

Road To Sublimation Success: New Substrates

BY DAVID GROSS

"Alice came to a fork in the road. 'Which road do I take?' she asked.

'Where do you want to go?' responded the Cheshire Cat.

'I don't know,' Alice answered.

'Then,' said the Cat, 'it doesn't matter.'"

—Lewis Carroll, *Alice in Wonderland*

Over the last 20-plus years, I have seen the sublimation decorating process go viral. I think there are many reasons for this "alignment of the stars" such as great printers, inks, and paper—but the key, of course, is the products that can be created with sublimation. Starting with only a handful of products, our choices of substrates (what we call an imprintable blank product) are now in the thousands! From metal prints to iPhone covers, sublimation decorating delivers high-value, full-color, photographic-quality products in mere minutes—and with a minimum quantity of only one.

WHAT IS THE SUBLIMATION DECORATING PROCESS?

No one invented sublimation; it is a phenomenon of nature. We have only learned to harness its power, much like gravity. My research indicates that sublimation was first documented in the 1920s. It all started when someone accidentally observed special dyes that, when heated, turned into a gas and "dye" acetate film. In the beginning, the special dyes were screen printed onto paper and then transferred onto polyester fabric. Sublimation became a hit because it did not change the feel of the fabric, produced beautiful vibrant colors, and wouldn't wash out.

Nowadays, we use offset printing

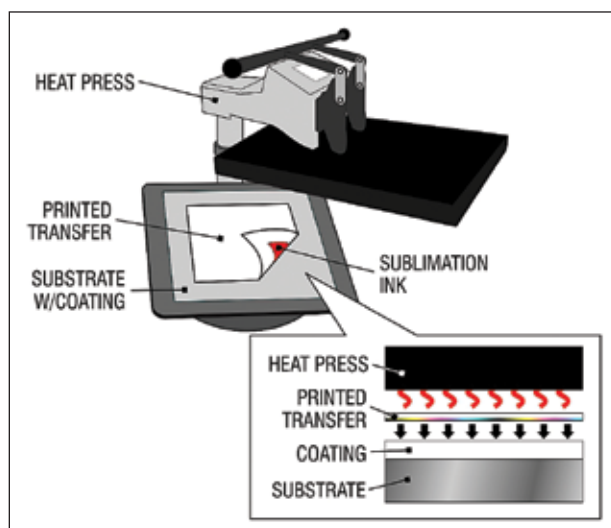
presses and inkjet printers to print our transfers using sublimation inks (also referred to as disperse dyes). These inkjet printers use a piezo printhead (Epson and Ricoh) that vibrates the ink out onto the release paper instead of a thermal printhead that uses heat (HP and Canon). The release paper that is used should not be confused with transfer paper, although we often refer to it as transfer paper. Release paper is designed to "carry the ink" and then do a good job of "releasing the ink" as the ink turns from a solid to a gas during the heating process.

To transfer, the printed image/paper is secured to the substrate and placed in a heat press where it is pressed at (usually) 400° for a dwell time and pressure that is dependent on the substrate. Most fabrics are pressed for 45 seconds with light pressure whereas ceramics require several minutes with medium to heavy pressure (for additional information, refer to our instructions at www.conde.com). During the heating process, the sublimation dyes turn into a gas and look for an oil-loving molecule (polyester) to bond with. At

the same time, oil-loving molecules open up in what we call the glass transition state to accept the gas. It's important to note that cotton is a water-loving molecule and will not accept the dyes. Once the transfer is complete, we remove the substrate from the press and allow it to cool, thereby closing the pores of the substrate and trapping the dyes.

WHAT DOES IT TAKE TO BE A SUBLIMATION SUBSTRATE?

As strange as it sounds, when I wake up in the morning my ADD mind is thinking, *What new products can we sublimate today?* Yes, friends, that may give the impression that I drank the Sublimation Kool-Aid, but it really just proves that I'm consumed with the dye-sublimation process and finding new and exciting substrates to offer this growing industry. I've tested countless potential substrates over the years with results ranging from total failure to tremendous success. Of course you can't just sublimate an image onto anything—there's more to it than



The printed image is secured to the substrate and placed in a heat press.

Create Your Wall of Shame

Many years ago, my friend Trish Lambert suggested that instead of disposing of our sublimation mistakes, we should prominently display them near our heat press to remind us not to make them again. This area then becomes our Wall of Shame! So if you want to keep from making the same mistake over and over again, put it right in front of you!

