Strathmore ARTIST NEWSLETTER
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Computer Papers: New Uses in the Portrait Studio

by Luana Luconi Winner

In a busy portrait studio like mine, I rely more and more on digital technology to assist me in many tasks. So, like you, I am constantly upgrading hardware and software to make my one-person business more efficient and profitable. Along with these new changes, I have experimented with many consumable products as well – especially the papers. I have added *Strathmore Inkjet Papers* to my regular stock in the studios.

Abby *Pastel*
©Luana Luconi Winner

Along with my *Strathmore Bristol Board*, (smooth or vellum finish) for the initial preliminary graphite sketches and my *Strathmore Gray Scale* sketchpads for heightened charcoal sketches, I have added *Artist Inkjet Papers' Weave, Velour, Fiber* and *Texture*. Each of these has unique properties allowing a wide range of experimentation and uses. *Weave* has a craggy texture similar to medium texture canvas but not the weight. *Velour* is fuzzy and gives the soft look of pastel. *Fiber* has the soft translucent quality of oriental papers. *Texture* can be used to play with pastel or watercolor paintings, but be careful how you load it. It is a very heavy weight paper – more like a stiff cover stock with texture – and you need to be certain your printer can handle it.

These and a host of other inkjet papers are available from Strathmore Artist Paper. Log on to www.strathmoreartist.com to find the retailer nearest you. Whether you are looking for inkjet papers for your photos, crafts or an all-in-one inkjet craft kit, Strathmore Artist has a product that's right for you. Click here to see all of Strathmore Artist Inkjet Paper.

Stephen
Graphite on Bristol Board

Karen
Heightened Charcoal on Strathmore Grey Tone

My clients are always surprised when I try to bring them more into the creative process of planning the portrait. When I arrive at the client's chosen location, I am prepared to do dozens of sketches. On middle gray paper, I do graphite sketches or charcoal sketches heightened with chalk for three-dimensional studies. Working larger preliminary graphite sketches on Bristol Board pad during life sittings, I am able to move around the subject as they relax. I can observe them as they gesture naturally while we converse - all the time being careful not to "pose" them.

Original Graphite Sketch

Weave with oil over printed sketch

Velour with pastel over printed sketch

Fiber with watercolor over printed sketch

When I return to the studio, everything goes up on a storyboard. This will include the series of quick sketches, detail sketches, compositional sketches, the client-approved head sketch, color sheet references, and any digital photos of props or items that will not be transferred to the studio to work on later.

Now the best of the compositional sketches on bristol board or gray toned papers are cleaned with kneadable erasers. I then scan them into my computer for archiving and I print them out on the *Strathmore Artist Inkjet Papers*. If you don't have a scanner with a big enough bed, use your digital camera to take a flat on, non-flash, natural light shot and then transfer it to your computer.

For an oil or acrylic painting, print the chosen sketch onto *Strathmore Inkjet Weave*, and then use thinned oil paint or a bit of acrylic on a few key spots. The results are a very good, portable, mailable or emailable version of how the final work may appear. This paper is not a woven cloth canvas, but has a similar texture as canvas and can give a nice representation of what can be expected.

Try the same process with the *Strathmore Inkjet Velour* paper if you are using pastels. Not unlike the soft British candy box images from the turn of the 20th century, this paper gives a lovely soft edged effect with large, broad stokes of pastel over the computer printed line drawing.

If you are Photoshop savvy or command the skills of one of the other image manipulation programs, you may find that a photograph, slightly altered in several ways by computer and then printed on this velour, may offer a real choice in how the final work will be done. Not intended to be final paintings, these next three were digitally modified sketches on *Strathmore Inkjet Paper* to try changes in background color, expression, and composition. Which one would you use for the painting?

©Luana Luconi Winner

All of this can be easily done with the *Strathmore Inkjet Fiber* paper if planning a watercolor painting. Again, print out the prepared, scanned line drawing on the Fiber paper, lightly spray with an acrylic spray or fixative (because inkjet ink is water soluble), and then by use of a few strokes of watercolor, transform the drawing into a preliminary painting in a variety of value or color plans. Remember these are just planning sketches...efficient, easy, and affordable. The computer is just aiding and speeding your search for the right reference composition.

