

Matting & Framing

Your New Fine Art Photograph

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by David Kachel

“One does not need a license to open a frame shop. One does not even have to know how to spell “frame”. Unless you know what you are talking about and keep a wary eye on that framer, he is going to drop your photograph into that vat of acid, guaranteed!”

The reason for this little tutorial is that I am a photographer, not a framer. I generally will sell matted prints, but not framed. Yes, I can frame photographs and do so for exhibitions, etc., but I try to stay out of the framing business. I do usually *matte* my work because that is the one and only way I can be certain you will not have inferior matting materials and techniques foisted on you by unscrupulous framers (but I repeat myself).

For one reason or another I am occasionally called upon to open frames and inspect what is inside. Prior to doing so I frequently hear the pronouncement; “I had my guy do this. He’s a good framer.” I have yet to open a single frame the contents of which were not absolutely butchered by this supposedly “good framer”.

There are an awful lot of framers out there who don’t know any more about framing photographs (or any other art for that matter) than I know about dentistry. So this tutorial is the result of pure selfishness on my part. I don’t want my beautiful hard work destroyed by lousy matting and framing. You

may also have a coinciding interest in not seeing your newly acquired art ruined.

Whatever you do, don’t *assume* that your trusted framer knows how to deal with fine photographs. The vast majority, do not. If I had to guess, I would place the number of incompetent framers at somewhere over 95%. *Your* trusted framer is almost certainly among them. Read this monograph. Then make sure your framer measures up.

Matting and framing a photograph is a very simple subject, needlessly complicated by a mixture of ignorance and dishonesty. You only need to know a little bit to make certain your framer does it right the first time.

Photographs are made on paper (with some exceptions). Paper has changed over time. Paper made more than a couple of centuries ago, if well cared for, is still here today and in great shape. Paper made *one* century ago started yellowing and crumbling almost immediately and is in terrible shape today, even if well cared for. Why?

Earlier papers were made from cotton rag while modern papers are made from wood pulp. This is why museums and libraries have centuries old documents that are in great shape and decades old documents in awful shape.

Cotton is stable, contains no harmful chemicals and therefore can last indefinitely. Cotton papers and matte boards are *more expensive* to make.

Wood pulp contains acid. Acids are destructive to the wood pulp paper itself and to anything in contact with it. Wood pulp also contains *lignin*. Over time lignin breaks down and produces more acids. For this reason, even if you manage to remove the acid from wood pulp, eventually the lignin will produce more acid, destroying the paper.

Some mounting boards and papers made from wood pulp are *buffered* to counteract the new acids produced by the future breakdown of lignins. This *delays* destruction. It does not prevent it. Wood pulp papers and mount boards are *less expensive* to make.

All fiber based (not resin-coated) photographic papers made for conventional, silver-gelatin, *develop-it-in-a-darkroom* use, are wood pulp papers and though of high quality and not likely to crumble any time soon, are less than ideal because of the lignins they contain. Their longevity depends as much on how the photographer processes them as on the chemical makeup of the paper itself. Proper processing takes many hours.

Many B&W and all color analog photographic papers are made on a newer material referred to as resin-coated. This is ordinary paper coated with a highly destructive plastic resin. All of these papers, despite strident claims by their manufacturers, are decidedly inferior with pathetically short life spans.

Photographers and museums have traditionally matted silver-gelatin photographs in materials made from cotton even though it is likely the photograph will deteriorate long before the cotton matting materials. The reason for this is that inferior matting materials will hurry the process of deterioration while cotton will not.

If an analog photograph is not B&W and/or not made on the best paper, deterioration will occur at a vastly accelerated rate despite the quality of the matting and framing materials.

Resin-coated papers are notoriously unstable and can literally begin to yellow in only a few months.

For well over a century, fine art photographers working in B&W had no choice but to print on papers made from wood pulp, unless they were willing to manufacture their own. Then along came the inkjet printer and a tidal wave of new paper options.

The first inkjet printers produced photographs that looked awful and had a life expectancy you could measure with a stopwatch. They almost turned to dust as they came out of the printers. It's a long and interesting story, but let's just skip to the end...

