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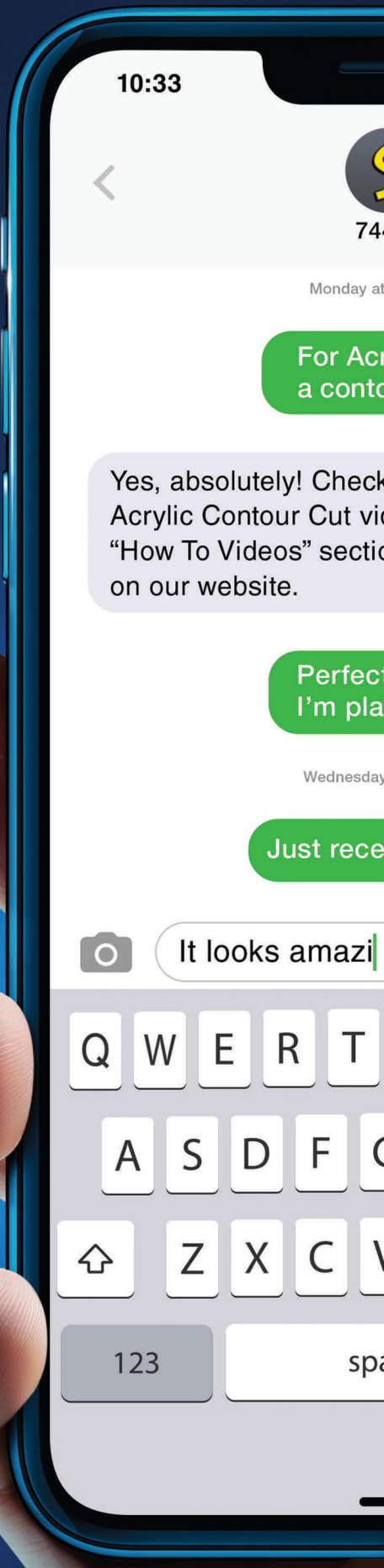
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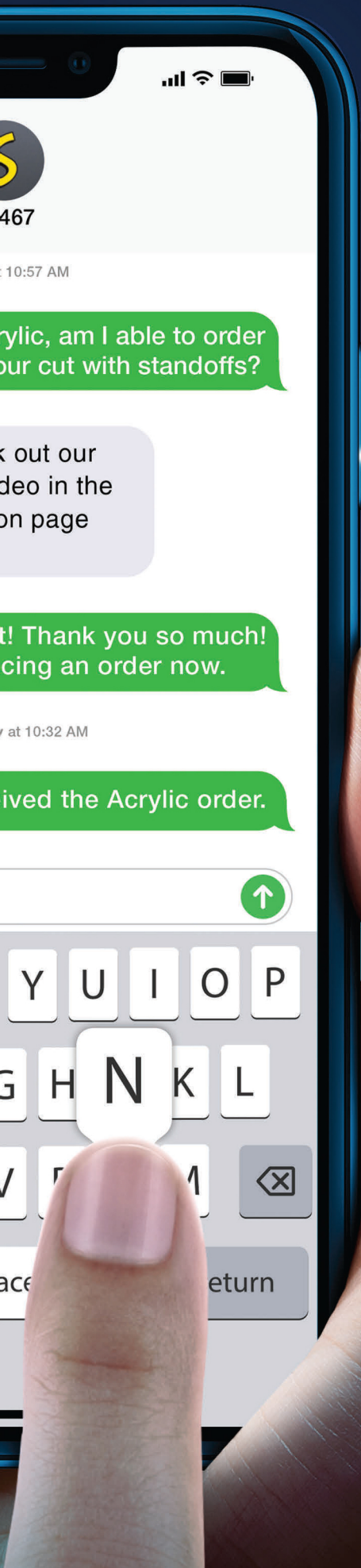
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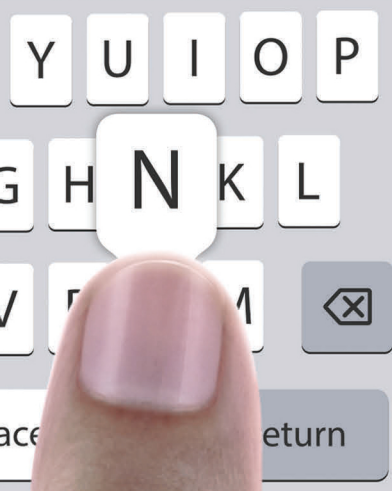
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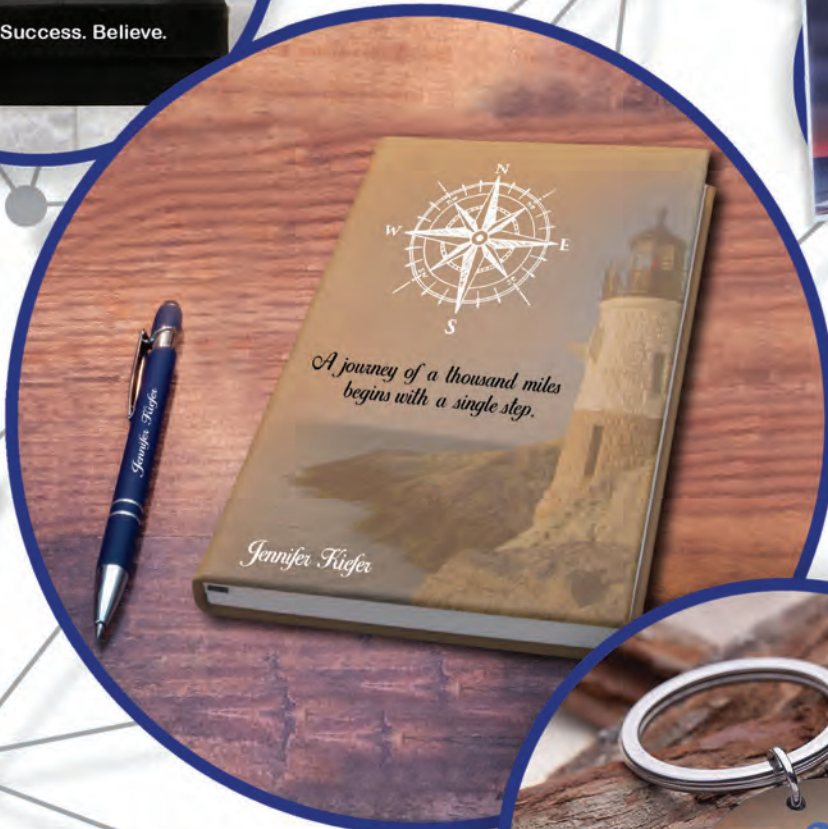
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GRAPHICS PRO EXPO CHARLOTTE, NC, PREVIEW

ON THE COVER: When taking on projects that involve rough surfaces or even aircraft, it's important to have the right film for the job, Page 58. Image courtesy Wrapix Imaging. Bottom right: This month's GP+ section is dedicated to dye-sublimation and its many ways to help your business generate more profit, Page 32. Image courtesy Canon.

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Pet Projects



I think most people have heard the saying "Gone to the Dogs." People would say something has gone to the dogs when it became ruined or turned to a much worse condition.

It harkens back to a day when people would use something up like a mattress or couch or plates that were now only in good enough condition to be used by the pets.

I don't think the saying carries as much weight as it did back when my parents were throwing it around. Judging by the ratings for this year's Puppy Bowl on Animal Planet, things being turned over to dogs seems like a pretty savvy business decision.

The number of people who would sooner toss something away than hand it over to their sweet precious puppy dog are increasing. Only the best for Rover.

Now we buy beds specifically for dogs, along with personalized food bowls, holiday outfits, birthday hats, monogrammed collars and tags, professional sports branded leashes, hiking gear, and the occasional motorcycle helmet.

Animals are social media stars now, and they need their own merch. Do you have a public-facing shop animal who isn't wearing company attire? Give them a chance to be your best sales rep.

According to petkeen.com, the global pet clothing market is estimated to be worth \$5 billion. That's a lot of collars. And there are many ways to get your share of that market while also being very creative and innovative among your competition.

This issue of GRAPHICS PRO has a great story on page 36 about how you can use your sublimation equipment to get involved in this pet product market.

But whether it's sublimation or one of the many other ways to customize pet products, our four-legged friends have helped dig up a strong market to tap into.



Baylor models a patriotic sublimated bandana. (Image courtesy Matt Dixon)

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Peace, Love & Volleyball

Designing a retro feel with colors from the '60s or '70s



At 21 years old, Lon Winters was the production manager for Ocean Pacific and started his 30+ year career reclaiming screens. He's

the president and founder of Colorado-based Graphic Elephants, an international consulting firm and apparel decoration studio specializing in screen printing technical advances, plant design, layout, troubleshooting, productivity, quality analysis, and complete apparel decorating solutions. Learn more at www.graphicelephants.com.

The original Volkswagen bus came on the scene in 1950. The VW microbus was a simple passenger cargo van with an engine at the back. It became a rebellious alternative to mainstream station wagons.

Volkswagen is resurrecting its iconic bus. The all-new ID. Buzz is an electric van with a modern take on the original Volkswagen microbus. Volkswagen first showed the concept in 2017 and finally pulled the cover off the production Buzz in 2022. It's for sale in Europe this year and in the U.S. in 2024.

Despite 70-plus years between the first VW microbus and the newest model, the two vehicles are said to have much in common. We'll see about that. The question is, "Will the electric Buzz have the same soul as the original hippy microbus?"

Dude, where's my bus?

We frequently work with equipment manufacturers, apparel brands, and suppliers in our industry, such as we did last summer at

GRAPHICS PRO EXPO (GPX) where the client planned to print live in the exhibit hall.

Per the client: "This project needs to be a bit trendy. As far as the design, we're thinking something a bit distressed. We've found that vintage tees are most often used in self-expression designs and classic graphics popular with hipsters and young adults. Ideally, We'd like to have a couple of ideas to pitch to management before we land on a final design direction."

We've got it! Peace, Love & T-shirts... Says it all. A great self-expression concept. We can see apparel decorators wanting to wear it. We would go with retro theme, classic, old-school VW style microbus. Vintage rock 'n' roll... again. It's what we do.

The client liked our idea. "Like an old happy hippy design," they said. They loved the Peace, Love and T-shirts concept. With the demo being in California, we would need the beach theme of course. This design project initiated the artwork development.



A client was looking for a classic, vintage, retro, beach-style design for a volleyball clientele. We had just the solution: Peace, Love & Volleyball! Brilliant! (All images courtesy Lon Winters, Graphic Elephants)

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Screen to use for the black and white tees.



Dark color builds for the shirts.

We knew just what to do!

During our team meeting we discussed the retro feel with colors from the '60s or '70s. Once we decided to go with the “[Peace, Love & T-Shirts hippie bus, the first step would be to put that thumbnail together; a pencil sketch to embody this “Summer of Love” theme.

After a bit of research, we found a plethora of references for the VW microbus

from its early timeframe. The design was created by re-drawing one of our favorite photos. We built the majority of it in Adobe Illustrator for clean graphics with easy color changes during development, which made it easy to edit. We chose the color palette for the final design based on the size of press used. The print was going on black so we would use the shirt for shadows and wouldn't print black.

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Light color builds for the shirts.



Final shirt on the press.

After the layout was built and colors laid in, we exported into Photoshop to add texture effects for shadows and highlights. We airbrushed in realism here. The customer wanted a distressed result and both programs worked very well together; it was easy to get the textures we needed. We used sandpaper, cement, and some grungy metal. We imported them and converted to grayscale to use as overlays.

We used Levels and Curves to adjust highs and lows for just the right amount of contrast. We didn't want the texture to cover too much of the image, so we left a lot of open space for shirt show-through and knocked them out, then set up in Channels for easy output.

Since the substrate was black and neutral, it required a carefully worked white printer or under-base plate. It was fairly dense in areas because of the bright colors needed, but we decreased some densities for secondary tones. We would let the dark of the garment create the black outlined areas and deep shadows. We also made sure to choke the base plate to avoid any peeking out from under the color on press.

We sent the seps off to the press manufacturer to build their own screens. We didn't see the final results until the show. The prints looked good to us, but that's not where this ends. As Paul Harvey would say

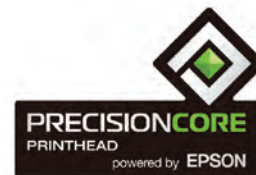


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Printing the shirts at the trade show.



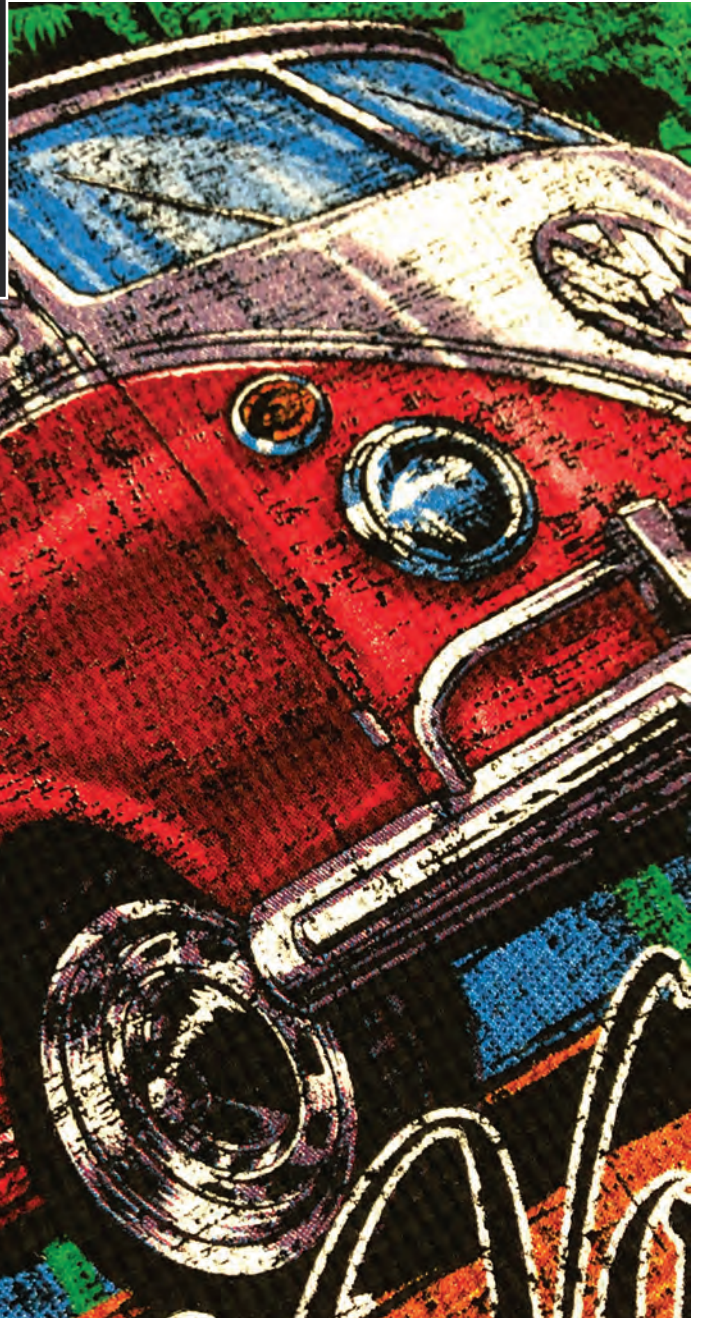
back in the day, “And now, the rest of the story.” (Kinda dated myself there, huh?)

With limited resources these days, and the fact that we probably should have been doing this all along, we are repurposing much more than we ever have. In this case art. Another client was looking for a classic, vintage, retro, beach-style design for a volleyball clientele. We had just the solution: Peace, Love & Volleyball! Brilliant!

Much of the work had already been done, including test printing. All we had to do was 1) Make it work on multiple colors from white to black and everything in-between, 2) Add a volleyball and a net, 3) Change up the verbiage to reflect volleyball rather than a surf shack, 4) Add three different locations in a name-drop

approach, and, 5) Oh, each one has a different established date that would need to be added to all three as well. And make our own screens, color match, test print and run the production. Other than that, this thing was already done. Ha! Hardly.

Once seps were completed we outprinted on CTS with a frequency of 55 LPI at a 22.5-degree angle. We ran the white on N-166 TPI screen at 45 N/cm² using 65/90/65, a triple-ply, dual durometer squeegee, followed by a flash and smoothing heated iron in a teflon screen. Next, the colored inks and the highlight white all ran wet on wet on N-272s at the same tension using harder 75/90/75s. The final image really had a vintage, old-school, retro look. **GP**



Making Moves with Your DTF Machine

Filtering through the good and bad info about this new technology



Howard Potter has worked in the promotional industry since 2003, doing everything from designing to building brands and a family-owned business. He is the co-owner and CEO of A&P Master Images LLC with his wife, Amanda. Their company offers graphic design, screen printing, embroidery, sublimation, vinyl graphics, and promotional items. Howard, his family, and the business reside in Utica, New York. For more information, please visit MasterYourImage.com.

Direct to film is still a very new process, so along with the good information out there, there will be bad information as well. Last year the process grabbed my attention, which is a very hard thing to do with how busy my days are. I did a ton of research. Let's break down the things we did to learn as much as we could about DTF, along with what we have learned in the early stages of its deployment in our shop to help you better understand what you're getting into before you purchase your first machine.

Opening research

Right out the gate, I researched how long the average DTF print can last after being washed, and just like with our DTG machine, each DTF printer manufacturer has different ratings. Some can last around 40 washes, whereas others can last through up to 55 washes. It comes down to the quality of the ink, adhesive powder, and dryer.

So, it is very important that whichever manufacturer you choose, you ask for the proof. We ended up buying the DTF-24H4 from ColDesi. They had their DTF prints tested by Florida State University and they held up to 55 commercial launderings before any sign of breakdown. And even then, the average person would not notice any problems. That was huge to us. The average business client expects to buy uniforms yearly, and the average retail customer does not wear the same shirt more than once a week. So, with 52 weeks in a year, we figure the average DTF print can hold up for one and a half years.

The manufacturer

The next thing we did was set up a meeting with ColDesi via Zoom to go over basic information, like the print handle. A lot of people out there will tell you the print is too



Specialized inks for DTF printing. You can see by the instructions on the bottle that these inks require a little more attention than other inks. (Images courtesy Howard Potter)

thick and feels like thick plastic. That has not been our experience. We not only had ColDesi send us DTF transfers, but we also ordered some from a couple of other wholesale businesses to test and compare them all. I do not know what DTF equipment the wholesalers use, but the prints were nice, and the transfers were not hard to use. Then we worked with the transfers ColDesi sent us, and they were top quality. The handle was much lighter than that of digitally printed apparel vinyl. They also had a smoother feel than you get when screen printing several spot colors. I knew then that we had to own a DTF printer.

The setup

When we purchased the machine, we opted to set it up ourselves since the printer runs very similar to a vinyl printer, and the shaker with the dryer runs very similar to a screen-printing dryer. There were many training videos available to help with this step.

However, I personally suggest that, if you can afford it, you have a tech come in and set the machine up for you. Why? I work 70 to 80 hours a week, and I had to fit in a few hours each day for a week to get the machine up and running with my team. So, every hour spent setting up the new machine meant fewer orders being produced. ColDesi has a whole line of step-by-step installation training videos, but a technician can simply get you up and running faster. And, if you are new to the industry in general, you will learn more, faster with an onsite technician, in my opinion. Anyone can watch the training videos and set the machine up themselves, but in my eyes, time is money.



One of our designs printed with the DTF process.



Design of ours where we knocked the black out.

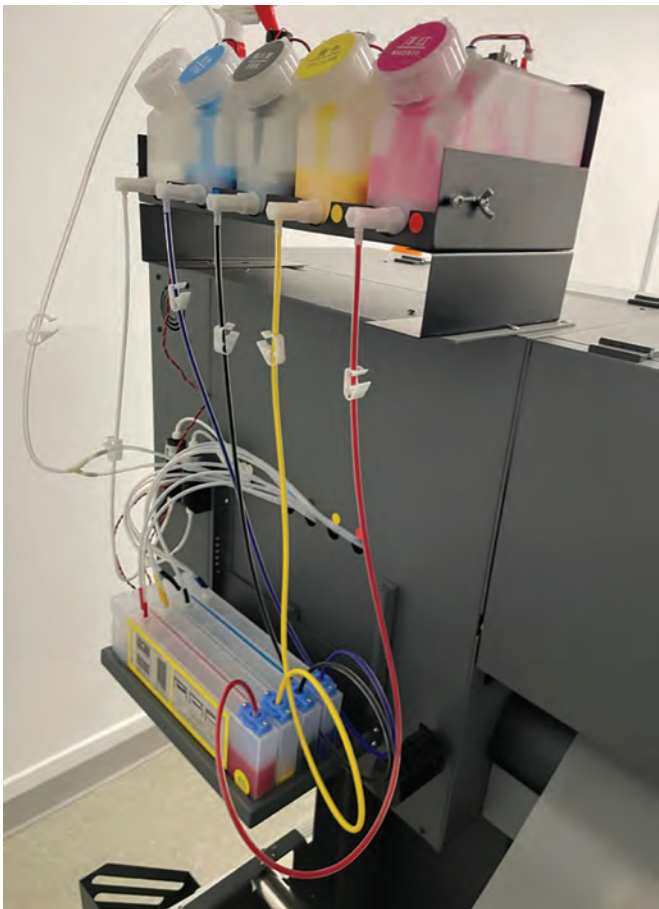


Our computer space set up next to the machine. We actually faced the computer stand towards the wall to open the space up more.

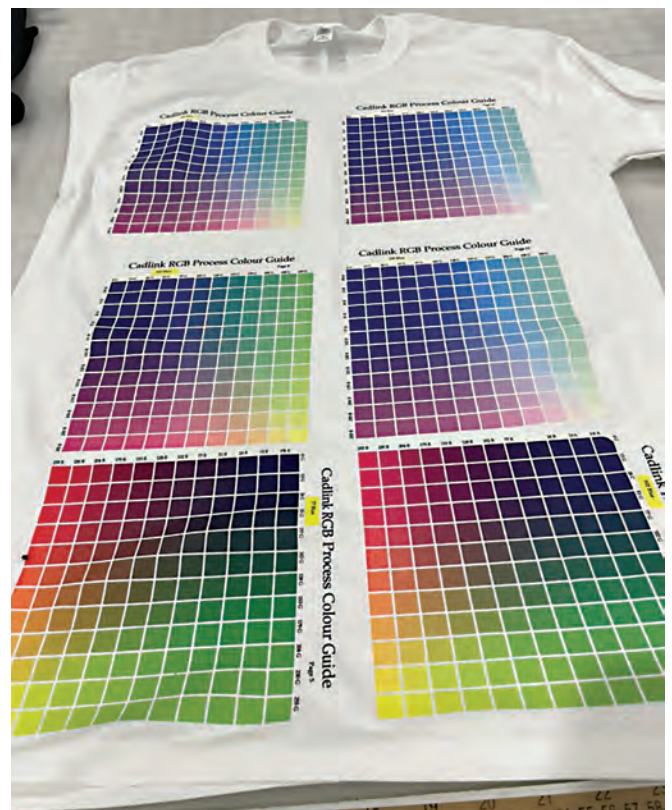
The shop layout

With most equipment, you do not only want to think about the print quality and the wash ratings. You also need to think about the ergonomics of your production layout and safety when operating the equipment. We positioned our DTF printer as close to the exit as possible in our print room so that, while the machine is running, we can have someone sitting next to it while it is printing and keeping an eye on the machine. You must always have someone stay with your DTF machine while it is running in order to keep an eye on how much film is left on the roll, powder usage (to ensure you are getting good coverage), and whether or not the take-up reel is running smoothly.

