

# SCIENCE OF FABRIC PRINTING



The **LOOK** Company®

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# What is Dye Sublimation Printing?

Dye sublimation is a two-stage fabric printing process of digitally dye printing synthetic substrate with heat activated dyes and then heat curing the printed substrate to achieve a vibrant, and detailed printed image. The process is simple and quick compared to other analog printing techniques such as screen printing and traditional offset printing.

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## How Does the Dye Sublimation Printing Process Work?

Sublimation inks react with heat and pressure to transform the ink into a gaseous state. When heat is applied, the pores of the substrate open up, allowing the gaseous dye to flow into the open pores. As the substrate cools, its pores close, permanently locking the inks into the fabric. The process results in continuous tones of vivid, photographic color, as the inks in their gaseous state enter into the substrate's pores rather than being deposited on the surface. They are two primary methods of dye-sublimation printing, transfer printing and direct dye printing.

## Transfer Printing

The printer prints on transfer paper that has a coating designed to hold and then, under heat and pressure in a heat press or calendar, releases the printed image. When the transfer paper is brought into contact with the fabric in a heat press, the ink embedded in the paper is converted to a gas and penetrates directly into the fibers of the substrate.

## Direct Dye Printing

Direct dye printing eliminates the need for transfer paper as inks are printed directly onto the coated substrate. Printed fabrics still need to be run through a calendar for the sublimation process to fix the dye to the fabric.

## *What is the Best Fabric for Dye Sublimation Printing?*

Any fabric can be sublimated. Typically, polyester fabric is used for signage and visual engagement branding because of its tear strength, warp and weft stability, receptiveness to ink and minimal shrinkage due to wetness. The coating applied to the fabric is as important as the fabric and more important to the print results achieved on the fabric.





## *Is Dye Sublimation Printing Sustainable?*

Direct Dye sublimation utilizes water based dyes and is the most sustainable method as it eliminates the use of paper from the printing process.

## What are the Differences Between Transfer and Direct Dye Printing?

- ▶ Direct dye printing penetrates further into the fabric allowing colour to pass through to the reverse side.
- ▶ Transfer dye printing inks sit on top of the fabric resulting in see through threads when fabric is stretched. Ghosting is common in lightboxes.
- ▶ Direct dye printing is more durable as it changes the colour of the thread.
- ▶ Direct dye printing produces vivid images on fabric substrates.
- ▶ Transfer dye printing is faster than direct dye printing.





## The Look Company Delivers High Quality Printing with Direct Dye Sublimation Printing

The Look Company uses direct dye sublimation printing for vivid high-quality printing. We have perfected the process, achieving high levels of color consistency, saturation, and finishing quality comparable to the best textile print houses in the world!

### G7 Master Qualified

The Look Company is a G7® Master Qualified Facility. This qualification demonstrates our facility is a proven quality leader in print, pre-media, and creative services.

G7® is an industry-leading set of specifications from Idealliance® for achieving visual similarity across all print processes. It is a global standard

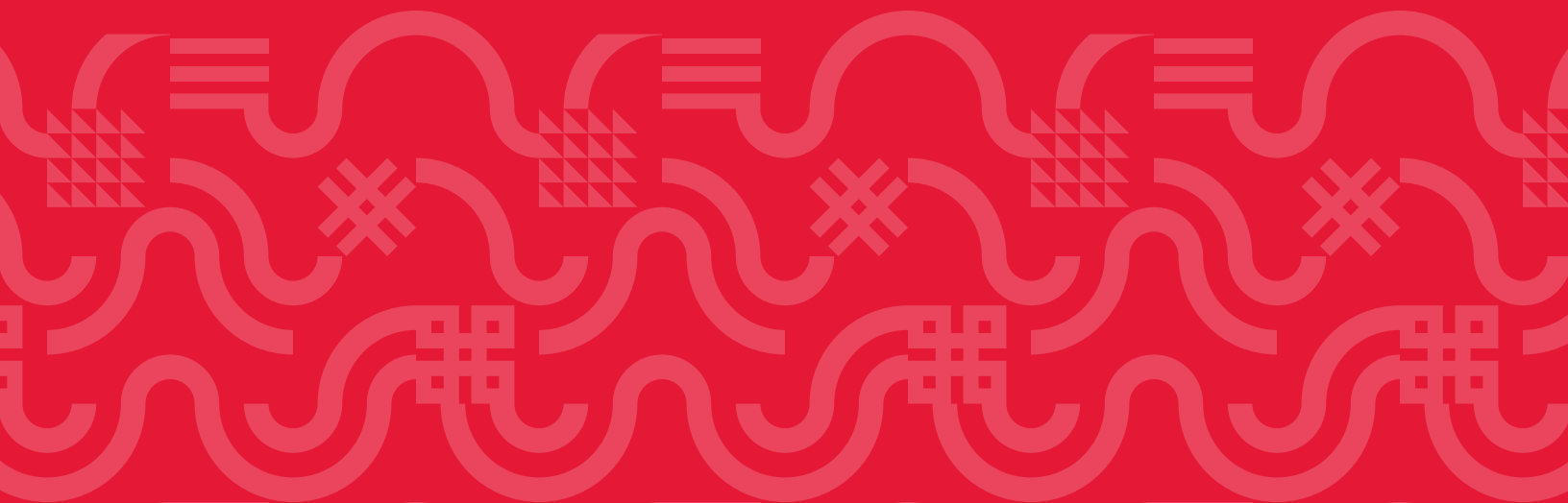
widely used to measure the color accuracy on any output device across all printing types and substrates along with improving process control and production efficiency.

### Award Winning

The Look Company has achieved multiple international awards for print quality from FESPA, the worldwide industry association of wide format digital printers. We have also been recognized by the Premier Print Awards for excellence in quality, creativity and innovation from the Printing Industries of America Association.

# CREATE AN ENVIRONMENT THAT CAPTIVATES.

Transform your environment with vivid dye sublimation printed graphics and customizable frames from The Look Company



The **LOOK** Company®

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