A handful of modern inkjet printers, the ones fine art photographers are now using, employ carbon pigment inks rather than the more common dye-based inks. Carbon pigment inks are very, very stable. In fact, it appears from the results of ongoing testing that the best of the carbon-based inks will significantly outlast the very best silver-gelatin photographs. We're talking centuries. And in another five or six years this gap will grow even wider.

You will run across the word "Giclee" from time to time. Aside from having a rather vulgar slang meaning in French, it has no real meaning when it comes to photographs, other than being an exact synonym for inkjet print. When inkjet printers were first introduced, pretentious artists thought it might sound better and make them feel more artsy and cosmopolitan than just plain old inkjet print. It doesn't.

Inkjet printers are also capable of printing on a wide variety of papers, from the trashiest junk you can buy at the local office supply store to the finest hand made 100% cotton rag papers money can buy. Photographers like myself are ecstatic...

We can now produce an image, in B&W or color, that will last far longer than any silver-gelatin image. But not only can we produce a photograph that

will last for centuries, we have the added benefit that modern inkjet printers and the software used to process and manipulate photographs are now capable of producing images of a visual quality that is strikingly superior to anything we could have produced previously.

We get substantially better image quality and infinitely more creative control over that image. This is why darkroom equipment is being offered for pennies on ebay, yet remaining unsold. Like many other photographers I have discovered that by using an inkjet printer I can, for the first time in my career, make exactly the photograph I envision without compromise of any kind. Nonetheless, the story does not end here. Back to the subject at hand...

These wonderful new images will nevertheless not be around for very long if handed off to *Larry, Darryl and Darryl's Anything-For-a-Buck, Frame Shop and Lawn Service*.

The life expectancy of your new carbon pigment on rag paper photograph is roughly equal to that of granite (a slight exaggeration born of enthusiasm). This is meaningless however if your framer immediately drops your new fine art photograph into a vat of acid. And that is exactly what most framers are going to do with it.

One does not need a license to open a frame shop. One does not even have to know how to spell *frame*. Unless *you* know what you are talking about and keep a wary eye on that framer, he *is* going to drop your photograph into that vat of acid, *guaranteed!*

Paper, any paper, acts more like a fluid than a solid when it comes to chemical interaction. Think of two bottles of water, one with a blue dye in it, the other clear. Pour them together and in seconds the blue dye diffuses throughout, leaving a uniformly blue liquid. The clear water has now been *contaminated* with the blue dye.

Papers behave exactly like liquids only more slowly. (This may have something to do with the high water content of paper.) If you take two sheets of paper, one acid-free and the other acidic, sandwich them together and throw them in a frame for a few years, *both* will yellow and crumble. Over time, acid from the poor quality paper will have diffused into the sheet of paper that had no acid, ruining both. The higher the acid content, the faster the rate of diffusion and the more quickly all the paper is ruined. High humidity, pollutants in the air, heat and direct sunlight all act as catalysts to hurry the process.

There is *only one* type of material on which your new photograph should be mounted and matted: 100% cotton rag museum board. This is precisely the same kind of material, only thicker, on which your new fine art photograph is made (assuming your photographer is printed on the highest quality paper: not all are; ask before you buy). If you mix pure water with pure water, nothing diffuses anywhere. 100% pure cotton paper mounted on 100% pure cotton matte board is as stable as it gets.

Well, that was easy. Just tell your framer to use only 100% cotton rag museum board. Job done, time to go home.

Ab, if only it were that easy!

One morning years ago, while going down the stairs of a small hotel in Peru, I ran across the concierge and asked him to please take a space heater up to my room as it had been quite cold the night before. I asked him in Spanish, not realizing his command of the language was very limited and that his native tongue was instead, *Quechua*.

He nodded in affirmation, but with a puzzled look on his face, and began to walk away. When questioned further he admitted that he did not understand the Spanish word for *space heater* and thought I had perhaps meant *toilet*. He was nonetheless eager to please and determined to accede to my

wishes, no matter how inconvenient it might be to install a second toilet, presumably but not necessarily, in my bathroom. I relate this story because...

You would be amazed at the number of framers who *think* you mean *toilet* when you say *museum board*. And unless you watch their every move, *toilet* is what you are going to get! I should also mention that some methods of applying *toilets* are irreversible. More on this later.

