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Betreff: What is DTF - Inkjet Direct To Film Technology Explained

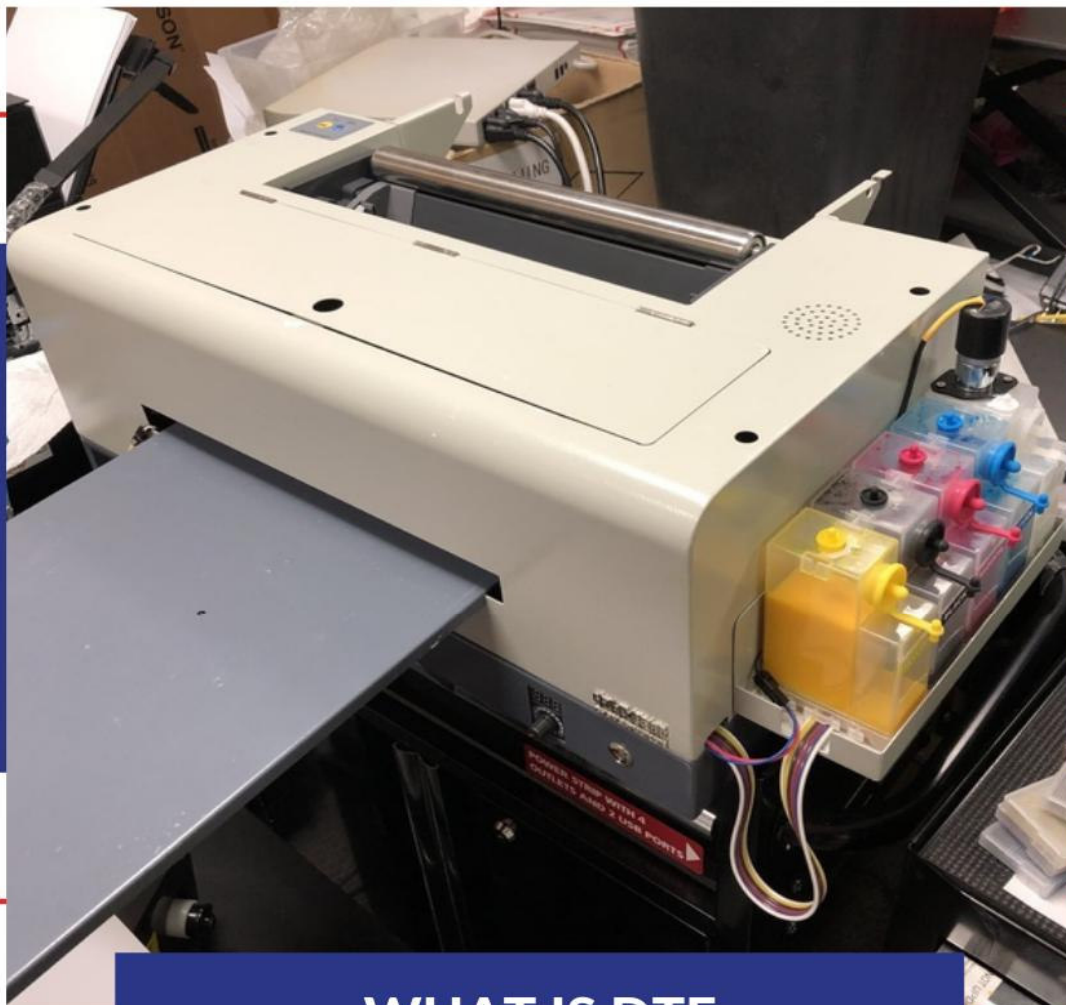
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WHAT IS DTF INKJET DIRECT TO FILM TECHNOLOGY EXPLAINED

Direct-to-film technology (DTF) has become increasingly popular in recent years, allowing users to print with various colors in a convenient, simple way. It lets users print designs onto a DTF film, a special-coated PET, or

polyethylene terephthalate. Then, the film is coated with a layer of adhesive powder, either by applying manually or by an automatic shaker. After these two easy steps, the user can 1) lightly bake the film (fix the power) and sell the film as a product, or 2) press the film direct to the garment (or other substrates) and sell the final product.

The DTF process has many advantages over traditional methods. First, the DTF ink product has crisp, well-defined edges that you can achieve without cutting and weeding. Second, the DTF works on all color backgrounds with a wide selection of substrates. For a dark background, customers can use a DTF system with white ink (W+KCMY).

A RIP (raster image processor) software controls the printer and makes it print a KCMY first, then coats the KCMY with a white ink background. For substrates with a white background, only KCMY inks are needed—and no white ink or RIP software is necessary. The media can be any fabric; cotton, silk, polyester, denim, and others are compatible with this type of printing. The DTF works on all color backgrounds and all materials.

Let's take a closer look at what DTF technology entails.

What is DTF?

Direct-to-film is a relatively new technology that allows users to transfer designs from film to another material. You might, for instance, use this type of printing to make a DIY T-shirt, as the process works exceptionally well with T-shirt transfer. Water-based ink is used to print a unique film that can be stored or used right away for transferring.

What Does DTF Require?

