

# Sublimation Transfer Process

## Introduction

ArTainium is a sublimation transfer technology that uses a matching system of specifically designed ink and an ArTainium ICC Profile that provides dynamic color output. Through sublimation, images can be transferred to white and very light-colored polyester fabrics and any polyester coated metal, plastic, ceramic, glass, hardboard and Unisub<sup>®</sup> products. Practically any surface that is polyester coated and can withstand the heat setting process may be artistically or decoratively transformed.

## How ArTainium Sublimation Transfers Work

ArTainium systems use ArTainium ink to print a reversed image on quality transfer paper. The image is then transferred (sublimated) onto a substrate by means of heat and pressure. Because ArTainium ink is translucent, the full range of colors will only be visible on a white or very light-colored background. Therefore, black and most dark-colored substrates are not suitable for ArTainium applications.

You place the substrate you want to decorate on a heat press, and then place the printed transfer paper, with its reverse-printed image, on top of the substrate (printed side against the substrate), and apply the correct amount of heat and pressure for a specified time. Once the ArTainium ink reaches a certain temperature, it is forced from the transfer paper onto the surface of the substrate. When the process is completed, you simply remove the substrate from the press, and remove the transfer paper from the substrate, leaving the permanently sublimated image in the substrate's upper surface.

## The Complete System

Screen-printing, the long-established method of printing images onto substrates and other surfaces, is a time-consuming and labor-intensive process that requires the printing of large quantities of the same item to be cost-effective. By contrast, ArTainium is custom decorating at its best - it is perfectly suitable for short-runs, enabling you to decorate almost anything, even in single quantities, quickly and inexpensively.

*A complete, ready-to-use ArTainium system consists of the following components:*

- 1.) Computer which meets the minimum stated system requirements as set by Sawgrass
- 2.) Graphics application, such as Adobe Photoshop, Photoshop Elements, Illustrator, CorelDraw or similar
- 3.) Printers designated by Sawgrass as compatible with ArTainium UV+ inks
- 4.) ArTainium UV+ ink
- 5.) Quality transfer paper
- 6.) Heat press
- 7.) White or very light-colored polyester substrates (T-shirts, totes, hats and other fabrics), or polyester coated substrates (ceramic mugs, tiles, glass, metal, plastic, Unisub products, etc.)

## ArTainium UV+: Sublimation Transfer Process *(cont'd 2:3)*

### ArTainium Sublimation Transfers: Step-By-Step

Once your ArTainium system is set up and in place, printing and transferring an image onto a white polyester T-shirt or some other polyester coated substrate is a breeze. Just follow these simple steps, and you are on your way to creating one-of-a kind, beautiful and profitable products.

- 1.) Import an image (it could be a photograph from a digital camera) into your graphics application and manipulate it to suit your desired result. Manipulation may include sizing the graphic, setting the proper page margins and borders for printing, and applying color correction if required.
- 2.) Load quality transfer paper into your printer. The printable side is the brighter of the two white sides. Load paper with the print side face down in the paper tray.
- 3.) Click **Print** in your application and select your printer model as the **printing device**. Ensure that the **Mirror option** is selected, unless you have already reversed the image in your graphics application.
- 4.) Please consult the manufacturer's sublimation guide for recommended time, temperature, and pressure settings for each substrate. The chart below contains a compilation of *suggested* transfer times, temperatures, and pressures, based on various substrate surfaces. For best results, test different settings to find one that works for your application.
- 5.) Place the substrate on the heat press, and place the transfer paper, with the image facing down, over the substrate. Close and set the heat press.
- 6.) After the allotted time, release the press and move the heat platen aside. While still hot, and with an even motion, peel the transfer paper off the substrate (hot peel). If you are transferring to fabric, stretch the image area from top to bottom and side to side to reduce the hand on the fabric.

SURFACE	Transfer Time	TEMP	P. S. I. PRESSURE	REMARKS
CERAMIC	150-210 seconds	350-400°F	40 psi	Time varies with press, use green tile mat for ceramic tile
FR PLASTIC	75-80 seconds	400°F	40 psi	Remove Plastic
METAL (Other) White, Silver, Gold	60 seconds	375°F - 400°F	40 psi	Time varies with metal manufacturer (Contact your reseller for correct time and temperature) Place absorbent sheet on bottom plate of heat press. Then place transfer paper face up on top of the absorbent. Next place the substrate face down on top of the transfer paper. Remove paper from substrate immediately after transferring for best results.
METAL (Universal Woods)	60 seconds	400°F	40 psi	Use absorbent, remove plastic
MOUSE PADS	45 seconds	400°F	40 psi	
POLYESTER FABRIC & PERFORMANCE APPAREL	45 seconds	400°F	40 psi	
SOFT L'INK™	35 seconds	400°F	40 psi	Press for 5 secs to eliminate moisture, use Teflon sheet between sides of shirt to prevent "blow through"
UNISUB™ PRODUCTS	75-85 seconds	400°F	40 psi	Remove Plastic

*Suggested Heat Setting Chart*

**IMPORTANT:** Due to variations in substrates and heat presses, these settings may vary. For best results, test different time/temperature combinations to find one that works best with your substrate/heat press combination. Please note, higher temperatures generally require less time to prevent scorching. An insufficient time/temperature combination may hinder ArTainium from completely curing to the substrate, thus resulting in a faded appearance.



### TIPS & SUGGESTIONS

- Calibrating the heat press is recommended to ensure an accurate temperature. For this procedure, temperature test strips are more accurate than the use of infrared temperature guns.
- Mirror Image — The image becomes reversed when transferred from paper to garment. Therefore you will need to “flip” or reverse the image before printing to paper. You can easily mirror your image by selecting the “mirror option” in the printer driver or by reversing the image in the graphics software before printing.
- If possible, avoid pressing any zippers, buttons or other plastic decorations attached to the garment. The heat and pressure needed to bond the ink to the fabric may cause these to crack or melt.
- Different substrates will exhibit slightly different results. Please test your substrate before pressing your final design to ensure desired results.

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