Road to Sublimation Success

Sublimating New Hard Substrates

BY DAVID GROSS

Most blank sublimatable products can be classified as either a soft substrate or a hard substrate. Examples of soft substrates include items made of polyester fabric such as T-shirts, sweatshirts, tote bags, flags, towels, socks, blankets, mousepads (poly fabric on a rubber base), oven mitts, and more. In the case of polyester fabrics, the sublimation process actually dyes the threads without affecting the feel of the material.

Examples of hard substrates include a variety of gifts and awards made of glass, metal, acrylic, slate, ceramic, porcelain, wood, and more. Different from polyester fabrics that are naturally sublimatable, hard substrates must have a special coating applied to them that will accept a transferred image. Since the quality of this pre-applied coating ultimately determines the durability, color, and clarity of images, a product's coating is an important factor to be aware of when comparing similar products with varying price points and/or from different suppliers.

BASIC PROCESS

As I mentioned, there's a huge variety of gifts and awards made/cut from larger sheets of metal, acrylic, wood, and other hard substrates. Products such as key tags, luggage tags, name badges, cutting boards, photo panels, picture frames, clocks, drink coasters, jewelry, and signage are just a few examples of the many product possibilities.

Other popular imprintable items such as drinkware are made from ceramic, stainless steel, or special polymer materials. Each substrate (depending on type, size, thickness, and ability to conduct heat) has its own unique production instructions that should be followed carefully. Instructions are typically provided by the supplier and should include important details such as the suggested type of paper to print on and the time, temperature, and pressure needed in the respective heat press, mug press, or sublimation oven.

Although specific transfer techniques vary from substrate to substrate, the basic objective is the same:

1. Secure a printed transfer to the substrate's imprintable area (using either heat tape or special adhesive spray).
2. Place a blank protective sheet of paper under and above the substrate/printed transfer (keeps your heat press clean of sublimation gas residue).
3. Adjust the heat press to the selected substrate's suggested temperature (typically 400 F).
4. Adjust the heat press so that it provides the recommended amount of pressure (even pressure across the substrate's entire imprintable area is crucial).
5. Press for the recommended amount of time.
6. Remove the substrate from the heat, remove the transfer, and allow to cool (tip: placing in front of a fan or on a cooling plate allows the temp to quickly drop from the 400 F imaging temperature).

Today, there are thousands of ready-to-sublimate products out there with countless more on the horizon. Following are just a few examples of new sublimatable products that are available and the transfer technique for each. Once you're familiar with a substrate's characteristics, it's easy to adjust your pressing technique(s) to the many individual products that are offered.

Whether used to provide save-the-date info or promote a business, a personalized refrigerator magnet is a unique communication device that everyone loves. (All images courtesy David Gross)

REFRIGERATOR MAGNETS

Unisub is introducing several new metal shapes for use as refrigerator magnets: hex/honeycomb, rectangle, square, round, and banner/tag (banner shape can be flipped for use as a tag). Whether used to show off a favorite photo, provide save-the-date info, or to promote a business, a personalized refrigerator magnet is a unique and inexpensive communication device that everyone loves.

Each shape comes with a 1" magnet attached to the back after imaging. Sublimate your contact info on the back so folks know where they came from.

Basic materials list:

- Digital template
- Printed transfer
- Blank refrigerator magnets
- Heat tape
- Protective paper
- Heat gloves
- Flat heat press

Basic steps:

1. Download a digital product template and use it to create artwork for these uniquely shaped items.
2. Print the transfer.
3. Cover the bottom table of the heat press with a blank protective sheet of paper.
4. Secure transfer to metal using heat tape.
5. Place metal piece face-up (attached transfer face-down) on the protective paper, cover with another sheet of protective paper, and press for 75 seconds at 400 F with medium pressure.
6. Carefully remove the metal from the press, remove the transfer, and let cool.

Ornaments aren't just for the holidays anymore. You can also use these as wedding or Valentine's Day gifts.

HOLIDAY ORNAMENTS

The folks at Unisub are introducing six new styles of holiday ornaments: three two-sided metal shapes with a white gloss coating (hex/honeycomb, cross, and tag) and three new two-sided hardboard shapes (heart, bunting, Benelux). Keep in mind that ornaments are not just for the holidays—they are great sellers all year long when used as favors for weddings, birthdays, baby showers, and more. I have personally found that fundraising is an excellent way to sell large numbers of ornaments in a short period of time.

The metal and hardboard ornaments can be decorated using a standard sublimation printer and flat heat press. For high-volume environments, an optional production jig is available that enables fast and accurate transfers at the heat press.