Our machine is 78" wide by 132" long, so another thing I suggest for safety reasons is to always make sure you have three feet of clearance around all sides of the machine. Remember, you will have a computer next to your printer, and your staff



The ink containers that you pour the ink into.



Test print color swatches.

will need room to work. They will need to load rolls of film in the back of the printer and fill the inks as needed. They will also have to add the powder to the shaker and check on the feed roll as needed. Having three feet of clearance makes it a lot easier to do these things. Every machine will be a different size, but keep those three feet of open space as a rule of thumb.

Clearing the air

If you are not able to exhaust your DTF machine outside, make sure that you invest in an air purifier that can handle temperatures of up to 285 degrees Fahrenheit. You have to remember you are printing with inks and adhesive powder, as well as using a dryer system. We vent our dryer into the recommended system from ColDesi, but as always, we take it one step further. Our printing room for vinyl graphics and the new DTF machine is 14' wide by 41' long, so we also invested in two standalone air purifiers and put one at each end of the room. This helps pull any dust and contaminants out of the air.

When using a DTF printer, you also need to keep an eye on your humidity and your inks. Every DTF system is different in terms of what the manufacturer suggests for humidity in the air. We just invested in a humidifier to get the humidity up to 40 to 50 percent, as suggested by the manufacturer.

You will want to watch your inks closely. You do not want to store them below 40 or above 85 degrees Fahrenheit, and you want white ink that is good for six months and CMYK inks that are good for up to 12 months. Before you put ink into your machine, shake it for five minutes to make sure all of the chemicals are mixed well. The ink you keep in stock should be shaken once a week to be safe. The inks for this process need a little attention, but trust me, it is well worth it!

Since August of last year, we have learned so much about this newer process. And as we keep learning new things about it, we keep pushing the boundaries. I will keep you up to date as it all unfolds in order to give you direct information on DTF every step of the way. **GP**



Here is our printer next to an open door that is 48" wide. 43.5" is recommended to fit the printer in. I suggest 48" so you have some extra space.

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Profit-Boosting Strategies

Tips for squeezing more opportunities into every interaction



Jennifer Cox is one of the founders and serves as president of the National Network of Embroidery Professionals (NNEP), an organization that supports embroidery and apparel decoration professionals with programs and services designed to increase profitability and production. You can contact her at jennifer@nneep.com.

Owni**ng** a successful embroidery and apparel decoration business is a numbers game. The number that counts the most is how much profit you make, rather than your total sales. Your profits are the measure of how successful you and your business are. It is not about what you make, it is all about what you get to keep. Here are some strategies to help you increase what you get to keep this year.



(Image courtesy Krissi Dane, KDdidDesigns LLC)

Your customers are a gold mine

I suspect that you have a much larger list of customers than those you would classify as “current” customers (the ones that have purchased in the last 12-18 months). Time spent reaching out to past customers is usually time well spent. Call them, drop them a note in the mail, or email them. Let them know you are still around and serving the people and businesses in your community or market. Simply putting yourself back in their awareness is likely to generate new or repeat orders from some of these past customers.

Know your hourly numbers

Operating costs play a direct role in your profits. Net profit per hour is your total net profit before taxes, divided by revenue-producing hours. Said another way, net profit per hour equals the net profit you make on an order before taxes, divided by the number of machine and man hours it took to unpack, inspect, hoop, stitch, trim, fold, and pack that order. This is the number by which you can measure the profitability of that order, and of your business. If this number is lower than you need, take steps to increase it.

You can increase prices, increase production efficiency, lower production costs, lower overhead, or add upsells so that your customers spend more money with each order. If you have not increased your prices within the past 12 months, it is time to do so, even if only by a small amount.

Upsells could be adding a bagging and tagging option where you sort the finished order and bag and label the job with recipients’ names. Or you could offer delivery — for a fee. You could also offer personalization of company apparel for a fee. If



(Image courtesy Krissi Dane, KDdidDesigns LLC)



(Image courtesy Adriane Cropley, Rocking My SewJo LLC)

you have employees, seek their input on ways that production can be improved, or ways to reduce any issues that impact their ability to get their work done efficiently. If you are a one-person operation, think about how you can improve your workflow.

Be consistent, even when you're busy

It is all too easy to skip the routines that make a well-run business when things get busy. Wondering if you can skimp on the backing on this run of shirts, as you are almost out? Order the backing you need and run the shirts correctly. Otherwise, you risk them puckering in the wash and creating an unhappy customer. You may think that you do not have time to inspect a batch of shirts before you run them, only to find out that they are the wrong color, the wrong products, or the wrong sizes. There go your profits. As they say, haste makes waste.

Ask for referrals

Ask your customers for referrals. This is one of the best and most profitable

ways to grow your business, as you spend no money to bring in more sales. Add a line on the bottom of your paperwork, invoices, proposals, and emails, as well as on your business cards and website. Say something along the lines of "We grow our business through referrals from satisfied customers. Please let your friends and colleagues know where you bought this custom order."

Make the call

Call your customer about 30 days after they received their order. Ask how the shirts/products are holding up, and ask if they need to add anything else. This is also a great opportunity to ask for a referral using the following strategy. Ask the customer, "Who has noticed your new shirts (products)?" After the customer answers, then say, "Do you think (person they named) would like some new (products), too?" The customer is probably going to say something along the lines of "How would I know, ask them?" Get that person's contact information from your customer and follow up with them on this referral.

Quarterly checkups

Running a business involves a lot of moving parts between customers, products, staff, facilities, paperwork, supplies, etc. Create a plan or schedule to take 30-60 minutes each month for a quick assessment of one "moving part." For example, in January, look at your inventory of threads, bobbins, needles, and stabilizers. If everything is where it should be and you have what you need, great. Cycle back to this in April, July, and October and see if you need to order anything. In February, look at your workspace. Do you need to change anything, move anything, or fix anything to make your production flow as efficient as possible? Are there display windows to update, light bulbs to replace, or updated hours to put in your voicemail message? Does the front window or door need a good cleaning? Are there piles of customer files or catalogs that need to be put away? Circle back to these facility-related things in 90 days. Pick something else to look at in March, such as equipment cleaning, servicing, and long-term maintenance. Revisit this again every 90 days. Small chores and maintenance done frequently make for a better-run business, and a better-run business produces higher profits over time.

Monthly financials

Review accurate and current financial statements every month. This should take less than 30 minutes each time. If something is getting off track, you are likely to spot the change with a month-to-month awareness of your company's financials. Minor issues can be spotted and addressed before they become major issues. Are you spending more money to keep an old copier running than it would cost to get a newer, smaller, more efficient one? Ask me how I know.

Implement these simple strategies to improve the profitability of your business. Whether you operate your business by yourself or you have a staff, knowing what is working well, and what is not, pays off in the long run! **GP**



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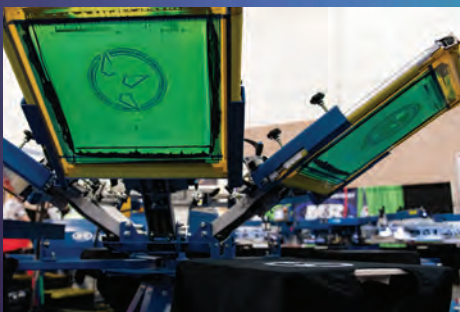
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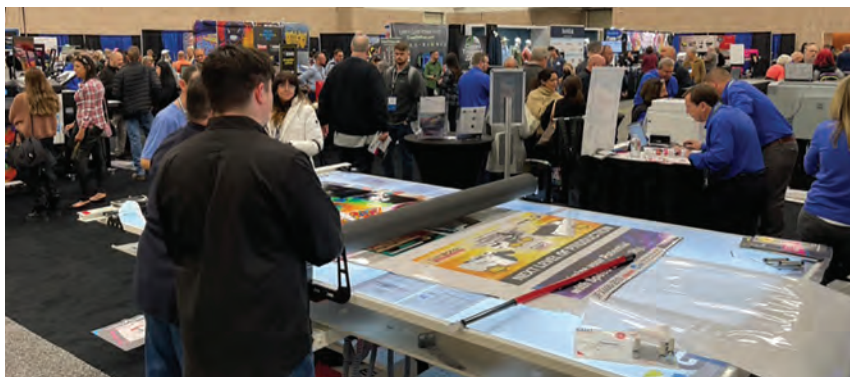
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10 a.m. — 4 p.m.

- Digital Technology Group** – Print on Purpose in 2023

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8-9:30 a.m.

- Epilog Laser** – From Theory to Application - a Practical Guide to Laser Engraving **START HERE**
- JDS Industries** - CorelDraw for Sublimation **START HERE**
- STAHL'S** - Heat Press for Profit LIVE **START HERE**

11 a.m. — 12:30 p.m.

- SAGE** – Adding Promo to Your Business
- HIX® Corporation** - Sublimation Projects that Make Money **PRO**

1:30-3 p.m.

- Trotec Laser Inc** - How to Start and Grow a Laser Business **START HERE**
- Transfer Express** – Easiest Way to Print Apparel **START HERE**

THURSDAY, APRIL 27, 2023 cont.

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- Advertising Specialty Institute, ASI** - Start Selling More to Your Customers **START HERE**
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FRIDAY, APRIL 28, 2023

8-9:30 a.m.

- Transfer Express** – Perfect Print Placement **PRO**

11 a.m. — 12:30 p.m.

- GRAPHICS PRO** – Apparel Decorator Panel: Expert Perspectives, Tips and Advice
- IKONICS Imaging** - Profitable Sandcarving – Small Investment, Large Potential **START HERE**

1:30-3 p.m.

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THE MIXER



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Eco-Friendly Business

BY KRISTINE SHREVE

Convincing customers the effort is worth the price



Kristine Shreve is the founder and CEO of Kristine Shreve Consulting, which offers writing, marketing, and business development services. The company can be found at www.KristineShreve.com. Kristine is also the creator and host of the Business + Women podcast and is also the director of marketing and outreach for Applique Getaway. Kristine was the director of marketing for Ensign Emblem and EnMart from 2006 to April 2020.

It seems everyone is talking about the best ways to become eco-friendly, and perhaps fewer people are asking about the costs and benefits of doing so and, maybe more importantly, if it helps at all. The answer seems to be that there are benefits to an eco-friendly approach, but creating such a business model also comes with associated costs.

Beyond the buzz

Let's start first with a basic question, but one that has a complicated answer: what does being an eco-friendly company actually mean? In the Business of Fashion Sustainability Index of 2021, a report pointed out that "with no standardized language or regulated frameworks, deciphering what companies are actually doing can be extremely challenging."

If you're recycling paper and toner, does that count? What percentage of your business practices need to be environmentally friendly in order for your company to claim that designation? Is there anyone or any organization that's checking up on companies claiming to be eco-friendly or to have eco-friendly practices to make sure that's actually true?

There are certifications for some products or companies that can help you determine environmental friendliness. There are organizations that give out designations to products or companies that are practicing sustainability or environmentally friendly business, but make sure to check out the organizations giving out the certifications to see what their criteria are and to make sure the organization itself is legitimate.

The short answer to the question is, however, that there are a lot of various buzzwords and certifications and criteria, and some of them are confusing, while others are downright misleading. The only way to know for sure is to do your homework, both as a consumer and as a business owner who wants to run and own an environmentally friendly company.

Given that determining what companies are and aren't environmentally friendly can be so confusing, and the parameters for what makes a company sustainable can be vague and varied, why would any business owner want to bother? One reason might well be that, while eco-friendliness may still be considered a trend, it's a trend that's almost certainly going to become a standard for the industry.



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Another reason to become eco-friendly is that consumers seem to want to do business with companies that are pursuing environmentally friendly and sustainable practices.

The Global Sustainability Study 2021, which surveyed 10,000 people across 17 countries, showed that “sustainability is becoming increasingly important in consumers’ purchasing decisions, especially as consumers see themselves, along with for-profit companies, as the primary catalysts for change.” Sustainability is particularly important to younger consumers, with 32 percent of Millennials making changes in their behavior to be more sustainable. “Millennials and Gen Z are becoming a force to be reckoned with as they continue to represent a larger share of the consumer demographic. Companies that don’t have sustainability as part of their core value proposition need to act now to protect against future reputational impacts and loss of market share,” says Shikha Jain, author of the study, speaking to Business Wire.

A study cited in The Business News Daily in January of 2023 cited further statistics that point toward an increase in global consumer awareness of and concern about environmental friendliness. Over the past five years, the study reports,

there has been a 71 percent rise in online searches for sustainable goods globally.

According to a survey from McKinsey & Co., 66 percent of all respondents and 75 percent of Millennial respondents said that they consider sustainability when making a purchase. The report also showed a trend toward consumers being more willing to buy environmentally friendly products, even if they cost a bit more.

Building awareness

While studies are showing that consumer awareness and willingness to buy environmentally friendly products have increased, that doesn’t mean all of your customers are on that bandwagon.

“The hardest part by far has been encouraging customers to go green or convincing them of the benefits. I get it; we are all creatures of habit, and if we’ve been printing plastisol all these decades with no linked causes of death behind it, why should we change up now? But the reality is what’s the go-to is not necessarily what is good for you. Everything has a cause and effect,” says Sha’ron Pryor, founder and CEO of SquirrelPrintz, an eco-friendly embroidery and print company. “To go green, companies are going to have to be willing and able to take on the burden of educating customers about why that matters and what the benefits of doing so are.”

Another issue to be considered when taking into account the potentially higher cost of environmentally friendly printing or garment decoration is the fact that communities that are lower on the income scale may simply not be able to pay more. It’s not that they don’t care; it may simply be that funds aren’t available.

The good news is that companies facing higher price points or higher costs in their efforts to go green can benefit from programs to support companies that are making efforts in this area. As Pryor has found, “For me, some of the business advantages of being eco-friendly are that it has opened up a wider opportunity to pursue grants and funding because people are

actively looking to invest in ventures that are going green. Also, being eco-friendly forces you to be conscious about how you use things and not be as wasteful. The effort you make to reduce business waste will have a knock-down effect on costs. There are grants from federal government sources, state government sources, and private organizations that are designed to encourage and support businesses that are making an effort to become more environmentally friendly and sustainable.”

As with any sort of business strategy, going eco-friendly has costs and benefits. Creating a sustainable and positive environmental footprint is good for the environment and may have benefits when it comes to attracting customers. At the same time, while many potential customers may pay lip service to the idea of wanting more environmentally friendly decorated products, your company may have to do some educating to get them on board with price points that are a bit higher.

There’s also the issue of standards of accountability and labels that can be vague. How much is enough? What’s the threshold for being able to call yourself an environmentally friendly or sustainable company? And what can you charge to cover the increased costs you may have to pay for the products that will allow you to keep an environmentally friendly designation?

In the end, the decision to pursue being an eco-friendly business is one each business owner must make for themselves. Particularly in communities that are lower income or facing economic challenges, this may be a tougher decision to make, but in these communities, it may be an even more vital decision. Pryor explains her decision to make SquirrelPrintz an environmentally friendly company: “Part of my reasoning stems from being raised in a low-income community where we had diminished access to outdoor recreation, high air pollution, and greater risk for diseases; I just didn’t want to add to that — not only as a business owner but also as a member of the community.” **GP**

Earning Environmental Certifications



One way to keep your company on the path to improved sustainability is to aim for certifications that encourage your company to hit certain benchmarks. Here are some of the certifications your shop can strive for:

LEED – Leadership in Energy and Environmental Design – certification meant for buildings. If a business location has a sustainable design or other features, a business can earn points. Certification is managed by the U.S. Green Building Council. www.usgbc.org/leed

Green Business Bureau – An online green business certification program. Comparable to the Better Business Bureau, but for environmentally friendly businesses. Offers software to help businesses go green. Offers an EcoAssessment and the Green Business Seal. This is a for-profit initiative and not government sponsored. <https://greenbusinessbureau.com>

Safer Choice – From the Environmental Protection Agency, this is a program that offers certification and labeling for products to show consumers what is safe for their health and the environment. You can learn about environmental topics, laws, and regulations, and report a violation. www.epa.gov/saferchoice

Green C Certification – Available from the American Consumer Council. For businesses that promote environmentally friendly practices. Must be based in the United States and have five or more employees to apply for certification. There is a self-certification option and a full certification option.

<https://americanconsumercouncil.org/greenc.asp>

Energy Star Building Certification – Many people know Energy Star as a certification for appliances that use electricity efficiently, but there is also a certification for buildings. To be certified, buildings must meet strict criteria. To be eligible, buildings must score at least a 75 on the EPA's 1-100 scoring scale. Certification is annual.

www.energystar.gov/buildings/building_recognition/building_certification

Fair Trade Certified – A Fair Trade Certification shows that a company uses equitable trade practices throughout the supply chain, ensuring fair treatment of workers, fair prices, and environmentally friendly practices. Can be certified as a brand, a producer, or trade (seller). www.fairtradecertified.org

Wastewise – Another EPA program. A certification recognizing businesses that demonstrate how they've reduced waste. Can be a partner or an endorser. Also offers yearly awards. www.epa.gov/smm/wastewise

Green America Business Certification – A private, nationwide organization that certifies companies that use business practices that promote positive social change and which are environmentally responsible. Businesses can be Certified or Gold Certified.

<https://www.greenamerica.org/green-america-green-business-certification>

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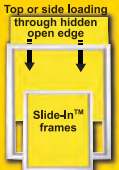
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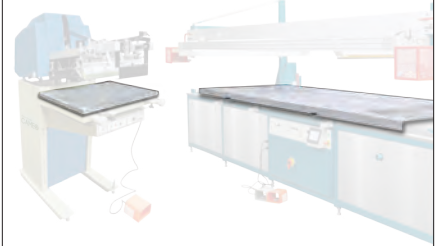


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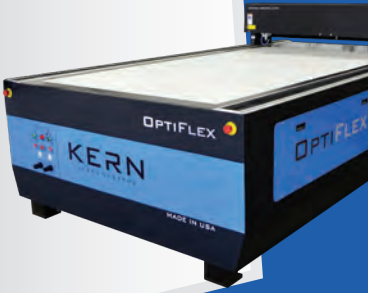

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GP+

SUBLIMATION

GP+ is a monthly section of GRAPHICS PRO dedicated to taking a deep dive into a specific graphics market. This month's section is all about sublimation and where the future can take you.

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Annual survey findings on the sublimation industry

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44 The Versatility of Dye-Sublimation

Vibrant colors and ease of use make it a favorite for decoration

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Targeting specific markets for dye-sublimation

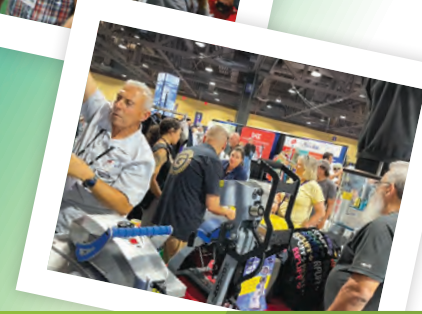
By Aaron Montgomery

56 Heat Presses for All Applications

Courtesy of Geo Knight

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SUBLIMATION

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BY GRAPHICS PRO STAFF

Survey findings on the sublimation industry

The GRAPHICS PRO 2023 Sublimation Survey was conducted in February, and thanks to our many respondents we have built a snapshot of what today's sublimation market looks like.

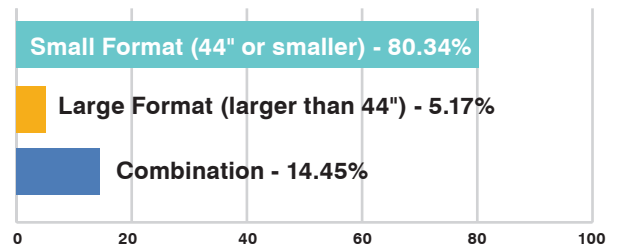
The vast majority of our respondents conduct small-format sublimation (80%). Of shops that responded, 77% said their business increased or stayed the same compared to 2022. And confidence is high that the sublimation market will continue to thrive, with 95% of respondents expecting this upcoming year to be the same or better over the next 12 months.

Respondents overwhelmingly said that sublimation was an ancillary part of their business, with only 30% of respondents saying that sublimation was their primary business focus, but it seemingly goes hand-in-hand with heat transfers, which 74% of respondents say they also engage in.

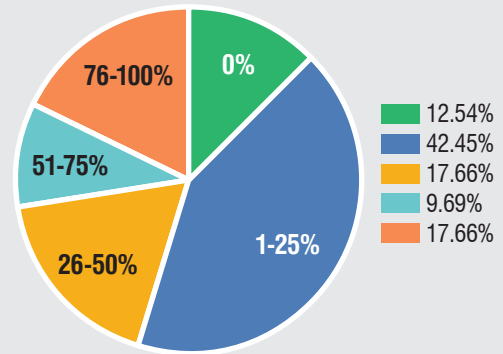
It also looks like sublimators are happy with their substrates, as 95% of respondents say they are generally pleased with the quality, and 86% of respondents order pre-coated products while the rest do their own coating.

Note: This survey was conducted through electronic mail via SurveyMonkey.com and complied with all CAN-SPAM act laws and NBM's privacy policy, as found here: nbm.com/privacy-statement. Respondents were selected from the GRAPHICS PRO subscriber database and all survey recipients were provided the same version of the survey, which was distributed in February of 2023. Some survey totals equal more than 100% because readers checked all the categories that applied.

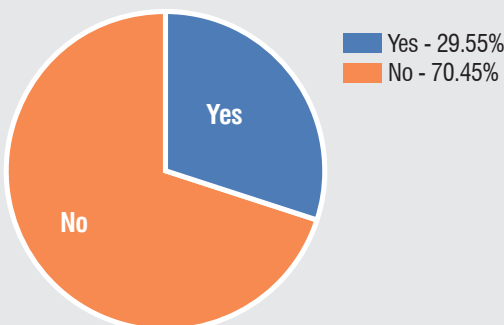
Is your sublimation business primarily:



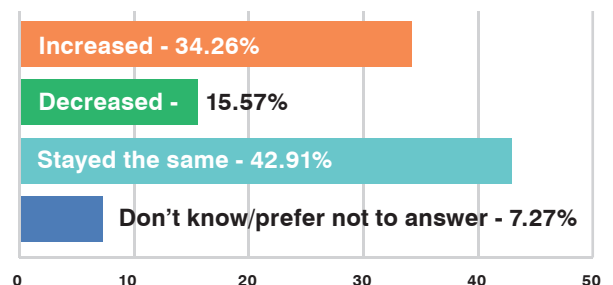
What percentage of your overall business is directly related to sublimation?



