

Sublimation Technology

Frequently Asked Questions

What are sublimation transfer inks?

Sublimation describes the process of a solid substance changing directly into a gas or vapor without first passing through the intermediary liquid state, then changing back to a solid state. Sublimation inks allow for digital printing followed by transferring to a substrate through the use of heat to activate this process. These inks have the ability to create a permanent bond with polyester or acrylic surfaces.

How does sublimation work?

Sublimation uses a patented heat transfer process that employs special heat sensitive inks to permanently dye polymer-coated surfaces. Simply print your clip art, scanned images, or computer created artwork on a Hi-Fi Express FP-740 using HeatWave sublimation transfer paper and sublimation inks. Then the paper is placed on a sublimatable item and both are placed into a heat press for a certain amount of time (in seconds) at a certain temperature (in degrees) that varies with type of item used for the process.

How are sublimation transfers different from other transfer materials?

Heat transfers created with color laser, ink jet, or wax thermal printers use a polymer coated transfer paper to fuse ordinary toner or ink particles onto the surface of a substrate. The result is a "decal-like" transfer that can peel, crack, fade, and discolor over time.

Sublimation transfers instead rely on special inks to transfer below the surface of a substrate. The result is an embedded image that will not peel, crack, or fade and lasts for many years. Sublimated images are extremely washable, scratch-resistant and dishwasher safe because the image is protected within the surface.

How is a sublimation transfer different from direct printing onto fabric?

"Direct printing" is an alternative category that includes printing directly onto coated and paperbacked fabric with an inkjet printer. Standard inkjet inks can be used but vary greatly in quality and durability. Coated or paper-backed fabrics for direct printing are generally more expensive and easily wasted. Moreover, sublimation transfers offer a level of color vibrancy and permanency that direct printing cannot rival.

What are the limitations of sublimation?

Sublimation inks transfer well to light colored, synthetic surfaces such as polyester and acrylic. They do not transfer to natural fabrics such as cotton, or dark-colored surfaces. Also, depending on exposure, sublimation inks may have less color-fastness when exposed to direct sunlight.

Do I need a special transfer paper?

Specialized papers designed to take advantage of the characteristics of sublimation ink deliver more accurate and consistent results. HeatWave transfer paper is designed to produce the best prints for high-quality transfers to a wide variety of substrates.

What should I know about UV stability when using sublimation inks?

Over long periods of time, sublimation inks have limited color-fastness when exposed to direct sunlight. However, there are many factors that can affect the lifetime of your sublimated product, including climate, transfer time, temperature and pressure, the substrate and image density. HeatWave Inks are designed to maximize both indoor and outdoor durability. If you are planning an application that will be exposed to direct sunlight for the product lifetime, it is best to test the actual application.

Does sublimation work on 100% cotton T-shirts in addition to polyester T-shirts?

Sublimation uses dyes requiring t-shirts to have a synthetic printing surface. Hanes Printable offers a range of apparel called Soft L'ink™ that combines 100% cotton fabric with a micro-polyester outer weave for a product line that allows printers to digitally create full-color, photo-quality graphics on a cotton-based garment.