Basic materials list:

- Digital template
- Printed transfer
- Ornaments
- Heat tape
- Prospray for two-sided metal
- Heat gloves
- Protective paper
- Flat heat press

Basic steps:

1. Download a digital product template and use it to create artwork for these uniquely shaped items.
2. Print the transfer.
3. Cover the bottom table of the heat press with a blank protective sheet of paper.
4. Secure transfer to ornament using heat tape or Prospray if doing a two-sided metal ornament.
5. Place ornament face-up (attached transfer face-down) on the protective paper, cover with another sheet of protective paper, and press for 75 seconds at 400 F with medium pressure.
6. Carefully remove the ornament from the press, remove the transfer, and let cool.

HARDBOARD CHARGING STATION

If you are like me (and millions of others) who have bought into Apple's digitally connected world that includes Apple Watch, iPhone, and AirPods, you'll love this new charging station. Made of Unisub hardboard, this two-piece stand provides a personalized resting place for devices while charging on a desk, kitchen counter, or nightstand. Android folks will also appreciate this charging stand.

There's a lot of room for personalization with full-color designs, photos, and monograms. The stand features an imprintable glossy white surface with black back and edges that help deliver a professionally finished product, and the unique lightweight collapsible design makes it the ideal accessory for travelers. The hardboard charging station can be decorated using a standard sublimation printer and flat heat press.

Basic materials list:

- Digital template
- Printed transfer
- Blank hardboard pieces
- Heat tape
- Heat gloves
- Protective paper
- Flat heat press

Basic steps:

1. Download a digital product template and use it to create artwork for this uniquely shaped item.
2. Print the transfer.
3. Cover the bottom table of the heat press with a blank protective sheet of paper.
4. Secure transfer to each piece of hardboard using heat tape.
5. Place hardboard face-up (attached transfer face-down) on the protective paper, cover with another sheet of protective paper, and press for 1 minute, 45 seconds at 400 F with medium pressure.
6. Carefully remove the hardboard from the press, remove the transfer, and let cool on a flat surface.

Both Apple and Android users will appreciate a customized charging station for all their devices.

DIVE DEEPER INTO SUBLIMATION WITH THIS LIST OF SPECIALTY SUBSTRATES: http://gpro.ly/specialsub.

TEXTURED METAL PHOTO PANELS

ChromaLuxe, a manufacturer of sublimatable metal photo panels, recently added a new textured option. Contrasting the typically ultra-smooth surface of its metal photo panels, the new textured finish provides a unique tactile feel for photographers and artists wanting to offer their customers more variety. These glare-free, fingerprint-resistant panels are perfect for desktop and wall art applications and are offered in a wide variety of sizes ranging from 5" X 7" all the way up to 40" X 60". The textured metal photo panels can be decorated using a standard sublimation printer and flat heat press.

Basic materials list:

- Digital template
- Printed transfer
- Blank metal panel
- Heat tape
- Heat gloves
- Protective paper
- Flat heat press

Basic steps:

1. Download a digital product template and use it to create your artwork.
2. Print the transfer.
3. Cover the bottom table of the heat press with a blank protective sheet of paper.
4. Secure transfer to metal panel using heat tape.
5. Place panel face-up (attached transfer face-down) on the protective paper, cover with another sheet of protective paper, and press for 1-2 minutes depending on metal size at 400 F with medium pressure.
6. Carefully remove the metal from the press, remove the transfer, and let cool.

These glare-free, fingerprint-resistant photo panels are perfect for desktop and wall art applications.

Durable and stylish stainless-steel can coolers are a welcome addition to the soft neoprene insulators that have been around for a while.

STAINLESS-STEEL CAN INSULATOR

This durable and stylish stainless-steel can cooler is a welcome addition to the soft neoprene insulators that have been around forever. The double-walled insulators, made for 12-ounce cans, are offered with a white or clear coating and feature a black gasket to help keep a canned drink cool. Images transferred into the white coating produce a vibrant, true-to-color image with exceptional quality and detail, while the images transferred into the clear coating produce a vibrant, metallic-looking image with the same exceptional quality and detail. The stainless-steel can insulator can be decorated using a standard sublimation printer and a traditional mug press or sublimation oven.