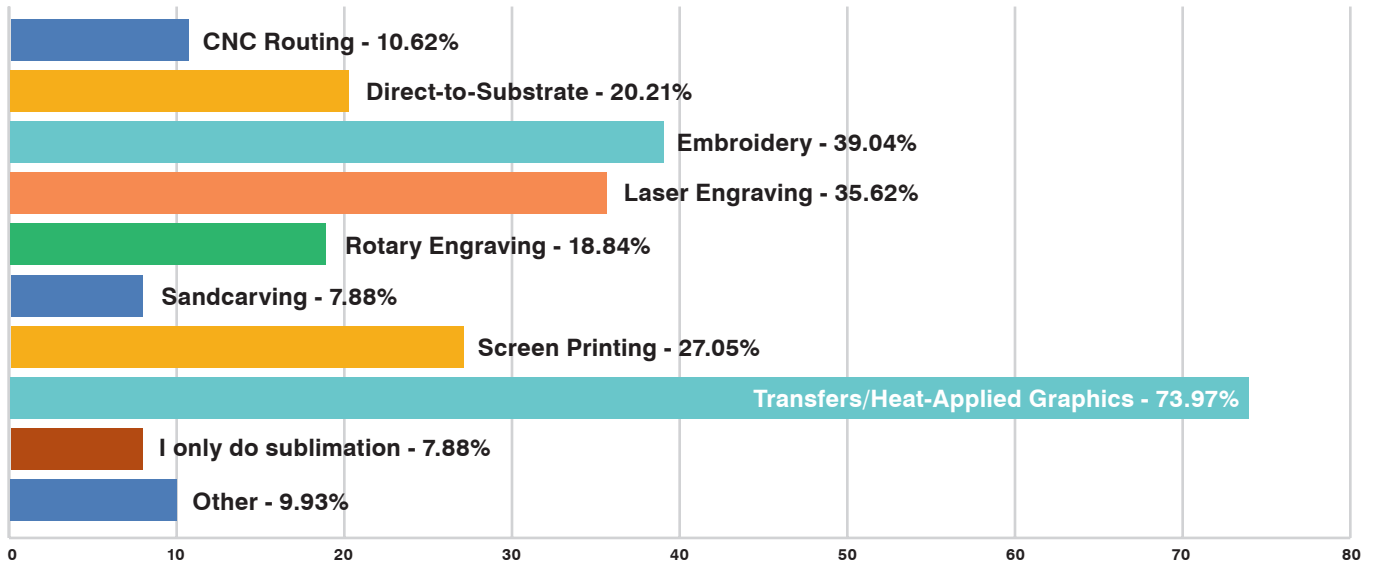
Is sublimation your primary business focus?



In the previous 12 months, has your sublimation business:

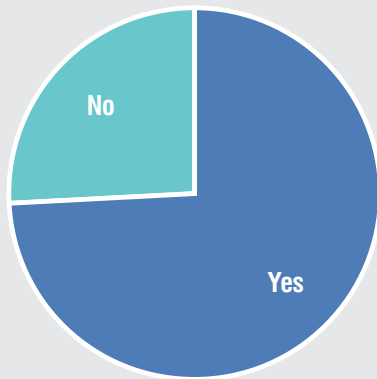


What other decoration/customization techniques do you use? (Select all that apply)

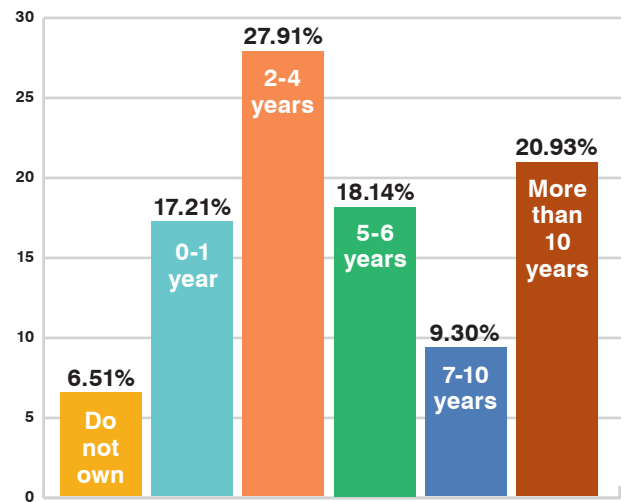


Do you find that inventory is regularly available for your sublimatable apparel needs?

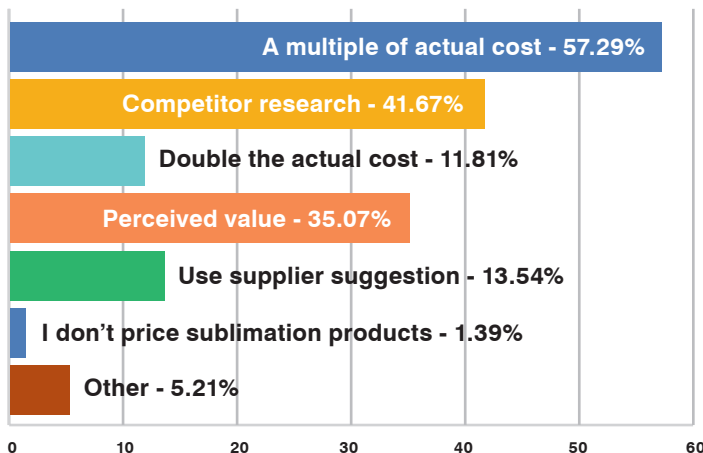
Yes - 74.31%
No - 25.69%



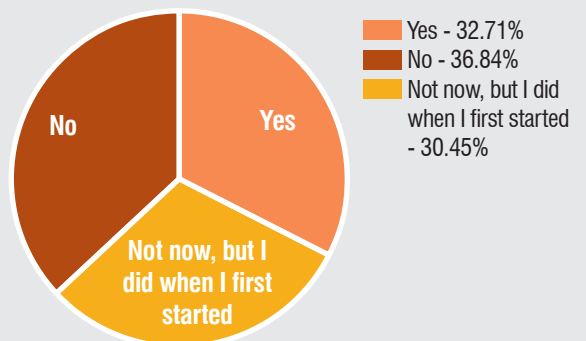
How long have you owned your sublimation system?



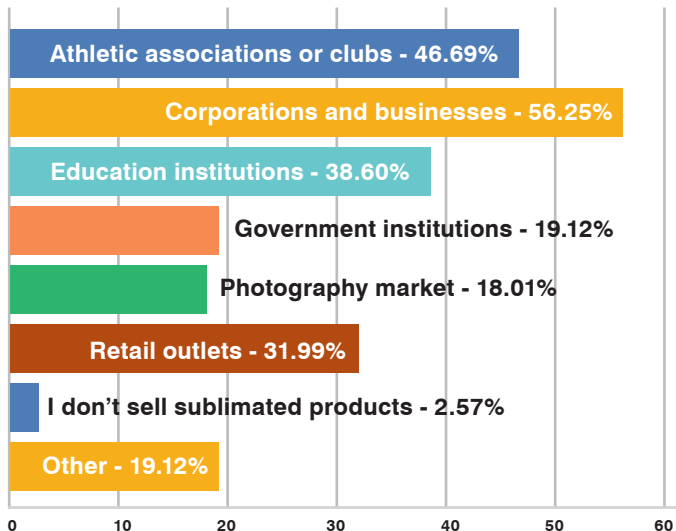
How do you price your sublimation products? (Select all that apply)



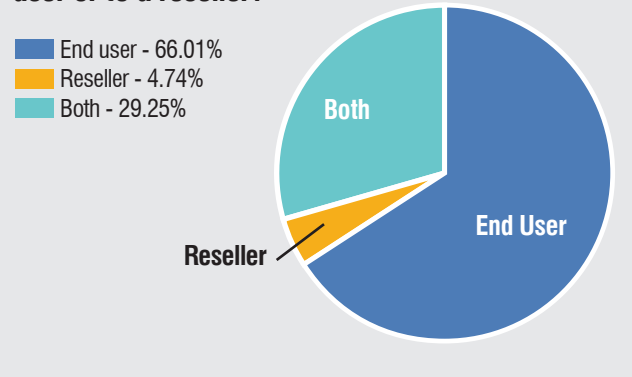
Do you find color matching to be problematic in your sublimation business?



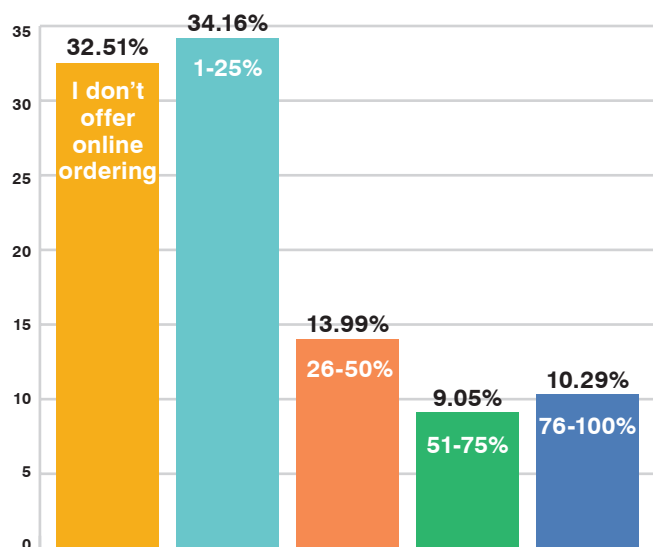
**In which segments do you sell sublimated products?
(Select all that apply)**



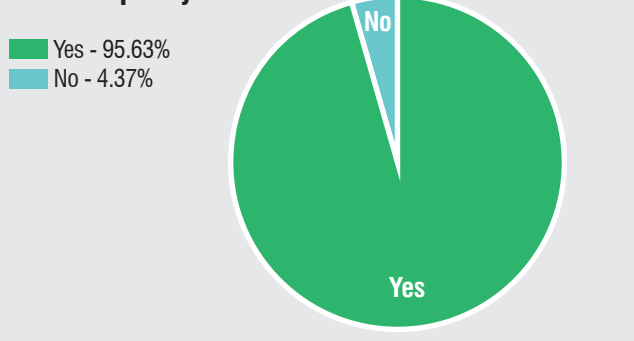
Are you selling sublimation products to the end user or to a reseller?



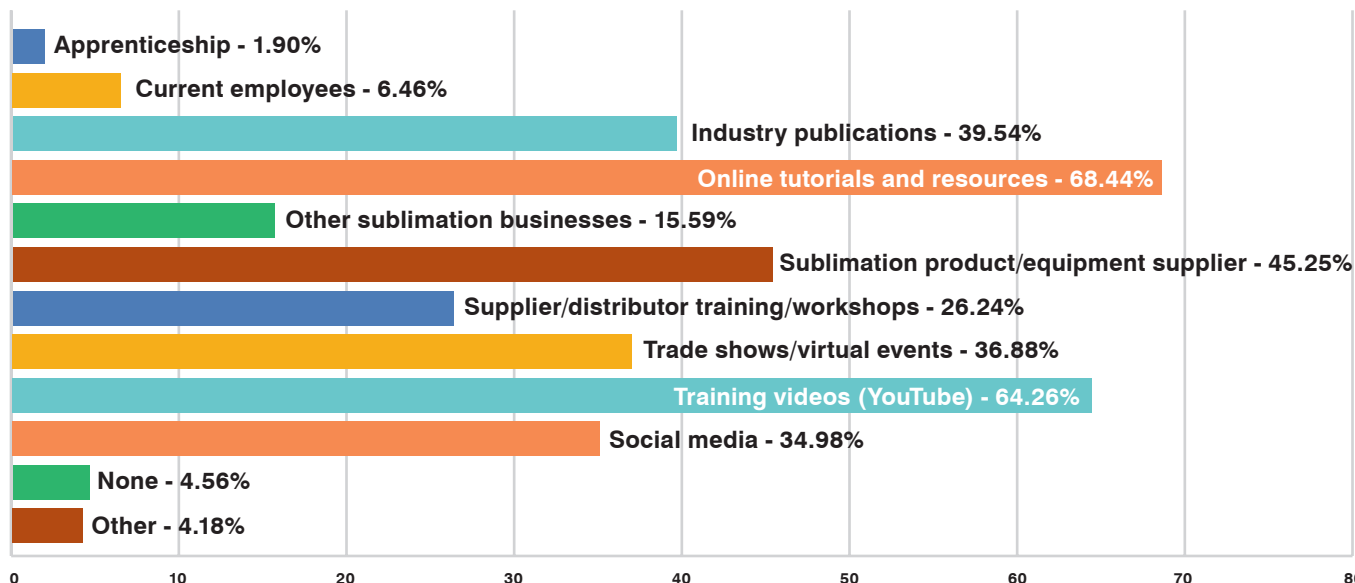
What percentage of your sales comes from online ordering?



When you order substrate blanks for your sublimation business, are you generally pleased with the quality?



What additional resources do you use to learn how to use your sublimation system? (Select all that apply)



Sublimation Success:

PET



My dad was a practicing veterinarian for 54 years. Growing up, I was surrounded by a variety of pets and animals and was often my dad's assistant for late-night emergency cases at his clinic. I likely would have become a veterinarian if it weren't for my love of electrical engineering that later morphed into a passion for sublimation transfer. Being a pet lover, I must say that it has been very satisfying to have a way to create personalized items for my pets and for the pets of my close family and friends.

PRODUCTS

Areas where you can boost your bottom line

BY W. DAVID GROSS



David Gross is the president of Condé Systems, Inc. For over 30 years, David's goal has been to provide business owners with the superior guidance and resources needed to be successful at these exciting and profitable decorating technologies.

Gross has co-authored several books, including "The Sublimation Journal." He can be reached by email at dgross@conde.com.



Rodolfo models his latest birthday apparel. Pet owners are spending more money than ever to treat their pets. (Image courtesy Brandy Jameson-Neth)

Early in my sublimation career (which is at 31 years now), I mostly produced fun and practical pet-related products such as ID tags, leashes, and collars. The most satisfaction I received, however, was from memorializing pets that have gone to pet heaven by creating loving tributes to them on slate, metal, or glass. Currently on my bedside table is a photo of my deeply missed golden retriever, Sofie. Sublimation was a great way to combine my favorite photo of her with text to create an impressive and lasting tribute. Our current dog, Barron, is a 140-pound Saint Bernard that has been on two of Condé's livestreams over the years. I've produced several ID tags for him and, as you can imagine, I have a long list of products that I plan to make for him in the future.

Are you crazy for your pets or do you know someone who is? In this article, I want to help you sell into the pet market by sharing with you my best pet-related products and detail a few marketing ideas that will help you identify profitable groups of pet lovers and pet-related businesses. As always, follow your sublimation passion!



(Image courtesy of Condé)

Partnering with pet groomers

Perhaps my favorite sublimation money maker is partnering with pet groomers. Put simply, no one takes their dog to a pet groomer because they have to! Often dog owners will spend more money on their pets than they do their children. I suggest finding a popular pet groomer near you and pitching the idea of offering pet-related products to their clients. The pet groomer would display your point-of-purchase sign with a few examples of imprinted products and details on how to order. After the products are decorated, you can deliver them back to the pet groomer for pickup or ship them directly to the client. This will be a win-win for you and the pet groomer as you will share a part of the sale and produce some fun and excitement at their business.






Website for designing and ordering

Although you could simply leave your business cards for customers to take with them, I recommend providing a point-of-purchase sign that directs customers to a website via QR code. Once on the site, the customer can select products, upload their favorite photographs, and then check out. Simple! I have found that InkSoft has an excellent e-commerce site with a built-in designer that can be customized for pet groomers (<https://learn.inksoft.com/conde>). InkSoft is designed for you to create and run many customized sites for clients of all types — pet groomers, schools, churches, clubs, and more. I have created a digital sign that can be downloaded and then transferred to a 12" x 18" piece of aluminum. The file can be downloaded from www.dyetrans.com/pets along with information on my favorite products and InkSoft contact information.



WHY PARTNER WITH CONDÉ SYSTEMS?

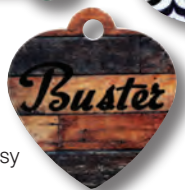
Condé offers everything needed to get into the personalized photo gift business including transfer systems, blank imprintables, production software and supplies, technical support, and instructional videos. Find out how Condé Systems can help your business be more profitable... call or visit our website today!

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Oliver Rupert shows off his all-season headwear. (Image courtesy of Sara Reese)



(Images courtesy of Condé)



Pet rescue shelters

Helping rescue shelters is a great way to get your name out to the community! Establish a program with an animal shelter to provide no-charge pet tags. The tags can include the new owners' information on one side of the tag and shelter info or a promotion on the other. With the delivery of the pet tag, you can offer many additional personalized products for sale through your website. It's a great way to make a lasting connection with a pet lover that will be looking for personalized pet products in the future.

Dog parks

Often dog parks have community foundations and support. Like shelters, you can promote your products by giving away pet tags. Find out if the park has a support organization with fundraising events. Get permission to promote your organization again with a donation for products purchased. Be sure to promote your donations to the park to let folks know how you are helping.

Blessing of the pets

Around the first Sunday in October, Catholics worldwide celebrate the Feast of Saint Francis by bringing their pets to church to be blessed. I recommend partnering with a large Catholic Church that participates in the blessing to sublimate pet products on-site. Donate a portion of profits to the church and be sure to promote other products that can be purchased later. Also, collect email addresses for your mailing list so that you can send them product information and/or promote your website. On that website, you should create templated artwork themed for the church with space for personalization.

Pricing

Perhaps the biggest mistake that sublimators make is to underprice their products. This is even more critical when a third party is receiving a portion of the sale. I have put together a free pricing spreadsheet that lets you determine

your product costs and experiment with prices to select your desired profit level (to receive your copy, call your Condé account manager to have them send it to you). If you are selling into many of the markets discussed above, you should be able to sell at the top range of the pricing. I do recommend testing your pricing strategies to determine the optimum level.

Bundling

Building and offering a selection of related products at a special cost is a great way to provide value. Pet products make excellent gift sets, especially around the holidays. Also, this is a different way to get customers to try out a various array of products at one time. A customer will spend \$15-\$25 for a personalized dog collar. But throw in a matching personalized dog tag and leash and you can easily raise the cost to \$40.

Artwork

When determining the value of a decorated product, I consider a few variables: the value, quality, functionality, and need for the blank imprintable product as well as the transferred artwork's quality, color, and composition. This includes the incredibly important pre-made design template and the added personalization. For events or products tied to an organization, their logo or other information needs to be part of this design. It makes folks feel good about their purchase! The added personalization may be a name or favorite photograph. I recommend that a date be added to the personalization as this will mean a lot over the years.

Referral information

To grow your business, you must let folks know what you can do! So, when you deliver a product, make sure that your contact information can easily be found on it for reordering and referrals. Some products can be sublimated on the backside while other products may need a sticker placed somewhere as inconspicuously as possible. Always include your business card with a QR code incorporated into it (QR codes really make life easy).

Helping rescue shelters is a great way to get your name out to the community.

Check out our blogs for great information on how beneficial QR codes can be.

Onsite kiosk sublimation

If you can get plugged into a pet-related event, this may be a great opportunity to do live sublimation! You'll need a laptop, sublimation printer like the Sawgrass SG500, and a smaller heat press like the Geo Knight DK14S. The one essential item for operation is electricity, as heat presses require lots of power. You must plan ahead to verify availability. For outdoor events, you may have the option of using a quiet generator. Typically, you need about 12 to 15 amps at 110 Volt for operation of a George Knight DK14S plus laptop and sublimation printer. If you are running a generator, I recommend also getting a UPS (Uninterruptible Power Supply) for operation of everything except the heat press.

To communicate what you are doing with the crowd, consider making a ChromaLuxe textured panel with your company name and a blank area for writing which products you are selling and their prices. Believe it or not, these panels can be written on with chalk and then erased as needed. Our Condé Kiosk software can easily get their photo from their phone to your laptop by using a QR code.

Resources

Don't reinvent the wheel! Be sure to check out my books (RTSS: Harnessing the Power of Sublimation for Outstanding Profits, RTSS: Cashing In On The ChromaLuxe Revolution, and others) by visiting conde.com and clicking on the "Books by David Gross" link found on the left side. The books are



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also available in both printed and digital Kindle editions on Amazon and were written to help folks just like you with strategies on how to stay on The Road to Sublimation Success!

Pet products for humans

The following are just a few ideas for pet-related products that can be decorated using sublimation. The possibilities are endless, and you can create a huge variety of uniquely personalized products for pets and their owners. My favorite pet products are actually for humans! As human lifetimes often extend over the lives of many pets, remembering them through photos is something that is important to all of us! Here are few examples:

ChromaLuxe stacked metal

A great way to add value to a single piece of sublimation metal is to stack a smaller piece of imaged aluminum on top of a larger piece. Sublimate the larger with an appropriate background image and place the pet's photo on the smaller piece. Then using a spacer block, mount the smaller piece of metal onto the larger. This approach produces a stunning 3D product at little additional cost. Decorating options include multiple layers that includes a larger background piece with multiple foreground pieces. You could also vary the types of metal by having a matte background finish and a glossy foreground finish. This really turns out to be a very high value product.

Drink coasters

Coasters are a great way to protect furniture and a great way to show off an assortment of pet photographs. Pet names and designs can be easily transferred onto a wide variety of coasters to create a unique and personalized gifts for pet owners.

Slate

Slate is a popular substrate that is hand carved and then coated for sublimation transfer. Unique and impressive, slate is offered in a variety of traditional and non-traditional shapes (half oval, rectangle, tablet, left or right contour, square, oval, round, rectangle w/clock

mechanism) and are available in your choice of a matte or gloss white sublimation coating. Most sizes come with black stands for convenient desk, mantle, or table-top display while others are designed for displaying on a home or office wall. Slate products have elegant qualities that superbly demonstrate the value and desirability of the sublimation transfer process.

Phone and tablet stands

Everyone will appreciate this gift! Available in a variety of shapes and sizes, phone and tablet stands provide a personalized resting place for smartphones and stylishly holds the device vertically or horizontally for hands-free upright viewing on a desk, kitchen counter, or nightstand. The stands feature an imprintable glossy white surface with black back and edges that help deliver a professionally finished product for customers and the unique 2-piece lightweight collapsible design makes it the ideal phone accessory for travelers. Also great for books.

Ornaments

Christmas ornaments are perhaps my favorite pet product. Although it may be a little soon to start thinking about Christmas, keep in mind that ornaments are not just for the holidays — they are great sellers all year long. And, I have personally found that fundraising is an excellent way to sell large numbers of ornaments in a short period of time. We sell single and double-sided ornaments in metal, hardboard, FRP, natural wood, glass, acrylic, and more. All holiday ornaments can be decorated using a standard sublimation printer and flat heat press. For some popular styles, an optional production jig is available that enables fast and accurate transfers at the heat press.

Pet products for pets

What makes a great sublimated pet product? Function and personalization! Sublimation provides several great pet products that can be personalized with the pet's name and full-color artwork. A few of my favorites are pet tags, collars and leashes, shirts, bandanas, pet mats, food/water bowls, and pet collar scarves.



Kona. (Photo by Heath Burgess)



(Images courtesy of Condé)

Pet tags

Today's pet owners want and need personalized pet tags that protect and identify their beloved dogs and cats. Although engraved custom dog tags are nice, sublimated tags provide the greatest design flexibility by incorporating full-color backgrounds, fonts, and graphics. This is an essential pet product, and we have lots of different versions in quite a few shapes. Many are even double-sided to provide more space to honor special partnerships. Designs can include the owner's address, home and work phone numbers, veterinarian names and numbers, even medical information — all while colorfully expressing the pet's distinct personality.

Collars and leashes

Great for displaying your pet's name, information, or a fun quote, custom dog collars with matching leashes are fun, stylish, and practical. The adjustable fabric collars come in three size options and include one blank imprintable panel while the 72" leash features two imprintable panels.

Dog collar scarves

Dog collar scarves include an adjustable black collar that fits through an opening at the top of the fabric. Using standard dye-sub equipment, the triangle-shaped, 100% spun polyester scarves can be easily decorated with vibrant, full-color photographs and designs to create highly personalized wearables suitable for any dog's unique personality — whether it's playful designs for pet lovers or brand awareness designs promoting animal rights organizations, pet groomers, and retail pet stores.

Pet shirts

Pet shirts are the perfect addition to any dog's wardrobe. With dye-sub's unlimited color and design possibilities, decorators can create a completely unique pet shirt that includes their name, photos, holiday designs, or special messages for weddings, birthdays, and more. Using a 16" x 20" press, all but the largest two sizes can have images transferred onto the entire front and back for unique and eye-popping all-over designs.



