Anti-counterfeiting and anti-piracy technology guide

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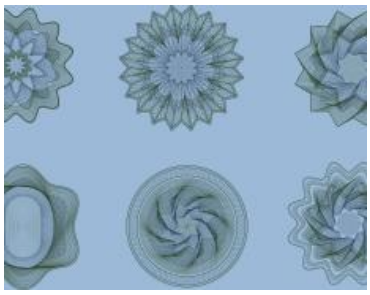
Guilloche/Rainbow Printing

This technology takes its name from the French word ‘guilloche’, which is the name for an ornamental design made from engraved metal plates. Here, the plates are mechanically printed onto the surface of a product by specialised machines that generate a repetitive pattern of engraved linear or wavy lines, with colours that fade into each other and with relief effects that are hard to reproduce.



Used for

- Authentication

Suitable for

- Very small products
- Small products
- Medium-sized products

Goes on

- Product
- Packaging

Can be used for

- Physical products

Visibility

- Visible

Reading device needed

- No

Connection to server

- No

Description

Guilloche patterns are created using highly sophisticated software. Each element in the pattern can be assigned a predetermined colour shift, creating the illusion of synchronous animation.

A similar technology is rainbow printing, which is sometimes combined with guilloche. The rainbow colouring process is a special form of offset security printing that subtly merges the colours into each other, resulting in a gradual colour change. This special print cannot be reproduced by photocopiers or scanners.

Uses

Guilloche and rainbow printing are mostly used for banknotes, documents, certificates and other paper valuables.

Implementation

To apply this technology, you will need graphic equipment that is able to reproduce the precise details and printing plates (which may also be engraved with lasers) faithfully and to use particular inks and techniques to deliver a better print quality than common offset printing plates. Sophisticated software can also be required to generate guilloche patterns.

Cost

It is difficult to give a general idea of the costs associated with this technology, as they vary significantly according to how, where and on which product it is used.

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