You would also be shocked at the number of matte board manufacturers who know exactly what you mean when you say *museum board*, but who hope you will be confused by the fact they have cleverly named a variety of *toilets* (wood pulp boards) in a blatant attempt to mislead you. The problem lies in the fact that *100% cotton rag museum board* is a description rather than a name. Manufacturers can call any board anything they wish and there is no one to call them liars. For example, it is perfectly legal to call a board *100% museum quality conservation board*, which would of course be the finest quality board they make... *out of wood!*

Now there are a few; very, very few, high quality wood pulp matte boards being made that will last for quite a long time. That is to say, high quality and a long time in terms of the wood pulp world. But if they were equal to or even close to real museum board, no one would be making real museum board.

These high quality wood pulp conservation boards *are* a somewhat adequate second choice. But the difference in quality between first place and second place is still significant while the difference in price is very small indeed compared to what you lose. Generally, the cheaper route is not worth it.

All matte boards are made with varying numbers of layers or *plies*. Most common are two, four and eight plies. Four-ply is just about perfect for most photograph mounting and matting needs. Two-ply is usually too thin and eight-ply is overkill.

These plies are also the best way to tell the real thing from junk. Look at the edge of the matte board your framer intends to use. Just about any matte board *except* museum board and conservation board will have slightly differently colored and textured layers and possibly different thicknesses to each layer. You can also *see* the distinct layers rather easily with the naked eye. The board looks like what it is; *a confused sandwich of different colors, textures, types and thicknesses of materials*. (Some manufacturers will go so far as to make one thin outside layer out of cotton rag in order to make claims of *museum quality*.)

Junk board also comes in a wide variety of colors (usually a thin paper veneer on one side) and textures. In appearance it often has more in common with wallpaper than high quality matte board.

There are many, many more flavors of junk board than there are museum board. Generally, a framer will have hundreds of junk board samples and less than half a dozen samples of museum board. He will have half that many, two or three samples, of wood based conservation board. The junk board samples will be prominently displayed in several attractive trays designed specifically to hold them upright and show them off at their best. The museum board samples will be dirty, stuffed away in a corner somewhere, or used as coasters for the owner's coffee cup. This is because he will sell five hundred brightly colored junk board mattes for every one museum board matte. (Because neither he, nor his customers know any better.)

Museum board (and conservation board) looks like it is made of a uniform material throughout *and* on both surfaces. There are no readily apparent layers and no significant visual differences from one side to the other. Unless you have very sharp eyes, museum board appears *not* to have layers. (If you use a magnifying glass you can distinguish the layers more clearly but they are all absolutely identical.)

Museum board is *never* a different color on one side, though the surface texture may be slightly different from one side to the other. It simply looks like significantly higher quality material, which of course, it is.

By examining the edge of the board you will be able to distinguish between real museum board and all the junk that is out there. Once you have seen the two side by side you won't ever have a problem again. There is that much difference. However, conservation board is the one and only exception that looks, feels, tastes and smells almost exactly like museum board and will therefore slip past your radar.

To recap, museum board is made up entirely of real cotton fibers. The word rag is used because long ago it was common to make these materials out of bleached old cotton clothing rags (hence the rag pickers wandering the streets).

High quality board made from wood pulp is commonly referred to as *conservation board*. It has had much of the acid removed from it but because it is made from wood pulp, which contains lignin, it will over time (short, not long), release new acids. This is why conservation board has chemical buffering agents added to it in an attempt to neutralize new acids as they are produced.

But, just as you have to throw away the box of Arm & Hammer in your refrigerator from time to time, the buffer in conservation board also gets used up. (Hint: that box of Arm & Hammer contains a lot more buffering agent than manufacturers can stuff into a sheet of conservation board.)

If you ask your framer for museum rag and he hands you a piece of conservation board, you will not be able to tell the difference unless you have handled a lot of both. If however you ask to see the label on the package the board came in, this will tell you.

Should you happen to pick a framer who is simply dishonest, getting conservation board instead of

museum board is not a disaster for your photograph. As mentioned previously, conservation board is second best after museum board and you are likely to change the frame and matting before the conservation board can become a threat years down the road. But, you will of course have been cheated.

