

**TEXTILE & DESIGN LABORATORY
CASE STUDY 03/2008**

PROJECT TITLE: 'THE GLOBAL ECONOMY'

T&DL PARTNER: ICEBREAKER LTD

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PROJECT PERIOD: MARCH - APRIL 2008

BACKGROUND: Icebreaker is an iconic New Zealand brand specialising in apparel for outdoor pursuits. The Textile & Design Lab was introduced to their graphic design team in mid 2007, shortly before their design and product development teams relocated from Wellington to Portland, Oregon, in the US, where they now employ 30 staff. Whilst the company claims to use only the finest NZ merino wool for its products, fabrics and garments are manufactured and made up abroad. In order to assess a range of new designs intended for printing onto their circular knitted merino single jersey fabric, they approached the T+DL in early 2008 with a view to having their initial sampling quantities digitally printed. Much of the literature around the subject of digital textile printing suggests that this method of printing, with the associated benefits of quick response and low set up costs, is being adopted by an increasing number of designers and product developers during the development stage of new ranges. Once commitments are placed for bulk, much of the production is then printed conventionally on flat bed or rotary screen machines. New technology and the ease of global communications has made what would have seemed like a pipe dream 15 years' ago, turn into reality.

PROJECT METHODOLOGY: Digital image files of the new designs with specified Pantone colour selections were couriered from their Portland office together with a quantity of Chinese manufactured knitted merino fabric. As well as prompt turn around, the client was also looking for accurate colour matching as these samples would eventually be used as references for bulk fabric printing.

As this was the first commercial project in which accurate colour matching had been specified, it was essential that we printed out a full set of 36 colour charts onto the client's fabric, which would represent the entire colour gamut achievable on the lab's printer. Consistent processing at every stage of the reactive dye printing process was deemed critical as variations would inevitably lead to discrepancies in the colours of the final prints.

After printing and steam fixing the colour charts, they were washed off to remove residual dye and dried. Each of the 25 selected Pantone colours from the client's colour palette were matched to a colour on the appropriate chart and the RGB co-ordinates recorded for each of them. These values were then transferred to the corresponding areas of colour within each design file using Adobe Photoshop software. Theoretically, if the same processes were followed during preparation, printing and post treatment of the sample lengths, the resultant printed colours should match the specified Pantone colours. However, after processing the first sample piece, it was decided to reduce the print resolution setting by about 17% for all subsequent samples as the residual dye released during the wash off process resulted in cross staining onto the unprinted sections of the print.

Although some slight variation in colour did occur in a small number of the sample pieces, the overall result was very pleasing. The client was notified that there were some minor variations in colour and the sample lengths were submitted, half to the US and half to their Wellington office. Subsequent feedback from the client was very positive and selections were made from the various designs which would then be produced in bulk, probably in China, where their knitted fabric supplier is located.



Images courtesy of Icebreaker Nature Clothing