(Images courtesy of Condé)

I hope that this information has been helpful to you and so please get started! The pet market is red hot for personalized products. Please email me with your success stories or questions at dgross@conde.com. I also recommend checking out our client gallery as it is filled with examples of pet-related products. **GP**



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SUBLIMATING A

SPEAKER
TUMBLER

COURTESY OF JOHNSON PLASTICS PLUS



Personalizing drinkware with sublimation is a fast and easy way to grow your business. The process is easy to do, and can help you expand your product offering with unique and exciting products. One such product is the new skinny tumbler with removable Bluetooth speaker in the base. Here are the step-by-step instructions on how to personalize this product.

Tech tips and templates are available for you to download on the on the Johnson Plastics Plus tumblers product page. The template has guidelines to show you the print area and how far your design should go. Before you print your transfer, delete or hide the template layer so it doesn't show up in your design.

Before sublimating, print your design onto a transfer with a sublimation printer. If you don't have a sublimation printer, we carry several Epson and Sawgrass printers on our website, so you'll be able to find the printer that's right for you. You'll also need sublimation ink, sublimation paper, and a drinkware press or convection oven.

To avoid damage to the Bluetooth speaker, you'll want to remove it by unscrewing it from the base of the tumbler. Once your tumbler is personalized and has cooled off, you can reattach the speaker back to the bottom of the cup.

If you're using the JP450 or the JP700 drinkware press, you'll need the skinny tumbler attachment for this. Set the temperature to 360-370°F with medium to moderate pressure. Because the attachment doesn't wrap around the whole tumbler, you aren't able to create a design with bleed. If you want a design that covers the entire tumbler, you'll have to use a convection oven.

If you're using a convection oven, you'll also need shrink wrap and a heat gun. Preheat your oven to 330-340°F. After you shrink the wrap onto your tumbler using a heat gun, we recommend that you heat the tumbler in the convection oven for 6-7 minutes. When removing from the oven, use heat gloves to avoid burning your hands.

After you press your tumbler, it's a good idea to drop it into a bucket of room temperature water to speed up the cooling process. Once the tumbler has been in the water for a couple of seconds, you can pick it up and start take off the transfer. The transfer paper should come off the substrate easily, but if it starts to stick, use a wet cloth to rub the paper off.

Customizing fun and unique products like this one can help grow your business and set you apart from the competition. **GP**

For more on the suppliers featured in this section, please see website and phone information following each product.

SUBLIMATION ACRYLIC

Johnson Plastics Plus introduces its new sublimation acrylic, which is a single-ply sublimation cast acrylic sheet with a glass-like, glossy finish, according to the company. The sheets can be custom cut with a laser and can be used for items such as jewelry,

home decor, and keychains. The sublimatable area is on the back of the sheet.

800-869-7800
jpplus.com



HEAT PRESS MACHINE

Insta Graphic Systems offers the Insta 288 Swing Away heat press machine, their largest manual machine with 20" x 25" platens for ease of use with larger substrates and transfers. It can also be used as a sublimation heat press machine.

562-404-3000 • instagraph.com



SUBLIMATABLE PRODUCTS

JDS Industries Inc. offers various new sublimation products, such as water bottles and 22-oz.



skinny tumblers with slider lids, which are additions to the company's Polar Camel line. The company also offers storage

containers including enamel canisters, short and tall enamel finish containers with plastic lids, and more.

800-843-8853 • jdsindustries.com

GP

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Continue your learning adventure with a host of articles and news about dye-sublimation at graphics-pro.com. Some of the great content you'll come across includes:



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Follow Jeremy Picker's tips to elevate the impact of your promotional product offerings

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PODCAST: CUSTOM PRINTING FOR THE MASSES

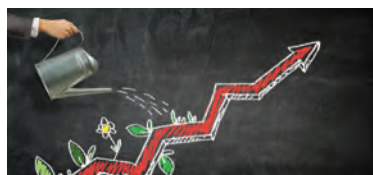
Pop culture meets custom printing at Gotham City Online

https://gpro.link/printmass

TIPS FOR GROWING YOUR SUBLIMATION BUSINESS

Learn how to gain repeat business and build a referral

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HOW TO ORGANIZE YOUR CUSTOM APPAREL WEBSITE

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GP

THE VERSATILITY OF

DYE-SUBLIMATION

Vibrant colors and ease of use make it a favorite for decoration

BY PAULA AVEN GLADYCH



Paula Aven Gladych is a freelance writer based in Denver, Colorado. She can be reached at pgladych@gmail.com.

While dye-sublimation has become one of the primary ways to decorate clothing and textiles, the technology continues to evolve and can now be used for promotional items such as mugs, coasters, and decorative signage.

Dye-sublimation is a very flexible technology, says Tim Check, senior product manager for professional imaging at Epson. It can be used with coated porcelain, wood, glass, metal, and more to produce a wide variety of products.

“Leveraging dye-sublimation equipment on these substrates can greatly expand a print shop’s product offerings and can result in higher profit and ROI,” Check says. The technology can produce custom products such as drink tumblers, coasters, holiday ornaments, cutting boards, personalized glass wear, and wood décor. It also can be used to make custom photo

panels and award plaques and create other textile-focused custom products such as tea towels, oven mitts, koozies, hats, laptop cases, lanyards, holiday tree skirts, and stockings.

Dye-sublimation has two distinct processes: direct to film and direct to fabric. In direct to film, the ink is printed onto paper and transferred to different media under heat and pressure. This is the number one method for dye-sublimation, says John Ingraham, senior marketing specialist for dye-sublimation at Canon USA. For direct-to-fabric printing, the fabric needs to be treated before the polyester-based material will accept the dye. When heat and light pressure are added to the mix, the dye migrates into the fabric.

“Transfer is most common because it is relatively easy and people can use a paper printer,” Ingraham says. “It’s not like vinyl

“We are already seeing 2023 is going to be a much better year for dye-sublimation as a whole, especially in the soft signage area where it was hurting before,” says John Ingraham, senior marketing specialist for dye-sublimation at Canon USA. (Image courtesy Canon Solutions America)





(Image courtesy Epson)

where you have to do treatments.”

He adds that printing on paper produces a very sharp image and nice color vibrancy. It also can be used to transfer designs onto fabric, mugs, metal, and a variety of other products.

Sublimating ChromaLuxe metal prints and aluminum panels has grown in popularity for wall décor because the “color is more vibrant when you use dye-sublimation compared to UV,” says Sohil Singh, sales manager for StratoJet USA.

Heat transfers will always be there, especially in the gifting industries, says Singh, because it is such a simple process, and the transfers can be used on many different substrates and objects. The one downside



(Image courtesy Epson)



to sublimation is that it can't print white. For standard CMYK prints, sublimation can produce beautiful colors if the right heat press is used, he adds. With the right heat press, dye-sublimation prints go from dull to really bright colors. “That’s always going to be something customers are interested in,” he says.

“The reason people want to use direct to fabric is for flexibility,” Ingraham says. Many shops use direct-to-fabric

dye-sublimation to print a single piece of fabric for double-sided viewing. Direct-to-fabric printing will bleed through the thin material, showing the same design on both sides, which is important for banners and flags.

The disadvantage of DTF is that the images are not typically as sharp, and it requires more ink since the image must bleed through to the other side of the fabric.



The dye-sublimation market is on a downward trajectory when it comes to cost of entry. (Image courtesy Epson)



(Image courtesy Epson)

Another problem is waste. If the printer makes a mistake when direct-to-fabric printing, it costs more for fabric than paper. “In paper transfer, 95% of the cost is medium — ink and paper are small,” Ingraham adds.

How has dye-sublimation improved over the last few years?

Dye-sublimation technology has become easier to use and more cost-effective scaling to high-production volumes, says Check.

“As manufacturers incorporate greater automation into the printing process and leverage industry standard practices for color managing, designers can get consistent results. A simplified printing process reduces the time learning about the technology and permits more time for creating the next big thing,” Check adds.

Singh says that dye-sublimation technology itself has remained the same for many years but that one of the biggest changes of late is the move to new and better print heads, which are coming in and reducing the per-square-foot cost of printing. New dye-sublimation inks are also being introduced all the time.



(Image courtesy Canon Solutions America)

The industry is also very competitive, with lots of good manufacturers making dye-sublimation printers.

The industry is also very competitive, he says, with lots of good manufacturers making dye-sublimation printers.

That said, there is still room for small mom and pop shops that want to get into this space because they don't need a huge initial investment. To do heat transfer prints, all a shop needs is a small printer, transfer paper, a heat press, and the fabric or products they want to transfer the image onto, Singh says.

"T-shirt printing will never go away," he adds. It is one of those solutions that will always be there. The success of a business using dye-sublimation depends on how good it is at selling its products, so it needs to have a good marketing website and a good selling point.

Many ecommerce sites use sublimation because it is "reliable, consistent, and people are now moving online for things like that," Singh says.

What is fueling growth in the dye-sublimation market?

"The dye-sublimation market has been fueled by changes in customer shopping trends and the increase in the personalized products market," says Epson's Check. "With Millennial and Gen-Z consumers looking for unique and inexpensive apparel options, retailers are having to place smaller orders with quicker turnaround times. This does not leave time for designers to manage the traditional textile design process overseas."

He adds that "dye-sublimation technology can quickly and efficiently produce required textile orders to meet retailer demands."

Outside of the textile market, the personalized gift market is projected to increase considerably over the coming years, growing to more than \$38 billion by 2027, Check says. "Dye-sublimation

technology can create these gifts quickly and efficiently. Both small businesses and larger service providers can easily and confidently create these gifts."

The apparel, promotional products, home décor textile, soft signage, and personalized custom markets are the fastest growing segments of the dye-sublimation printing industry.

Epson's dye-sub technology has adapted to meet customer demand over the last few years. The company introduced industrial-level dye-sublimation technology to meet the changing needs of today's textile industry and support the expansion of textile sourcing and production in the U.S.

"These machines are manufactured with features that support reliability, versatility, and round-the-clock productivity, such as user-replaceable print heads and a hot-swappable ink system that automatically switches from an empty ink pack to a

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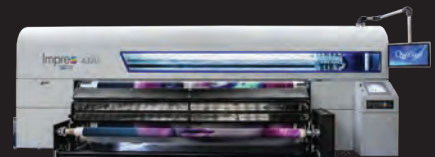
DGI POSEIDON

FAST & WIDER



DGI FH-3204

FASTER & WIDER



MS Impres

Canon
CANON SOLUTIONS AMERICA



WE DO DYE SUB!
SCAN THE QR CODE TO LEARN MORE

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(Image courtesy Canon Solutions America)



(Image courtesy Epson)



One of the biggest changes of late is the move to new and better print heads, which are coming in and reducing the per-square-foot cost of printing. New dye-sublimation inks are also being introduced all the time. (Image courtesy of Epson)

new ink pack mid-print for uninterrupted printing,” Check explains.

To support consumer demand for a wider color gamut, Epson incorporates multiple ink configurations in selected dye-sublimation printers, including the SureColor F10070H, and the SureColor F9470H, which includes fluorescent pink and fluorescent yellow for exceptional color saturation and brightness. And, the SureColor F6470H features multiple ink configurations so customers can select what best fits their needs, including light cyan and light magenta for smooth photographic output; fluorescent pink and yellow for bright and high visibility customized apparel; or orange and violet for vivid colors with an expanded color gamut, he says.

Canon began making dye-sublimation printers a few years ago because it saw the opportunity presented by the soft signage market. Many of its customers that were using Canon Colorado and Arizona

UV presses were outsourcing dye-sublimation jobs to other companies. Canon offers the 10' DGI FH-3204 and 10' DGI FT-3204X hybrid dye-sublimation systems that can switch between paper transfer and direct-to-fabric printing. The 64" DGI POSEIDON and 10' DGI FH-3204 are fluorescent capable.

Fluorescents are in big demand because they “add value for customers. They add a little pop to an image,” Ingraham says.

The high-volume 64" and 126" MS Impres dye-sublimation printers offer fast production speeds and can print on transfer paper as well as direct to fabric.

The COVID pandemic had a terrible impact on the dye-sublimation industry, since 80% of all digital printing on polyester soft signage is dye-sublimation and many in-person trade shows were canceled for three years.

“We are already seeing 2023 is going to be a much better year for dye-sublimation as a whole, especially in the soft

signage area where it was hurting before,” Ingraham says. The cost of fabrics and papers has gone up because of inflation, but the price of inks on the large-format side has come down.

Ingraham says that the market is on a downward trajectory when it comes to cost of entry. Small shops can get a printer for as little as \$130.

“I am cautiously optimistic; 2023 is already better than 2022,” he says. “We will probably see 5% to 10% growth overall in the market. That’s my hope but a lot depends on other factors. Inflation, wars, balloons.”

StratoJet has two dye-sublimation printers: the 66" Piranha and the 126" Piranha XT. Singh says that dye-sublimation is slowly cutting into the screen-printing industry because it is less work-intensive and offers more color options. The amount of space needed for screen printing is almost three times what is needed for dye-sublimation. **GP**

PROFITING WITH

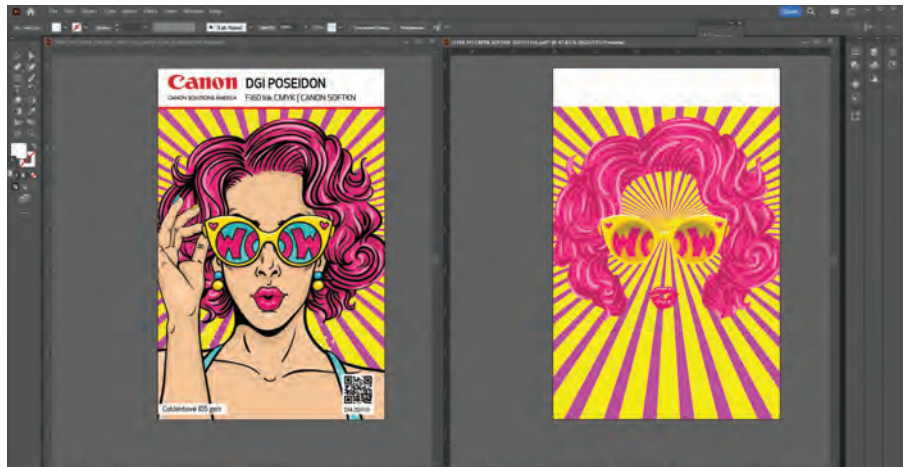
FLUORESCENT INKS

COURTESY OF CANON SOLUTIONS AMERICA

One of the newer advancements in dye-sublimation printing entails using fluorescent yellow and fluorescent pink inks with CMYK process inks. Fluorescent dye-sublimation inks open new possibilities for designers, allowing them to create vibrant, eye-catching designs. Here are some of the advantages of dye-sublimation printing with fluorescent yellow and fluorescent pink inks in your dye-sublimation designs.

Let us look at the advantages of using fluorescent yellow ink in dye-sublimation printing. The inks can be used for a wide range of applications, from apparel and accessories, personalization and promotional product and soft signage. The bright neon color of fluorescent yellow ink is perfect for creating attention-grabbing designs. It is especially effective in creating warning signs, safety signs, and other designs that require high visibility. The fluorescent yellow ink is also ideal for creating designs for outdoor use, such as banners and flags. The bright color ensures that the design is visible even from a distance, making it a great choice for promotional materials. Fluorescent pink inks are a popular choice for creating designs for fashion, beauty, and lifestyle brands. By combining these two fluorescent inks with traditional CMYK artwork, designers can create unique and innovative products for their clients.

In conclusion, dye-sublimation printing with fluorescent yellow and fluorescent pink inks offers a wide range of advantages. The bright, vibrant colors are perfect for creating attention-grabbing designs. They can be used for a variety of printing applications, offering designers more freedom and versatility.



Dye-sublimation printing with fluorescent inks is an excellent choice for anyone looking to create bold designs that stand out from the crowd. **GP**

BREAKING DOWN

DYE- SUB PART 1

Why it's a hot trend in the sign and graphics industry and what you need to know about it

BY MIKE SYVERSON



Mike Syverson has been in the printing industry for over 20 years, and was at the forefront of the pivotal time of analog to digital conversion. Mike's industry experience over the past 20+ years was instrumental in the development and launch of multiple industrial inkjet printing devices, helping to create and refine many techniques that are still critical to successful printing through digital methods.

Digital textile printing with dye-sublimation inks is rapidly growing within the large-format print industry. Quick to take off in Europe, dye-sub is becoming the choice technique for end-users because of the efficiencies in fabric shipping and handling, as well as the rich, high-quality results. The fabric has a high-end look and feel, but printing and finishing it can be challenging.

With this issue, we are launching an updated version of Mike Syverson's five-part series exploring the intricacies of dye-sublimation originally published in 2012. Mike is the national textile manager for Durst Image Technology and has more than 20 years in the printing industry. He was instrumental in the development and implementation of the first grand-format dye-sub printer in 2001. Let's begin with an overview



Some of the reasons dye-sublimation is a growing market are the efficiencies in fabric shipping and handling, as well as the rich, high-quality results. (Images courtesy of Durst)

S.
f quattro



Silicon Edge Graphics (SEG) are quickly becoming the norm in retail fabric displays due to their ease of installation, reduced shipping costs, and overall upscale look and feel.

of the dye-sublimation process from inks to equipment. In subsequent articles, we will further examine such topics as substrates, inks, fixation methods, finishing, marketplace economics, and workflow. Although there are many different approaches and variants to sublimated fabric printing, we will focus primarily on transfer paper dye-sublimation because that is more widely used in the U.S. grand-format arena.

What is dye-sublimation?

Dye-sublimation is the process of converting printed, solid dyes into a gas without going through the liquid stage. Heat and pressure are used to infuse colorant into a polymer material (usually polyester). There are two basic methods for printing with dye-sublimation inks: direct and transfer. Transfer is the most common method and consists of printing a mirrored image on donor paper and *transferring* the image onto a polyester-based product, usually a textile, with heat, pressure, and dwell time. The direct process differs from transfer printing in that the image is printed directly on a coated fabric and then sublimated in a similar fashion, without the use of transfer paper.

What are the advantages and disadvantages of the direct and transfer processes?

Both methods require heating the fabric to infuse the ink into it, but both have their pros and cons. Transfer printing allows the most flexibility in terms of substrate range. You can basically sublimates to any polyester textile (or other polyester-coated product, for that matter). Transfer printing is very efficient, as you only need to set up the printer for the one transfer paper you are using. Adjustments for different fabrics are made at the fixation unit.

Direct print has been around for several years, and many pieces of equipment have been designed specifically for this application. An advantage of this is that you can eliminate the need for transfer paper altogether, which can simplify the process in some ways. Direct printing also increases strike-through, making the image appear on both sides of the fabric. In some applications, this may be desirable. Several manufacturers have released direct-in-line sublimation systems, allowing a print provider to print *and*





Print providers in the soft signage, trade show, retail, P.O.P., event, and entertainment industries are seeing the benefits of dye-sublimation printing, and a huge opportunity exists in these areas for small to large display graphics shops.

sublimate the fabric in one step, vs. printing and then sublimating on a stand-alone fixation unit.

A challenge of direct printing (offline or inline) is that you need to characterize the printer for each fabric (separate ink limits, profiles, etc.). However, fabrics pre-treated for direct printing provide the best possible output in terms of sharpness, rub-fastness, and vibrancy. This adds minimal cost and is usually less than the cost of transfer paper. The best systems offer the ability to print via transfer paper as well as direct, inline or offline, giving the provider the ability to produce graphics best suited for the intended application.

What are the different dye-sublimation inks?

Historically, there have been several variants of dye-sublimation ink for the large/grand-format print space. The industry started with an oil-based dye in the early 2000s and moved to solvent near the end of the decade. Today, water-based ink is the standard in this space.

Water-based inks have become standard due to current applications. The traditional textile industry often uses high-energy dispersed dyes. These usually require extensive post-processing once the printing process is complete. Within

the large/grand-format space, low-energy dye-sublimation ink is formulated for dedicated transfer paper printing, or there are “hybrid” type inks that allows both transfer and direct-to-fabric printing.

Who uses dye-sublimation and what are its applications?

Print providers in the soft signage, trade show, retail, P.O.P., event, and entertainment industries are seeing the benefits of dye-sublimation printing, and a huge opportunity exists in these areas for small

to large display graphics shops. Typical applications include banners, stretch graphics for exhibitions, traditional flags, feather flags, retail P.O.P displays, tents and even hot air balloons. Silicon Edge Graphics (SEG) are quickly becoming the norm in retail fabric displays due to their ease of installation, reduced shipping costs, and overall upscale look and feel. Also, imprintable items such as coated ceramics, wood, and metals use this method, but it is important to note that dye-sub is designed only for polyester-based materials. In the case of solid substrates, like a coffee mug, for example, the mug must have a polyester coating, usually a liquid that is baked on. If the substrate does not have a polyester coating, then the process will not work.

The rapidly growing Print-On-Demand industry has adopted dye-sublimation for many products due to its versatility and ease of use. Products such as personalized blankets, pillows, floor mats, mugs, wall art, face masks, and more have grown exponentially over the past five years. There are many companies dedicated to this industry alone.

Why use dye-sublimation as opposed to other printing methods?

Overall, dye-sub’s advantage over UV-curable, latex, or solvent printing is leaves the fabric with the same feel, or



Products such as personalized blankets, pillows, floor mats, mugs, wall art, face masks, and more have grown exponentially over the past five years.

“hand,” before and after printing, which adds to the high-end perception of the product. Put simply, the end result is better by far in look and feel because dye-sub ink is infused into the fibers of the substrate itself, unlike with pigmented ink that builds up and sits on the surface of the fabric. This level of saturation produces superior output. Another important benefit of infusing the ink directly into the fabric is that, without any additional surface protection, the image will be permanent and cannot be washed away, rubbed off, or otherwise removed from the fabric.

UV-curable ink is the most versatile of these other ink technologies. It adheres well to a wide variety of substrates, including fabric, but it does change the feel of the material. Latex is similar to UV except that it can produce better, brighter color on textiles than most UV printers. It can change the hand of the material, but not to the extent that UV does. However, a latex printer must be slowed down and requires many more passes to achieve the same color as a dye-sublimation print. Solvent inks (pigmented inks, not to be confused with solvent-based dye-sublimation inks) require the material to be coated with a receptive layer for the solvent ink. This can change the hand of the material as well. In addition, solvent output generally produces a less saturated image than printing with dye-sublimation.

If someone wanted to get started in dye-sublimation, what equipment would be required?

Basically, you need a printer, some sort of heat press to sublimate the ink, and finishing equipment. There are several manufacturers that offer solutions. There are three types of dye-sublimation systems: systems that are dedicated transfer paper printers; systems that can only print and fixate inline; and systems that can be configured to print paper, direct offline, or direct inline. The most versatile systems can be set up to produce output by any one of the three methods depending on application.

Beyond the printing equipment, there are a variety of fixation units, from small



Typical applications include banners, stretch graphics for exhibitions, traditional flags, feather flags, retail P.O.P displays, tents and even hot air balloons.

clamshell heat presses where pressure is applied manually (often used in shops decorating T-shirts), to industrial sublimation systems such as roll-to-roll calendars and large-format flatbed heat presses. The last components are the cutting and sewing systems. These components will be broken down in more depth in future articles.

Why do you think adoption of this process has been slower in the U.S. than in Europe? What are the barriers to trial?

In my opinion there are a few reasons: First, the perceived high cost of entry and steep learning curve because of the complexity of the process could be a reason for slower adoption. Second, many companies have concerns about the sizing, cutting, and sewing of fabric graphics, which causes hesitation in adopting new technology. Third, some industries have been slow to adopt new applications due to the uncertainty and changes it would cause within the business.

On the first point, equipment and materials are expensive, but the margins are much higher. Because of the complexity of producing dye-sublimated graphics and the cost of the materials themselves, the retail selling price of fabric per square foot can range from \$7-\$10, which can be far greater than the price of vinyl, for example. In other words, printing businesses stand to make a lot of money, and the dye-sub market remains on a healthy upswing. Although the install base has

grown over the past few years, the fabric graphics market is still less commoditized than the market for typical vinyl banners. In the long run, transportation, handling, and overall management of fabric is less costly as well, which is attractive to end-users.

