Sublimation
Info Pack
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Nova Sublimation Australia  Suppliers of

Epson  SubliJet IQ

Power Driver IQ

Mighty Press

Hotronix®
Sublimation 101

You’ve been to the trade shows and you’ve seen several systems that utilize Digital Transfer Sublimation inks with an inkjet printer. You think to yourself as you consider buying a system, how does sublimation work. You wonder will you be able to produce the same vibrant colour as the samples you collected at the show. There are so many things to consider: printer, inks, and software, substrate, and heat presses. What do you really need to know to get started? Sublimation can be a fun creative business. All it takes is one part science, one part colour management and one part polymer coated substrate and you have the ability to produce beautiful, durable products with tremendous profit potential.

How Sublimation Ink Works

Think back to your high school chemistry class: Your teacher wanted to impress upon you the principles of sublimation so he brought in a piece of dry ice and right before your eyes the process of sublimation occurred. The ice appeared to give off steam or fog, but what really happened was the frozen carbon dioxide passed from a solid state directly to a gas without first changing to a liquid state. In the printing world, sublimation refers to inks that change into a gas when heated. Exposing polyester fabric or a polymer-coated substrate to the inks in their heated state causes a chemical attraction to occur between ink and substrate. The inks bond to the substrate and the image becomes part of the surface making the sublimated image washable; scratch resistant and dishwasher safe.

Colour Your World

The most attractive part of sublimation is the vibrant colours that can be reproduced on virtually any substrate. Colour is the number one concern of most sublimators. If you can’t reproduce colour then you’ve got a very expensive dust collector sitting on your desk. The key to understanding colour is to understand how your computer, printer, scanner and digital camera “see” colour. The colour of an object is dependant on wavelengths of light reflected by the object. A white object will reflect wavelengths of all colours in the visible spectrum, where a black object will not reflect any of these wavelengths. Because the human eye is more sensitive to red, blue and green, they are the basis for how humans perceive and describe colour. There are two colour models used by the printing industry for recreating colour: RGB Colour Model and CMYK Colour Model. The RGB Colour Model is used by most input and output devices, such as monitors, scanners and digital cameras. A colour monitor produces light, thus it begins with black and adds specific combinations of Red, Green and Blue light to create colour. Printers use the CMYK Colour Model to create colour. The printer reflects light with its output (paper), and it lays colour on the paper to subtract specific quantities of red, green and blue light. Cyan ink subtracts red, magenta ink subtracts green, and yellow ink subtracts blue. Due to limitations of ink manufacturing, a true black cannot be achieved by using only CMY colours, so a black cartridge is added to the primary colours to make a true black possible. This difference of colour models among input and output devices can cause issues when trying to reproduce colour. Luckily, most ink manufacturers provide colour correction tools, such as printer drivers or ICC profiles to help with this. Using these tools correctly is the best way to ensure that you create the vivid colour that your customers demand. Keeping colour and image production in mind you will need good graphics software. There are many on the market. To choose the right one, you need to determine the type of images you are likely to produce. If you are looking to reproduce photos you should consider a photo-editor or bitmap based program such as Adobe PhotoShop or Corel PhotoPaint. If you will mainly be producing logos and text with the addition of the occasional photograph, a vector program like CorelDraw or Adobe Illustrator may be the best way to go. Learning the ins and outs of your software will also ensure your success. Check out the local community college for classes or search the Internet for free tips and tricks. Don’t forget your local library or bookstore for a surplus of how-to books on the latest version of your software.
Hot, Hot, Hot…

For sublimation to occur the sublimation inks must be heated, but how hot is hot enough? The sublimation process yields the best results with temperatures between 375° - 400° Fahrenheit. The temperature works in conjunction with the length of time and pressure applied by the heat press to complete the sublimation process. Your reseller and ink manufacturer should be able to provide heat transfer guidelines. However these may not take into account the small variations from heat press to heat press so some experimentation may be necessary to get the right output. To help you avoid a lot of testing consider keeping heat strips to monitor the consistency of your heat press. These strips are readily available from screen print supply houses and can be ordered over the phone or from the Internet.

Sublimatable Substrates

Keep in mind that all substrates are not created equal. A substrate is only as good as its coating. You may print and heat transfer to a substrate before you realize the coating is not all it’s cracked up to be. At its basic level, the coating must be polymer based and able to withstand the necessary temperatures and pressure of the heat transfer process. If you are unsure that something is sublimation-ready – perhaps it is acrylic or nylon based you can test to see if can be sublimated in a couple of different ways. Test it for a melting point, if it can’t withstand heat at a minimum of 375° Fahrenheit then it’s not a good candidate for sublimation. Test it for colour and ink density – even if the substrate can take the heat, it doesn’t mean the inks will bond with it. Transfer an image to it to determine if this is the case. You may also want to check with the ink manufacturer to see if they can test the product for you or they may have recommendations for finding a similar product that is already sublimation ready.