Both museum and conservation boards come in a very narrow range of colors: white, several cream, ivory and light tan colors and perhaps black. No greens, blues, reds or anything else fancy. If you look at the board and think *birthday party* instead of *library*, you have the wrong stuff.

Museum board is also available buffered and non-buffered. The idea behind buffering conservation board is clear; conservation board is its own acid factory. The idea behind buffering museum board is somewhat less clear.

Chemicals in the atmosphere will be absorbed into museum board over time and have the potential to cause acid buildup where there was none before. Museum rag is sometimes buffered in anticipation of this sort of eventuality.

I personally prefer non-buffered board. If atmospheric chemicals are getting into the museum board then they *must* also be getting into the photograph and therefore, buffering the museum board won't help the photograph at all.

Buffering is also a relatively new idea in this arena and the chemicals used might be doing damage we won't learn about for years to come; like tobacco! We have not been using buffered boards long enough to be certain about their long term safety but we do know rag board is stable. We should perhaps stick with what we know to be reliable until we know something else that is more reliable.

If you want to circumnavigate a lot of uncertainty, telephone your local museum and ask the conservator what framers in the area they know and trust. You must still insist on museum board and be on

your guard but you have a much better chance of not hooking up with *Larry, Curly and Moe, Framers to the Stars*.

Assuming you have found a framer who does in fact have real rag board and is not interested in selling you a cheap substitute, you still cannot let down your guard. Just because he has the right material does not mean he knows what to do with it.

A certain art gallery in Atlanta Georgia ruined all of the prints I had consigned to them because they thought my mattes would last longer if they used generous amounts of double-faced scotch tape to permanently attach the window matte to the mount board on all my prints. The tapestry of invective I wove for them no doubt still hangs in the air over that gallery, and hopefully, still rings in the ears of the guilty individual, but that did not salvage any of my ruined prints. I tore each and every print in half, right in front of them, just to drive my point home.

At the time, I was faithfully following Ansel Adams' advice to dry mount my work (now known to be the worst thing you can do). Dry mounting is permanent. Ruined mount board meant ruined print.

Before anyone knew any better, all photographs, well most of them anyway, were dry mounted. This involves sandwiching the photograph and mount board with a sheet of paper impregnated with shellac and inserting the whole thing into a big hot press. The shellac melts and seeps into the fibers of both photograph and mount board, making them one forever. Ansel Adams recommended this approach in all his photo books. Ansel was seldom wrong about anything concerning photography but he certainly made up for it in spades with this whopper! Remember, if the words *dry mount* (or *cold mount*, the latest and a far worse variant of *dry mounting*) so much as come out of your framer's mouth, run for the door and don't go back.

We've learned a lot in recent years and we now know that any form of permanent attachment is a *big* mistake and about the only thing worse than dry mounting might be rusty staples.

Artwork must be easily removed from the mount for a wide variety of reasons not the least of which is replacing the mount should it become damaged.

Nothing should be stuck to, glued to, or in any way permanently or even semi-permanently attached to your photograph. The photograph must slip into and out of a pocket or pockets on the mount board. These pockets can be any of a number of things from corners and/or shelves made of clear polyester to hand-folded paper corners attached to the board with gummed white (actually off-white) cotton tape.

For exceptionally large and/or heavy prints it is sometimes permissible to attach a couple of pieces of cotton tape to the back of the photograph, but only on the border, well above where the actual image is located (*this is the reason that fine art photographers never make borderless prints*), and hung from the mounting board beyond the edge of the print. This breaks the rules listed previously but is a good compromise for some heavy prints and this special tape can be easily removed later. (Everything must be easily removable using only plain water, without risk to the image.)

The same gummed, cotton tape is generally also used to hinge the mount board and windowed matte together at the top so that all be handled easily as a single unit.

Ask your framer to see the box or boxes his mounting materials came in. You are looking for the word *archival* on the box. You are not looking for *Joe's Happyland Photo Album Corners*. Those black corners grandma used in her photo album are especially out.

Remember this simple rule: No one who makes archival materials (what you want) ever forgets to put the word *archival* on the package, ever!