For the second point, it's the finishing that takes people out of their comfort zone. There is a general lack of education in our industry about sewing, appropriate setups for sewing equipment and supplies like needles, threads, and the various types of sewing machines. This has left many in our industry apprehensive about taking the first step into the dye-sublimation business. However, the market is wide open, with great opportunities for print shops to increase their margins, differentiate themselves, and remain competitive.

Finally, some industries have been slow to adopt fabric. However, the trade show and event business has fully embraced fabric over the past several years. In fact, most displays at a trade show will have multiple fabric-printed graphics such as SEG-printed walls, stretch fabrics, hanging signs, and more. The retail industry has been slower to adopt fabric, although this is quickly changing, especially with some mass retail stores fully embracing fabric graphics. Over the past four years, we've seen several large retailers change some or all of their displays to fabric, which has saved them money on shipping and installation in addition to providing a product that can be recycled. **GP**

Specific Markets for Dye-Sublimation

How having a niche can lead to more profitability



Aaron Montgomery is certified by New York Times best-selling author Jack Canfield as a Success Principles Trainer and is the co-founder of OurSuccessGroup.com. Aaron has over 25 years of experience with personalized products and small business development and is the co-creator of the "5 Keys of Business Success." You can also find Aaron co-hosting the decorator's industry podcast 2 Regular Guys Podcast (2RegularGuys.com). Also, check him out on his podcast channel called Small Business Saturdays (SmallBusinessSaturdaysPodcast.com).

Those of you that know me, know that sublimation is one of my favorite decorating techniques due to the vibrancy, full-color capabilities, and durability. As a sublimator, it can be tempting to try and appeal to as many people as possible. After all, you want to make sales and generate revenue, right? However, this approach can actually work against you and cause difficulty in attracting new customers. Instead of trying to be everything to everyone, it's better to focus on a specific niche market and become the very best in that space. By doing so, you'll not only attract customers who are specifically looking for your products or services, but you'll also establish yourself as an expert in your field, which can lead to even more business opportunities.

But how do you go about finding your niche market? The answer for me when it comes to these foundational questions is to look within. What is your instinct telling you? Start asking yourself the following questions:

- What are my passions and interests?
- What are my skills and expertise?
- What are the pain points of my ideal customer?
- What are some gaps in the market that I can fill?

By answering these questions, you can start to narrow down your focus and identify a specific niche market that you can serve. Let's take a look at some potential niche markets for dye-sublimation decorators and how having a niche can lead to more profitability.

Sports teams and clubs

Sports teams and clubs are always in need of custom apparel, whether it's for uniforms, practice gear, or fan merchandise. As a dye-sublimation decorator, you can create high-quality, full-color designs that really make

these teams and clubs stand out. By specializing in this niche market, you can establish yourself as the go-to provider of custom sports apparel in your area. You can also leverage social media to showcase your work and attract new customers.

Pet owners

Pet owners are a passionate and dedicated group, and they love to show off their pets in any way they can. By offering custom pet-themed products such as photo blankets, pillows, and apparel, you can tap into this market and create products that really resonate with pet owners. Consider partnering with local pet stores and groomers to expand your reach.

Small businesses and entrepreneurs

Small businesses and entrepreneurs are always looking for ways to stand out from the competition, and personalized gifts, promotional type products, and merchandise can help them do just that. By specializing in this niche market, you can offer personalized service and create unique designs that really capture the essence of each business and is more than the boring one and two color trinkets being offered by promotional products vendors.

Non-profit organizations

Non-profit organizations often rely on fundraising events and merchandise sales to generate revenue, and sublimation products can be a big part of that. By specializing in this niche market, you can create custom designs that align with the mission and values of each organization, which can help them raise more money and awareness. You can also offer a portion of the proceeds from each sale to the organization, which can help build goodwill and establish you as a trusted partner.



Artists and creatives

Artists and creatives are always looking for new ways to showcase their work, and sublimation merchandise can be a great way to do that. By specializing in this niche market, you can create unique designs that really capture the essence of each artist's work. You can also offer a range of products such as mugs, mousepads, pillows, blankets, aluminum photo panels, keychains, jewelry, and bags, which can help artists expand their brand and reach new audiences. Plus as a trusted partner you can even help with the fulfillment so the artist can stay focused on creating and nurturing their audience.

Finding a niche

The importance of finding a niche applies to all businesses, including dye-sublimation decorators. With the rise of digital printing technology, the competition in the dye-sublimation market has become more intense than ever. To stand out from the crowd, dye-sublimation decorators should consider finding a niche market that aligns with their interests, skills, and values.

Let me share a story that a friend of mine shared on my podcast several years ago that will illustrate how being the very best in your space will have other people outside of your niche seek you out. My friend, Brett Bowden of Printed Threads in Fort Worth, Texas, was telling us how he came to do the printing for the Dallas

Mavericks professional basketball team. If you have ever met or seen Brett, you will immediately know he is a band guy. If there were a picture in the dictionary next to the words band guy, it would be Brett. He has long hair, is slender and cool, and just looks like he should always be holding an instrument. When he started his company, he didn't go out and try to go after anyone he could think of. He focused his efforts and his passion of playing in a band and solving the problems that all small bands have. How do small new bands get into the "merch" game without having to buy more shirts than their family and groupies could ever use? So he figured out how to help them with short-run dark shirts, taking care of the logistics and, as he puts it, "having rad designs." And as he slowly developed his business around his ideal customers and their needs, the word started to spread. Before he knew it, he was doing work for larger and larger bands. And he became known as the band merch guy in the Dallas/Fort Worth area. Soon after, the Dallas Mavericks came calling as they wanted to make some shirts with more of a band/rock n roll feel. They heard he was the guy, and he ended up printing the project for the professional basketball team.

Here is the real secret sauce. In doing that project, they also held true to their commitment to great customer service, and after doing such a great job, the Dallas Mavericks kept returning. Still, to

this day, if you go to their "about us" page, you will see a bunch of people in black shirts, some long hair, and just really creative types that I'm sure every band wants to work with.

To Brett, the Dallas Mavericks project was just another fun challenge to add to his portfolio. But it ended up being much more than that. It opened doors to new opportunities and gave his business a huge boost in exposure. He learned that being the best in your niche can not only help you gain a loyal customer base but can also lead to unexpected collaborations and partnerships.

Finding a niche market for your dye-sublimation business can help you achieve greater profitability and success. By focusing on a specific group of people with a particular need or problem, you can become the go-to expert in that field and attract more customers through word of mouth and referrals. You can also charge a premium for your services because you offer specialized expertise that others don't have. But to gain that specialized expertise, it is going to take time focusing on one or a very few things.

The next time someone asks you who your ideal customer is, what will you tell them? If it is not a specific niche audience you can focus on and become the very best in a relatively short time, then you have some work to do. **GP**

HEAT PRESSES

FOR ALL APPLICATIONS

COURTESY OF GEO KNIGHT

There are a lot of different styles and types of heat presses depending on the application. The standard 16" x 20" T-shirt press can come in swing-away or clamshell styles. Then, there are automatic air-operated presses, label presses, specialty presses for caps and mugs, and large-format presses. Be sure to find the right one for your business.

Swing-away presses:

Generally the most popular, these machines are perfect for full visibility and access to the bottom table, with the head swinging fully out of the way. Due to the parallel-pressing position of the heater, very thick materials can be pressed, as well as traditional textiles.



Clamshell presses:

These are the most popular with DTG curing when used with an auto-release pop-up feature, and for traditional garment printing. A singular opening motion of the handle combined with front loading ease makes for quick turn around and smaller footprint for freed-up bench space.



Automatic presses:

Automatic presses feature simple, quick, and easy push-button activation, with automatic opening and closing of the press. That makes these machines perfect for all-day higher production usage. These presses remove operator fatigue, and increase output, and make pressure a much more repeatable setting compared to manually adjusted hand-clamped presses.



Label presses:

Label presses are needed for pressing small patches, labels, left-chest logos, and bar coding of garments. The presses allow precise placement of small labels, without pressing large areas of the garment or material with a full-sized heat platen. Normally having top heat only for most applications, label presses can sometimes be combined with a bottom heat platen. Thicker patches and appliques can be applied without heat effects and stamp marks to the top surface of the material, since the heating is from the bottom.



Cap presses:

Headwear needs its own curved heat platen, that will conform properly to the cap. Interchangeable bottom tables allow for different sized caps with different profiles to be pressed. Normally having top heat only for most applications, cap presses can sometimes be combined with a bottom heat platen. Thicker patches and appliques can be applied without heat effects and stamp marks to the top surface of the material, since the heating is from the bottom.



Mug presses:

Drinkware such as mugs, steins, thermoses, water bottles, and other cylindrical rigid items need their own flexible heater to wrap around the product and apply the transfer. Typically, adjustable for a range of diameter products, mug presses are an example of specialty machinery for non-standard non-flat products that can be heat transfer printed. **GP**



NEW PRODUCTS

For more on the suppliers featured in this section, please see website and phone information following each product.

COLOR COMBINATIONS

Rowmark offers two new color combinations for its DurMark product line: dark grey/white and orange/white. The company says DurMark has been engineered with a chemical-resistant cap layer that can be laser or rotary engraved. The 100% acrylic cap also comes with a matte finish pressed to a modified acrylic core.

419-425-8974 • rowmark.com



PIGMENT DISPERSIONS

FUJIFILM Imaging Colorants announces the availability of an expanded range of colors for its RxD pigment dispersions for water-based inkjet ink formulation. The new pigments are orange PO71, green PG7, and violet PV23.

800-552-1609
fujifilmink.com



UNISEX VINTAGE PIGMENT

Royal Apparel offers the 5151PD unisex vintage pigment, with a set-on rib collar, double needle sleeve hem and bottom hem, tape shoulder to shoulder, side seams, and a tearaway label.

866-769-2517
royalapparel.com



DYED T-SHIRT

Alternative Apparel offers the 1207BD Botanical Dyed T-shirt. The company says it uses dyes derived from select roots and leaves, and the shirt is made from ring-spun cotton and recycled poly.

704-472-3187
brandwearunited.com

FLEET GRAPHICS TEMPLATE LIBRARY

Fiery announces the release of its new Pro Vehicle Outlines template library, which the company says offers more than 19,500 vehicle templates. The collection now includes new and redesigned models from major auto and truck manufacturers, such as the Ford Lightning and the GMC Sierra.

888-843-1325
provehicleoutlines.com



BAMBOO GIFTS

JDS Industries Inc. offers eco-friendly bamboo gifts, ranging from cutting boards and coasters to pens, desk accessories, and kitchen items. The company also makes bamboo barbecue sets and picture frames.

800-843-8853
jdsindustries.com



DUAL-SHUTTLE HEAT PRESS

Insta Graphic Systems offers the Insta 780, an automatic dual-shuttle heat press with a digital touchscreen controller. It can be operated in single-platen mode, dual-platen semi-automatic mode, and fully automatic mode. The company says the press can reach up to 360 impressions per hour.

562-404-3000
instagraph.com



DIGITAL MENU BOARDS

CrimsonAV announces several new QSR Menu Board options for fast food restaurants and retail locations. The company says the line of indoor/outdoor menu boards can start with a single panel and scale up to as many as necessary, and that the outdoor boards have IP56 ratings for temperatures from -20 F to 122 F. The company has also equipped its systems with a four-outlet quad box and a Zero Surge power filter to prevent power failures. And the boards can be painted to match brand styles.

866-668-6888 • crimsonav.com



Film to Wrap Anywhere

BY SHELLEY WIDHALM

Technology allows vinyl wraps to appear in unusual places



Shelley Widhalm is a freelance writer and editor and founder of Shell's Ink Services, a writing and editing service based in Loveland, Colorado.

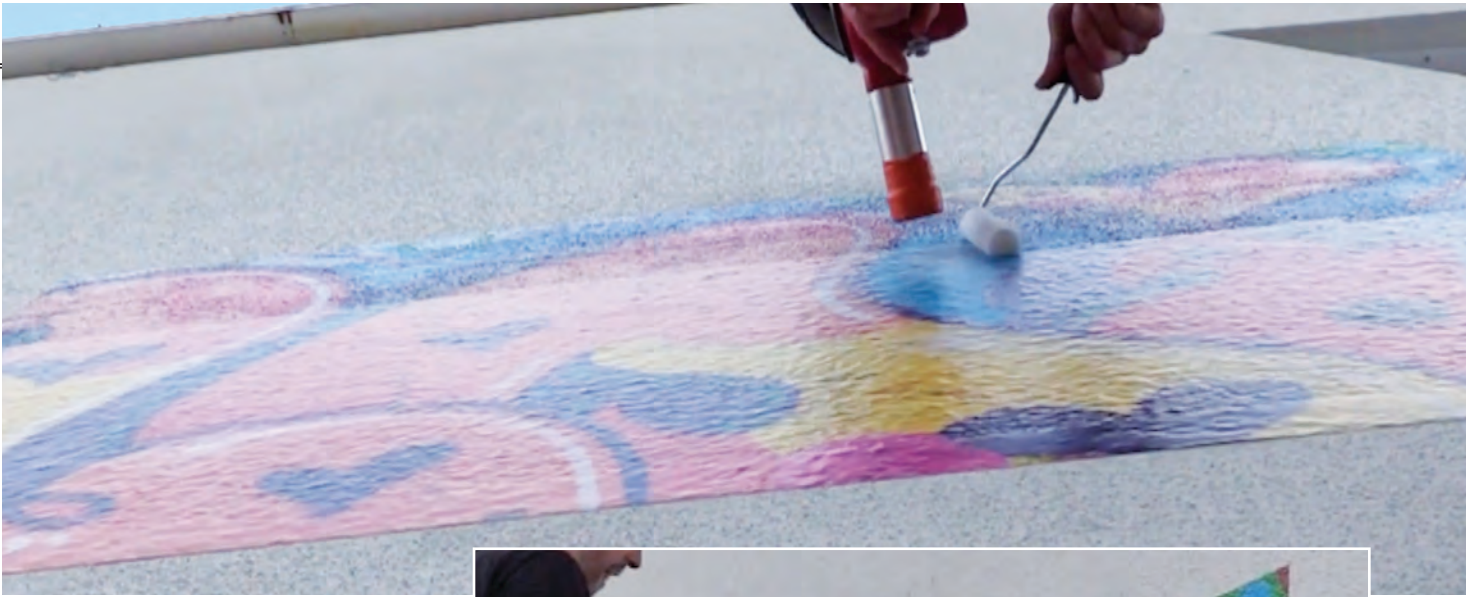
Vinyl doesn't just appear on vehicles, but can be on sidewalks; stucco or brick walls; cement, concrete, or asphalt; or anywhere that seems like a rough surface for a smooth graphic.

Artists and installers need to find the right materials, use the right techniques, and have the right tools to get the vinyl to stick and last without ripping, fading, leaving a mark, or defacing the surface.

"You obviously have to choose the right materials — materials made for those surfaces — and the right lamination, then prep the surface," says Justin Pate, CEO of The Wrap Institute, which produces instructional videos and workshops for the vinyl wrap industry. "If you have the right set up, it's straightforward. You can make a mistake quickly if you don't plan it correctly."

Exterior wraps are often on rough and textured surfaces, so the material needs to be thin and able to bond to that surface and the adhesive needs to be aggressive enough to conform to its topography. (Images courtesy Justin Pate, The Wrap Institute)



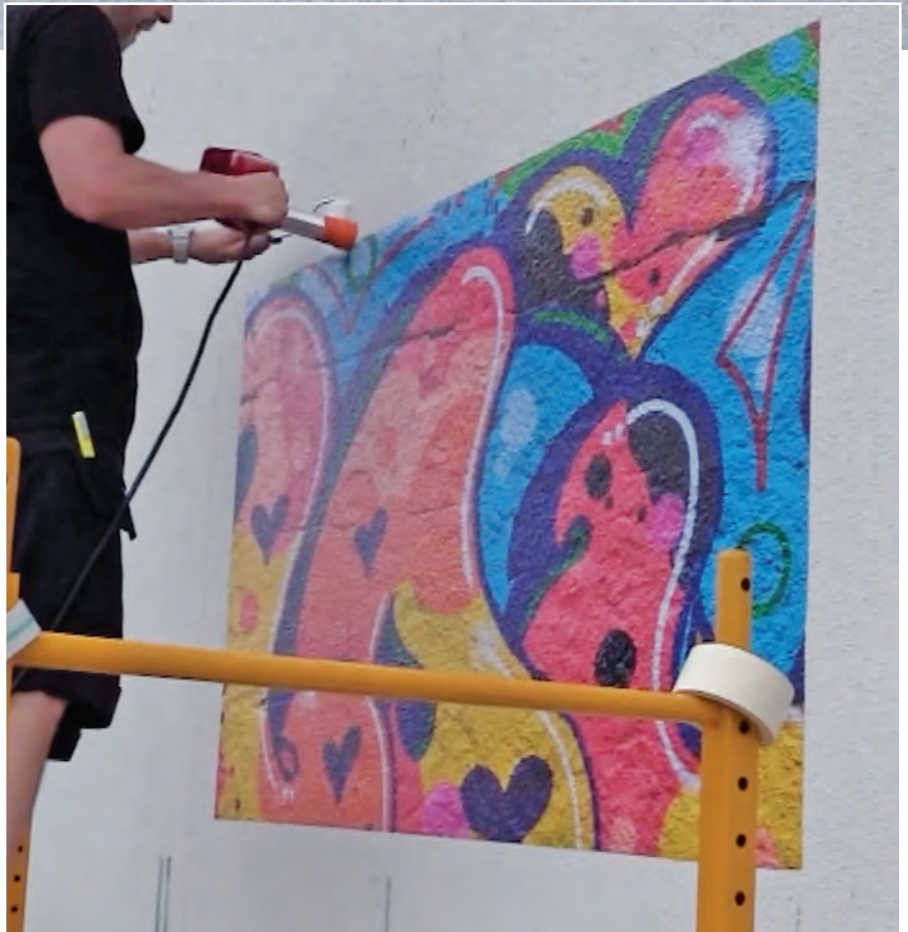


The installation surface needs to be clean and dry and free of loose debris, and the weather needs to be the right conditions — it shouldn't be too hot or windy or have rained the day before, which can cause materials to be damp, Pate says.

That's because exterior wraps aren't like those done on a vehicle or interior wall with a smooth surface, Pate says. Exterior wraps are often on rough and textured surfaces, so the material needs to be thin and able to bond to that surface and the adhesive needs to be aggressive enough to conform to its topography, he says.

The right materials and tools

Before doing the install, installers need to check with the manufacturer and distributor to make sure they're purchasing the right type of vinyl film for the surface type. They also need to have special rollers instead of the squeegees used for smooth surfaces. The rollers, which need to be heat-resistant, are used to apply the film



to the surface, causing it to form to it with each roll across. Alternatively, squeegees are hard and flat and glide over the top of the surface without going into bumps, grooves, and indentations.

"You can't just use a squeegee, you have to use heat," Pate says. "What heat does is soften the film. If you don't add heat, the material stays stiff and doesn't conform to those areas."

"You obviously have to choose the right materials—materials made for those surfaces—and the right lamination, then prep the surface," says Justin Pate, CEO of The Wrap Institute. "If you have the right set up, it's straightforward. You can make a mistake quickly if you don't plan it correctly." (Images courtesy Justin Pate, The Wrap Institute)

Wrap Material Specialized for Rough Surfaces

- 3M 480 Envision
- Avery Dennison MPI1405 with DOL6460
- AlumiGraphics GRIP
- Continental Grafix FoilWalk
- General Formulations RoughMark



(Image courtesy Justin Pate, The Wrap Institute)



Gilens is currently working on a project in Reno, Nevada called "Confluence," which consists of a continuous graphic of his 4,500-word poem about stream dynamics and how water shapes landscapes. (Images courtesy Todd Gilens)



(Image courtesy Justin Pate, The Wrap Institute)

The heat needs to be at 1,000 degrees, and is best applied with a combined heat gun and roller, says Adam Sumner, 3M authorized trainer and owner of Wrapix Academy and Wrapix Imaging in Burbank, California. The heat gun is mounted onto the roller and, being hands-free, allows more pressure to be applied to the surface, making it easier to set the film into the texture, he says. The film should be rated for textured and rough surface applications, such as 3M LX480 (for latex printers) and 3M SV480 (for solvent printers), he says, adding that he recommends the TSA-4 (Textured Surface Applicator) roller.

The roller is rolled over the film in the same direction in a repetitive fashion so that the heat gun remains in front of the roller and is able to soften the film.

"You can install three inches of film per second," Sumner says. "It's a slow, tedious process of rolling over the film and getting that film to adhere to the surface."

Another option for heat-applied vinyl is a fine aluminum printed with the graphic on the front and adhesive on the back. One such product is AlumiGraphics GRIP. GRIP, which doesn't

require a heavy-duty aluminum substrate with an over laminate, is more rigid and has less of a stretch than vinyl.

GRIP is preferable for small display areas (not a wall mural); heavy-traffic areas like sidewalks and walking paths, and places where there can be vandalism, since the edges are hard to lift, says Jim Miller, who co-owns Miller decals, a commercial and vehicle wraps company in Acworth, Georgia, with his wife, Starla.

The aluminum is applied using a stiff brush or gloved hands to push it on and fit it around the rough, uneven surface, Miller says.

“With aluminum, you don’t have to push it into the cracks as deep (as vinyl),” Miller says. “In order to last, it doesn’t have to be in every corner and crevice of the stone or brick. Vinyl will dry out and crack. This won’t. This will stay there when you leave it.”

GRIP, however, requires more precise work than vinyl, Miller says.

“You can’t stretch it over,” Miller says. “It has to be really all the way down. With vinyl, you can stretch it a little — it’s easier to make corrections.”

The right installation process

Wrapping a textured or rough surface typically takes two to three times longer than wrapping a smooth surface or flat wall — something installers need to inform their clients about, Pate says. The costs are higher with each installation, but the material prices are the same, as well as the results, which oftentimes can look like paint, he says. If done right, the wraps can last for several years, except in high-traffic areas where wear and tear limits life to two to three months, he adds.

“It’s going to have the same visual look. It looks like paint and does not change the graphic or what it looks like but will change how it feels,” Pate says. “The cool dynamic has the wow factor and gets clients excited about wraps.”

Richmond, California artist and designer Todd Gilens uses wraps in some of his large-scale art projects that make commentary on things like water systems and ecological change.



“Shade,” a 1,000-square-foot image of a garden shade plant installed over a lattice structure at the University of California Botanical Garden at Berkeley propagation house. (Images courtesy Todd Gilens)

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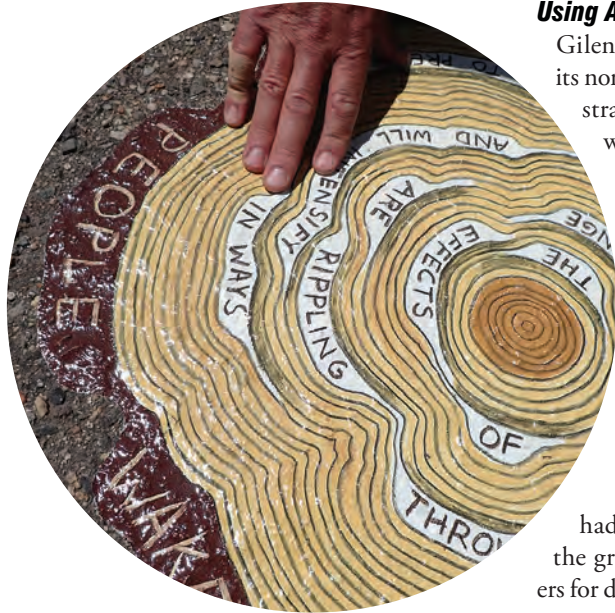
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This temporary public artwork, called “Reading Forest,” was on weathered and uneven asphalt at a 6,000-foot elevation and represented slices of tree rings with bark around the perimeters. (Images courtesy Todd Gilens)



One of his former projects employed 40 rounded graphics on the Taylor Creek Visitor Center’s paved trails and walking paths near South Lake Tahoe. It was commissioned by the National Forest Foundation and displayed for a full year, ending in November 2021. The temporary public artwork, called “Reading Forest,” was on weathered and uneven asphalt at a 6,000-foot elevation and represented slices of tree rings with bark around the perimeters. Inside the rings, which ranged from 12 to 60 inches across, were quotes from science, poetry, and religion about forests, ecology, change, and resilience.