Printers, Printers Everywhere

Selecting a printer is the next consideration in your sublimation venture. Which printer is right for you? The entry-level printer is a great printer to start with if you have limited start-up capital or if you anticipate just trying sublimation to see if it will add value to your business. Entry-level printers, such as the Epson Stylus C83 Series have a maximum paper size of A4, which works great for mouse pads, mugs, name badges, license plates and other “small” items. It’s also easily transportable, so if you plan to travel with festivals or car shows this may be the right size printer for you. Mid-level printers, such as the Epson Stylus Photo 1290 or the newly released Epson Stylus PRO 4000, have a larger maximum paper size – A3 for the 1290 and A2 for the 4000 – making these types of printers better suited for larger images such as those for T-shirts or Small flags. A larger page also means you can fit more of the smaller items such as mugs and name badges onto a page making your cost lower.

At the end of the day

Knowledge is power – now you know sublimation isn’t a mystery; it’s a scientific principle that when harnessed can be very profitable. Educating yourself on the printer, ink, software and substrates that are best for the products you want to create is the first step to a successful sublimation business. Whether you’re looking to add sublimation products to your current business start a small home-based business or take the plunge in large production sublimation there is a system out there for you. Sublimation is not a magical process, although if done right it can produce magical results.
STEP INTO THE
WORLD OF SUBLIMATION

Imagine being able to print, in full vibrant colour, onto a variety of substrates and products. Generating the artwork on your PC and applying it to the end item within minutes. Our sublimation systems enable you to do that, personalising a wide range of goods, quickly, easily and cost effectively.

The design is generated on a PC. Photos or logos can be scanned and for extra scope you may want to add a digital camera to the system. A standard graphics programme i.e. Adobe Photoshop, CorelDraw or Illustrator is fine to work with.

The printer is loaded with sublimation inks. We supply these inks in various forms, for a selection of A4 & A3 Epson ink-jet printers. For optimum results it is important to select a printer and inks suitable for your needs and we are happy to discuss the available options.

In general the artwork is printed in mirror image onto photo-quality 720 dpi paper. The print is placed on to the sublimation receptive item and secured in place with heat resistant tape. We offer a large selection of printable products to suit your customers needs.

The item is positioned in the appropriate Heat Transfer Press and heat and pressure are applied for the recommended short time. Our full wrap Mug Press can print from top to bottom of the mug and features include the option of an attachable plate press or extra mug head.

Choose from our range of high quality Swing-head or Clam Presses to print onto the flat products. The comprehensive range of flat sublimatable substrates includes mousemats, metal, clocks, trophy plaques, T-shirts, glass items, tablemats, jigsaws and lots more.

Remove the paper, taking care as it is hot, and the process is complete. No mess, no fuss, no costly or time-consuming set-ups. Sublimation is simple, fast and versatile. Produce a ‘one off’ or larger quantities. Just print and press to create a variety of unique, personalised items.
Hardware Requirements and Specifications

Computer
General recommendations are to use a pc with either Windows 2000 or Windows XP. This is because most new versions of Drawing applications or packages require a 32 bit operating system to function properly. Also the sublimation inks used in our systems require having a 32 bit operating system for the Power Driver to function properly. Listed below is are general guidelines as far as hardware is concerned

- Pentium II, 200 MHz or higher (we recommend Pentium III or IV)
- 128 MB RAM (minimum requirements for XP is 512 MB RAM)
- Drawing and Photo package (either Corel Draw, Photo Paint, Photo Shop, Illustrator)
- Scanner
- Digital Camera (not necessary)

Printers (easy install kit and sublimation ready)

Epson 4000 with 2 Standard CMYX sets of inks
Standard off the shelf Epson 4000 printer fitted with Sawgrass SubliJet IQ inks (2 x sets of CMYK)

SPEED
The dual CMYK ink mode is designed to devote all eight channels for running two sets of CMYK simultaneously. This provides even faster production speeds, anywhere from 2 to 8 times as fast as either the Epson 3000 or the Epson 1280, cutting the printing time in half. Imagine what your customers will say when they can print 20 T-shirt transfers in 17 minutes!

PERFORMANCE
No need babysitting the Epson 4000, it can take care of itself. It features an easy-to-use front control panel that monitors printer status and ink levels. An automatic head-alignment feature decreases set-up time and effort. This technology uses a built-in white beam sensor that scans printed data for highly precise alignments of all color channels automatically. The same white beam sensor is also used to detect clogged print heads. If found, the printer will pause printing, activate head cleanings until they are unclogged, then resume printing again.

PRINTABILITY
The Epson 4000 utilizes advanced Micro Piezo® DX3™ ASIC technology with PowerDriver IQ™ to produce consistent image quality output from print to print. It can print up to 2 times faster than any previous Stylus Pro with the help of a new one-inch print head packed with 180 nozzles per channel. SubliJet IQ’s new, enhanced level of performance represents the highest standard ever seen in the history of digital sublimation. This gives your customers extended printing capabilities and dependable results.

