

## 24035 Colour-shift Film

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### The Technology

Researchers at the University of Sheffield have developed a film of a block copolymer dissolved in an acrylate blend. The block copolymer phase-separates in this blend to create a lamella phase. This lamella phase creates the optical colour shift effect. When the acrylates are exposed to UV irradiation they crosslink to form a hard chemically robust film. UV acrylates are commonly used in the print industry.

The domain size (D in figure 1) is large enough to reflect light, without the use of dyes.

The result is an **opalescent film, the colour of which changes depending on the viewing angle** (figure 2). The colours can be brown, blue, green and even pink.

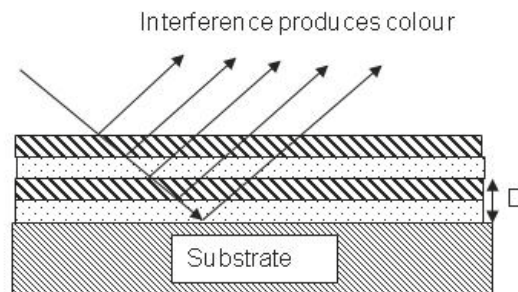


Fig 1 Schematic of block copolymer film



Fig 2 Variation of colour with viewing angle

### Intellectual Property

We have a mature patent application on the material covering its use in numerous applications.

### The Opportunity

The colour shift film has a large number of potential applications, including a printable security ink. We are currently seeking a licensee for this technology, in order to bring this product to the marketplace and realise its commercial potential.

**Please contact Andrew Tingey, quoting reference 24035.**

