

High Gloss Photos: Avoiding Orange Peel and Other Pitfalls

by Chris A. Paschke, CPF, GCF

Cross your fingers, hold your breath, and turn on the press. Will this high gloss photo become yet another tombstone in the valley of scuffed emulsions and dreaded orange peel?

Should the release materials selected when mounting photographs differ from the ones used when mounting poster prints? Maybe they should. At the very least, they ought to be seriously considered when mounting photos, just as substrates should be considered when attempting to reduce orange

peel. I've suspected for years the potential relationship between surface emulsion damage (often called scuffing) and the release materials used.

Photos and Surface Lumps, aka Orange Peel

We are all aware of the ongoing battle with the lumps that spread over the surface of an RC photograph (aka orange peel), especially when dry mounted to what appeared to be a smooth substrate. Unfortunately, those seemingly smooth boards will often reveal lumpy contours under the slick surface of a photo. I've discussed this in the PFM's November 1997

("Three Undesirables") and January 1998 ("Get in Touch") issues. This month, I will not re-explain the problem, but rather offer possible solutions. First I'll look at release papers and their contribution to orange peel, then I'll tackle surface scuffing and its possible connection to silicone release materials.

What Is Silicone?

There are many types of silicone-coated papers and films, all with varying degrees of nonstick capabilities. Some are used as removable liners to protect pressure-sensitive or heat-activated adhesives until they are used. Others might be applied to the back of laminating vinyl to allow for rolling and storage. Release materials are not, by any means, limited to use only in the framing industry: just notice the plastic



Samples of indented release papers and coated mylar. Remember to check your release materials periodically.



Photo 1.

Ghosted indentations from mountings past can inadvertently end up on the surface of a foam board substrate mounting if the wrinkles are not monitored. Always use the bottom sheet on the bottom. Pay attention and keep the papers clean of adhesive residue.



Photo 2.

With the onset of wet materials being placed inside a dry mount press, the resulting release papers can warp, buckle and stick to the canvas materials.

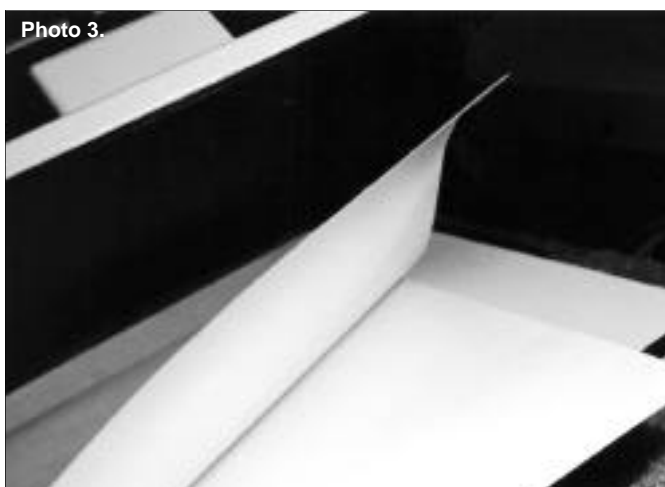


Photo 3.

Folded release envelopes used within presses will protect both the platen (top) and the sponge or rubber diaphragm (bottom) of the press.

tabs you remove from the back of a Band-Aid® or Contac® paper. The degree of tack as well as the feel of these release papers are very different; so are release materials within our own industry.

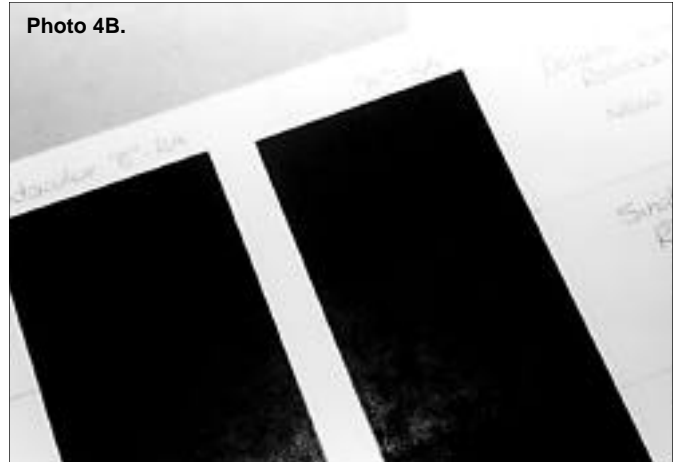
Release materials are found in the form of plastics, vinyls, or Teflon and were developed to prevent adhesive absorption, making them peelable or removable. There are also various weights of paper or board with coatings of silicone applied to their surfaces. These are what we deal with (predominantly) in the framing industry. Single-sided and double-sided papers are coated onto differing weights of base paper. On photographs, the double-side versions have a tendency to show a greater degree of orange peel than the single-sided. This is most likely attributed to the carrier paper itself. Plus, the single-sided version is applied to a thicker base paper and, by being silicone-coated on only one side, can be used to create release boards to substrates of our own choosing, perhaps with less orange peel than the commercial ones.

