

JUKI®

DYE-SUB APPLICATIONS



The SureColor SC-F Series – A Business in a Box

Applications of dye-sublimation printing

Explore the potential of Epson's SureColor dye-sublimation range now available from Juki – offering everything a business needs when it comes to creative print applications, in one box.

The world of wide-format print is diverse, packed with opportunities for Print Service Providers (PSPs) eager to add new products to their portfolio to expand their business and enter new markets.

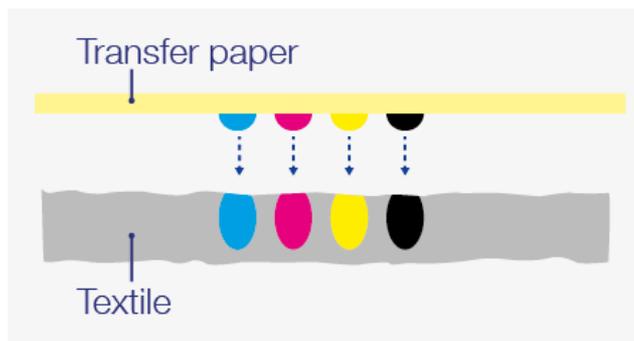
The potential of the dye-sublimation market

Dye-sublimation is one of the most versatile digital printing processes, enabling production of a remarkable variety of print products, from promotional merchandise and gadgets through to household items, high-impact soft signage, interior décor and clothing.

Here we provide an overview of the potential of the dye-sublimation market. We explain how the technology works and why the unique features of the process suit it to so many applications, bringing exciting new business opportunities within the reach of our customers, enabling PSPs to enter the market for dye-sublimation printing with ease.

The dye-sub process – distinctively different

To understand why adding a dye-sublimation system makes good business sense, first you need to understand what's special about the process.



The key difference between dye-sublimation and other printing processes is that the ink *penetrates* the substrate rather than simply *coating* its surface. It achieves this through a chemical reaction in which heat is used to turn the ink from a solid into a gas so that it permeates the material. The caveat being that the substrate must be polyester or polyester coated. The heat causes the pores of the fibres to open to accept the gaseous dye; when the fibres cool, the pores close, fusing a high-resolution, permanent image into the substrate itself.

As you can imagine, this opens up a broad spectrum of possibilities where substrates are concerned.

In practice, just print the image onto a dye-sublimation transfer paper, then use a heat press to apply the paper to the item to be printed, using the right combination of heat, pressure and time to turn the ink from a solid into a gas.

Heat presses come in a variety of sizes and formats — including models for specialist applications such as mug production — and can be manual or automated. The heat press is provided by a specialist supplier and plays a vital role in producing a quality finished product; the key lies in selecting a model that applies the right temperature and pressure consistently across the full width of the platen — so it's important not to skimp on this component.

All you need is polyester

At first glance, only being able to print on polyester or polyester coated materials may seem restrictive; in fact, it's anything but. This is because there are literally hundreds of 'sublimation-ready' materials and substrates, blanks and templates you can print on to create high-quality, high-impact, high-margin products. They cover everything from coffee mugs to clothing, bags to aluminium photo panels, upholstery to metal table tops, and from smartphone cases to soft signage or POS banners. As long as what is being printed onto contains, or is pre-coated with, a sufficient amount of polyester, then it can be printed onto with dye-sublimation.



As a result, dye-sublimation is ideal for printing and transferring scratch-resistant, photographic-quality images onto a wide range of substrates that are difficult to print onto directly traditionally — for example, aluminium, steel, plastics, MDF boards and ceramic tiles, as well as textiles.

Whatever is being printed with dye-sublimation, colours are more vibrant, images have photographic quality and clarity, and fabrics have a unique feel. Run a hand over clothing printed with dye-sublimation and you simply can't feel the printed image, as it is so completely absorbed into the weave of the fabric, making it ideal for high-fashion clothing and other high-end creative applications.

One process. Many opportunities

This combination of versatility and premium quality is what makes dye-sublimation so attractive to PSPs who want to diversify and explore the widest variety of business opportunities. No other technology offers so many paths to new revenues and higher margins.

A single dye-sublimation unit lets them print — and customise — promotional merchandise, gifts, signage, household items and apparel.

While there are other technologies catering for each of these sectors, their reach is limited and, therefore, so are the potential new areas of business they can open up. With dye-sublimation, on the other hand, PSPs can expand their existing business in a number of ways. They can introduce new small-volume items that are difficult to produce with existing technology, broaden a product line with additional items or expand outside core businesses.

Producing new products doesn't mean looking for new customers. A sign maker, for example, may know his existing customers need many other types of printed materials but buy them from someone else — small-format promotional merchandise, or branded work-wear to name a few. With a dye-sublimation printer he can offer these products and more, winning a bigger slice of his customers' budgets and adding value at the same time by reducing the number of suppliers his customers have to deal with.