Display sublimation mistakes in your production area to avoid repeating them.



that. So, what is a sublimation substrate? Or rather, what does it take to be a sublimation substrate? In the dictionary, a substrate is defined as a layer that underlies something or on

which some process occurs. In our sublimation world, substrates are the blank items that are transformed into personalized, photo-quality gifts and awards.

For a product to be sublimatable, three things are required: 1. The item needs to be white or light colored. Because the ink that's used is not opaque, an item's color will show through an imprinted image. Unfortunately, the ink is simply not opaque enough to imprint images onto dark-colored or black items (See my video at www.condetv.com about sublimating to colored shirts). 2. The item needs to be able to handle the heat and pressure of the sublimation process. Whether it's with a heat press or oven, the item must be exposed to 350° to 400° temperatures without melting or deforming. 3. The item needs to be made of or coated with a material that will accept the sublimation gas. An item's coating is very important and must not soften under heat/pressure and should not sublimate too easily—as this means that it can “un-sublimate” or fade quickly. Evolving over the years, current high-tech coatings provide durable, optical quality results with a powerful UV package that allows for short-term outdoor use (long-term outdoor use is not recommended and will result in accelerated fading due to temperature and exposure to direct sunlight).

A GUIDE TO “BASE MATERIALS”

The majority of substrates are made from tried-and-true base materials such as ceramic, slate, glass, aluminum and polyester fabric. Specific products and product

families are created by making/cutting the base materials into the appropriate size and shape. Digital decorators can also fabricate their own products from these materials with the right tools and know-how. Some base materials are inherently sublimatable such as polyester fabric and plastics. Ceramic, slate, glass and aluminum, however, need a special coating to accept the transferred image—not just any mug or piece of glass will sublimate!

Ceramic/Porcelain.

Ceramic products are made from clay that's usually fired with a glass coating in a kiln. Once fired, a sublimation coating is applied and then cured at a much lower temperature than a kiln. Examples include decorative tiles, holiday ornaments, decorative plates, mugs and steins.

Slate. Slate produces elegant photo gifts but has become quite popular the last few years as a plaque product. Made of metamorphic rock, it is cut to shape, sanded, the edges individually fractured, and a white sublimation coating applied to the image area. Available in a large variety of sizes and shapes, no two pieces are exactly the same.

Glass. Glass is usually coated with a white and a clear layer on the back side and viewed from the uncoated front side. Since sublimation dyes are relatively transparent, the white coating is used to reflect light from the viewing side. Once sublimated, glass floor tiles can be installed



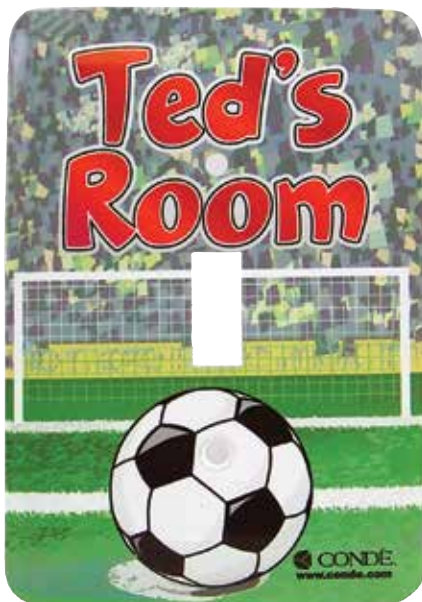
Ceramic mug with maroon interior.



SubliSLATE's coating is applied in a way that helps to seamlessly blend images into each piece.



Aluminum photo panels are a unique and modern alternative to framing.



Light-switch covers make great decorative accents for the home or office.

with the coated/imagined side down, thus protecting the image from abrasion and wearing away due to foot traffic. Examples include decorative and floor tiles, cutting boards, photo panels, award plaques and drinkware. A new coating has been developed for Solapix glass products that produces outstanding results without the additional white layer.

Aluminum. Aluminum is an extremely popular base material that is coated in large sheets or directly from the coil of metal. It is available in white, clear (silver), or gold flat sheet stock and is cut into a large variety of shapes and sizes with a router or guillotine cutter. Aluminum can also be punched, bent and even wrapped! Popular brand name coatings include Dynasub, Unisub and ChromaLuxe. Products include water bottles and a ginormous number of cut products such as photo panels, name badges, bag tags, license plates, holiday ornaments, dog tags, bookmarks, interior signage, and iPhone/device cover inserts.

Steel. Steel, similar to aluminum but not as popular, is used for light-switch plates, travel mugs, water bottles and cut products such as magnetic dry erase boards.

Plastics. Many different products from poker chips to plastic mugs. One new product is our plastic insert material for device covers.