Let me suggest, too, that for those of you who may work with children dancing around the studio as you try to paint their siblings, this is a really great way to let them have some fun and contain their enthusiasm at the same time.

Have a few pages printed out with the final graphite or charcoal composition as will be used in the final painting. Print several for each child and allow them to "paint" their own version of the painting while you are busily painting at the easel. Markers, watercolors, or crayons can go a long way to create a peaceful atmosphere where multiple children and family members are being painted.

The portrait is a long-term investment for the client. This is usually a carefully considered addition to their art collection that will last for generations. To the artist, this is a complicated, weeks long or months long investment of time, talent, and energy. These ideas assist the artist with the early planning stages of the project and ultimately allow for a well-directed, carefully executed finished work of art.

My Drawing of Brother and Sister

His Drawing over my sketch

Her Drawing over my sketch

Abby by the Patio Fireplace

ABOUT THE ARTIST

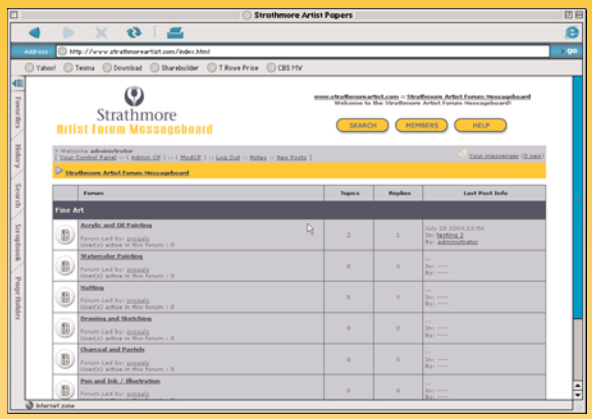
A founding member of the Portrait Society of America, Luana Luconi Winner was schooled in Rome, Florence, Switzerland and the USA, and currently resides in North Carolina. Luana's portraits and murals hang in corporations, universities, and residences on both sides of the ocean.

Mrs. Winner spoke at the Portrait Society of America International Conference in Washington, D.C. in April 2003, and she demonstrated at the International Association of Pastel Societies Convention in Albuquerque, New Mexico in May 2003. In December 2003, Mrs. Winner participated in the Fourth Edition of the Biennale Internazionale dell'Arte Contemporanea (International Biennial of Contemporary Art), an invitational exhibition in Florence, Italy.

In 2004, her sold out portrait workshops at art councils and art centers across the country, from North Carolina's Jerry's Art of the Carolinas to California's American Artist Magazine's Art Methods and Materials Show in Pasadena. Her courses demystify the study of the topography of the face. Luana's workbooks on ©The Business of Art in the Digital Age, ©The Pastel Pyramid, about the medium of pastel, and © Great Faces! about painting people, have been very popular.

Also in 2004, she was panel leader and moderator for the Business and Professional Women's program on "Empowering Women in the Arts," and appeared at the Portrait Society of America International Conference in Boston, Massachusetts doing pastel demonstrations at the trade show and working as part of a the portfolio review panel. Luana's painting workshop locations in 2005 include: Cheap Joe's in Boone in the Blue Ridge Mountains of North Carolina in June 2005; Art Methods and Materials in Pasadena, California in October 2005, and Jerry's Art of the Carolinas at the North Raleigh Hilton in Raleigh, North Carolina in November 2005.

For more information on additional upcoming workshops check on Luana's website at www.WinnerStudios.com



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Hot Products

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Surface Treatment of Inkjet Paper for Enhanced Image Permanency

by Jay Song, Principal Scientist,
International Paper Company

Inkjet print technology is growing rapidly due to its ease of use; low cost and excellent print quality. The image quality of inkjet printing can approach that of the silver halide photography. In this article we will discuss the effects of paper surface treatment on image permanency. What is image permanency? There are three areas of considerations: waterfastness, lightfastness and durability. Waterfastness means the resistance of image smearing when water is applied. Lightfastness is the ability to retain color after exposure to light. Durability is the image resistance to mechanical factors.

