IT and digital imaging software enable regular packaging printers to produce high level covert security packaging for brand protection and grey market detection. Roland Meylan, co-founder and corporate communications manager of AlpVision SA, a company at the forefront of security printing technologies, shares his latest white paper with Packaging Europe.

Cryptoglyph invisible marking

Cryptoglyph is the combination of two technologies:
- Cryptography using digital ciphering and deciphering with a 128-bit key, big enough to offer billions of combinations of dots, each one constituting a unique pattern.
- Glyph or marks, with appropriate colour and pattern so that they are camouflaged within the printed material which can be white or coloured.

Cryptoglyph is the only security process in the world providing invisible marking with standard ink and standard printing processes (offset, rotogravure, flexo, laser, inkjet, etc). Accordingly, Cryptoglyph can be easily integrated into any current packaging production line. Simply embed the invisible Cryptoglyph file in the prepress digital packaging image file before printing, without any modification of the packaging design.

How can invisible marking be detected without dedicated scanners or processes?

The constant progress in microelectronics and home computing has led to affordable, off-the-shelf and very powerful imaging devices such as flatbed scanners, webcams and PDA camera phones. These devices can capture an image on a mouse or button click and send it to a secured server for analysis, the same way as people are sending family photographs to their relatives.

The authentication is then automatically performed by special software installed on the server located in a safe area. A verdict ‘genuine or fake’ is returned to the person who asked for the authentication process, either on the mobile phone or PC screen.

Brand protection with innovative technology

A technological solution is not in itself sufficient for the delivery of a suitable and industry-compatible application which is compliant with the industrial process realities. Here again, there have been many project failures on the introduction of new systems based on very high-tech processes, without consideration for the reality of high volume production (in billions) of consumer goods or pharmaceutical products worldwide.

To manage the many products and SKUs (stock keeping units) which are produced daily and managed by large multinational brand-ed product producers, it is necessary to embed the brand protection technology into a safe system which is fully compliant with the severe rules established by such large multinational firms and the relevant health authorities.

In parallel with the recent completion and deployment of a Cryptoglyph brand protection solution for a very large pharmaceutical manufacturer operating worldwide, the Swiss company AlpVision announced that it fully complies with the US FDA 21 CFR Part 11 requirements for Electronic Records and Electronic Signatures (ERES). An IT (information technology) open platform was developed to enable the brand owner to produce the Cryptoglyph patterns to be associated with such product or SKU and to be applied by various packaging printers. A simple quality control (QC) procedure was also developed to enable the brand owner to validate the packaging before mass printing and to ensure the presence of the invisible marking.

Conclusion

Digital technology and computer science have achieved breakthroughs in the brand protection and grey market detection domains. Constantly improved devices and services are now in use daily for business activities. Consumers, mobile commerce or entertainment by billions of people worldwide. They open up new possibilities for brand manufacturers to provide a single point of contact for the authentication and identification of products along the whole supply chain worldwide, up to and including the end-consumer. Deployment can be extremely rapid, given that only standard software such as an Internet or mobile browser is required to get access to a secured authentication point from anywhere in the world. Standard printing processes and standard ink used by traditional industrial packaging manufacturers can produce a high level of covert security using technologies fully under the control of the brand owner.

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