If the word archival isn't there, it is certain the material is not archival, no matter how insistent your framer may be to the contrary. (Oddly, museum board and conservation board are seldom labeled *archival*.) There are however, manufacturers who make junk but slap the archival word on the box anyway.

Use of the word *archival* does not require government approval. There is not much you can do about these charlatans other than hope your framer knows better than to buy from them. It may be of some help for you to know that most of the blatant fraudsters in the past have been photo album manufacturers trying to salvage their sinking businesses and *not* manufacturers of artist's materials.

Do you remember *magic page* photo albums? They were *magic* all right. About the only thing worse you could do to your photographs would be to throw them into the fireplace. Nonetheless, the manufacturers of these awful photo albums started using the *archival* word when they realized the public was no longer buying their trash.

For a quick education in museum quality materials, browse through the online catalog of one of the best-known suppliers of archival materials in the country: www.lightimpressionsdirect.com. This will bring you up to speed in a big hurry. The correct materials for matting your photograph are purchased from companies like this one. Local mom and pop art supply houses generally don't have archival materials, or have very limited supplies, usually at *very* high prices. You can find these materials locally but you have to be careful you are actually getting what you think you are getting.

By the way, just in case you are tempted; your photograph *must* have an overmat (windowed cut out mat over your photograph and mount board), which must of course also be made from 100% cotton rag museum board. It serves a greater purpose than just looking good and hiding the not always straight edges of the photograph or the mechanics of the mounting materials.

Without an overmat, the surface of your photograph will be in direct contact with the glass of the frame. If the surface of your photograph touches the glass of your frame, sooner or later, they will become one. Some of the world's most skilled art restorers might be able to get your photograph off the glass for you without too much damage at a cost of... well, think second mortgage. Or you could just spring for the extra \$20-\$40 for a good overmat to begin with.

Now that you have a sandwich of mat, overmat, proper mounting materials and oh, don't forget to put the photograph in there at some point. Most framers like to add a backing board of some kind. This is simply to protect the back of the mounting board and add a little thickness to the sandwich so it fits better in the frame.

Hint: *plywood is not a good choice for backing board.*

If you think I'm joking then clearly you have never been to a garage sale. Lots and *lots* of framers have thrown a piece of plywood into a frame and thereby guaranteed the extremely rapid demise of the art contained therein. If you see plywood in the frame shop, don't assume he is remodeling. Get out!

Carboard is just as bad. Remember, these materials act like liquids. If you use a backing board containing acids or other destructive chemicals, they will diffuse into the mount board and eventually into your photograph. You might as well dry mount your photograph directly to a piece of plywood.

The same companies that sell museum board also sell backing boards made of acceptable materials. These don't have to be quite as critical as museum board. The one I use, and you'll find it on the same web site mentioned previously so you'll know what it looks like, is simply a fancy kind of cardboard.

It has been treated to remove the acid and buffered to neutralize new acids. It is colored blue to more readily distinguish it from garden-variety cardboard which contains enormous amounts of acid. The

lignin in this backing board can produce acid and migrate through the mount board into the photograph, but this is a process that will take many, many years. The photograph will be reframed, or at least the mount board replaced, before this can happen. You may find something else you like better. Heck, I may find something I like better! Some people just use another piece of museum board.

Just remember this basic rule of thumb: bad stuff seeps out of bad materials into good materials. (Think of Congress!) Goodness does not seep out of good materials into bad materials.

Pick your backing board carefully.

One major choice remains and that is the frame. If you choose to go with an aluminum or plastic frame, you're done. These materials are not known to be destructive.

If you choose a wooden frame then you have to do a little more. The wood contains acids and lignins in very high quantities. *No one* deacidifies or buffers wooden frames. These acids will leach directly into the backing board, the mounting board and the overmat because they are all in direct contact with the wood. Eventually, contaminants will make it all the way to the photograph.

Several companies make thin plastic barriers specifically for this problem. They slip between the frame and the edges of the art sandwich to keep them apart. If you don't use these barriers you will have to replace your backing, mount and matte boards every few years. You will see the yellow discoloration creep through the matte board, closer and closer to the photograph. But *remember*, yellowing *only* occurs where the acid has already existed for a long time. If you can *see* two inches of yellowing, you probably *have* six to eight inches of acid migration.

