CASE STUDY

DYE SUBLIMATION
PRINTER APPLICATIONS:
3D OBJECT DECORATION

EPSON
EXCEED YOUR VISION
AN OVERVIEW OF DYE SUB PRINTING FOR 3D OBJECT DECORATION

Technological advances in dye sublimation mean there is a growing demand for surface decoration of three dimensional objects. Here we explore the kit, the process and the opportunities this exciting development offers to businesses looking to enter the market.

With the explosion of interest and increasing demand for more creative and personalised products, many print companies are looking to tap into this expanding market. With a reasonably low investment in the equipment, print service providers can offer more diverse printing applications. Designs can now be simply printed on special thermoforming film and applied to 3D objects using heat. Everything from everyday homeware items, gifts and fashion objects such as buttons, cutlery, plates and jewellery - across a variety of surfaces including plastics, metals and glass.

What kit do you need to get started?

There are a wide range of systems to suit all types of requirements from super-fast single retail machines to high-volume mass-production systems. Modular systems that can be operated by one person are the perfect starting point for most businesses as it gives them the opportunity to tap into a new market with minimum investment.

To get started you will need the following basic equipment:

- printer
- 3D sublimation film
- oven
- trays and support jigs
- ink
- sublimation management software
- blank products for printing in a range of shapes and materials – any type of material that can withstand at least 140 degrees can be used although some may require pre-treatments such as wood and glass.

3D Decoration - the process explained

Epson in association with Italian 3D sublimation specialist SubliTec deliver a complete 3D decoration workflow, from design to final product. This solution gives print companies and retailers an innovative solution.

For more information visit:
www.epson.eu
SubliTec 3D decoration systems and supplies:
www.sublitec.eu
that allows them to produce a host of added-value personalised items relatively easily.

SubliTec has created its own specialised 3D decoration system, which consists of SubliFlex 3D film, SubliTec oven and Power Plotter Sublimation software, plus a choice of the 44-inch SureColor SC-F6000 or 64-inch F7000 dye sublimation printer. The cost of a basic entry-level system purchased from them will cost around £8,500 (10,750).

The technological process of 3D sublimation decoration that has been developed by SubliTec essentially involves two stages:

Stage 1: The chosen design is printed on special thermoforming film. The print quality has to be high, with vivid colors and perfect drop definition in order to reproduce accurately once it has been heated, transferred and reformed onto the product.

Stage 2: The printed film is applied to the blank object and heated at high temperature. The transfer of the design is achieved by placing the blank on a shaped jig into the oven and heating up to 140 degrees. This creates a vacuum and ‘shrink-wraps’ the film around the object before cooling. The transfer of the image is due to the pressure and heat - at high temperatures the pigment in the ink turns into a gas and, under pressure, the image is transferred from the film to the surface of the object.

Practical and fun products

The range of blank objects available for 3D sublimation printing covers many products - from everyday items such as cutlery and plates to the more unusual and funky crash helmets and jewellery – and are freely available to buy online. SubliTec initially started out specialising in the digital decoration of skis and snowboards but with increased demand for more creative and personalised products, the company has expanded its offerings and now supplies a vast array of blank objects ready for sublimation.

So, the advice for print businesses looking at investing in a 3D decoration system would be to think about what you want to offer your customer – whether it’s small-scale, personalised products or high-volume, mass-production – and buy the best you can afford. A reputable specialist 3D technology company has the expertise and years of experience and will be happy to talk through the options and offer a comprehensive training and support package.