polystyrene, or polycarbonate.

### ***Mounting Inkjet Pictures***

Many questions directed to me via the Internet this year have been about digitals. There is still vast confusion over what they entail and how they are defined. Since digitals are here to stay we better learn how to handle them. As I mentioned, I will discuss this in future articles.

Electrostatic, electrophotographic, thermal transfer, and inkjet printing all fall under the digital imaging umbrella, and include many versions of each. They are nearly impossible to tell apart and historically my best advice has been if you don't know what it is, never apply heat. That narrows down mounting options to cold mounting methods. Add to that if the paper is thin and it is some type of digital, it is probably also water-based and therefore should not have moisture applied to it at all. That eliminates wet and spray adhesive. So that means no heat, no moisture.

Remaining options are T-hinging, Mylar corners, or P-S mounting.

A large, thin inkjet poster can be mounted using PMA, PerfectMount film, or any number of commercial picture framing P-S boards. But you will need to check into the intended use and placement of the image to best determine whether a high, medium, or low tack adhesive is best. P-S boards and films used dominantly in picture framing are medium or low tack and will not have the grab or longevity of a roller applied high tack adhesive.

### ***Wrap Up***

So what do we know for sure? Mounting of some kind will always be around. Whether it be conservation hinging; wet, spray, or P-S mounting; done manually or with cold

vacuum frames; heat mounted with a mechanical or hot vacuum press; or cold mounted with roller laminators, images will require being held to a substrate. Today's images span the realm of traditional RC photographs to newspaper clippings to digitals to Ilfochromes, and one way or another they require mounting. It's up to you to know what to do, how best to do it, whether you should be doing it at all, and if you are to be running hot or cold!

Good luck, and Happy New Year! I'll chat with you in coming months about understanding the digital world, and, in turn, mounting these monsters of the new age.

Welcome to the 21st century. ■