Inkjet Technology

The Inkjet printing process is non-impact since only the jet of ink makes contact with the printing surface. The ink droplets are ejected from the nozzles of printheads at velocities up to 50 miles per hour. The position of the droplet on the printing surface is controlled using high frequency electronic signals. The size of the droplet is determined by many factors such as nozzle diameter, nozzle pressure, surface tension of the liquid ink and ink viscosity. The two main categories of inkjet printing technologies are continuous inkjet (CIJ) and drop-on-demand (DOD) inkjet. The difference between continues inkjet and drop-on-demand inkjet technology is that the pressure applied on the ink reservoir. Continuous inkjet uses a continuous pressure, while the drop-on-demand technology only applies pressure when a drop is required.

Inkjet Inks

Inkjet ink is comprised of a base carrier (water or solvent), a colorant (dye or pigment) and small amounts of chemical additives to provide desired print performance characteristics. Most ink vehicles used in today's inkjet printing are aqueous solutions or dispersions of dyes and/or pigments and small amounts of high boiling solvents such as glycols and glycol ethers. Dyes are water-soluble and pigments are insoluble in water. Non-aqueous inks include oil-based inks, solvent based inks, solid phase change inks, and UV curable inks Generally speaking, dye based inks have higher color gamut and superior print quality. Pigments have superior waterfastness and lightfastness (fade resistance) properties. However, it must be pointed out that although pigment is the colorant of choice for extreme lightfastness such as automotive paints, not all pigment inks have excellent lightfastness.

Inkjet Drying

The inkjet drying mechanisms include absorptive drying and evaporative drying. The absorptive drying mechanism includes capillary effect such as in the case of a porous coating or an uncoated paper, and molecular diffusion in which ink molecules diffuse into the bulk media through ink-media interaction. In evaporation drying, the excessive ink vehicles are removed using heat or forced air. Although evaporation can occur simultaneously as absorption, the latter is usually the most frequently utilized method of ink drying.

Coated Inkjet Paper

Although plain paper is widely used for inkjet printing, coated paper grades provide improved ink holdout and reduced dot gains, creating sharper and brighter images. Paper coating also helps increase image permanency. There are several types of coated inkjet paper. Matte coated inkjet paper; semi-gloss coated inkjet paper; supercalendered gloss inkjet paper; cast-coated inkjet paper; polymer gloss coated inkjet paper; and micro-porous gloss coating. A multi-layer coating design is shown in the following figure.

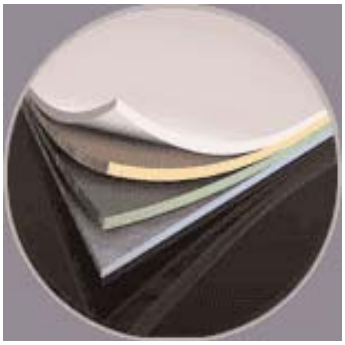

Figure 1: *Schematic diagram of a multi-layer coating structure for coated inkjet paper which contains an ink-receiving layer, barrier layer, base layer and a back coating layer. The ink-receiving layer sets the ink in place. This layer provides most of the image quality, drying and waterfastness and lightfastness. The function of the barrier is to restrict the ink liquid from migrating to the cellulose base, thus reducing color bleed and cockle. The base layer provides opacity, brightness, shade and basis weight. The back coat provides curl resistance and improves printer runnability.*

Matte Coated Inkjet Paper

Matte coating provides a smooth, consistent paper surface, which is superior to uncoated sheets for image contrast and clarity. Matte coated inkjet paper can be either C1S (coated one side) or C2S (coated both sides). Matte coated inkjet paper is used in desktop, wide format, and high-speed industrial printers. Matte coating usually consists of high surface area pigments such as silica particles and calcium carbonates. Polyvinyl alcohol is often used as a binder. Silica is used because of its high surface area and internal pore volume. Cationic polymers are added to the coating composition to improve dye holdout and image permanency. To facilitate the ink absorption, the sizing level of the base paper is kept low so the ink absorption can be distributed between the paper and coating.