Using AlumiGraphics GRIP

Gilens used AlumiGraphics GRIP for its non-skid surface and aluminum substrate that is able to withstand harsh weather conditions, he says.

“It tests for adhesion and slipperiness, which is important in my work,” Gilens says. “It’s an aluminum material with a vinyl coating that you can print on. I can almost burnish the material into the little crevices and unevenness of the asphalt, which gives it a better adhesion than bridging the tiny gaps.”

To install each tree ring, Gilens had to clean the asphalt, then install the graphic using a variety of soft rollers for different surfaces. He peeled off the wax paper on the printed ring to expose the adhesive and pressed the adhesive by moving a roller back and forth on the asphalt, working slowly and carefully to get a good adhesion. He also made sure to pick spots where there wouldn’t be any standing water, which could cause the graphic to deteriorate, though it can get wet and dry again.

“The most important tool is patience,” Gilens says. “We’re working outdoors, and the wind might blow up a bunch of dust, and we’re trying to align graphics onto a spot on the ground. When you tear something, it can be difficult to repair depending on what the graphic is.”

Another project Gilens did was “Shade,” a 1,000-square-foot image of a garden

shade plant installed over a lattice structure at the University of California Botanical Garden at Berkeley propagation house. He used a donated premarket product by Avery Dennison that didn’t end up getting released for commercial use — the material was experimental, proprietary, and non-PVC based. It protected the plants and provided them with shade.

Gilens printed the plant image in 22 pieces that had to be aligned and assembled in the right order. He applied the adhesive by slicing, tucking, folding, and smoothing it around the sides and back of each 1.5-inch aluminum lath.

“Normally the wrap is installed on a continuous surface, but in this case, the surface was 50 percent missing,” Gilens says. “If you’re wrapping a car, you have to be careful around the corners and mirrors. In this case, we had to be careful the whole time — the whole surface was details.”

Gilens is currently working on a project in Reno, Nevada called “Confluence,” which consists of a continuous graphic of his 4,500-word poem about stream dynamics and how water shapes landscapes. The graphic, which is in 500 pieces, will consist of handwriting a quarter-inch wide that’s cut out of a Continental Grafix product called FoilWalk. The bright yellow letters will cover one mile of curbs and sidewalks, extending from a local park along the Truckee River and through the downtown area. Gilens picked the material since it’s able to resist extreme temperature changes and handle an elevation of 3,000 feet, he says.

“The big challenge was to cut lettering from a floor graphic material because floor graphics have a rough surface so that they’re slip resistant,” Gilens says. “I did tests on several materials to find one that would stay on the ground.” GP



**Pushing the Boundaries on
Graphics Installations**

A podcast with Todd Gilens

<https://gpro.link/gilens>



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Calendered VS Cast

BY ADAM SUMNER

What is the right choice for your projects?



(All images courtesy
Wrapix Imaging)



Adam Sumner is the owner
of Wrapix Imaging and
Wrapix Academy, Burbank,
California.

The success of a project comes down to material choice. With numerous manufacturers to choose from, picking the right film can seem like an impossible task. If I simplify my options from what manufacturer to choose vs. what type of film to use, it makes it a little easier to find what I really need to make my project a success. No matter the manufacturer, you can break down vinyls into two categories: calendered films and cast films. But what does that mean? Those terms cast and calendered come from the process in which the material is made.

Calendered, sometimes referred to as “intermediate” films, are produced from a semi-solid and progressively rolled into the width and material thickness that gets delivered to us in our shops. Typically, this is why you will hear calendered film has a “memory,” meaning that this film eventually will try to return back to its original shape and size. This production is more cost-effective, which is why we



typically see a lower cost when ordering these products.

Cast film, also called “premium films,” is a liquid poured and cast into the width and thickness of a rolled film. Cast film you will hear has “no memory,” meaning this film is the same shape and size that it comes off the roll. This will lead to a much more stable product over time. It also gives us the ability to manipulate the film better on installation. However, these benefits usually result in an increased cost for cast films.

The film differs in many ways other than just how its produced. Cast films are going to start around 2 mil in thickness, whereas cast starts around 4 mil. This is for the base film only, so the thickness doubles once lamination is added. It is also important to note that you always need to pair your base film with the matching laminates. Cast film must be laminated with cast overlaminates and calendered films with calendered overlaminates. If you use a cast print film with a calendered overlaminate, you will lose all function of that cast film. In my training classes, I





hear calendared films are easier to apply all the time. Typically, it's the thickness that installers are referring to, since calendared film is roughly 8 mil once laminated. The film is easier to handle once pulled off the liner.

How does the thickness of the film affect installs? Generally speaking, most people only consider this on the installation of vehicle wraps. They opt for the premium cast film because of the contours and the stretch of the film. We have found over the years that the thickness and the "memory" of calendared films is a determining factor when choosing our film for interior wall graphics as much, if not more, than vehicle wraps.

Film choice for wall graphics

For many years on interior wall graphics, we would steer toward calendared films for many reasons. For one, on average, these films were close to half the cost





of cast films. With the typical amount of square footage being installed, the cost savings of calendered meant an increase in profit and much less sticker shock to the customer.

Another factor is location. Because these installs are located inside, why spend the extra money for a premium film with better exterior longevity when these graphics would never see exterior conditions?

Most interior surfaces are flat, and there's no need to stretch, so interior wall graphics check all the boxes of calendered, so that's what we would use. On some occasions, we would notice lifting, or the edges of the graphics would release a bit from the wall over time. Most of the time, we blame the paint, adhesive, prep of the wall, and installation. But it's important not to overlook our film selection.

As many of these can cause problems, I wanted to dig deeper and find each possible cause of a failed graphic so that we could narrow down our film selection for wall graphics. We ran tests on our own walls inside our shop using calendered film, cast gloss finishes, matte finishes, latex ink, and solvent prints. We tested everything. What we found is that even though walls look smooth, there is always a bit of texture. That texture can differ



depending on the way it was painted. Sprayed walls seem to be smoother and have a tighter texture than the ones that were rolled.

The walls that were rolled, depending on the type of roller, would leave different types of texture. Installation of both cast and calendered films went down the same. We found that while printing on

our latex printers, the lineup between panels on calendered films was more difficult than it was on cast. We found that lineup between the panels when printed with our solvent printers had less of an issue with registration on calendered and cast films. We suspect that's due to the increased heat used to cure latex ink in the printing process.



Once the installs were completed, it was hard to tell what walls were wrapped in cast and what walls were wrapped in calendered — at least for the first couple weeks. Then we started to notice the difference. The walls wrapped in cast still showed the texture in the wall, whereas the walls wrapped in calendered seemed to look “smooth.” After a few weeks, we noticed the original texture we saw on the installation of the calendered film had disappeared. The film was now “floating” on the high points of the texture. Over time, this got worse, causing the edges to lift and curl back, eventually resulting in the film failing to the point that the only fix would be reprinting and re-installing the project.

Film choice for vehicle graphics

From simple spot graphics to partial and full wraps, from customers with one vehicle to hundreds, choosing the right film for the project is key. Full wraps will always be cast films, especially when you need to wrap bumpers or have any horizontal surface that will be wrapped, such as the hood, roof, and trunk. Cast film will wear better over the project’s length and conform better to complex shapes like bumpers, mirrors, and door handles. Partial wraps that are going to cover any



complex contours or deep recesses should also be produced on cast films.

Spot graphics on vehicles tend to lend themselves to calendered films, especially when they are going to be on for a short period of time. Typically, we say less than two years at our shop. As long as the placement for the graphics will only be on the vertical surfaces or the sides of the vehicle, the graphics will not see as much UV exposure and will tend to last that two-year period. The reason why we increase the time that we allow calendered films to be on vehicles over wall graphics is due to the surface. The surface energy on vehicles is higher than on a painted wall, and the adhesive will hold better for a longer period than it will on wall graphics.

This does not mean that we never use calendered films. In fact, we use them quite frequently. So how do we make the decision?

Cost – This is where most people start. I know I used to. Over the years, I have had to train myself to stop looking at the dollar amount of a roll and focus more on the end goal, and this is how I start the process of picking a film.

Time – This has to be the most important factor in our film choice. Whether it is a wall graphic or vehicle graphic, if the project is going to be up for more than a year or two, we are going to use a cast film.

Size – The larger the project, the more we are going to lean toward cast films. The reason behind this is I want the added security that we will run into fewer problems over time. With the cost of labor these days, it's important to us that we never have to go back and fix an issue, especially when dealing with fleet graphics where vehicles may be located all around the U.S. We never want to have to locate a vehicle to replace a simple door logo in a year or two because the film is fading.

Location – Where is my graphic going to be located? Is this an interior or exterior graphic? Are you in an area with lots of sun exposure and higher temps in the



summer, like Arizona? These are all factors in which choosing the correct film can make or break a project. Typically for us, all exterior graphics are going to be cast because of the longevity we have seen with these films over the years. Whether it's a sign face we're mounting graphics to, a vehicle, or a storefront. Cast films will last longer outside than calendered films, especially in areas of extreme temperatures and UV exposure.

Warranty – Depending on the customer and the project, I may offer a warranty; this makes the decision for me as typically, calendered or intermediate films

carry little to no warranty. In contrast, cast films carry multiple-year warranties from the manufacturers.

Planning a project from the expected outcome backward to the initial film selection is key to the success and overall customer satisfaction on a given project. Understanding how the film is produced and designed to be applied helps us start our projects down the right path. Focusing on the project at hand vs. the cost of our film can help eliminate the costly reprints and extra installation labor that we may face from choosing the incorrect film for our application. **GP**

AN ODE
TO THE

GEAR TREE



The finished pieces in the conference room. Signs? Not really, but environmental graphics that businesses of all types are looking for your expertise to create for them.

Conference room environmental graphics project gets the gears turning

BY JD HAMILTON



James Dean Hamilton has been writing for NBM since 1995. After a decade sabbatical from writing, he is back in the saddle. With over 30 years of experience, he has a vast knowledge of everything signage, marketing, and workflow management.

We are often presented with unique challenges from clients to produce something a little different than what's normally found in our wheelhouse. I recently had a client visit with such a request. What resulted was a unique project that not only combined various design strategies, but also used high-tech fabrication and good old-fashioned painting and sculpting techniques.

I always strive to utilize the best of what today's technology has to offer, while adding a unique touch of crafted processes learned along the way. When combined with branded and themed environments, you get a large and growing market for traditional sign makers and printers to work on projects a little out of the norm yet

utilizing the same knowledge and talent.

Large corporations and even medium-to-small companies are re-imagining the workspace and introducing designs and elements outside traditional signage and printing. Logos, colors, typography, and slogans have not been lost, but are now complemented with inspirational and calming graphics and copy.

First gear

My client owns a family business that goes back a generation or two in the textile industry, making — and now servicing — print machines. She was renovating a small, old conference room and wanted to do something whimsical yet themed with some historic tie-ins with the business.

66"

29.5"

Side Section

SIGNAGE SPECIFICATIONS

Gear Tree Conference Wall

Material(Main): Matte black vinyl background

Material(Features): 1/4" and 1/8" Acrylic, cut to shape, surface painted

Thickness: 1/4" and 1/8" Features, on vinyl. Overall thickness 3/8" from wall. Provided clock will add additional dimension.

Letter Style: Art

Mounting Method: Surface mount matte black vinyl directly to painted wall. "Feature" acrylic pieces mounted with a combination of VHB tape and silicone. Confirm with client mounting of provided clock.

Finishing: "Feature Acrylic" to be light sanded, primed, painted a base metallic and faux painted with acrylic to imitate a patina finish on metal.

DATE: 2/6/2023
DRAWN BY: JD
REVISION: Original

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SIGN TYPE WALLGRAPH

CLIENT: Springs Textile Machinery and Repair **FUNCTION OF SIGN:** Environmental Graphic

PROJECT: Secondary Conference Wall **SCALE:** Not To Scale

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Drawings of the Gear Tree for the main conference wall and the conference room's secondary wall piece featuring more gears and a supplied timepiece. (Images courtesy of JD Hamilton)

She's into the steampunk look and handed me this poem that she wanted to later be carved into a large conference table:

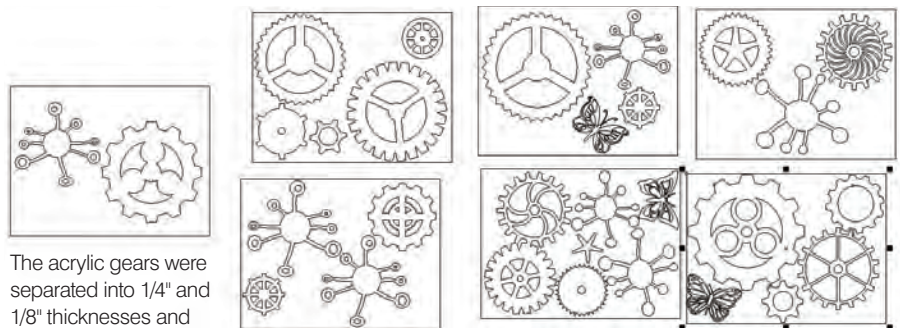
"Oh, gear tree, mechanical wonder of our time, turning cogs and sprockets, making gears align. With your intricate branches, and metal leaves so bright. You bring movement to life, with your mechanical might.

In factories and machines, you're a vital part, helping wheels to turn, and power to start. With every rotation, you prove your worth. A symbol of progress, and man's mastery of earth.

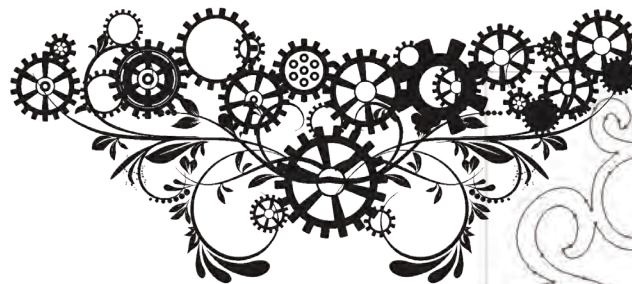
So here's to the gear tree, a marvel to behold, a testament to man's ingenuity, strong and bold. May your gears keep turning, for a long time to come. A shining example, of the power of human invention done."

That was it. She trusted I could come up with something and she would find some old tooling and machine parts and gears to finish off the background of the conference room feature wall.

I had a lot of work in front of me, so I shifted into high gear to do some research. I was surprised at what I found. It appears my client's appreciation of art was not



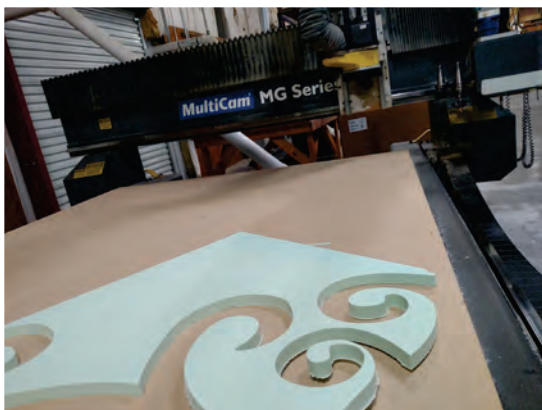
The acrylic gears were separated into 1/4" and 1/8" thicknesses and nested in pre-cut sheets of acrylic for laser cutting.



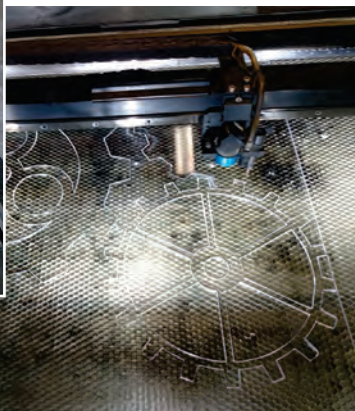
The gear vectors were welded and then also welded to the flourish art to create an output file to cut the matte black vinyl background.

The vector for the tree base in 1" HDU prepared to cut on the CNC router.





A CNC router was used to cut out the shape of the tree in 1" HDU while 1/2" and 1/4" pre-cut acrylic sheets had the gears nested into them and were laser cut.



The HDU had the edges rounded smooth and a wire brush was used to add texture.



Sanding acrylic to prepare for paint, then spraying base coats of metallic colors.



Base coats of paint over primed HDU tree.



unique, and I found several sources of inspiration. But I sat in front of my blank canvas frozen; it was like having writer's block. I needed to create a sign (or something) that would not include a provided logo, a branding manual of fonts, or even corporate PMS colors to adhere to.

Perchance to dream

Focus was needed to see my tree through the client's forest. I literally had to keep my design to just the tree and let the client and her interior designer work out the rest. In order to plant the seed of inspiration, I decided to turn to the internet and do a little more research.

Much to my surprise, the gear tree is not a unicorn of steampunk lore. There is actually a plethora of information out there, and I was able to throw together a quick mood board to review for the initial design. You can't always trust what you find on the internet, but if you did, you'd swear there were forests of these trees somewhere up north in Gearland!

It was decided to use a more organic tree trunk and branches, with gears featured as leaves. I began by drawing a tree outline and scanning it. In CorelDRAW, a quick vector trace was done and cleaned up. More research was done, various mechanical gears were found, and a few made-up whimsical gears were created for the leaves. Upon approval of the concept rendering, I separated the art into production files to cut the HDU and acrylic.

Second gear

After reviewing and approving the main piece, the client wanted another large statement at the other end of the conference room that would include a clock and tie-in with the theme. Leaving the tree piece behind, it was time to branch off and put a little design thought into the other wall graphic with the supplied steampunk timepiece.

The same gears from the tree were used for a tie-in, then I added a simple Victorian-influenced flourish in vinyl as a background. The gears and clock would come forward from there to add some dimension.

With a quick go-ahead, these gears were added to the acrylic fabrication files and a file to cut the matte black vinyl flourish was created.

The gears were cut out of 1/8" and 1/4" acrylic for dimension on the laser. The tree was cut out of a sheet of 1" 18-lb. HDU on the CNC router.

The tree was stark and lacked character. A quick breath of life was sculpted into the HDU by sanding away the harsh edges and adding the bark texture with a wire brush.

All pieces were sanded and prepared for a quick coat of primer. Once the primer coats dried, a base coat was added. For the tree, a brown color was selected, and for the gears it was a variety of metallic finishes. This piece was indoors, so paints were chosen for ease of adding later faux effects rather than for handling the elements of an exterior application.

A variety of various browns were painted on the tree and wiped, followed by some highlight colors and lowlights that would fall into the carved bark textures. Darker shadow colors were used in areas to help pull out added dimension.

For the acrylic gears, some patina examples were found and printed for reference. The painted acrylic was Scotch Pad scuffed and, using a sponge as a brush, various acrylic paint colors were applied to create the faux patina look.

Final gear

With all our components complete, it was time to head out and install this project. First, everything was carefully laid out on the floor and reviewed with the client for final approval. This was marked and photographed and then the gears were strategically separated and VHB tape was applied to the areas of contact on the back.

The tree was prepared for stud mounting and a pattern was taped to the wall, approved for location, and drilled. The tree also had several dollops of silicon on some of the branch areas for added stability and the piece was adhered to the wall with masking tape as the silicone set.

Once that set, the next step was to hang the gears. Using the photo taken earlier for reference, the gears were installed using



Sponge brushing acrylic over painted base coats for effect.



Close-up of gear detail painting.



The tree was laid out on the floor and assembled and labeled, then disassembled before installing.

the VHB tape and carefully located dollops of silicone.

For the time piece, the matte black vinyl was centered and applied to the wall. The vinyl included the outlines of the gears. This provided a fantastic surface to VHB the gears into place; the areas where gears were on top of each other were done the same way, and a little silicone was added for assurance.

The client's facility manager caught wind of our project during the design phase and the client encouraged him to

put together some steampunk pipe accenting and lighting for the top and sides of our piece. All in all, it turned out well. It is always a pleasure to involve a client and their team in a cool company project like this.

Projects of this type are always a refreshing challenge. This was a reminder of the blossoming opportunities involving environmental and themed graphics. Branch out of your comfort zone and explore the possibilities. Who knows, you may find that profits *can* grow on trees! **GP**

Do We Still Need Tenant Panel Signs?

Thanks to map apps, the roadside sign doesn't hold as much value



Matt Charboneau started his career in the sign industry in 1985 as Charboneau Signs, later changing it to Storm Mountain Signs. In 2017, he published the Pre-Sale Sign Survey Field Guide, and he also provides sign design training at his site: Learn-SignDesign.com. Contact him at matt@stormmountainsigns.com; LearnSignDesign.com; or 970-481-4151.

Some industries have been forced down paths they never intended as a result of changes in technology and in how we operate our businesses and our personal lives. Some of the industries/individuals affected include:

- Travel agents
- Beta/VHS/Blue-ray developers
- Paper envelope and stationary makers
- Book publishing (in some areas)
- Newsprint industry

Yet, some old-school categories and services are actually blossoming within this new age, such as:

- The cardboard industry
- Packaging engineers
- Foam peanut and plastic bag manufacturing
- Clear acrylic manufacturing

Let's look at a subject I bet you have never really looked at, or even considered. Take this ride with me as I put on my Nostradamus cowboy hat and take a serious look at the old way and the new way we find an address, a building, a store, or a location.

We don't do it like we did 10 years ago or 20 years ago, yet we are still making and deploying signs in the same way we did before our smartphones existed.

It may be time to evaluate how the map/phone process affects the signs that businesses purchase: their size, their location, and basically their all-around purpose for existing.

Is there still the need for a huge structure with a smaller tenant sign that provides as much advertising awareness as a kid on the corner with a spinner sign? In reality, tenant panels provide that tenant about three of

four square feet of visual communication and awareness — at a distance that is typically never given much consideration by the average sign shop, or landlord.

In all my years in the industry, I have always struggled with the real value of a tenant panel.

The tenant panel has always seemed to me like a bone thrown to the other businesses by the anchor store. The term anchor means it's the beacon for all of the tenants to use so that their businesses can be found.

Tenant signs feel like a little, "Here you go, you can put this cute little bumper sticker on the provided sign box that's dwarfed by the gigantic SEARS sign that dominates the structure ... enjoy!"

It is what it is, and municipal sign codes have already put the handcuffs on tenant signage — as we all know so well — so really, the whole idea of the traditional tenant-panel cabinet sign is probably not what a landlord (nor a sign shop) should be offering its tenants.

To further beat my point into the ground, let me toss you a hypothetical situation: Suppose it's 1985-ish, and you are given the directive to meet someone at a job site. Back then, if you can remember that far back, the conversation might have gone something like this:

"... Um, one more thing. Tom said to meet him at the new job site, not the old one ... It's out south at 3474 Sunburn Boulevard. Write that down! Take your map; use one of the newer maps Tom got from AAA, and don't forget to bring some change for the payphone, just in case you need it.