Lastly, whichever type of frame you happen to choose, it should be sealed. The reason for this is

that insects live in multiple dimensions of space and time. No matter how tightly sandwiched a frame might be, even the fattest of insects can always pop into a parallel universe and then pop back into this one, inside your frame!

No human contortionist has anything on insects. If your frame is not sealed, they will get in. And often, they will miraculously get in anyway.

I firmly believe that if you make a solid block of acrylic with a small air bubble in the center and wait long enough, eventually a huge, live cockroach will magically appear in the middle of the air bubble. (This experiment can be significantly hurried along by first framing the block of acrylic.)

Fortunately, most framers, even the worst ones, are sticklers for sealing frames. Probably because it is so easy to do, looks so much more *complete*, and also because it prevents you from seeing whatever they may have screwed up on the inside. Framers simply glue a piece of brown craft paper, or similar, over the entire back of the frame.

At this point the quality of materials is irrelevant as neither the paper nor the glue will be in direct contact with the print sandwich. The paper can therefore be made of nuclear waste and not be likely to damage the photograph.

However, *do not ignore this advice*:

Tell your framer that you *do not* want him to seal the frame until you come to pick it up. I am not kidding about framers using this ruse to hide their mistakes. It is *very* common. If despite your request, he seals the frame before you arrive, rip it open! Craft paper is not sacred and can be replaced in seconds. Inspect the interior of the frame carefully.

Once your photograph is properly framed, you only have to remember what you already know...

All potential destructive processes a photograph might experience are *chemical* processes and are therefore affected by the same things that affect any other chemical process. Heat, sunlight, humidity, and atmospheric contaminants will speed up deterioration dramatically.

Therefore, do not hang your photograph in the kitchen, bathroom or garage, or over the fireplace. Do not hang it where it will be in direct sunlight every day. Do not store it in the oven or next to the furnace. Do not live next to a chemical processing plant and never, ever go anywhere *near* Florida.

Of course, that last is good advice on so many levels!

One final thing I nearly forgot. Not all glass is the same, despite what the ignoramus I met years ago in a Salt Lake City glass shop had to say.

Window glass is green. Very, very green. Look at a piece from the edge. Do not use it for framing.

Lots and lots of framers use window glass. Some do so because it is cheaper and they know that most people cannot readily see the difference. Others do so because they are just as ignorant as the guy in Salt Lake City.

Have your framer lay a piece of the glass he uses over half of your matted photograph (don't let the edge of the glass touch the surface of the photograph or it will be damaged). Looking at the photograph, half with glass over it and half without, the green color will reach out and slap you in the face.

I am unaware of any glass that does not have at least a slight greenish tinge, but picture frame glass is far less green than window glass. If in doubt, take a piece of scrap window glass with you to the frame shop for comparison.

Black and white photographs are especially compromised by being covered with green glass. This is because almost all fine art B&W photographs are *toned*, that is, intentionally given a slight color cast.

Photographers work hard at getting this subtle color just exactly right and bristle at the thought of some framer turning it green, especially in light of the fact that *green* has always been the color B&W photographers have struggled to get rid of through *toning*.

In one way or another, *toning* also significantly increases the vibrancy and depth of a photograph.

Poor quality glass does more harm than just changing the apparent color of an image. It often hides some of the more subtle qualities that made you want to own the photograph in the first place. Cheap, green glass often ruins the impact of an image altogether.

If like me, you just can't stand that greenish tinge, you may want to consider using plexiglass or a similar plastic instead of glass. Plastics scratch easily and are prone to producing static electricity, which attracts dust, but there is no color tinge and plastic weighs a great deal less than glass. Photographs look much better under plexiglass and it also doesn't easily break like glass!

One final comment with regard to taste...

It is a widely held view that a frame should complement a painting and add to its presentation. Not so with a photograph. When it comes to a photograph, the job of a frame is to protect and conserve the photograph, but to otherwise disappear into the background, letting the photograph exist on its own, unaided. Anything else actually detracts from the image.

DK

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