

Winning Ink & Media Combinations

The 10 best applications for different printers.

By DAVE KING



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There's an old adage that goes, "When all you own is a hammer, everything looks like a nail," and how true this is. Fortunately, for my smart clients one hammer isn't good enough – and shouldn't be for you either.

Your clients deserve the best for their money and I'm going to give you my top-10 best picks for applications and the sure-fire printer/ink/media combination will do the best job for

each. Now this doesn't mean that if all you own is a "hammer" that you can't do as good a job as what I present here; it only means that in general these are the most effective means (in my opinion) to tackle these applications.

In a recent story in *Digital Graphics* (see April 2008 *DG*, page 32), I showed you how to make the perfect day/night outdoor backlit display, so it seems only fitting to place this profitable application first on the list.



Backlit - A full size backlit in a retail store could be printed with a solvent inkjet on translucent vinyl, on a flatbed with white ink on clear polyester, dye inkjet on reverse printable polyester on a flatbed or on duratran using a Durst Lambda.

Burned - Here is an example of a backlit that was left in the box longer than the print was intended to be used.



TEN GREAT APPLICATIONS

1) **Outdoor Day/night Backlits** - Clearly, a good hot-solvent printer is the way to go here. There are lots of great solvent printers on the market, but you'll need good quality solvent inks for your outdoor day/night backlit displays, especially if you're going to create a second-surface print. Solvent ink is very translucent and compliments the two layers of ink/vinyl needed to make this type of print look its very best. The reason for hot-solvent inks is that with the sun on the front of the graphic all day and the florescent bulbs behind the print all night, you are forcing the ink to take a lot of UV rays. Anything less than a hot solvent ink will not hold up as well. Plus, this application requires an overlamine, and a number of laminates do not stick well to UV-curable inks. Obviously great vinyl products will help as well. You'll need a white translucent vinyl such as Avery MPI 2150, a clear such as Flexcon Clear, a good overlamine such as 3M 8519 Luster Cast, and a good clear acrylic sheet such as Lexan.

2) **Clear Vinyl Window Prints** - When you are printing a window graphic and you want the image to be seen on both sides of the glass, but you also want the clear areas to be clear (so you are not using translucent white vinyl as the base to print to), you'll want an ink that's very dense and opaque. The best ink choice is the UV-curable inks typically used in flatbed printers, and some UV-curing roll-to-roll models. UV-curable inks are nice and solid — much more opaque than solvent inks — and work great for this application. You won't need to double-strike the image, just print it to a low-tack vinyl such as clear Oracal ORAJET 3620, or a clear static cling such as the 8-mil Static Cling from Avery.



Curling - Most graphics curl if they are printed on a solvent inkjet print. Here is an example of a large single sided print that the store wanted to be double sided so they put them back to back and since they both curled they no longer are not aligned and the display looks bad.



Framed - The large banner in this mall is framed on all sides to keep it smooth and prevent curling.

3) **Flexible, Strong Graphics** – The best media choice I've found for applications that call for very strong and flexible graphics in either clear or white is DuPont's 339 Melinex (a coated polyester material). This product is perfect for roll-up stands, P.O.P. and retail window graphics that are suspended by some type of hanging system. I recommend printing onto this film with a UV-curing printer because the adhesion with UV-curable inks on this material is incredible. Heat from the UV-cure lamps will not cause the material to curl, and, as an added bonus you can roll up the graphic for easy shipping and storage. Dupont's 339 is lightweight, tear resistant and is great for hanging displays.

4) **Direct Print Indoor Backlit Displays** – The best method for indoor backlit displays is a Duratran film printed using a photo imager such as the Durst Lambda or Océ LightJet. However, if you do not have this technology then a UV-curing flatbed printer printing onto PETG is the next best solution. For best results you should have a flatbed printer that can also print white ink; if not you will need to find a translucent vinyl that sticks to your UV ink and that will not come off over time. PETG is a little more expensive than acrylic sheet and softer. But in the world of UV-cure direct print, you need PETG for the best ink adhesion. Some flatbed printers now claim they can print direct to acrylic, but when you have a great product like PETG that is not as

brittle as acrylic, why would you want to risk the job?

5) **Opaque Single/Double Sided Posters** – Nothing is better and more successful for this application than StopLight. StopLight (from Crusader Paper) is a 8.5 mil (thinner than a business card) double-sided white paper stock with a black inner blackout layer that is available up to 71" wide. You can print onto StopLight with hot-solvent or eco-solvent inks, and given that most window displays are double sided and the stock is not affected by the curing lamp heat, UV-curable inks are also an excellent option. Because StopLight is truly opaque you can print totally different images on either side and then place this in a sunny window without any concerns of image ghosting. StopLight is also rigid enough to be used in small isle signs, posters, ceiling-hung banners (for indoor use only) and many other applications that call for a low-cost, light-blocking solution. Because it is paper thin you do not have to worry about curling and you can (and should) ship the finished graphic in a tube.

6) **Tradeshow Graphics** – These are one of the most profitable graphics you can offer because most show graphics are expected to be of the highest quality and are used only for a show or two. Then they are tossed and new ones are ordered for the next show. Ideally, tradeshow graphics should be printed onto coated media using water-based inks because the inks (dye or pigment) are so vibrant and do not have an odor. Prints that smell of solvent inks will not sell well into the tradeshow scene. Many tradeshow graphics are laminated using a crystal



Hanging - Here are long graphics that are suspended from the top and have no supports along the sides, this is a perfect application for StopLight and litho-printable polyester Dupont 339.

lam and mounted to a quality board like Gator or PVC/Sintra. If you do not have a wide-format water-based printer then the next best choice is a low-odor eco-solvent printer with an overlam with appropriate media (coated or uncoated). If you can get into this business then you really should; but make sure the printer you are using does not have an odor to the inks, and make sure your laminate will stick to the inks. In addition, show graphics range from fabric to pop-up displays, so the opportunity for your business is tremendous.