Let's look more closely at some of the applications where dye-sublimation offers new revenue streams...

Key facts

- Print onto a transfer paper and use a heat press to apply the image
- Ink penetrates the material
- Substrate must be polyester or polyester coated
- Prints on aluminium, MDF, ceramic, plastic, textiles, wood, metal, etc

Sportswear and general apparel

Two key trends are driving the adoption of dye-sublimation in the apparel market – choice and performance.

- 1) Increasingly consumers want choice (of style, colour, fabric and cut) and customisation, creating business opportunities in short-run – even one-off – garment



printing. Here, the premium 'look and feel' of dye-sublimation offers healthy profit margins to both the PSP and the retail outlet alike

- 2) Equally influential is the evolution of micro-fibre 'performance' fabrics incorporating features such as moisture wicking. Already highly popular for sports and swimwear, these fabrics are now establishing themselves in the wider retail clothing market. Dye-sublimation decoration will not fade, crack or peel when laundered, enhancing — and even outlasting — the apparel itself.



Soft signage



Polyester fabrics are fast replacing PVC, vinyl and paper for flags and banners in the markets for exhibition graphics and retail POP/POS.

Partly because polyester is flexible, lightweight and crease free — making it easy to finish, transport, manoeuvre and mount. And partly because it's recyclable and more resistant to abrasion.

Fabrics can also be backlit for extra impact, and are aesthetically more appealing because of their ability to recreate distinctive textures such as mesh or brushed finishes.



Because the inks penetrate the fabric the 'handle' of the fabric — the way it feels and falls — is unaffected. This makes dye-sublimation printing ideal when it comes to delivering high-impact signage.

Interior decor

Just as with apparel, choice and customisation are becoming more common in the home and the workplace when it comes to interior decoration.

Curtains, blinds, wall hangings, upholstery, cushions, beanbags, ceramic tiles – in fact any plastic, MDF or metal surface – all offer possibilities for new products, often incorporating crisp photo-personalisation.



Polyester is steadily winning market share from cotton and linen for its versatility and the range of finishes it can replicate. And polyester's fire-retardant nature is another important factor driving its growing popularity. This means there are a huge range of ways to smarten up a room or office with highly personalised and unique touches, covering everything from the wallpaper to the chair you are sat on.



Giftware and promotional products

In terms of the sheer volume of product possibilities, dye-sublimation's ability to print 'hard goods' is especially impressive. Leaf through any of the catalogues of sublimation-ready substrates and the variety is spectacular — mugs, promotional merchandise, awards, plaques, name badges, luggage tags, key rings, placemats, coasters, ornaments, souvenirs, and many more.

Dye-sublimation is excellent for personalising a huge variety of accessories from fashion items (bags, backpacks, purses, wallets, etc.) to gadgetry (smartphone and tablet cases, for example) and more besides. This allows PSPs to deliver a wide range of premium promotional items at an affordable price point and to customise items as never before.

Ready to go into business?

Epson is committed to developing the best combination

of hardware design, engineering, ink and support for each market, to help turn print applications into profitable business opportunities

We offer two ways to get set up with dye-sublimation and, depending on the choice of printer and substrates, with them our customers can offer exactly the right range of print production services to their customers.

Ready to go into business?

Our printers are developed without compromise to deliver exactly the benefits our customers need. In the case of the SureColor SC-F Series — our first dye-sublimation printers — this meant designing them from the ground up. In the process, we created the first printers in this sector in which all components, from ink and printhead to printer chassis and optional accessories, are designed and manufactured by one company. The result is that quality, performance and reliability are optimised to deliver maximum productive uptime and profit at a low Total Cost of Ownership.

The SureColor SC-F Series was designed with two types of use in mind:

- For low to medium volume print runs the SC-F6200 at 44 inches wide is ideal. With it, customers can produce small-format soft signage, banners and customised promotional items or gadgets.
- For medium to high volume print runs the SC-F7200 at 64 inches wide is ideal for the kinds of larger-format soft signage, banners or flags, sportswear, apparel, furnishings and promotional items that need to be delivered.

Both printers use Epson's new UltraChrome DS ink, specially developed to produce outstanding images with vibrant colours, sharp contours and smooth graduations. They also allow users control over the hue or tone of the black, by adding other colours to it to create warm or cool blacks, for example.

In the EMEAR region, the SC-F7000 is also offered with the industry-leading ErgoSoft RIP, providing a complete set of production tools for digital textile and soft signage applications, including the GPS Profiler and built-in profile downloader, giving instant access to many optimised profiles, so PSPs can start their dye-sub business on day one.

The SC-F6200 is compatible with many of the main third party RIP software packages available today, such as those from ErgoSoft, Wasatch and Caldera.