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The “G” in DTG

How to choose the right garment for digital decoration.

By Joe Longtin, Contributing Writer

If you own — or are considering investing in — direct-to-garment (DTG) technology, you know that cheap shirts lead to cheap results. You need a good blank to make customers return for more orders. How do you decide which garments to pair with digitally printed customer graphics?

In this Tech Tips Newsletter, sponsored by AnaJet, you'll learn about the major garment considerations you must make when printing with direct-to-garment equipment. This includes finished hand, color, yarn, pretreatment and more. You'll also learn how to communicate better with your clients to set appropriate expectations and pricing for profitability. When selecting garments for quality digital impressions, experienced DTG owners choose blanks based on the following customer expectations:

- *The intended use case*
- *White ink or CMYK-only printing*
- *Budget and logistical considerations*
- *Hand and weight*
- *Brightness or saturation of the image*

INTENDED USE CASE

You must find out how customers intend the garment to be worn and washed. For most direct-to-garment production, 100% cotton T-shirts satisfy customer expectations for long-term durability at a very low cost. Direct-to-garment technology pairs naturally with 100% cotton or very high-cotton-content blends. Preshrunk, ring-spun knits typically deliver the best results for light and white shirts with DTG printing.

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Unless you are using a poly pretreatment solution, steer customers away from 50/50 blends with rare exceptions. DTG ink is a water-based pigment and synthetic fibers will repel it. An 80/20 blend will retain 80% of the ink and still deliver shape retention, colorfastness and stretch without sacrificing ink adhesion.

WHITE INK

The second consideration always should be color. Will the garment be black, white, charcoal, light or dark color, bright or muted? When you are printing DTG on anything other than a white or light color, you will need white ink. This calls for pretreatment, which ultimately keeps some decorators from investing in DTG. However, it is easy and with a little practice, trial and error, you can achieve consistent results that make your dark garments extremely profitable.

The best practice is to use 100% cotton or blends that contain no less than 80% cotton. Encourage your customers to look at finer knit fabrics, like 30-singles or “nano” knits. Also, a 20-singles knit will produce acceptable results, but you may find that it requires a lot more pretreatment and results in more waste due to fibrillation.

Hooded sweat shirts and similarly thick jersey knits will take two to three times the amount of pretreatment. Do not skimp on these blanks or the pretreatment. You will experience better adhesion and lifespan when you start with the least amount of nap. The softer and fuzzier the knit, the higher the likelihood of waste and there is more opportunity for ink to wear away.

Customers perceive much higher value for dark garments, so you can price them significantly higher. While you could source colored blanks for just a few percentage points more, you should significantly increase the markup for the additional prep time.

BUDGET

When a customer requests a quote, be sure to ask, “What is your budget?” You can reset expectations if necessary and advise him if the budget and intended purpose don’t mesh.

This can sometimes create a pleasant surprise. For example, a customer has budgeted \$15 for a giveaway T-shirt with no pocket that only requires a left-chest print. You might point out that if he is not picky about the make, you can reduce his cost by a couple of bucks.

Customers occasionally will provide their own blanks. When this happens, emphasize the risk of inconsistent-

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looking prints for a fabric that you have not tested and run, a percentage of waste that will occur, the different finishes and hands that may result, and the potential for varying degrees of washability and lifespan.

HAND

Customers often don’t care about the feel and weight of a fabric until they actually wear the garment. Most wholesale T-shirts on the market use Open-End (OE) yarn, which has a rougher feel. It has distinct ridges that you can easily see. This reduces a print’s sharpness.

Heat pressing a coarser, cheaper 20-singles shirt before you print can smooth out unevenness and result in a flatter surface for a better print. However, the sharpness will decrease after the first washing due to the ridges and fibrillation. Less-expensive shirts are prone to other flaws, too. But a ring-spun 30-singles or 40-singles knit will have a softer hand and a finer knit, which can increase sharpness.

Some manufacturers will comb the yarn during spinning, which further softens and straightens it. However, this also can increase surface area, meaning slightly more color loss in washing. A smooth nano knit gives an even flatter surface on which to print, but it costs more and has more silkiness or drape.

Many manufacturers introduce hydrophobic softeners like silicone into lighter, softer knits. This can create challenges for DTG ink. Take note of factors like softness and a shiny finish — even with 100% cotton or high-cotton-content blends — because they signal the need for methodical

testing in pretreatment and production. An acidic component in your pretreatment solution, such as a few milliliters of white vinegar, can help compensate for softeners.

The hand of the DTG impression should ideally be extremely light or nonexistent on a white or light garment. On a dark garment, the ink should feel dry and smooth without being heavy or resembling an ironed-on transfer. For dark colors or black, heavier weights (5- and 6-ounce shirts) work well because the knit is balanced with the ink's weight. Four-ounce shirts with an almost gauzy hand usually don't work as well.

Also, be sure to test for bleed-through on thinner materials. You should be able to "sleeve" a garment over the platen to prevent ink from going all the way through to the back of the garment.

BRIGHTNESS & SATURATION

What is the overall look that your customer wants? Does he want photographic realism? Is he looking for deep hues

that stand out? In some circumstances, a 50/50-blend tee supports a vintage look because it can be faded after a wash. This is the exception rather than the rule.

The best brightness and saturation come from a fine-knit 30- or 40-singles white shirt. The next step down is a similarly fine-knit black shirt with high contrast.

When you are printing on black shirts, contrast is more important than brightness or saturation. Some manufacturers' black shirts are not a deep black, but closer to charcoal. Request samples from your suppliers and tune your pretreatment and printer settings to the darkest black that makes sense for your customers' expectations and your pricing model.

Lasting works of art require a good canvas on which to start. The smoother your surface and the higher the cotton content, the better your DTG results will be. When in doubt, sample, test and wash as much as possible.

DIFFERENT USES, DIFFERENT CHOICES



Black Shirt = White Ink

This is an example of a full-color direct-to-garment print with white ink on a black shirt. This kind of digital printing allows for near-photographic quality.



Jersey = More Pretreatment

Jersey material requires more pretreatment, but your net profit is greater on this higher-end item. You also can charge a higher price for adding foil to a basic design.



OE vs. Ring-Spun

On the left is a black OE yarn at a 6-ounce weight. On the right is a 30-singles knit using ring-spun yarn with a 5-ounce weight, which yield better printed results.



White, Grey or Black

White and heather gray shirts require CMYK ink and result in virtually no hand. Black and dark colors also require white ink.



More Ink = Brighter Color

Digital printing on higher-end garments such as hoodies require more ink, resulting in a higher margin.



Black Transparency

This close-up shows the black fabric of the pretreated T-shirt acting as the background. Notice the "pop" of the image.