Inkjet Print Quality

The water absorbency of the printing media such as paper is critical to the print quality. In addition to ink dry time, other important performance parameters for inkjet media include print density, wicking, bleed, dimensional stability, lightfastness, and waterfastness.

Waterfastness

Waterfastness is a measure of the resistance to loss of color when a printed inkjet paper is exposed to water. Waterfastness is an important property because a printed sheet may be subjected to coffee spills, water spills, rain or even flooding. A print with no waterfastness will smear, diminish in intensity or totally wash away after contact with water. Color loss is mostly due to the solubilizing of the dyes in the image. To improve waterfastness, an ink receptive coating is designed to immobilize (fix) the dye molecules through interactions between the dyes and the coating components. The formation of complexes of dye molecules with mordants can reduce color bleeding and improve waterfastness. Many coated inkjet media use water-soluble polymers such as polyvinyl alcohol, gelatin, and modified cellulose to absorb ink vehicles. These coatings will swell or be washed away when contacting with water for an extended period of time. A careful balance between hydrophilic and hydrophobic components in the coating composition is necessary to achieve high image quality and superior waterfastness. Cross-linking of water-soluble polymer binders to form a polymeric network can improve waterfastness.

In micro-porous coatings, the image-receiving layer does not need to swell to absorb ink. The micro-porous structure provides a honeycomb of pores that can receive ink. There is no trade-off between the ink absorption speed and waterfastness. Micro-porous coating can achieve fast ink dry speed and high degree of waterfastness. To fix dye molecules in the ink, the particles can be treated with cationic polymers to immobilize the dye molecules. Most often, nitrogen containing dye fixatives are used to impart waterfastness. Polyvalent salts such as aluminum, calcium, lanthanum and zirconium salts are also incorporated into the coating composition to improve waterfastness. These polyvalent salts contain positive charges, which help bind the negative charged inkjet dyes.

For paper grades that are not waterfast, other means can be used to achieve waterfastness such as use of pigmented inks, solvent-based inks, and/or lamination.

Lightfastness

Lightfastness is a measure of fade resistance and light permanence of an inkjet imaged media. Lightfastness testing is usually conducted using a fade-o-meter or weather-o-meter to simulate various conditions that an imaged sheet would encounter in the real world. Most applications of inkjet print media are subject to some sources of UV light. Light fading of printed images is very unfavorable especially for outdoor use such as posters, signs and displays. In most cases, dye immobilization through specific interactions such as chelating, or forming complex can improve both waterfastness and lightfastness. The selection of the polymer binder in the coating composition is very important in achieving lightfastness as some polymer binders are more susceptible to light fade. Adding multi-valent metal salts or complexes are shown to improve lightfastness of inkjet media.

Hewlett-Packard recently released Vivera inkjet ink, which is predicted to withstand fading for up to 108 years when printed with six or eight color cartridges and 82 years when using three-color cartridges.

Don't forget to check out Strathmore Artist Papers' complete line of inkjet papers at www.strathmoreartist.com

Summary

Coated inkjet paper provides superior image permanency than uncoated sheets. For long-term archival applications, you may consider use a pigment inkjet printer to print on a matte or semi-gloss coated ink paper. It is important to consider how well the paper resists yellowing. Paper must be acid-free and lignin-free for archival use. To help make the print image last longer, it is beneficial to put the printed image under a glass or light-resistant filter. You could also store the prints in a dark drawer.

References

1. Pond, S. F., Inkjet Technology and Product development Strategies, Torrey Pines Research, 2000
2. www.wilhelm-research.com
3. www.jetprintphoto.com

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