We know you will be impressed with the speed, performance and printability of the Epson 4000 using SubliJet IQ™ inks. This is the perfect solution for 3000 users looking to upgrade their system, or prospective 1280 users interested in a more production-type system.
Epson 1290 with Quick Connect System
Standard off the shelf Epson 1290 printer fitted with Sawgrass Quick Connect System and Bulk Ink pack. Comes as standard with 6 Colour ink satchels (CMYK + Light Cyan and Light Magenta).

Features
- Print up to A3 full Colour artwork
- Supplied with SubliJet IQ inks
- 6 Colour inks for better finishes in skin tones
- Easy interchangeable ink packs (Quick Connect)
- Print approx 600 – 700 full colour A4
- Low maintenance
- Great features from Power Driver Utility

Epson C83 with Quick Connect System
Standard off the shelf Epson C83 printer fitted with Sawgrass Quick Connect System and Bulk Ink pack. Comes as standard with 4 Colour ink satchels (CMYK)

Features
- Print up to A4 full Colour artwork
- Supplied with SubliJet IQ inks
- 4 Colour inks standard (CMYK)
- Easy interchangeable ink packs (Quick Connect)
- Print approx 600 full colour A4 (only indicative figures)
- Low maintenance
- Great features from Power Driver Utility
Heat Presses

Hotronix Swinger 40cm x 50cm
Upper platen swings completely away for a heat free work space. Prints oversize transfers & numbers in one step. Great for team uniforms. The LCD tells you when it’s ready to print. Programmable settings allow user friendly operations. The Hotronix range of presses is the only machines in the industry with pressure read out.

Features
- 40cmx50cm, 2mm thick platen
- Interchangeable lower platen
- Platinum RTD sensor
- Built in pressure sensor
- Auto reset timer and LCD temperature readout
- Push button controls
- 10 preset programs
- Programmable print settings
- Degrees F or C available

Hotronix Clam 40cm x 50cm
An excellent choice for all your application needs. Designed for high pressure applications, the space saving opening style fits in many work environments. User friendly and designed to open wide. Easily accommodates sweatshirts. Available in 2 sizes.

Features
- 40cmx50cm, or 40cmx40cm 2mm thick platen
- Interchangeable lower platen
- Platinum RTD sensor
- Built in pressure sensor
- Auto reset timer and LCD temperature readout
- Push button controls
- 10 preset programs
- Programmable print settings
- Degrees F or C available
**Mighty Press Clam 11' x 15''**
When it comes to applying ink jet, bubble jet, CLC or thermal wax transfers, the Porta-Press gets the job done quickly and easily. Ideal for hobby imprinting businesses and for use as a back-up emergency press. This free-standing, lightweight, totally portable press can go everywhere.

**Features**
- 50 Degree Opening
- 3/8 Upper and lower platen
- Teflon coated heating element
- Over center pressure adjustment
- Bi-metallic temperature controls
- Lifetime heating element warranty

**Mighty Press Clam 15' x 15''**
When it comes to applying ink jet, bubble jet, CLC or thermal wax transfers, the Porta-Press gets the job done quickly and easily. Ideal for hobby imprinting businesses and for use as a back-up emergency press. This free-standing, lightweight, totally portable press can go everywhere.

**Features**
- 50 Degree Opening
- 3/8 Upper and lower platen
- Teflon coated heating element
- Over center pressure adjustment
- Bi-metallic temperature controls
  Lifetime heating element warranty

**Mighty Press Clam 16' x 20''**
When it comes to applying ink jet, bubble jet, CLC or thermal wax transfers, the Porta-Press gets the job done quickly and easily. Ideal for hobby imprinting businesses and for use as a back-up emergency press. This free-standing, lightweight, totally portable press can go everywhere.

**Features**
- 50 Degree Opening
- 3/8 Upper and lower platen
- Teflon coated heating element
- Over center pressure adjustment
- Bi-metallic temperature controls
- Lifetime heating element warranty
Mug Pro
Add a new profit maker to your custom imprinting business. With the all new Mug Pro you can quickly imprint coated ceramics mugs and steins with sublimation heat transfers or full colour video prints. There’s no faster or better way to custom imprint the hottest selling product on the market today! The Mug Pro’s unique design and digital electronic control assures exceptionally even heat and pressure distribution.

Features
- Full wrap capability – no centre void
- Flexible design allows for imprinting various mugs and steins
- Easy pressure adjustments
- Digital electronics for accurate and consistent temperature control
- Even heat and pressure for your most demanding needs
- For use with video sublimation imprinting processes
- Fast warm up time
- Portable

Mug Press add on attachment
Add a new profit maker to your custom imprinting business. With the all new Mug Press you can quickly imprint coated ceramics mugs and steins with sublimation heat transfers or full colour video prints. There’s no faster or better way to custom imprint the hottest selling product on the market today.

Features
- Full wrap capability – no centre void
- Flexible design allows for imprinting various mugs and steins
- Easy pressure adjustments
- Even heat and pressure for your most demanding needs
- For use with video sublimation imprinting processes
- Fast warm up time
- Portable