Before getting started with DTF printing, you should ensure you have the proper materials to make the process run smoothly. [You can get these supplies by clicking here.](#)

- **[DTF Printer:](#)** First and most obviously, you'll want to make sure you have a DTF printer on hand. These are sometimes referred to as DTF Modified Printers, and they usually come with a variety of colored ink tanks.
- **[DTF Films:](#)** DTF printers use PET films that are typically 0.75 mm thick. This thickness allows for better transferring capabilities.
- **Software:** DTF printing requires a special kind of software—usually RIP. Because software affects all aspects of the printing process, from color to size, it's essential to choose the right one for your printer and specific needs.

- **Hot-Melt Adhesive Powder:** DTF printing powder comes in multiple grades and is designed to work as an adhesive, binding color to the surface.
- **DTF Printer Inks:** The inks used in DTF printing come in black, white, cyan, yellow, and magenta. The white DTF ink lays the foundation on your prints, while the colored inks create the actual design.
- **Automatic Powder Shaker:** An Automatic Powder Shaker helps distribute the powder evenly, making it a must-have for DTF printing.
- **Curing Oven:** The curing oven is a small industrial oven used to melt the powder applied to the transfer film.
- **Heat Press Machine:** A heat press machine transfers the film print to a fabric or material. Sometimes it's also used to heat the hot-melt powder.

What Are The Steps Involved with DTF Printing?

DTF printing follows a relatively straightforward process. Here's how it works:

STEP 1: PRINT YOUR IMAGE ON THE FILM

BEFORE PRINTING YOUR DESIGN OR IMAGE, YOU SHOULD INSERT YOUR PET FILM IN THE PRINTER TRAYS. PRINT YOUR IMAGE FIRST ON WHITE, AND THEN PRINT YOUR IMAGE IN COLOR ON TOP OF THE WHITE LAYER.

STEP 2: APPLY THE POWDER

NOW YOU WILL SPREAD THE HOT-MELT POWDER ONTO THE FILM WITH THE PRINTED IMAGE. NOTE THAT IT'S VITAL TO APPLY THE POWDER AS EVENLY AS POSSIBLE WHILE THE PRINT IS STILL WET, AND YOU SHOULD CAREFULLY SHAKE OFF ANY EXCESS POWDER. YOU MIGHT USE AN AUTOMATED SHAKER TO ENSURE THAT THIS IS DONE CORRECTLY.

STEP 3: MELT THE POWDER

ONCE YOU'VE APPLIED YOUR DTF POWDER TO THE FILM, IT'S TIME TO MELT THE POWDER. THIS PROCESS IS TYPICALLY COMPLETED BY PLACING THE FILM IN A CURING OVEN AND HEATING IT FOR APPROXIMATELY 2-3 MINUTES.

STEP 4: PRE-PRESSING

FOR A WRINKLE-FREE, SMOOTH SURFACE THAT'S PERFECTLY PRIMED FOR YOUR PRINT TRANSFER, YOU'LL WANT TO MAKE SURE THAT YOUR FABRIC HAS BEEN PRE-PRESSED VIA A HEAT PRESS. THIS PROCESS WILL ALSO HELP TO DRY THE MATERIAL THOROUGHLY.

STEP 5: TRANSFER YOUR IMAGE

ALTHOUGH YOU DON'T NEED TO USE YOUR DTF FILM TRANSFER STRAIGHT AWAY—YOU CAN STORE IT FOR FUTURE USE—YOU CAN BEGIN TRANSFERRING YOUR IMAGE TO THE FABRIC ONCE YOU'VE COMPLETED THE PREVIOUS FOUR STEPS. PLACE YOUR PET FILM WITH THE IMAGE AND MELTED POWDER ON THE MATERIAL IN THE HEAT PRESS TO ENSURE STRONG ADHESION.

STEP 6: PEEL

WAIT FOR THE FILM TO COOL BEFORE PEELING IT OFF THE FABRIC. YOU'LL WANT TO AVOID REMOVING IT STRAIGHT OFF THE HEAT-PRESS, AS THE HOT-MELT POWDER ACTS AS A SORT OF ADHESIVE WHEN COOLED AND HELPS TO ENSURE THAT THE INK BINDS TIGHTLY TO THE FABRIC.

STEP 7: FINISHING PRESS

THIS STEP IS OPTIONAL, BUT FOR BEST RESULTS WITH WASH AND RUB FASTNESS, YOU'LL PROBABLY WANT TO DO IT ANYWAY. TRANSFER THE FABRIC TO THE HEAT PRESS AND PRESS FOR AN ADDITIONAL 10 SECONDS.

AND THERE YOU HAVE IT: YOUR COMPLETE DTF DESIGN.

What Are Some Reasons to Use DTF?

The biggest upside to DTF is that, unlike other printing technologies, the fabric does not require pre-treatment. You can transfer your design directly to the material, eliminating the time and costs of preparing your fabric before use. In addition, DTF is great for several fabrics, expanding your printing options, and is easily washable. It is generally faster than other processes, such as DTG.

However, there are some things to keep in mind before diving in. First, the printed area tends to be more noticeable on DTF designs than on subliminal printing, so if you're trying to achieve a specific look or texture, you may want to consider another printing method. Compared to other printing types, such as sublimation, the color vibrancy produced with DTF tends to be somewhat low.

Despite its drawbacks, the pros outweigh the cons of DTF printing. It is a cheaper, more efficient way to print designs on fabric and can be done with a limited number of supplies.

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