

Printing on Substrates

OVERVIEW

Substrates or printable media are items that can be printed on such as t-shirts. There are varieties of other substrates which we discuss in this overview. The thing to keep in mind with this printer is that it was designed to be able to utilize a platen system allowing for different apparel and items to be printed. The GTX printer is a versatile platform if you are looking to print on a lot of different substrates to maximize the printer's potential.

To get the most out of the printer it is best to understand the types of items that can be printed on successfully starting with shirts and hoodies. Most garments that the printer can print on will be a type of cotton. We will discuss the most common types you will see in the market. Whereas, shirts and garments will do better if they are 100% cotton this does not mean that blends up to a certain degree cannot be printed on. We will go over what is required when attempting to print on blends and polyester garments.

Lastly, there are what are known as specialty items such as bags, shoes, caps, coasters, and other media of this sort. We will discuss a few of these and what to do when faced with an item that is new to being printed on and what steps you should take when dealing with that. We will also go over how to print on non-traditional areas of garments and other items.

KEY LEARNING OBJECTIVES:

- ☑ Why to use high cotton content for garment selection
- ☑ What types cottons are out there in the market
- ☑ How to print on items that are blends
- ☑ How to print on items that are thicker than t-shirts
- ☑ What you need to know about attempting to print on polyester garments
- ☑ Printing on various other common media
- ☑ How to print on garments in odd places
- ☑ How to test something you have never printed on before or seen printed on

ADDITIONAL DOCUMENTATION:

[GTX Support Videos](#)

WHY 100% COTTON IS PREFERRED:

The reason why 100% cotton should be used is because it is a natural fiber that absorbs water and water-based pigments, such as the GTX ink, instead of repelling the ink. In this section, we will go over examples of a natural fiber print compared to a synthetic fiber print so that you may understand the difference.

- Why are garments more vibrant when they are made of natural fibers?

- Why are synthetic fiber prints prone to looking very faded?
- Examples of cotton versus poly prints using standard GTX pretreatment

DIFFERENT TYPES OF COTTON:

Cotton can come in several varieties and from different manufacturers as well. In this section we will cover the various types of cottons and how they can be different. We will state which type of cotton has the best performance versus other types. This does not mean other types are unusable or that they cannot be printed on, it just means that they may need special care or treatment to get that same type of result.

- List of types of common cotton garments offered in the market
- What is garment absorbency?
- What is garment weave type?
- How do these items affect the ink and finished print?
- What are fibers?
- Can fibers cause issues with my prints?
- Printing with White+CMYK ink.
- Printing with CMYK only ink.

PRINTING ON BLENDS:

Blends are a combination of synthetic and cotton fibers. Some blends can be printed on successfully; however, only when the content or percentage of cotton is much higher than the other synthetic content. Printing on blends can also pose challenges when curing. We will give examples of blend contents and what can happen in each instance so that you understand whether you will want to pursue using blends.

- Being selective about the blend fiber contents.
- What happens when I use a garment that contains equal natural and synthetic fibers?
- Why does my blend garment look faded when it is cured?
- Why did my white ink tint to the color of the garment?
- Special methods used for tri-blends.
- Printing on blends with White+CMYK ink.
- Printing on blends with CMYK ink.

PRINTING ON POLYESTER:

Polyester or synthetic material cannot be printed on with White+CMYK ink and Brother GTX Pretreatment. Even to print CMYK by itself without pretreatment would not result in a good output on polyester. For printing on polyester, you will need to use DTG poly pretreat which Brother has for purchase. The garment will need to be a light color or white, and you can only use CMYK ink for the print.

- Polyester garment requirements.
- Using DTG Poly Pretreat.
- Things to avoid when pretreating a poly garment.

PRINTING ON HOODIES & THICKER ITEMS:

When printing sweatshirts, such as hoodies, or even some smaller children's material that rise high from the platen that take up the print gap there are certain things you can

do to minimize issues and still be able to print despite this. At other times, you may have an area like a pocket that will come up off the printer from a pull over hoodie that will be higher than the rest of the garment. In this section, we will cover how to tackle these types of items.

