THE BASICS OF
DIGITAL PRINTING
ON APPAREL

HOW DIGITAL PRINTING WORKS

Digital printing on fabric works much like a color inkjet printer you may have in your office. Cyan, magenta, yellow, and black (CMYK) inks are sprayed onto a surface. In your office, the surface may be a piece of paper. In a printshop, the surface may be a t-shirt.

The main difference is: In your office, you probably can't print on black paper because the inks won't show up. In a printshop, you can print on black t-shirts, even digitally, thanks to be the white under-base. However, in order for the white underbase ink to bond with the t-shirt fabric in digital printing, tees go through an extra step in the process called pre-treat.

When digitally printing, re-creating the color you see on a screen is a simple process because computer software determines how much C, M, Y, or K ink needs to print and where. For the sake of comparison, when screenprinting, a graphic artist typically separates the colors in a design to make individual screens for printing.

It's also important to note that Pantone matching is not an option when printing direct-to-garment. Screenprinting inks also tend to produce brighter printed colors than dtg inks.

FABRICS FOR DTG PRINTING

Garments for DTG printing must be 100% cotton. The smoother the fabric, the nicer the print, so prints on ringspun cotton look better than prints on a regular cotton t-shirt.

Direct-to-garment inks are water-based. Polyester is a kind of plastic. Since plastic doesn't absorb water, DTG ink does not work on polyester garments. Also stay away from any apparel that is stain resistant or weather proofed. These garments are treated with coatings that repel water and water-based inks.

Polyester makes up close to half of the material in heather color shirts, so they are not good for digital printing. The Heather Prism series from Bella + Canvas, style 3001CVC is an exception. These t-shirts are 99% airlume combed and ringspun cotton (only 1% polyester), making them a great candidate for direct-to-garment printing.

Also note that most hoodies & fleece are NOT 100% cotton, but the SS450 Independent Trading Co Midweight Hooded Pullover Sweatshirt is 80% cotton, making it a solid choice.

Recommended Garments for DTG

3001 Bella + Canvas - Fine Jersey T-shirt
3001CVC Bella + Canvas Heather *Prism Colors Only*
DT6000 District Threads - Very Important Tee
6901 LAT Fine Jersey T-shirt
SS450 Independent Trading Co Midweight Hooded Pullover Sweatshirt

Garments to Avoid on DTG Orders

Polyester Fabric
Cotton apparel in light blue, light pink, grey, or neon
Most heather colors
Most fleece including tops & bottoms
Raincoats or weather proof clothing
Aprons and restaurant uniforms

PRETREAT & DTG ON COLOR FABRICS

Pre-treat is a nontoxic primer used in digital printing on dark garments. Pre-treat helps bond the white underbase ink to the garment's fabric fiber. Without pre-treating the shirt, the DTG white underbase ink won't stick! On the picture shown here, the print has been pre-treated on the top, but not on the bottom.

Pre-treat is sprayed on the shirt, then heat pressed to create an even smoother surface for printing on. Traces of pre-treat may be visible around the printed image on the finished product, especially when the garments are light blue, light pink, grey or neon.

These visible traces usually come out after the first wash, but if you are printing on these colors be sure to consult with your decorator. It's a good idea to order a pre-production sample so there are no quality suprises when the order is received by your client. Your decorator can also help you come up with an alternate option that may print better.
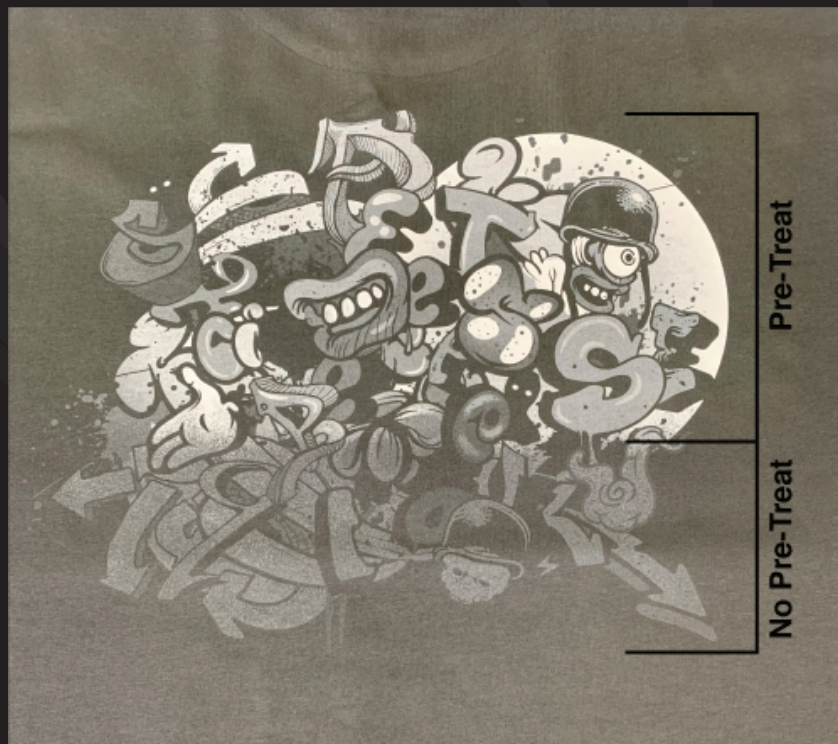
ARTWORK FOR DTG PRINTING

Both high resolution and vector graphics work for direct-to-garment printing. You can send over the art just as you would for screen print or embroidery. Raster images should be created at a minimum of 150 dpi and up to 300 dpi, if possible. If you're supplying vector graphics, be sure to include linked files or embed them in your document. Convert all fonts to outlines.

Unlike screenprinting, Pantone or other color matching is not possible when printing direct-to-garment. Color tweaks or minor adjustments are not possible when printing direct-to-garment.

How to Size Artwork for Digital Printing

Many times orders include unisex, ladies, and youth t-shirts that cover a wide range of sizes. A print that looks perfect on a youth small shirt might look too small on an adult large shirt. Volume pricing is based on a single set up, so it's important for you to know how many set ups are needed to produce an order that looks good for your client.

We've created a download to help with this. The download includes a quick reference that you can share with your client. Together, you and your client can decide how many different print sizes they want to use based on the looks and budget.

WHEN TO REQUEST DIRECT-TO-GARMENT

DTG can be a great option for high quality, low cost decoration on order quantities below 144 pieces. While the set up is faster than screen printing, the printing process is much slower.

If your client is asking for digital printing and they are ordering more than 144 pieces, contact your decorator to help make sure digital is the best option for the order.

When to Consider Printing DTG

- orders under 144 pieces
- you need a fast turnaround
- spec samples for a larger DTG order
- custom names or numbers
- you want to print over zippers, buttons, or pockets

When to Avoid DTG Printing

- orders on polyester, poly-blends, or stain resistant fabrics
- spec samples for a screenprint order
- you need to match brand Pantones
- orders over 144 pieces