"Tom said it's between the car dealership and the Toot-N-Moo — so look for the dirt mounds! Use the construction traffic entrance and follow the signs, but don't go to the right;



A giant QR code as a sign? Gone are the days of squinting and searching for your store. If you hadn't already used a map app to find your store, this idea of a monstrous QR Code would provide patrons a much more usable and friendly customer experience than a typical tenant panel sign can. (Images used with permission of Mike Burke, Chatterbox Sign Design and Drawings)

This is the front sign you would get if you were a tenant at this shopping center. That's it. And mostly due to municipal codes, the square footage is so minimal compared to the sprawl of the mall, it's no wonder that the tenants feel they are fighting to be noticed.

stay to the left — it wraps around, so stay on this dirt road until you see the red shop trailer, then drive around back to the site where the hole is being dug.”

If you are old enough to recall this time in our world, the way we located places was with maps. With those maps, we relied upon visual landmarks. Toot-N-Moo, the dirt mounds, and the car dealership were those landmarks back then.

Sometimes you were lucky, like in locating a mall, for instance. The tall landmarks were 50' pylon or monument signs that let you know, from a half mile away, that the mall you were looking for was straight ahead.

Since malls were invented, the “anchor tenant” sign was huge and used as the identifier of the property. “We’re located in the Sears Mall.”

However, even when you found the property, you then had to confirm that the business was still located there. “*Did it move, or is it open yet?*” (You forgot to call before you left the shop, cell phones weren’t widespread, and the ones that existed were bigger than bricks.) So rather than stopping at a payphone to call the store, you’d look around for the tenant panel sign you saw that was located on the tall pylon sign. There, just under the big SEARS sign, was the 12" tall by 36" long

tenant panel sign that told you for sure that the business you sought was, in fact, in this mall. No hours posted, but you’d just have to take a chance.

Now, the big question was where to park so that you wouldn’t end up walking the entire mall property to get to the store. Hopefully, you would find an entrance sign or some markings on the outside of the mall to let you know that the store you sought was just beyond those doors.

It was all about having a great memory and knowing where to look to find the signs you needed to navigate a large property such as a business park. Or maybe you were trying to locate a home



In this example, the landlord tried to give the other tenants a bit more space than normal, but nevertheless, it all became very busy. Question: If you were giving directions to a friend for driving to that pizza shop in the bottom left corner, would you say it's in the Verizon Plaza? Or the Office Depot Plaza? Failing to make the shopping center name dominant enough can actually cause confusion when the sign is viewed from a distance. How do tenants instruct their customers on finding their store? What do they say? Do they say, "I'll text you a map link?" (Image courtesy of James Alfaro of Alamo Sign Solutions, and Alamo Sign Manufacturing, San Antonio, Texas)

address that was buried deep in one of those "urban sprawl neighborhood maze" experiments of the '60s. You lived with a map in your car. Period.

Nowadays, maps have all been converted to digital apps, which makes using a map not only easier but safer and more accurate 97.38% of the time. (Don't check my math. This is a presumption I made, myself, without actual research.)

Today, if the same driving directive was given, the conversation would be something more along these lines:

"... Um, one more thing. Tom said to meet him at the job site. Check your phone — he sent you a map link in a text message."

Done. The link will open up a map application that we only need to follow, and it will take us to the exact spot we are looking for. It will even notice that we have parked, and that we are now walking, and it will walk us to the front door of the place we seek.

So, where is the usefulness of the panel tenant sign?

This inequity may be, for the sign industry, the next big opportunity to provide tenants more than they could have ever imagined from their tenant listing. Here is how it can happen easily and profitably for sign shops that get on this bandwagon early:

The customer uses their phone to get to the store's front door (as in not looking up other than to navigate stairs and open doors). So, how much influence did the tenant panel signs on that big what-chamacallit in the parking lot have on anyone other than old sign dogs like me who always look at signs and pay attention to who isn't looking at them?

A sign has a purpose. It makes no sense to put a huge sign out front of a mall or other venue that's designed to attract visual attention from distant viewers. Smaller, different signs would be more effective.

Will the core purpose of the outdoor tenant panel sign (used at shopping centers and office parks) suffer a similar fate as the DVD, VCR, or travel agency?

Will the core purpose of the outdoor tenant panel sign (used at shopping centers and office parks) suffer a similar fate as the DVD, VCR, or travel agency?

Today, your partner tells you about the new store across town that has a limited number of plastic pools in stock, and your daughter must have one for the summer. Your partner has already ordered and paid for it; all you have to do is pick it up.

So, to make it easy for you, a text is sent with a link to a map that will give you turn-by-turn and step-by-step directions right to the front door of the store.

What role does a gigantic monument sign and tenant panel sign perform in today's world of electronic navigational assistance?

The big change came when our behavior was redefined by technology that is always inches from our hands. Along with that automatic "drag your car to any location, anywhere, at any time" map app driven by satellites and GPS technologies.

Do you think your Uber driver uses

those tenant signs to reach your destination successfully?

I am wondering if the entire concept of catering to the impulsive whims of people in traffic is a worthwhile idea anymore.

If your sign client's company isn't a frequent stop for impulse purchasing anyway, how do you justify the expense of a sign made obsolete by phone directions?

How does online shopping change the need for certain types of signage?

How often do you overlook signage only to find yourself someplace you didn't intend to go? So, you rely on your phone, right? When lost customers can't find your location, they say, "Damn it, they need bigger signs," or, "Stupid app, took me to the wrong door." These are signage problems that traditional tenant signage was never meant to address.

How do we educate our customers on investing in their marketing effectively to make it easier for people to find them?

I am not saying "no signs" or that signs are obsolete; I am saying that now, more than ever, signs must be well-planned and thought through so that the old-school mistakes are not being carried over into our current store locating processes.

I won't even mention the fact that online shopping and free delivery eliminate the need for the customer to go anywhere.

Yep, it's scary, but it's also a great opportunity to revisit every single shopping mall as well as other enterprises that have depended upon traditional signage.

You have lots of opportunities for new, different, QR code-based signage. It's not about eliminating signs; it's about redefining them to do more in smaller, targeted places. GP

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GIFT IDEAS

for Moms, Dads, and Grads

BY TRAVIS ROSS

Popular and profitable print-on-demand products for Mother's Day, Father's Day, and graduations.



(Images courtesy Travis Ross, Make Your Mark Design)



Travis Ross is the founder of Make Your Mark Design in Broomfield, Colorado. He is also co-host of the Print On Demand (POD) Cast.

There are several areas of the economy where the printing industry thrives. We all know about schools, bands, churches, and businesses, but with the growth of print-on-demand (POD), the gift-giving seasons of the year have grown exponentially. The question is how to best capitalize on these times of year and allow our customers to know how we can help them.

The mother of all holidays?

In our business, the second-most profitable gift-giving holiday right behind Christmas is Mother's Day. We see a major uptick in our sales about four weeks prior to this day every year and it's like clockwork.

We have several products we typically sell, but this is also a great time of year to test different items since, with the print-on-demand business model, those products don't actually exist until the sale comes through.

We may have to stock a specific blank, but with quantity limits on different sales channels, we can make sure we only sell what we have blanks for. And if the product seems to be a hit, we can typically order more blanks and reset our inventory at that point.

We've always found that ceramic sublimated coffee mugs with quality designs sell very well; it's almost like a Hallmark card on a ceramic mug. The gift giver tends to select either funny or intimate sayings that reflect their relationship with their loved-one in a significant way. Since we fulfill on-demand, we're able to test many phrases and pair them with different images to see which ones sell better.

One of the great things about POD is that you're able to take your design assets and use them on other products.

For instance, our 6" x 6" and 12" x 12" wooden framed signs do very well on Etsy. We have an outside contractor put the frames together and stain them for us. We then cut white melamine to size and print the images with our flatbed UV printer.

Many mothers love home decor so this product tends to do quite well as a gift. It also does quite well year-round with other seasonal sayings and designs.

Another product we've seen sell well in the past are customized cutting boards. Utilizing a laser engraver, the sky is the limit as to what you can do with this item.

That said, all cutting boards are not created equal. You'll see inexpensive blank cutting boards made of bamboo that can sell for \$35-\$55 customized depending on size, but you can also find beautiful butcher block cutting boards that command upwards of \$125-\$150. The margins can be very good for customized products like this.

Father knows best?

While Mother's Day is usually one of the best gift-giving holidays for sales, Father's Day is right behind it in popularity. One reason for this is simply that most of the gifts for dads, grandpas, and uncles are being purchased by the women in their lives. And with the rise of e-commerce over the past decade or two, it's simple to log in and press that beautiful buy it now button, whatever the occasion.

When thinking about what you want to offer during this season, it's extremely important to start by considering the designs you'll apply to the products. While these are not exclusive to men or even fathers, items with designs relating to hobbies such as fishing, automobiles, sports, or hunting all typically do very well.

As far as the types of products we're seeing fly off the shelves, coffee mugs and tumblers still do very well for dads. We definitely see an uptick in sales of our pre-designed guy-focused mugs and tumblers.

While sublimated mugs are easy and sell well, a laser engraver and a stock of powder-coated tumblers can potentially sell just as well. You can even find laserable

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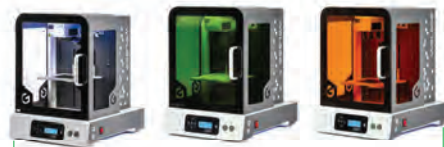
Gantry & Galvo Lasers



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LS900



Welase Galvo Laser

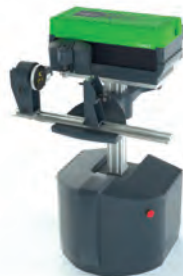
CNC Rotary Engravers



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mugs in colors (typically black) that will engrave white.

Another extremely popular product for dads is a simple T-shirt. Being that Father's Day is in the middle of the summer, it's a natural choice for gift givers. Add that to the fact that many dads will proudly wear a T-shirt with a silly design promoting their "awesomeness" as a dad and you've got a slam dunk!

Consider using the same designs you used on the coffee mugs; those types of messages are typically not substrate-dependent and easy to interchange.

Finally, when it comes to dads, anything related to beer or alcohol in general seems to be a hit. Laser engravers can make several products that will go over well, such as leatherette bottle openers and flasks, powder-coated flasks and even pint glasses.

One product line we're excited about for this year is decanter and rocks glasses sets, custom-engraved with either a name or a monogram. Find somebody local to create a wooden box with a hinge and you can up the perceived value to where you can easily charge upwards of \$100+ per set on a minimal inventory investment. Plus, items like this can also double as a birthday gift or a groomsman gift for a wedding.





The graduate?

Every year a new crop of grads throws their caps into the air and their friends and family will inevitably purchase a gift for them. This provides another opportunity to plan for and capitalize on an annual revenue stream.

While we likely aren't going to compete with parents buying a laptop for their graduate, there are still plenty of opportunities to provide these loved ones with something to commemorate the special day.

The time of year is once again perfect for a T-shirt and if the messaging on the shirt is right, it's an easy add-to-cart item. There are many ways to go with this strategy when it comes to design.

You could offer several styles of generic designs that center around the year and a comical saying about graduation or go with a specific color scheme that matches a local high school or college.

Be wary of copyright if you decide to offer school-themed merchandise. For K-12 I'd let the school know you're using their logo and colors. At this level, schools are relatively easy to contact and work with. Colleges are another ball of wax, and you're getting into licensing at this point, which is whole 'nuther article.

If you'd rather go the customized route, these T-shirts could be printed with a variety of customizable information such as the graduate's name, class year, or other details to commemorate their special day and show their school spirit.

Another potential option is laser engraving jewelry such as bracelets, pendants,



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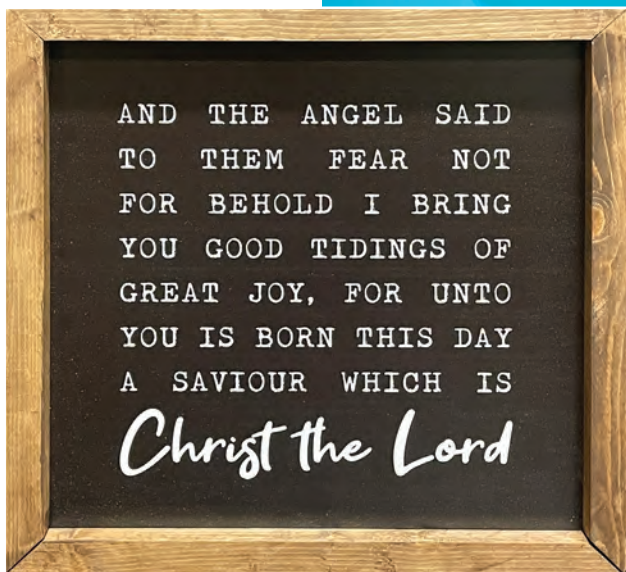
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or even rings. Give the option to select several different sayings or allow the customer to add a customized message and you'll be able to easily market these in April and May. Obviously, you'll need to have a max number of characters for each product depending on the engravable area. You might also consider limiting the font choices.

While it may not be as obvious as a T-shirt or a necklace, home decor is another category of products a graduate would likely appreciate. Since many high school grads will be heading off to college later in the same year, there's a huge need

for things like posters, pillow covers, and anything else you can think of to decorate a dorm room. Depending on your shop's print technology, there's likely something here you could offer at this time of year.

With a content calendar for creating the designs and a solid marketing plan, you can rinse and repeat year after year with certain items. Having a large catalog of potential giftable products is a winning strategy when it comes to selling printed items. Add in the ability to create a one-off custom item and you'll be able to charge a premium and at the same time serve your customer in a unique way. **GP**



TAKING A BACK SEAT FOR

Personalization

BY JOHN MORMAN

Understanding what the customer wants is the top priority



John Morman is the owner of Celtic Tides in Lexington, Virginia. He and his wife, Mary Jo, have been running the shop since 2005.



The customer is not always right – in fact, there are occasions when not advising a customer about potential challenges with a specific request may actually be against his or her best interests. (Images courtesy of John Morman)

We know what happens when we “assume.” Nevertheless, I will assume that producing personalized items, and selling them, is the primary reason you have purchased a laser engraver. As always, I don’t claim to be a know-it-all on the subject — but in 20 years or so, I’ve found an awful lot of things that don’t work.

Personalization seems, on the surface at least, to be something that we can throw ourselves into without necessarily giving it an awful lot of thought. If you are producing items only for your own personal use, that may be true to a great extent. However, when you begin to produce personalized products for customers, an awful lot of your own ideas go out the window. We have always heard, “The customer is always right!” My own feeling has always been that the customer is not always right — in fact, there are occasions when not advising a customer about potential challenges with a specific request may actually be against their best interests and could make life extremely difficult for you. But, the customer is always the customer, so on some occasions, you will have to explore a material, a design source, or something else that lies outside your comfort zone or that requires a process you are not equipped to follow. (Engraving something cylindrical when you don’t have a rotary adaptor, for example.) If you don’t want to purchase more equipment or venture into something new, then of course, you’ll have to discuss alternatives with your customer or reluctantly turn down an order. And that is perfectly fine — better to disappoint a customer than waste money, time, and effort doing something a customer is going to be unhappy with.

The production of personalized items is always going to be driven by several factors:

The limitations of your machine

Cutting thicker items may not be possible with a lower-powered machine, and cutting suitable stock may not produce a professional finish without a cutting table. This is particularly true of the back side of the piece you’re cutting.



When you begin to produce personalized products for customers, an awful lot of your own ideas go out the window.

The materials your customers request

You're not always going to be able to satisfy a particular request for a specific material or substrate. Discussing alternatives is fine, but remember, we are trying to fulfill a customer request. If we talk our customer into something other than what he or she wants, we better be confident we can produce a perfect result.

Sometimes a customer wants to embellish a personal piece. In this case, be extremely careful. For example, they may have something that is already very special to them that they want to embellish, or they may want an expensive piece of crystal engraved.

In these cases, a customer will supply something they have only one of, or something that is a "one off." The implications of a less-than-perfect result here are, of course, obvious. Remember, a satisfied customer may never tell anyone about who finished their piece, but you can bet a furious customer will tell everyone they know. Sometimes these very special jobs can be scary.

One of my very early jobs involved a \$300 piece of crystal. I can't tell you how many times I reviewed the graphic, my machine settings, and whether or not I could afford to replace the piece if I got it wrong. Even after all that, my finger hovered over the start button for what seemed an eternity before I took a deep breath and hit go! (The piece turned out perfectly, thank goodness.) I also had one customer who was very dissatisfied with the result, even after we discussed his job very carefully, and I told him several times I wasn't confident about the outcome. He said it wouldn't be a big deal because it was something only he would see. Nevertheless, when the piece didn't turn out to his satisfaction, he became very upset.

Design

Design or artwork is critical. Despite the customer insisting their design or photograph is "ideal," they don't necessarily understand what our software may or may not be capable of. I'm not going to speak badly of any piece of software,



Always try to offer realistic lead times. It can become all too easy to develop a backlog and then have a customer rush in with an "emergency" request.



Try to maintain your product offerings in standard sizes, if only to keep inventory costs down.

but I can tell you that my experience has shown me that not every photograph will translate into an acceptable graphic. A design your customer may be justifiably proud of might not work with your software. A laser engraver depends on getting an image as sharp as possible, and your software might not work with a less-than-ideal .jpeg graphic. If you can get an editable format, that is a huge help. In some cases, the best option is to manually trace a graphic. You probably won't end up with an exact copy, but with some experience, you'll be able to get really close.

Be careful of "textured" images. Most graphic software will offer options to include backgrounds or fills to replicate textures, and careful machine adjustment can produce excellent results. Similarly, patience and careful adjustments can produce great results on material you might not think would be suitable. Working

with light card stock, I was able to reproduce a lace effect on our younger son's wedding invitations.

Always remember to save your finished graphic as a template. Even if a particular customer may not become a repeat customer, the basic design may very well become useful for somebody else. (Name tags, for example.) Try to maintain your product offerings in standard sizes, if only to keep inventory costs down.

Price tag

Finally, costs. Your time is valuable, so include a cost for your time. Just remember your time will not be as valuable to your customer as you think it is. Try and maintain consistent suppliers. Spend time finding a supplier who offers consistent quality and reasonable prices, but once you are happy, stick with them. You may earn credits; you may qualify for free

samples or even free stock; or you may develop a relationship where you can get replacements for damaged or poorly finished pieces with no questions asked. (Don't overdo the last one!)

Always try to offer realistic lead times. It can become all too easy to develop a backlog and then have a customer rush in with an "emergency" request. When you push that customer to the top of your work orders, the customer at the bottom of your list waits even longer. In our store, we try to never accept an order with a "no rush" lead time. With the best intentions in the world, the risk is for a "no rush" order to sit at the bottom of your work list for an unreasonable amount of time while you deal with "must have by" jobs.

In summary, the world of personalization is wide open and can be lucrative – but only if we remember that the customer is in charge. **GP**

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Doug Zender has used CorelDRAW extensively since version 4. His goal is to minimize the intimidation of the program and give users the sense that CorelDRAW is a friend, not an adversary. Doug began as a design artist, then moved into the sign industry in 1992, doing vinyl graphics. Doug always welcomes questions, comments, insights, and general chit-chat about CorelDRAW. You can contact him at dezender1@gmail.com.

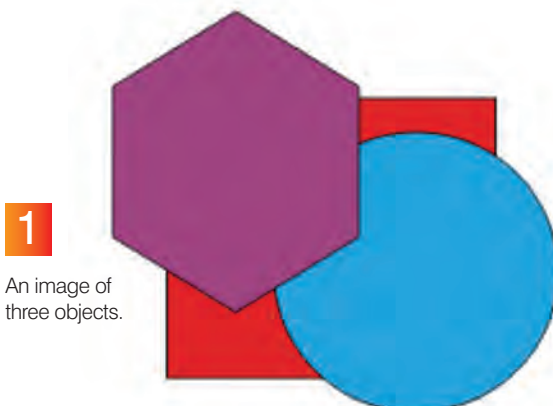
I want to look at the Object Manager docker. The Object Manager organizes and adjusts objects in a document and places pages on layers in CorelDRAW. To open Object Manager, go to Window > Dockers > Object Manager. (Note: the 2020 version and later names the docker simply “Objects.” Though slightly different in appearance, the functions and processes are largely the same.)

It is probably best to begin with a single-page document and look at the stacking order of objects on that page. **Fig. 1** is an image of three objects. The document is on the left side, and the right side shows the Object Manager. The first object drawn is a rectangle with a red fill and is the bottommost object, the cyan ellipse was drawn next and is above the rectangle, and finally, the purple polygon was drawn and is in front of both the other objects. In the docker, they are shown in order. The rectangle is at the bottom, then the ellipse, and the polygon is at the top of the document.

There are a few ways to change the stacking order of objects in a document. The first, and most often used, is the Object > Order command as seen in **Fig. 2**. a dialog appears with the various options for stacking order. Alternately, the Object Manager can drag an object to a different level in the stacking order. Most often, I prefer to have all the arrangement options available on my toolbar

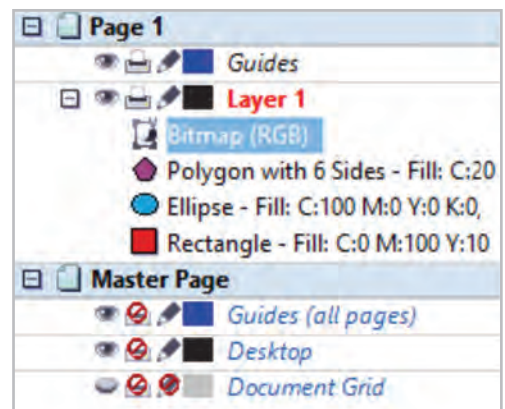
and have customized it to include them. For those who prefer to use keystroke shortcuts, they are as follows: Front of page = Ctrl + Home, Back of page = Ctrl + end, Front of layer = Shift + Pg up, Back of layer = Shift + Pg down, Forward one = Ctrl + Pg up, Back one = Ctrl + Pg down. These are not all the choices available, but they are the most often used.

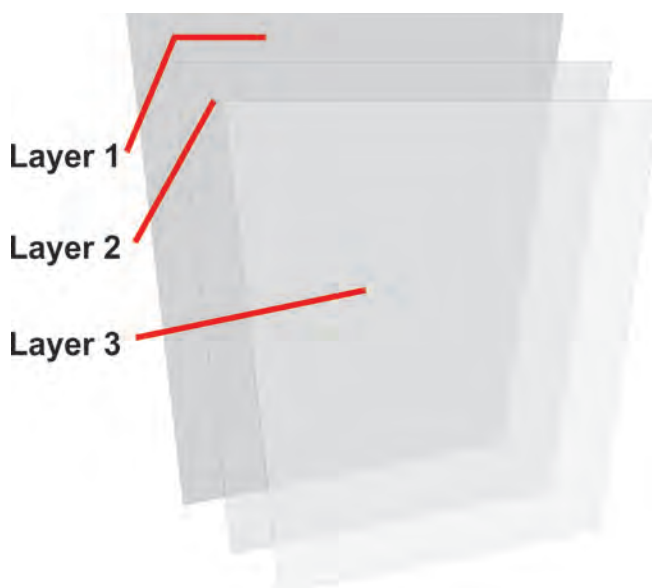
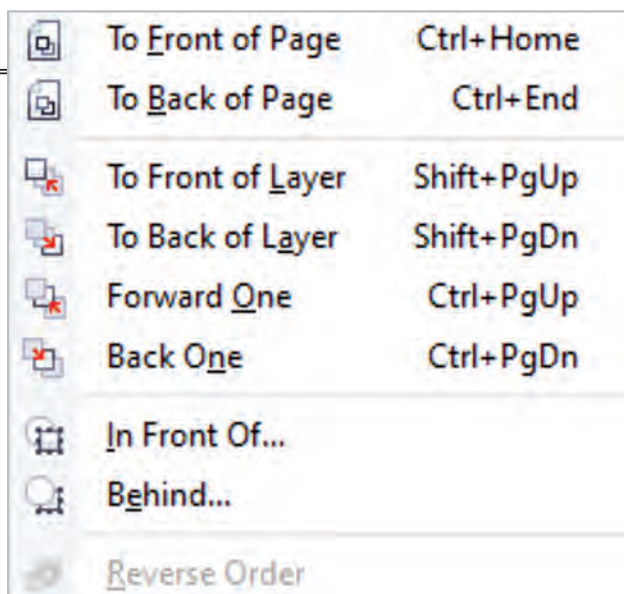
Most often, we will work only with a single layer in our designs, but a more complex drawing may require the use of layers to differentiate aspects of the drawing. An example would be a drawing of a floor plan of a house. The first layer may include the basic structure, but I may want to detail the electrical wiring on a separate layer and maybe plumbing on a third layer. CorelDRAW can easily create all three layers. As with objects, layers can be moved up or down in the stacking order by dragging them to a new location. Note that, similar to objects, layers are in a stacking order. The first one is on the bottom, and each new layer is above the previous one. It may be best to think of layers as if each were a sheet of tracing paper stacked one atop the other, as in **Fig. 3**. Another possibility is to rename a layer to a more descriptive name that is more conducive to its contents. Right-click on the layer name in the docker, and a dialog appears as in **Fig. 4**. Choose the rename option and type the new



1

An image of three objects.





