

# 05 - APPAREL DIGIEYE- CASE STUDY

DIGIEYE IS MANUFACTURED  
IN THE UK BY VERIVIDE LTD

## RELIABLE RESULTS?

The consistent and reliable colour measurement of product with loose fibres has always been extremely problematic as measurement on a spectrophotometer recommends a demanding technique which, if not adhered to, can seriously call into question the accuracy and reliability of the resulting data.

The technique emphasises the critically, when placing fibres at the spectrophotometer aperture, of avoiding fibre protrusion in order to prevent compromise of subsequent reflectance data through visual distortion of machines internal instruments.

By placing the fibres behind a glass plate or within a compression cell removes this risk but introduces another prerequisite for reliable results; the measuring technique requires pressure to be applied onto the sample in order to remove the gaps between the fibres, thereby allowing a colour measurement of the fibre only.

But consumers see the colour of product differently. They do not see, for example, the carpet fibres, pressed behind a plate of glass, they see the product in its natural state, which actually includes the gaps between the fibres which create the shadows that affect the visual appearance of the textured or piled product.

For easy and reliable colour measurement of pile fabric, **there is another way.....**



## this case study

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## 05 – Measurement of Pile Fabrics

### THE APPLICATION: - Imaging & Colour Measurement Of Heavily Textured Fabrics.

The DigiEye system, produced by VeriVide is used for the imaging and colour measurement of samples that would be impossible to assess using a standard spectrophotometer. DigiEye provides a non-contact measurement for all types of materials with different appearance characteristics.

As the sample is imaged without contact any raised pile including towelling, fleece, wool, velour and heavily textured knitwear is captured without being flattened against a measuring head.

*(In fact the DigiEye System can reliably and consistently measure products made from, and similar in density to, the heavily textured fleece pile of the sheep image above).*

This is illustrated with the image on the right. The appearance of the raised pile is retained in the image and the individual fibres can be observed in the natural state of the actual product.

Any subsequent colour measurement will include the appearance factors such as the shadows between the individual fibres.

To measure such a product using a spectrophotometer requires the fibres to be compacted; therefore the measurements gained are not representative of the actual appearance of the product as viewed by potential customers.



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### ISSUE 1: - MEASUREMENT - INACCURATE & POTENTIALLY DAMAGING TO THE FABRIC SAMPLE.

Colour Measurement has traditionally relied on spectrophotometers, however they were designed to measure very flat areas of 2D solid colour. Any sample of a textured or pile fabric is flattened against the measuring head of a spectrophotometer, thus the measurement reading is a false one, as it does not take into account the visual appearance of the fabric in its natural state. The depth of the shadows between the pile of the fabric also determines the colour of textured fabric.

Spectrophotometers cannot take into account the appearance differences between pile fabrics and plain, flat fabrics so it is impossible to obtain an accurate assessment of a pile fabric against an ordinary colour standard.

In the example of red fleece fabric below, the batch on the left has been brushed to a different degree to the batch on the right, when measured on a spectrophotometer the result did not reflect the magnitude of colour difference observed.



DigiEye was able to image both samples at the same time, under the same conditions allowing side by side comparison using DigiEye and give a colour difference reading compatible with the visual appearance to assessing the affects upon the colour of different brushing levels

### ISSUE 2: - ASSESSMENT OF NEW COLOURWAYS MUST INCLUDE THE VISUAL EFFECT OF THE PILE

Designers and buyers cannot select new colourways from flat coloured fabrics, as it is impossible to extrapolate the final result on a pile fabric such as velvet or towelling.

Thus real sampling has traditionally taken place with a lengthy time scale between colour selection and going to market, this is costly.

#### THE TECHNICAL BIT

- The calibrated camera captures data in RAW format for very high-resolution images; since the image is captured in controlled and consistent lighting, using a cabinet developed and manufactured by VeriVide, the software can transform the RGB data from the camera into CIE colour space thereby enabling accurate non-contact Colour Measurement of the pile fabric.

#### THE TECHNICAL BIT

(continued)

- Consistency is the key, as the environment is controlled, measurements are repeatable. The image can be retained with its associated data for visual assessment and correlation
- The software also contains a choice of Colour difference equations so that components can be imaged with and compared to an agreed standard component.
- The DigiPix Colour Replacement software also enables an object to be recoloured using colour information from a variety of sources including Pantone colours, or company colour library information in several data formats. The appearance of the pile fabric is retained during the recolouration enabling an accurate visualisation of the final colour.

### THE BENEFITS

- With DigiEye and the DigiPix Software, manufacturers and suppliers can image pile fabrics without causing surface damage and extract accurate colour measurements against any standard.
- This provides enhanced quality control by enabling tighter colour tolerances to be applied and colour differences can be communicated between suppliers and retailers.
- Using the DigiPix Colour Replacement feature, the surface appearance of the pile fabric is taken into consideration.
- This provides enhanced visualisation during the product development of new colourways. This is very useful for designers and buyers who can use the software to decide on the most appropriate colours before ordering real sampling.

### CASE STUDY ENDS

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CONTACT DETAILS OVERLEAF

### DIGIEYE IN THE APPAREL SECTOR – GENERAL INFORMATION

The versatility of the VeriVide's DigiEye Imaging system provides an ideal tool for those in the apparel supply chain. The unique controlled lighting cabinet is ideal for capturing and measuring the colour of a range of product including lingerie, footwear, garments etc.

With the introduction of the Large Area Imaging cabinet, also manufactured in the UK by VeriVide, the range of products that DigiEye is capable of imaging and colour measuring has increased to include full outfits on a mannequin as well as adult sized hanging garments such as dresses, trousers and coats.

The standard DigiEye imaging cabinet is able to image and measure small garments and footwear and to assess lab dips and production hangers.

The DigiPix software can measure very small areas of colour, which are unable to be measured by a spectrophotometer, this is an invaluable tool for suppliers and retailers of printed fabrics and lingerie products containing mesh and lace fabrics.

DigiEye is also an invaluable tool for specifiers sourcing coloured components from different suppliers within a global supply chain.

It provides an accurate, comprehensive specification for both colour and appearance against which suppliers can assess the quality of their production batches prior to dispatch. The synthetic colour constant spectral curves generated by DigiEye help to ensure that all product components match in all specified lighting conditions.

DigiEye also provides a method of assessing the appearance of irregular fabrics such as Denim wash effects and can be used to set appearance standards for these.

DigiEye with the DigiPix software is ideal for the quality control of pile fabrics such as fleece, towelling, velour and heavily textured knitwear. The non-contact colour measurement of DigiEye ensures that the product is captured in its natural state, whereas measurement with a spectrophotometer would flatten the pile giving an inaccurate measurement.

The DigiPix colour replacement feature allows the colour of whole garments or even parts of a specific colourway within a print to be changed and viewed, with the excellent quality of the image, designers and buyers can easily select the required garments for their stores.

## CASE STUDY 05



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