- Thick material = adjust the platen height lever.
- Extremely thick material = increase the gap by the collar system.
- When do I use a special platen?
- When should I use uni-directional printing?
- Adjusting for the closest gap with using bi-directional printing.

PRINTING ON BAGS:

To print on bags, we will need to utilize a duck down type or another one that contains natural fibers. The surface should be prime with DTG poly pretreat (for CMYK only) or GTX pretreatment (for CMYK+W printing). You can print with white using standard pretreat; however, the result will not be as natural looking as CMYK only. In this section we will explain how to perform this process.

- Prepping the bag for printing.
- How to arrange the bag on the platen.
- How do I get the most vibrant print for the bag?

PRINTING ON SHOES:

Shoes are often considered a specialty item much like the bags, only they have rubber which makes them need more care and prep work. The upside to printing on shoes is that they normally carry more margin or are sold for higher prices than garments. The concern is always in getting the method correct and not ruining an expensive piece of apparel. In this section, we will go over what you need to know about the process to be successful. Please note the T-Lock platen does not come with the shoe insert for printing shoes. Both the Acculine Camera System and the shoe platens are sold as separate items.

- What is Uni-directional printing?
- What materials will be needed to perform this?
- What steps will I need to take to prep the shoes?
- File creation – Grid and template method.
- File creation – Acculine method.
- How do I cure the finished print on the shoes?

PRINTING ON CAPS:

Caps are an additional apparel article that can be printed on using the T-Lock system and Cap insert. The Acculine camera system can also be used to avoid having to make sample prints. These items are sold separately. The cap will require several binder clips to hold it flat enough to make it printable. You may also find printing the cap using uni-directional printing easier than attempting bi-directional; which requires the cap to be very flat. To print on caps, you should use a 100% cotton type to print on. The cap can be printed on then with either GTX pretreatment and cured via heat gun. A cap, if light in color and not using white ink, can be printed on with CMYK only using DTG Poly Pretreat. In this section we will go over how to perform the basic steps for cap printing.

- What materials will I need to print on caps?
- How do I prep the cap for printing?
- How do I dress the cap on its platen?
- What are the binder clips for?
- How to print on structured and unstructured caps.
- Where you can place artwork on the cap.
- File creation – Grid and template method.
- File creation – Acculine method.
- How to cure the cap.

PRINTING ON STONE COASTERS:

To print on stone coasters, you will need to use the DTG poly pretreat to treat them first. Coasters can be purchased from Brother and come in two shapes. Templates are offered to help align the coasters. Artwork will need to be placed within the printable areas of where each coaster will sit. For curing you will need to hover cure them.

- How to prep the coasters.
- File creation – Grid and template method.
- File creation – Acculine method.
- How to cure the ink for the coasters.

NON-TRADITIONAL PRINT LOCATIONS:

Printing on garments traditionally is defined by the print being on the front and/or back of the garment or in the most common or seen position. When we go outside of that to specialized printing on special locations there are things we need to keep in mind. You need to establish if you can print with items that came with the printer. If not, then you need to ask yourself, "What will be needed to reach those areas and how can I make custom designs?"

- Where can I print on shirts and what will I need? Diagram.
- Where can I print on hoodies and what will I need? Diagram.
- Where can I print on caps and what will I need? Diagram.
- Where can I print on Shoes and what will I need? Diagram.
- Where can I print on Jeans and what will I need? Diagram.

NON-TRADITIONAL SUBSTRATE TESTING:

When approached with printing on an item that is untested, or you have never printed on before, you should perform sample testing of the material. Before committing to a job by a client it would be best to either purchase or ask the client to provide a sample and make small files and perform any needed wash durability testing or scratch testing before taking on the job.

- Acquire the sample.
- If the item is large enough; divide it up.
- Make small test files with different settings and take notes.
- Perform wash durability testing if this applies to the item.
- Perform scratch testing if this applies.
- Inform the client of the results.

FOR ADDITIONAL TECHNICAL SUPPORT INFORMATION:

[GTX Support Videos](#)

[GTX Drivers/Firmware](#)