Fiberglass Reinforced Plastic (FRP). Another extremely popular material, FRP is a thick, lightweight, and strong polymer material made popular by the folks at Unisub. This white sheet material, available single- or double-sided, is cut into a large variety of products such as name badges, bag tags, license plates,

coasters, door hangers, key chains, holiday ornaments, and more.

Hardboard (High Density Fiberboard often referred to as Masonite). Hardboard is an engineered wood product that, for sublimation purposes, has a white coating applied to one or both sides to create a variety of products including coasters, clocks, message boards and clipboards.

Medium Density Fiberboard (MDF). Also an engineered wood product, MDF is thicker than hardboard and typically has a pre-finished edge that makes imaged photo panels, picture frames, award plaques and indoor signage look great.

Mousepad/neoprene material. Created by adhering inherently sublimatable polyester fabric to a rubber-type base, this material can be easily cut and/or formed into mousepads, coasters, counter mats, drink huggers, game boards, or exercise mats.

Fabrics. For sublimation dyes to work, the chosen fabric must be synthetic. Of all the available synthetic fabrics, polyester is by far superior. Close cousins (e.g., nylon) can be used, but the results won't match those of polyester. Further, 100% polyester fabric is a must—blended fabric such as 50% cotton/50% polyester will produce a faded or burned-out look that is generally unacceptable. The great news is that there are many different types of polyester material used to make T-shirts, bandanas, pennants, flags, holiday stockings, tote bags, hair ribbons, and more! Polyester shirts are now the rage as they have become more cotton-like and are sometimes treated with moisture trans-

NBM Show Training

How about a free, one-stop resource for hands-on learning? Join me at an NBM Show (www.nbmsshows.com) near you. I teach my class entitled "Beyond 101 Tips and Tricks for Sublimation Success". At the end of the class, I invite class members to come forward and make their own iPhone cover using my iPhone Kiosk and DyeTrans sublimation system.

port packages that keep your skin cooler and drier than cotton.

WHAT'S NEW?

ChromaLuxe Metal. ChromaLuxe aluminum features an extra thick, super high-tech sublimation coating that's become the standard for metal photo prints. So what's new about that? It's all the new and innovative things you can do with it to create extra value.

Stacked. By placing a smaller panel on top of a large panel separated by a wooden spacer, we create stacked metal. You can extend the concept with multiple smaller panels or even go for a third layer.

Punched. By putting a hole in one of the attractive shaped pieces, you can decorate with a colorful ribbon that then can be hung or placed on a stand.

Curved. Using a bender or roller, you can roll metal to form an attractive

www.condetv.com



Condé has informational and instructional videos designed to help your business be more successful!

After finishing my 101 tips and tricks many years ago, I started to convert my tips to videos. After only a few years, we have over 1,000 videos, making it the world's largest collection of sublimation videos. Our videos range from emergency reset of your ink collect to showing you how to use Corel's Powerclip feature.

Fullerton Photo: Metal Magic

"Metal is the most exciting thing to happen to the photo industry in 20 years!"
—Gaby Mullinax,
Fullerton Photo



Gaby Mullinax founded Fullerton Photo many years ago. After the demise of film, she reinvented her business and is now known as the "Photo Gift Diva". She is credited with the ChromaLuxe Bracelets and stacked ChromaLuxe metal. Check out her site at www.fullertonphoto.com and visit www.condetv.com (search for "metal magic") for an eye-opening video on sublimation metal.



Unisub's
New ChromaLuxe
Gallery Wrap.



Vapor Socks are available in short, crew, and training styles.

bracelet or self-standing curved photo panel. I recommend using double-sided ChromaLuxe metal to provide viewing from either side with the same or a different image. ChromaLuxe Bracelets are a popular fashion accessory that's now available in three sizes. We sublimate to a flat piece of ChromaLuxe white or clear metal and then use our inexpensive bending tool to form a perfect bracelet shape. I recommend sublimating your information on the other side so that you can get lots of referrals! Both sides can be sublimated at the same time.

Wrapped. Using a brake and a new version of the ChromaLuxe metal that features a very flexible coating, you can create a ChromaLuxe Gallery Wrap.

Consider using metal panels for traditional paper applications like wedding invitations or other special occasions. This will be an awesome keepsake that can be hung or placed in a stand.

Socks. One new craze in apparel has been the introduction of sublimated full-coverage socks! While styles made by Nike and Adidas have really fueled this fun new trend, Vapor (Source Substrates)



iPhone 5C covers available with ColorLyte plastic or ChromaLuxe aluminum inserts.

has recently introduced its own family of socks that are fine-tuned for sublimation decorating. To transfer an image, a thin jig is inserted into a sock, pressed on one side, and then flipped to press the other side. If the sock is slightly repositioned/rotated on the jig before the second side is pressed, a white seam down the middle of the sock can be prevented (see my video at www.condetv.com).