7) **Fine Art and Photographic** – Another home run for the hi-resolution water-based printers. When you get into this type of printing and are shooting for long-term hi-res graphics suitable for framing, look for high-quality archival water-based inks (pigments, some dyes) such as those made by Epson, Canon, Lyson, LexJet and Ilford. Today some water-based inks are designed to last years (over 50) as the demand for fine art prints has grown to a remarkable level. Photographers are shooting almost all digital today and they want a way to produce prints on just about any media and have them last years. Water-based inks are very reliable and the heads tend to stay clear and produce very consistent graphics from print to print. Quality coated fine-art and photo-based substrates designed for water-based inkjets are sold by BullDog, LexJet and Ilford, among others.

8) **Fabric Graphics** – I love fabric graphics. I think that fabric is the undiscovered solution for many graphic needs. For example, look at banners today, they curl, they look



Fabric - Sheer is a very popular product for retail fabric displays as it gives a soft look to any window display.



Translucent - Here is a translucent solvent print with a hanging banner in the background. The banner is a nice touch as the grommets are used to hang the banner and also to hang the cloths. They didn't intend for the banner to be smooth here. Very nice display.

Wrinkles - Here is a typical example of a paper banner print that was wrinkled when someone stepped or bent the rolled graphic before the store employees tried to put up the display. This would not happen if they used fabric!



like a vinyl banner and they tend to be heavy. How about pop-up displays; they are being filled with paper prints that rip, vinyl prints that curl, Lexan prints that are expensive and get kink marks in them. Fabric replaces all these options. Fabric flows, works great for tablecloths, banners, display, tension fabric for shows, all the way to apparel. I think the more people that discover fabric printing, the more graphics will be replaced by fabric. I prefer to produce fabric graphics using the dye sublimation method. This is a two-step process and requires a water-based printer equipped with sublimation inks (Sawgrass) to print a reverse image onto a quality transfer paper (Coldenrove makes a good one), and then transferred to the fabric



Wall - Here is a typical wall wrap in a mall on a barricade. Very nice look and great for promoting business while the construction is underway.



(polyester or polyester-coated) using a heat press (AIT). The best applications for dye-sub fabrics are for retail displays (satin), roll-up banner displays (duck) and tradeshow displays (poplin).

You can also direct print to coated fabrics — from Glen Raven, Neschen America or Fisher Textiles — using solvent or UV-curable inks, but I personally prefer uncoated fabrics and dye-sub. Another form of direct-printing for fabrics involves textile printers equipped with special inks (disperse dyes, acid dyes, reactive dyes, and pigment) designed to print onto specific uncoated fabrics (cotton, nylon silk, etc.), but this process requires post-print treatment (steam/heat, and washing) to set the inks and remove excess ink. I am not

involved with that process so I won't comment further.

9) **Vehicle Graphics** – I have done well over 3,000 wraps and here is what works for me: premium cast vinyl printed with hot solvent ink and topped off with a liquid lamination or a clear coat. Now I will tell you that with a hot solvent printer with a bulk-ink system, a great ink like Triangle, and a liquid lam from Valspar your cost per square foot for a five-year film is about \$1.15 per square foot (\$.75 for vinyl, \$.15 for ink, \$.15 for liquid lam). Now you have a product that you can wrap the rubber around the windows, the mirrors, bumpers, and just about everything else and the vinyl will stick. The window perf is a little different as the hot solvent prints will fade in about four years, but without a lam on the window perf the wrap will last five years easy and the windows will look great for four of the five. Now, this is based on our lovely, ever changing, New England weather not Florida or Arizona! The films I had the best success with were Avery for the solid film and Flexcon See Thru Sign for the window perf. (For more information come to the wrap classes at this year's *Sign Business and Digital Graphics Shows*).

10) **P.O.P. and Retail Graphics** – Well this is difficult because I feel that just about all printers/inks and materials have a place in retail graphics today. The clear prints (with UV-cure ink) for the windows (as discussed above), the solvent

prints on vinyl for the wall wraps, solvent on wallpaper murals, water-based dye or eco-solvent inks for the P.O.P. displays, dye-sub (or solvent/UV-cure ink) for the fabrics. I think you get the picture. My all-time favorite applications for retail are Dibond prints for long-term graphics, Gator for life-size cutouts, polystyrene for displays, and StopLight for hanging window graphics.

The tool I find that helps get more retail and event graphics done better/faster is a digital die cutter (DDC) such as those made by Zünd and Kongsberg (see March 2008 *DG*, page 30 for complete rundown). A DDC system allows you to speed up production and offer graphics in shapes that are difficult to do by hand. Regardless of the printer, a DDC will help your business stand out in this very competitive market.

BEST TOOLS FOR THE JOB

There are so many great products out there today, but clearly some work better than others, and some work great together. If you find that you have a job that is best suited for a printer that you do not own, then don't be afraid to outsource the job. If you cannot find a great partner for your outsourced work, look in the back of *Digital Graphics* magazine or e-mail me and I will find a source for you.

Good luck. And remember: *Be smart with your money.* See you on the tradeshow floor! 



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