Release papers used in conjunction with the heat of a dry mount press have a different degree of silicone than those used only for storage protection. Compare the difference between the release sheet from the back of a laminating film to a commercial two-sided release paper for use in a press. Both the carriers and the silicone coating are different; what does this mean?

Release Papers and Their Problems

In 1992 I wrote about retiring old release papers (photo 1). In 1995 I revisited this issue because of the growth in canvas transferring which was the beginning of allowing and introducing moisture to presses (photo 2), something I never thought I'd be advocating. Moisture does real damage to release materials, causing them to buckle and warp or even stick to the bottom of the canvas substrate it is meant to protect. Always have a separate set of release papers for canvas transferring, or plan on disposing damaged release envelopes after mounting very moist projects. Using a release envelope is a good idea for handling projects that may stick (photo 3). The whole point is to take care of your silicone release materials, and they

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The textural difference of the surface comparison of these resulting boards is nearly impossible for me to photograph, but there was a significant difference in the texture between the Seal release board and the Crescent substrate boards.

will always, in turn, take care of you.

Current Research in Photo Release Boards

One of my personal pet peeves with release papers, or more correctly, release boards, has been the fairly intense orange peel currently found on commercially manufactured boards. One of my most recent projects has been to test the mounting of single-sided release papers to existing substrates in an attempt to find the board best suited to mounting photos without adding the orange peel problem.

In selecting a substrate, it had to be smooth, sturdy and porous. It also needed to be readily available within the framing industry—not just the digital market. Two boards surfaced from my testing. My initial board of choice has also been my favorite substrate for photos: Crescent Archival PhotoMount Board. The second is a new product: Crescent SuperSmooth.

The Archive PhotoMount Boards are 4-ply thick and, when mounted with single-sided release paper using a permanent tissue adhesive, the board is about the same thickness of the commercially available boards from Seal. You must use a permanent adhesive to prevent the releasing of the adhesive when resubmitted into the heated environment during mounting. Boards should be coated on both sides, as the commercial boards are, to help countermount for flat release materials. This will also protect all parts of the mounting, including platen and

materials. Also remember never to use boards both top and bottom in any press. The PhotoMount boards provide a nicely porous substrate and give a decently rigid release board with a much smoother surface for photos than is otherwise available (photos 4a and 4b).

SuperSmooth Release Boards

The new board available from Crescent called SuperSmooth has a wonderful surface that appears to be lightly clay coated. It looks like a great possibility for a release board substrate. Originally developed for use with photos, graphic arts and model building, Crescent suggests its mounting use with pressure-sensitive adhesives and heat-activated tissues. These boards are available in .090 Thick-Plain Surface or .140 Thick-Competition Plain, in sizes up to 32" x 40". This would be a little limiting for those wanting to produce a 40" x 60" or larger release board.

The light clay (or clay-like) coating on the board surface and the spec sheet notation that certain adhesives may bond better than others, indicates the need for a two-temperature mounting method when creating the release board.

What About the Scuffing?

Scuffing refers to the small patches of lost gloss from the surface of a high gloss photo, which is considered emulsion damage (photo 5). This has also been a complaint of mine for years. The degree of damage appears to vary

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Photo 5.
Yet another tough texture to show in a photo: the scuffing created by the silicone of the new release papers is alive and well in these samples. The degree of damage is varied by the release material or protective coating used when mounting. The circular glow is the light reflection required to show the textures. Note the high gloss photo on the right has almost a speckled appearance which is scuffing.

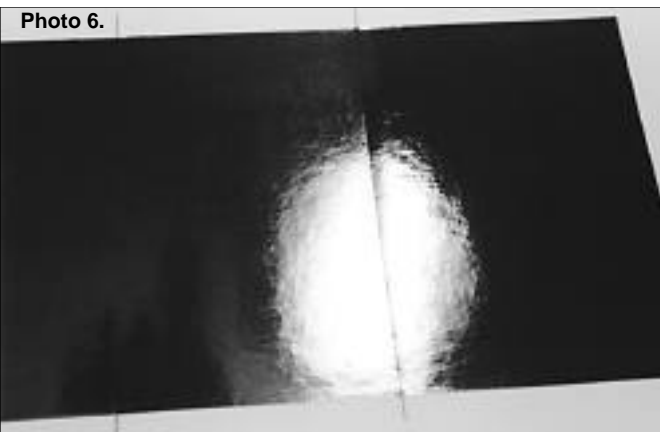


Photo 6.
This sample illustrates the drastic differences between surface materials, from release papers to protective coatings. Your own test on a glossy photo will give you better visual results. The left half of the reflection has slightly less orange peel. This was covered with the SuperSmooth release board.