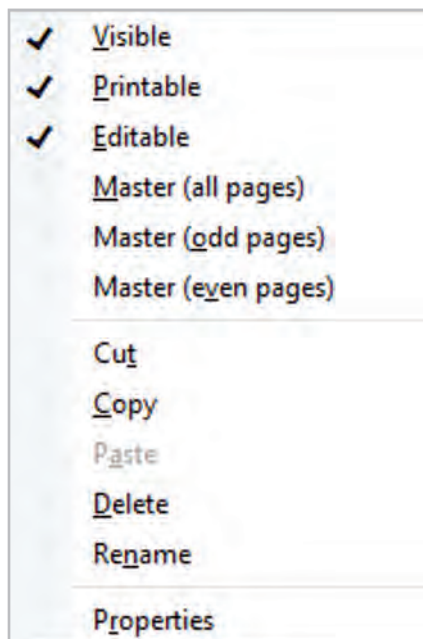
2 There are a few ways to change the stacking order of objects in a document. The first, and most often used, is the Object > Order command.

description of that layer as appropriate.

So, it is important to look at the docker options. At the top are three options. The first is Show Object Properties, and it is on by default. Next is Edit Across Layers, also on by default. This allows the inclusion of objects from one layer to another layer by using a drag-and-drop method. If it is turned off, only the currently selected layer can be accessed. Sometimes, working with layers can be a bit confusing. Relating to objects and layers, there are icons to hide or show visibility to enable or disable printing and exporting or to lock or unlock. Though **Fig. 5** shows these options, it is a bit visibly obscure in the details. The last option is Layer Management View, with two options. All pages, layers and objects or Current Page, layers only. This is subjective, depending on what you need to do, and is your individual choice.

I once received a PSD file of a van created in Adobe Photoshop with a lot of detail, and each panel of the van was on a separate layer. When I imported it into CorelDRAW, it came in as 10 different layers. I had to choose each individual layer and each object to make the necessary alterations to all of them for my purposes. So, it is important to understand the basics of using layers, though, most often, we will work only on a single layer.

The icons in **Fig. 5** can: 1) Show or Hide



an object or layer, 2) Enable or Disable printing of an object or layer, and 3) Lock or Unlock an object or layer. These choices are mostly used during editing and should likely not exist in an output file to avoid confusion at a print shop or output entity. It is important that any artwork provided to an outside vendor be as trouble-free as possible. Even a PDF file will retain all the information contained in the original CDR file, so it is imperative to ensure that all things are optimized for proper reproduction in any format.

Using the Object Manager in a workflow

3

(Above) It may be best to think of layers as if each were a sheet of tracing paper stacked one atop the other.

4

(Left) Another possibility is to rename a layer to a more descriptive name that is more conducive to its contents. Right-click on the layer name in the docker, and a dialog appears.

5



These icons can: 1) Show or Hide an object or layer, 2) Enable or Disable printing of an object or layer, and 3) Lock or Unlock an object or layer.

can be of great benefit. As with many of the features included with CorelDRAW, using the Object Manager may require one to spend some time learning all the abilities and nuances involved. I have only touched on some of the basics, but you can explore some of the more powerful abilities of this feature.

The Object Manager docker is only one of the many features in the program. I would encourage anyone who has not used it before to look at this feature for future use. It could be a time-saver and a boost to productivity. **GP**

Intelligent Art Tools

Getting the most out of artistic filters



Stephen Romaniello is an artist and educator who has taught computer graphics since 1990. He is Professor Emeritus and the founder of the Digital Arts program at Pima Community College in Tucson, Arizona. Stephen is a certified instructor in Adobe Photoshop, Adobe Illustrator, and Adobe Premier and the author of numerous books, articles, and media on the creative use of graphics software. Stephen is the founder and CEO of GlobalEye systems, a company that offers training and consulting in graphics software and creative imaging.

If you're a Photoshop user, you are no doubt aware of the infinite potential to transform images. From enhancing contrast to color correction to creating amazing artwork, the gamut of Photoshop's powers seems infinite. In the shadow of these vast powers, and often neglected by beginners, is Photoshop's dynamic workflow capabilities. The non-linear environment enables incredible editing potential. At any point in the creative process content can be modified. There are a variety of techniques that correct errors, transform previously created content or even generate completely new versions of an image. In short, if you are aware of these techniques, it's virtually impossible to make a mistake.

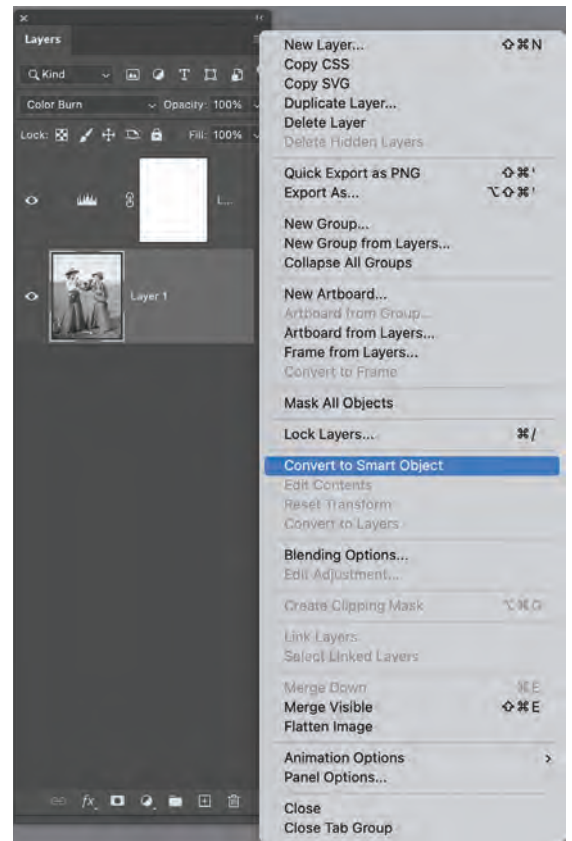
Smart objects

One technique for assuring that content can be easily manipulated is by using Smart Objects. Smart objects are often used for migrating vector data from a vector-based program like Illustrator to pixel based programs like Photoshop. Photoshop uses the vector data when increasing the size of image content, thereby preserving image quality and preventing softening and pixelization. More frequently, Smart Objects do a whole lot more than resolution independent transformations.

Clever, clever, clever

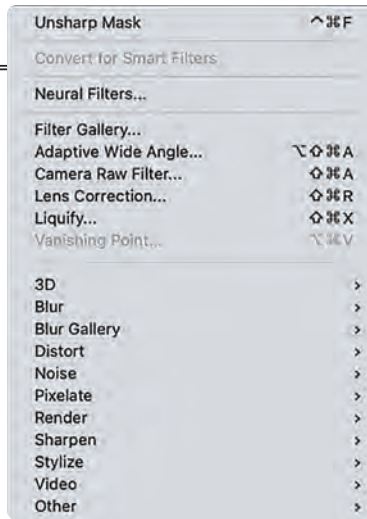
When we think of the words "smart object" we expect that the object exhibits canny intelligence and has an acute memory. Indeed, smart objects offer us several more options than ordinary old dumb objects. In addition to having memory, and can embody vector data between programs, they apply filters globally or locally and offer complete control at any point in the non-linear workflow.

Before you apply a filter, convert the layer



1 Highlight the layer and choose "Convert to Smart Filter" from the Layer Options menu. (Images courtesy Stephen Romaniello)

into a smart object (**Fig. 1**). To convert a content layer to a smart object and apply a filter, the filter becomes a Smart Filter. You can apply any of Photoshop's filter effects (with the exception of one or two) and go back at any time and change the settings we've applied without harming image quality. We can layer these clever little objects on top of each other and then re-arrange their stacking order to create different filter effects. We can change the blend mode and opacity

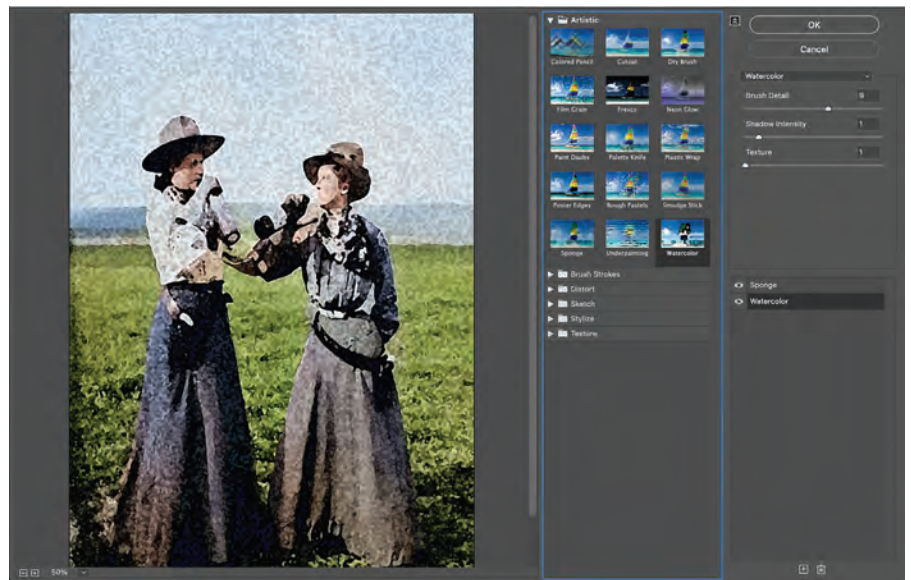


2 Smart Object is recognizable by the icon on lower right of the layer thumbnail.

3 I've chosen the Gaussian Blur filter because I want to emphasize the baby and blur the background.

of each filter independently. Furthermore, we can mask their effects so they only apply to a local region of the image.

It's quite easy to convert a layer into a Smart Object. Highlight the layer and choose "Convert to Smart Filter" from the Layer Options menu. (Fig. 1) A Smart Object is recognizable by the icon on lower right of the layer thumbnail. (Fig. 2) When a filter is applied to a Smart Object layer, it is called a Smart Filter. The filter is applied to your image non-destructively. Technically, the filters are applied to your pixel data, but the Smart Object remembers the original pixel data. Then, each time a filter is edited, Photoshop installs the original pixel data and reapplies the filter.



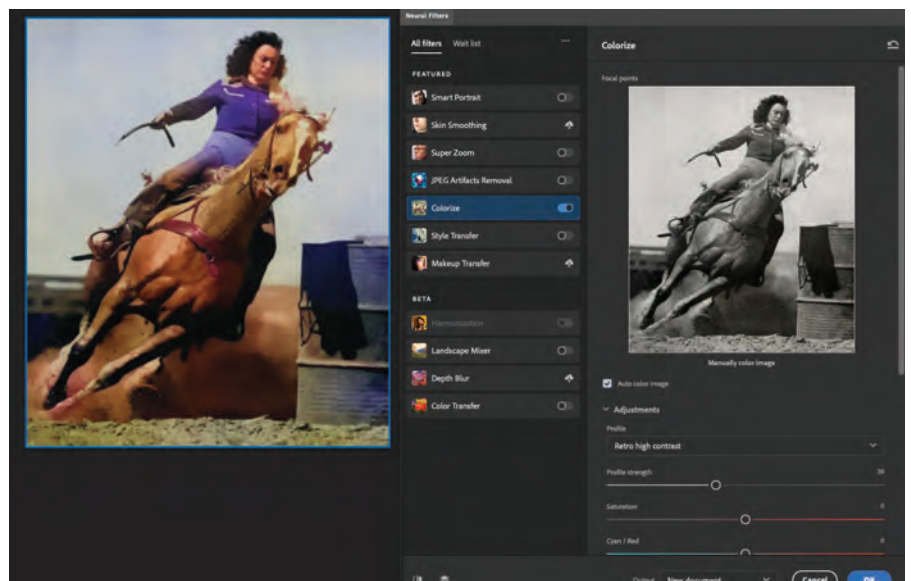
4 If a selection is active when you apply the filter, a mask is automatically created with the inside of the selection marquee being white (the area that is affected) and the outside being black (the unaffected area).

Layer tweaks

Prior to applying the smart filter create a Levels adjustment layer — standard practice to optimize the tonal variations of the image. Convert the original content layer to a Smart Object, and now you're ready to apply a filter.

Go to the Filter menu and choose your preferred filter. In the Example shown here I've chosen the Gaussian Blur filter because I want to emphasize the baby and blur the elements. (Fig. 3) Click OK to apply the filter over the entire image. If a selection is active when you apply the filter, a mask is automatically created with the inside of the selection marquee being white (the area that is affected) and the outside being black (the unaffected area). (Fig. 4) If no selection is active the filter is applied to the entire image. (Fig. 5)

In the Layers panel, the mask is displayed underneath the layer. Below that is the name of the filter. These tools are



5 If no selection is active the filter is applied to the entire image.



crucial in localizing and modifying the effect. First click on the mask icon in the Layers panel to highlight it the filter mask. Then, just paint directly on the mask with black to hide the filter effect or white to reveal it. Painting with shades of gray partially conceals the effect depending on how dark the gray happens to be. You can see how the filter has been localized to affect the background, and part of the man holding the baby. (Fig. 6)

If you are inclined to change the filter's settings, click on the filter's name just below the mask. The filter dialog box will appear with the original settings that you applied. Drag the sliders to the desired position to modify the effect and then click OK.

More filters

You can add additional filters too. Select another filter, apply the settings and its name will appear directly below the mask. In this case I've added three Filters from the filter Gallery as in Fig. 7. The filters are all affected by the same mask which I think is a drawback because it limits the Smart Filter's capabilities. It would be nice if each filter had its own mask, thereby adding hyper-control to the region where each filter is applied. But alas — no such thing has been added yet. That being said, Smart Filters are still a viable option to a dynamic workflow.

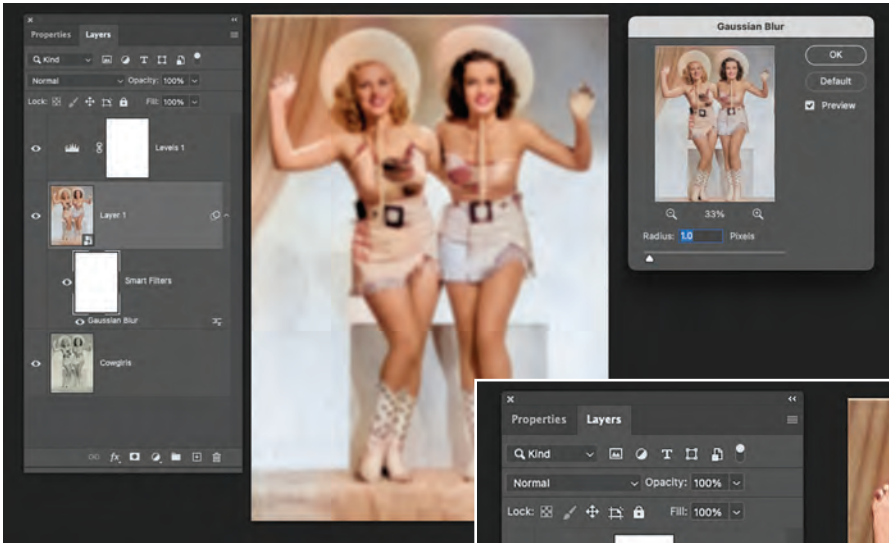
Blending options

A neat aspect of Smart Filters is the ability to control the opacity and blending options of the filter. Click the icon on the far right of the filter's name to display the Blending Options controls (Fig. 8). Here you can precisely control the strength of the filter by reducing or increasing its opacity. In addition, you can apply the filter through a blend mode providing even greater capabilities to alter the look of the image. It's absolutely worth experimenting with this feature. Check the Preview box and run through the various blending modes and opacity settings as you observe the results on the image.

6 Paint directly on the mask with black to hide the filter effect or white to reveal it. Painting with shades of gray partially conceals the effect depending on how dark the gray happens to be.

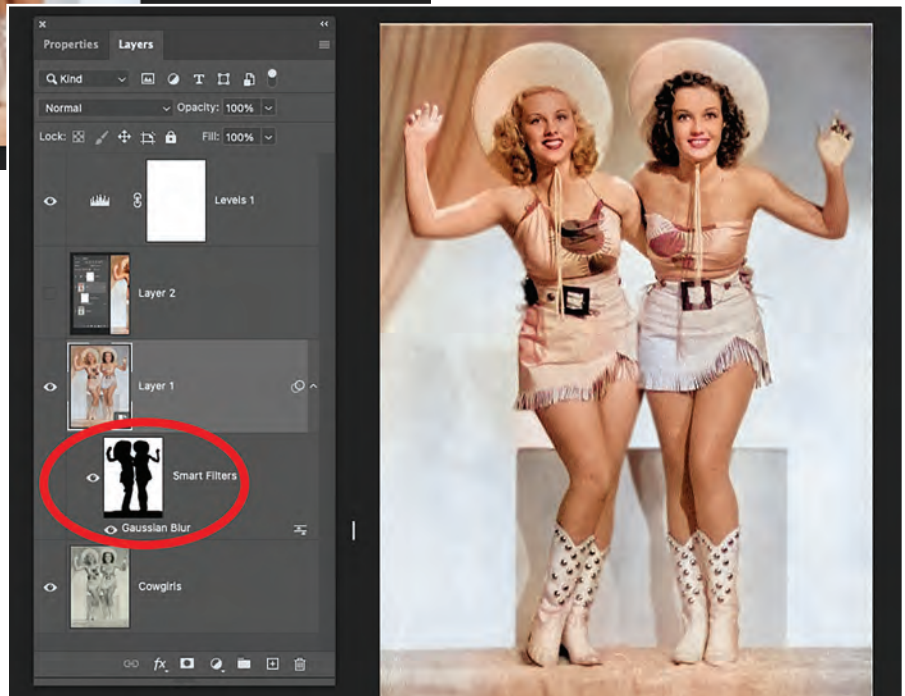


7 I've added three filters from the Filter Gallery combined with the Gaussian Blur.



Once you start using Smart Filters you will not want to return to the old destructive method of applying a filter directly to an image.

8 With Blending Options, you can precisely control the strength of the filter by

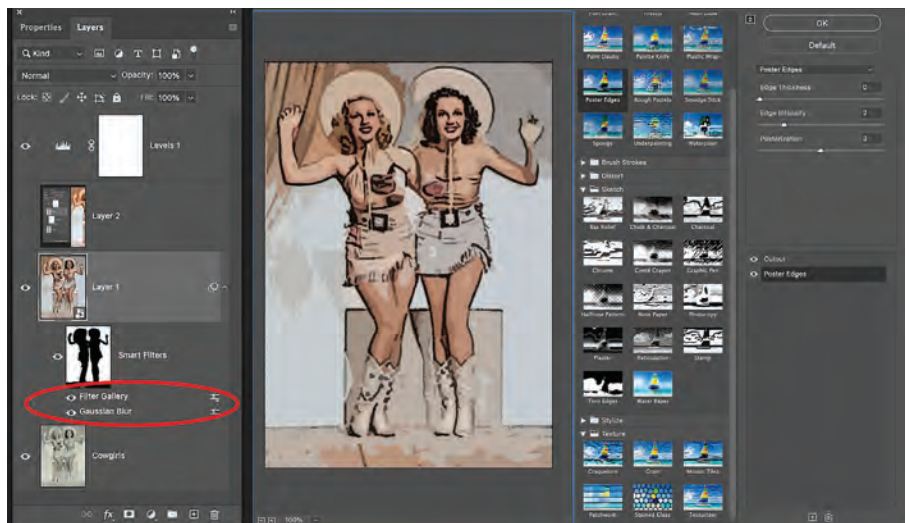


9 You can't paint or otherwise alter a smart object with the retouching tools.

Alias Image

If you attempt to paint or otherwise alter a smart object with one of the many retouching tools, you'll see a circle with a line through it (**Fig. 9**) indicating that you can't. You have two alternatives: you can rasterize the image and reconvert the Smart Object into an ordinary layer. From the Layers Menu choose Layer > Rasterize > Smart Object.

Of course, choosing this alternative means that you'll lose the editing capabilities of the Smart Object. A better alternative is to create an alias image to apply your effects and then save the alias image back to the original image. It sounds a lot more complex than it actually is, so here's how you do it. First, double click on the smart object thumbnail. A prompt will appear (**Fig. 10**) that indicates that you will be working on an alternative image and that you should save to commit the changes. The alias image appears in the image window without the filters that you've applied. You'll want to experiment with the effects on the alias, save and then preview them on the original. If you don't like the results go back to the alias, go into the History panel, undo them and save again. Then try the effects



10 Double click on the Smart Object thumbnail. A prompt will appear, indicating that you will be working on an alternative image and that you should save to commit the changes.



11 Smart Filters have the ability to control opacity and blending.

again with different settings. In the case of this image, **Fig. 11** shows that I've colored the dad's glasses with the brush tool and dodged and burned here and there on the alias. I then saved the changes to the original image.

There's no denying that Smart Filters extends your imaging capabilities. With the ability to apply virtually any filter (with the exception of a few) through an integrated system of masks, blend modes and opacity adjustments and to be able to access those effects at anytime during the workflow to make alterations, you will be able to experiment to your heart's content. Once you start using Smart Filters you will not want to return to the old destructive method of applying a filter directly to an image. I can pretty much guarantee that. **GP**

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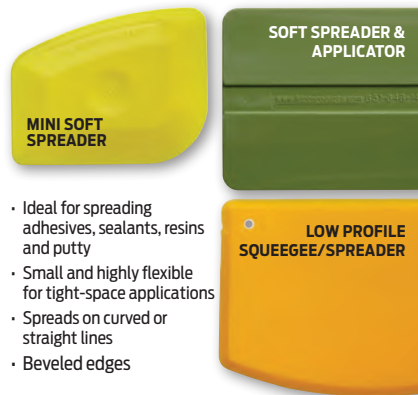
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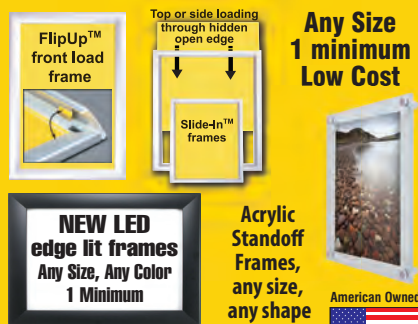
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