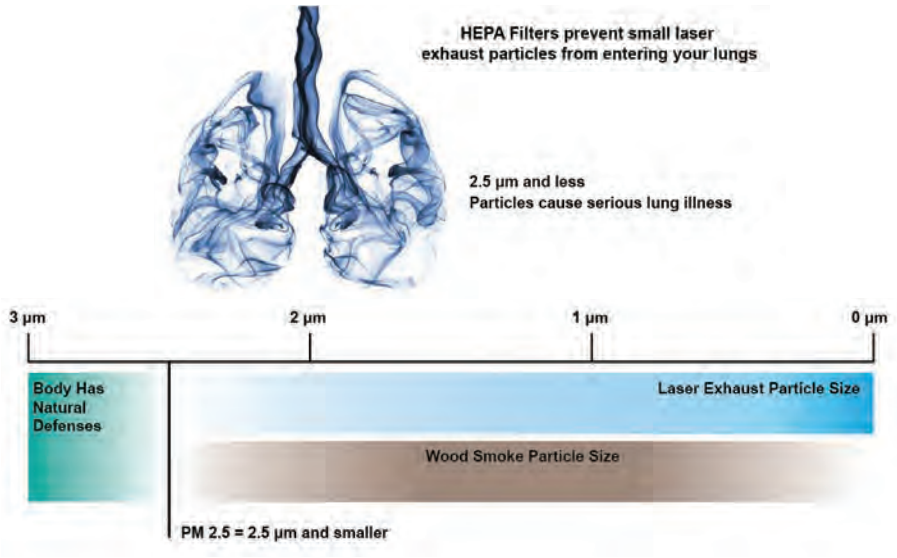
Basic materials list for mug press:

- Digital template
- Printed transfer
- Blank stainless-steel insulator
- Heat tape
- Heat gloves
- Scissors
- Protective paper
- Mug press

continued on page 86

FUME EXTRACTION

continued from page 42



Particles smaller than 2.5 microns can travel deep into the lungs and cause damage such as heart disease and lung inflammation. (Image courtesy Chau Vo)

you have a larger laser that requires a high-power fume extractor, be ready to have a 20-amp outlet and breaker installed by an electrician.

Of course, a good manufacturer will be able to give you options if you have special requirements. All of this is a lot simpler than getting an engineering consultant to specify a blower, permanent ducting, and bore a hole through the wall, which all have to be up to code.

Don't be tempted to go the DIY route or use something that wasn't specifically designed to filter out laser fumes. For example, it may seem like a good idea to hook up a shop vacuum cleaner, which may actually have a HEPA filter, to your laser. However, shop vacuum cleaners do not have critical seals and use lower grade HEPA filters. In addition, they only have tiny filters that would clog up within minutes to hours given the extreme concentration of submicronic dust particles generated by the lasers.

Laser fume extractors have huge prefilters and HEPAs that have efficiencies of 93% and 99.995% at 0.3 micron, respectively. And without a chemical filter having at least 20 pounds of special activated carbon, odors and toxic VOCs would pass right through the vacuum cleaner as if it were not even there. But you would definitely realize that it was there. Anyone who has ever used a shop vac before knows that they are also unbearably loud. Laser fume extractors have silencers, making them quiet enough for continuous use in even small rooms.

KEEP IT CLEAN

Cleaner air has always been important. It just may be even more so now. When it comes to health, it's all about reducing risk factors. One of these risk factors alone isn't going to necessarily cause a respiratory illness. Just avoid adding unnecessary ones whenever possible.

Integrating a laser fume extractor to your laser process keeps your laser cleaner and prevents pollution in your work environment. Stress is also an important risk factor, so perhaps there is even more value to a fume extractor if it can also give you one less thing to worry about during these crazy times. **GP**

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SUBLIMATING HARD SUBSTRATES

continued from page 48

Basic steps using a mug press:

1. Download a digital product template and use it to create your artwork.
2. Print the transfer and trim away excess paper.
3. Secure transfer to insulator using heat tape.
4. Wrap protective paper around the insulator and press for 2 minutes at 360 F.
5. Carefully remove the insulator from the press, remove the transfer, and let cool.

Basic materials list for oven:

- Digital template
- Printed transfer
- Blank stainless-steel insulator
- Heat tape
- Heat gloves
- Scissors
- SubliShrink shrink wrap film sleeve
- Heat gun
- Sublimation oven

Basic steps using an oven with shrink wrap film sleeve:

1. Download a digital product template and use it to create your artwork.
2. Print the transfer and trim away excess paper.
3. Secure transfer to insulator using heat tape.
4. Insert insulator with attached transfer into a shrink wrap film sleeve and shrink the film sleeve with a heat gun to conform to the product's shape.
5. Place it into the oven for 6 minutes at 360 F.
6. Carefully remove the insulator from the oven, remove the transfer and SubliShrink, and let cool. **GP**

DAVID GROSS is the president of Condé Systems, Inc. For more than 25 years he has developed and built the Mobile, Alabama, based company into the premier source for printers, substrates, and consumables serving the graphic art, photography, prepress, and desktop publishing industries.