Mastering Mounting

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Yellowed Print Redesign

In this era of digital printing, it's tough to keep in mind that all framing is not just business as usual. Open edition reproductions have always been the style of art than can be torn, mounted, laminated, and otherwise decoratively displayed. A recent client purchased a 10"x10" "Floral Essence I-IV" series of my art from Wild Apple Graphics. Since these prints were going to be used as decorative accents in an Asian corner of her dining room, she decided to have them mounted and laminated and simply framed in a simple dark bamboo moulding, #803100 from Design Guild (Photo 1).

Photo 1: Design Guild #803100 Dark Bamboo was originally selected for this contemporary set of Wild Apple prints, "Floral Essence, I to IV."

Photo 2: At the lower left is a yellowed laminated image. At the top center is the 185°F mounted image with a pale yellow halo. At the right is a 160°F mounted image without any yellowing.

Laminates

The prints were to be mounted to Bainbridge HAF heat activated foamboard. And since they have a great deal of visual texture, they were to be laminated with a satin matte film rather than a texture. The recommended temperature of HAF board is 185-190°F for two to three minutes. The first mounted print turned slightly dark with a halo of pale yellow surrounding the flower on the cream background. At this point it wasn't yet a loss, so laminating was next. The first print was laminated in a 200°F press with Drytac satin matte ArtShield for five minutes. The resulting print appeared very yellow when removed from the press (Photo 2).

Another print was mounted with the same HAF and laminated with Bienfang Finish Guard Linen. The first lower temperature Drytac laminate needed to be compared to the higher temperature 215°F Bienfang laminate for yellowing as well as comparing the smooth finish to a texture. The linen film came out equally as yellow as the satin matte (Photo 3).

These particular prints have the slick appearance of a color laser print rather than a traditional offset litho. Luckily, I sell these prints and had others to test. More prints were mounted at varying

temperatures, but the results were varied and inconclusive. Jim, the printer at Wild Apple, was contacted and was sent samples to see if he could determine what had actually happened. He verified they were offset prints done in-house on a slick paper media and not digital prints. And after tearing them apart and examining them closely, he said the inks were not what was changing color. He felt that the laminate was yellowing.

Follow-up

The white receptor coating on the surface of digital papers can yellow, triggered by select tissue adhesives. But since this was not a digital print, there was no receptor coating to yellow. The rolls of laminating film tested spanned time, company, and temperature and have been regularly used on numerous other open edition prints that never yellowed. Since the yellowing occurred using different brand laminates at different temperatures, the laminate adhesive does not appear to be the cause of the problem.

In fact, the faint yellowing of the print at the higher heat-activated board temperature points to temperature. But when other brands of HA board at 185-190°F were tested, they did not cause the same yellowing. The print was even tested at 225°F for three minutes in a mechanical press with no board or adhesive to see if it would react to temperature alone. It didn't. But the yellowing occurred on every tested laminated print regardless of mount board. Though the reactions of digitals has been discussed at length, a framer would have no way to knowing when an offset print might yellow when laminated, heated, or mounted to an HA board.

Photo 3: Comparing: Bienfang Finish Guard Linen (left); Drytac ArtShield Satin Matte (center); mounted at 160°F to Speedmount; and an unlaminated, unmounted print (right).

Photo 4: Once laid out for review, the dark moulding visually distracted from the unity of the gray square at the center.

Photo 5: Larson-Juhl Meridian #312710 has the soft-brushed gold face and softer gray sides better matching the tone of the color and texture of the art.

What to Do

Since I could not laminate these prints without damage, the game plan changed. Now they needed to be glazed. The set of four was mounted at a lower temperature of 160°F to Speed-Mount HA foamboard, which did not change their color. The four frames were built and ready for fitting, but once they were viewed as a set there was a problem with the design.

As the artist, I had painted the set so they interconnected by a gray square being formed at the center. When the set was viewed with a dark frame, the unity of the gray square was lost (Photo 4). Also the contemporary gesso texture on three sides of each print and abstracted characters did not feel traditionally Asian enough for a literal bamboo frame.

Since the client had to be called about using glass, a different profile and softer color was suggested to better enhance this set of prints. There is a simulated gold chop on each print that could be nicely accented by selecting a pale gold moulding—not gold leaf or heavy metallic but soft, brushed gold. Larson-Juhl Meridian gold #312710 was selected (Photo 5). The face of the moulding picked up the gold chop and echoed the ¼" lines in the art. Nor did it overwhelm the colors as the dark bamboo did. Plus it had a more contemporary flair better suited to the prints (Photo 6).

The slight scoop of the moulding draws the eye into the art rather than the halting abruptness of the dark bamboo of the first set. The gray sides are softer, better enhancing the gray tonal variations in the sumi ink flowers and prevents the gold of the frame from becoming overpowering. The paler color allows the eye to also freely flow from frame to frame unlike the isolating dark frames that prevented the eye

from moving. The new set feels more like a cohesive unit designed to be hung as a total presentation rather than as individuals merely hung together in a wall grouping.

Though "Floral Essence" was designed to be hung as two plus two, with the square in the center, it can be hung either as a vertical or horizontal row. Perhaps a darker frame would work better in either of the optional layouts (Diagram 1). So sometimes the placement and layout of a grouping can impact the moulding and frame design.

Replicating the Result

There was no clue that the prints would react as they did when laminated, and the cause is still not certain because the discoloration cannot be totally replicated with numerous products. To nail down the problem, it must be able to be replicated on demand. To prove it was the 180-190°F heat of a HA board, it must yellow using every product in that same heat range. The same Bainbridge Heat Activated Foam at 185°F for two minutes tinged the images slightly yellow, but only occasionally. When the same images were mounted to lower temp 160°F HA boards, there was no visible yellow tint. And when subjected to heat with no board at 200°F it was also unaffected. So it must not be heat.

Adhesives may vary on different manufacturer laminates, so if one yellowed and the other did not it could be a specific adhesive. But they all yellowed the prints. The vinyl films have not yellowed other photos and open edition prints, so it must not be the laminate media or adhesive itself. Nonetheless, these prints did yellow, and it has been verified that it was not the ink that turned color. So what exactly happened? The bottom line is that the cause is still unknown.

Photo 6: The face of the moulding picks up the gold chop, echoes the ¼" lines in the art, enhances the colors, and has a more contemporary flair.

Photo 7: New frames offer greater visual unity as a set. The gray square at the center better unifies the group and the slight scoop flows into the art.

Photo 8: Inkjet fading is a reaction to UV and visible light that causes inks to fade, leaving the yellow dominant in digital prints. This damage seen here is not due to framing.

Not Framer Neglect

Complaints about yellowing images have been around for years. The yellowing shown in this article is not caused by UV or visible light as in a yellowing newspaper, nor is it color fading as with digital inks (Photo 7). Rather, it is a reaction to something done in the frame shop during the laminating process. This should be controllable. But if there is no indication of a sensitivity, how do you know not to laminate? You don't. It is nearly impossible to tell what may be heat or adhesive sensitive in this era of high technology. Damage like this yellowing could happen to anyone.

In the meantime, I will be staying away from heat laminating open edition images printed on any slick, glossy paper stock, whether digital or offset. Once again it comes down to pressure-sensitive mounting prints of the twenty-first century. Rollers anyone?

The thing to remember is it was not neglect that caused this yellowing. Who knew? Anytime you don't know what something is, where it came from, or why it feels different, it might be better off hinged, pressure-sensitive mounted, or cold laminated. ■

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