Device Covers. The last few years has seen the explosive viral growth of sublimation device covers. We now have a wide variety of covers for most popular smart phones and tablets, including the new iPhone 5C. Although close in size and shape, this new smart phone requires a different case than the iPhone 5/5S. Covers for the iPhone 5C are available in several styles, in a full spectrum of Apple colors, and in a choice of the new ColorLyte plastic or ChromaLuxe aluminum inserts. Other new supported devices



Personalized hair bows can feature initials, photos, graphics, or team names on the loop or tail of the bow.



Barrettes available in oval and rectangle shapes.



Unisub's new 18-piece Memory Tile Game.

include Apple iPad Air, Samsung Note 3 and Kindle HDX.

Bows. Using white polyester ribbon, some colorful digital patterns and monogram letters, and fancy template tricks, you can create beautiful custom hair bows in just a few minutes with even a small printer and heat press! Bows are hot-selling products with great value and large margins! Cost is minimal with a selling price of \$20 and up (see my video at www.condetv.com). For artwork help, visit www.condedesign.com.

Hair Clips/Barrettes. Another excellent youth product, barrettes are created by imprinting small aluminum shapes, slightly bending the imaged piece, and then attaching a clip to the backside.

Unisub Action Plates. Take a look at this awesome remake of a well-established and popular product! The folks at Unisub have come out with two new styles called Action Plates featuring a football and round shape. They are cut from Aluminum that has been coated with the white Unisub outdoor coating as indicated by the "yellow peel coat" (Peel coat is the film that if on a substrate, should be removed before pressing). The round-ball version makes an excellent canvas for a monogram/chevron design.

Solapix Glass. This new family of glass products features a breakthrough state-of-the-art sublimation coating that allows viewing from both sides. The glass is available in photo panels (curved or flat) and modular panels that provide digital decorators the opportunity to build high-value objects like room dividers and tables.

ColorLyte Plastic. Since the begin-

ning of my sublimation journey, digital decorators have asked for a thin sublimatable plastic similar to a credit card. This new product is quite thin and can be laser cut for applications such as device cover inserts. It has a slight matte finish and renders amazing color and clarity.

Unisub MemoryTile Game. I think most of us have played the memory card game before. It's a lot of fun for any age, and now you can offer this new version to your clients. Imagine a school fundraiser with images related to the school or team! Start with a common image for the "up side" and then build your collection of images for the "down side" and sublimates each image on two tiles. There are 18 tiles per box so you need to collect nine images from your client. Since this product requires extra labor, I would look for opportunities that allow you to sell the same collection multiple times (e.g., school fundraiser and tourist gift shops).

Unisub Tables. $\frac{3}{4}$ " thick moisture-resistant tables with high-performance satin coating available in 24" and 30" round or square sizes. Custom tabletops are ideal for use in restaurants, cafés and diners.

POP (Point of Purchase) Mega iPhone Sign. Big sells! What better way to let your in-store clients know about custom iPhone cases. Attach a separate interchangeable piece to the top corner of the sign to communicate your unique selling message (e.g., Mother's Day or Valentine's Day special). I also recommend installing a flat screen TV in your shop to show our unbranded videos.

Fabric Canvas Wraps. Using a piece of polyester fabric, we sublimates and then

wrap it around a wooden frame and staple. The result is a very attractive gallery wrap. This is the same concept that we often see with inkjet cotton canvas, but with sublimation we can achieve brighter more vivid colors and have an endless array of different polyester fabrics for different looks.

REPURPOSING: THE ART OF CREATING NEW PRODUCTS

To get new ideas, I like to take a fresh look at existing sublimation products. For instance, as I write this article, I am working on making product giveaways for my Mardi Gras organization's ball (picture shown is from 2013). My Mardi Gras Medallions are really Unisub Aluminum Christmas Ornaments with an added bead chain and my Mardi Gras Doubloons are poker chips (see my Mardi Gras videos at www.condetv.com). So whether you are a newbie or a veteran at dye-sub transfer, make sure you get samples of practically every product! Just because you don't like a product doesn't mean you can't find a unique way to offer it to your clients. My tip: Don't let your opinion of a product get in the way of you making money! I hope this article has been helpful to both new and experienced digital decorators. I have posted a few of my past articles along with other resources at www.conde.com/nbm. I welcome your comments and questions at dgross@conde.com.

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