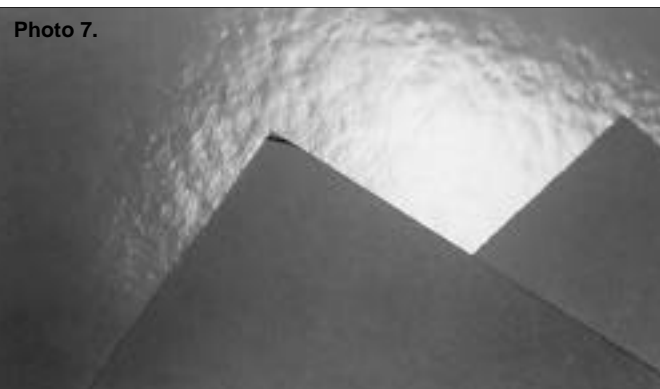


Photo 7.
Notice the orange peel reflected from the ColorMount Cover Sheets in the back. The two front boards are much smoother, homemade SuperSmooth release boards. The texture cannot be seen here on the front boards.

depending on the release material or protective coating used when mounting.

Scuffing has been a problem since the renewed popularity of high-gloss photos during the early '90s (PFM, November 1997). Though it is detectable on matte finish images, it is not as obvious and may be overlooked. I personally felt it had something to do with the silicone on the release materials but Kodak, Ilford, Agfa and Seal all claimed it was the heat alone and not the silicone. Excessive heat can damage surface emulsion, but my test results strongly argue that it is not the heat alone creating the problem (photo 6).

The Testing

I first mounted strips of high gloss and matte black photo papers with release material cross strips of new (previously unused) single-sided release paper, double-sided release paper, Seal ColorMount Coversheets, black kraft paper and acetate foil. This was done to test for any silicone or paper fiber reaction to surface scuffing. The ColorMount Coversheets and Acrylic Foil are both currently marketed to protect high gloss photos from damage. Results showed that emulsion scuffing damage was much greater when mounted using new release papers with the original silicone coating intact. Older papers with more silicone removed from multiple mountings showcased lower damage levels.

I also tested the same type of photo strips to compare single-sided paper, double-sided paper, SuperSmooth release board, Seal release board and Mylar® release materials in relation to the orange peel issue. Results showed that orange peel is caused by both the selected substrate as well as the release materials placed on top during mounting. Another important result is that although the Seal ColorMount Coversheet helps protect the surface from scuffing, it does in turn contribute to the orange peel problem (photo 7). This trade-off doesn't really solve the photo problem.

What To Do

I am presenting you with all the information and research I have available so you will be able to make your

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own educated choices. To better address the orange peel issue, I suggest you try your own tests on new release boards with varying substrates that are as smooth as possible. To take care of scuffing, the best product currently available on the market is acetate foil overlay. This is a clear, non-silicone coated sheet designed to be placed over the face of the high gloss photo to protect the emulsion from the silicone of the release materials.

I am still testing the scuffing issue and will continue to report the results in future articles. In the meantime, pay attention to photos when they are removed from the press and examine them for orange peel and scuffing. You will never be able to correct a problem that you do not detect.

The orange peel and scuffing issues on high-gloss photographs are not the results of anything you as a professional framer are doing wrong. It is a problem inherent in the basic mounting itself of these sensitive pieces. Oddly enough, the photo companies don't seem to see the magnitude of the visual distraction of orange peel. At photo

shows, oversized RC photos are prominently displayed to showcase the developing and clarity of the images photographed, but often the orange peel is still there.

We as professional framers and framing/photographers realize our job is to enhance and protect the art we frame. Watching out to prevent scuffing and orange peel by substituting improved or innovative cover sheets, release papers and substrates is all part of a day's work. ■

For additional education on photographs, watch for workshops being offered by Chris through PPFA workshops Framer's Palette being launched at Orlando in January 1999.

Chris A. Paschke, CPF, GCF, owns Designs Ink, Oxford, Connecticut, featuring commercial and retail custom framing, product consultation, design and education. Specializing in mounting, matting and design creativity, she works with numerous industry leaders including HUNT Corporation, Crescent Cardboard, Fletcher-Terry, Larson-Juhl, PPFA, and Wild Apple Graphics. Her first book, The Mounting and Laminating Handbook, is already in its second printing.