

## TECHNOLOGY NEWS

# Unigraphics's New Tamper-Evident Label Concept

Unigraphics AG, a printing and graphics equipment developer, broker and consultancy based in Liechtenstein, has launched *UNISeal*, a security label with a new tamper-evident feature – namely a gas chamber which releases an inert

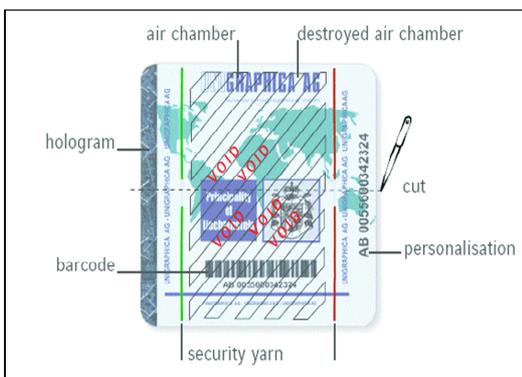
clear laminate surface layer, into which a compressed gas is injected. These tubes are created by laying two parallel thin yarns of cotton or other fibre on to the carrier layer (the layer which is printed); these yarns are cut and left with a gap between the ends, so that when the surface layer is laminated a tube results between the ends of the threads. Areas of the undersurface of this laminate are left without adhesive so that at these areas the surface layer does not stick to the carrier layer. This un-glued region extends to a line which forms a connection between the gassed tube and these 'free spaces' (as they are referred to in the

humidity, so that when it is released in to the glue-free areas an appropriate word such as 'void' will appear.

## Multiple Features

As a multi-layered label, *UNISeal* can incorporate many other more familiar authentication and graphic features. The label produced by Polygraf-Zashita for the Russian Post includes guilloche effects, microtext, a hologram along one edge, and kiss-cut lines so the label is frangible. This is in addition to the new gas bubble.

It is also a two-part label with a matching serial number and barcode on each part, so the smaller part, containing the number and barcode only, is lifted off the silicon release paper to give to the customer as a receipt.



The components of a *UNISeal* label

gas to create a gas bubble in the label if it is tampered with.

The company is owned by Joseph Schweiger who has filed a WIPO patent application on this new feature. One of the first customers for the new label is the Russian post office which uses it to secure parcels. The label is produced by Polygraf-Zashita of Moscow.

## Simple Concept

Like all good inventions the concept of this gas bubble is simple, but manufacturing requires specific expertise and modified equipment. As the abstract and drawing from the patent document shows (see above), the label is a multi-layer construction. The innovative part is a pair of thin tubes created in the thin

patent).

The pattern in the glue is determined by coating with a UV-curable adhesive through a patterned screen on the flexo-press that would be most commonly used for making this type of label.

The outcome is that if there is an attempt to remove or otherwise tamper with the label, the compressed gas is released in to these free spaces, forming one or more bubbles on the surface, around 0.5 mm high, which is enough to be seen by the naked eye, but they are even more obvious as a tactile feature.

As an additional revealing feature, the underlying layer is printed with a hygroscopic ink and the gas has a high



The Russian postal seal

Joseph Schweiger told *Authentication News*™ that he is interested in working with label producers and security printers to licence and market *UNISeal*.

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## Being the Best Pays Off... cont'd

step further with the introduction of its new trusecurity Eco range, which it will be launching at the forthcoming Intergraf conference in Stockholm. This comprises FSC and recycled base papers and release liners, along with water-based coatings and environmentally-friendly adhesives that are fully

biodegradable and cellulose-based filmic substrates. The company admits that the jury is out on recycled options given the high performance requirements of its products. But it has identified a strong demand for products that are sourced from sustainable sources and/or that are biodegradable, and sees a bright future for this new range.

As noted earlier, Tullis Russell is employee-owned and does not disclose its financial figures. However according to the company, it is on course to improve on last year's results, demonstrating that its quality and diversification strategy is paying dividends.

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