Anti-counterfeiting and anti-piracy technology guide

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OVI and Iridescent Inks

Optical variable inks (OVI) and iridescent inks are made with pigments that show up as two different colours when viewed from contrasting angles. The usual colour pairs are red-green, gold-silver and green-blue. OVI is considered to be the best type of ink to prevent document forgery as it is so complicated to reproduce – copiers and scanners cannot replicate the colour change effect.

Used for

- Authentication
- Anti-tampering / Anti-alteration

Suitable for

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

Goes on

- Product
- Packaging

Can be used for

- Physical products

Visibility

- Visible

Reading device needed

- No

Connection to server

- No

Description

The inks in this category work by reflecting the various wavelengths of the visible light spectrum differently, depending on the angle at which they hit the surface. When looking at the ink from different angles, the human eye perceives this effect as a change of colour. As colour copiers or scanners copy a document at a fixed angle relative to the document's surface, they can reproduce only one of the colours seen by the human eye.

A similar effect is obtained with iridescent inks. These are special pearled, pearlescent or mother-of-pearl inks that contain transparent pigments composed of thin mica particles. When viewed from different angles, the colour intensity of these inks appears to change.

Uses

OVI and iridescent inks are mostly used on banknotes, official documents, such as professional licence certificates, and on paper valuables in general.

Implementation

If you want to use OVI or iridescent inks, you may need to adapt the printing stage of your production process. This will depend on how and where you apply the ink and what the desired effect is.

Cost

It is difficult to give a general idea of the costs associated with inks in this category as they vary significantly according to which is ink used, how and where. That said, it is worth noting that OVI can be a very expensive ink and is generally used only in small areas of a document to mark emblems, identity marks, etc.

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