Anti-counterfeiting and anti-piracy technology guide

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Glue Coding

Glue coding is a process that applies heat to a polymer causing spontaneous, random and unique bubbles to form in it. The specific position, size and shape of the polymer bubbles are different every time, making each particular combination as unique as a snowflake. Each set of bubbles is recorded in a reference database that is accessible only to the product owner. These one-of-a-kind three-dimensional patterns are therefore essentially impossible to replicate, making them ideal for defending against and detecting counterfeiting.

Used for

- Authentication
- Tracking/Tracing
- Anti-tampering / Anti-alteration

Suitable for

- Small products

Goes on

- Product
- Packaging

Can be used for

- Physical products

Visibility

- Invisible

Reading device needed

- Yes

Connection to server

- Yes

Description

Glue coding is a physical and chemical process that generates unique identifiers made up of thousands of miniscule polymer bubbles in random shapes and sizes. Each set of bubbles represents a unique and non-replicable 3D pattern, much like a fingerprint. This places glue coding among the most secure of all the anti-counterfeiting techniques that generate unique identifiers, as the probability of producing two identical configurations is one in several billion.

The process can be applied to very small pieces of polymer (a few millimetres), which are then affixed to the product or its packaging, where they serve as the item’s “signature” or seal of authenticity. All polymer bubble signatures are logged in a secure reference database. In order to verify a product’s authenticity, a special reading device will analyse its signature both two-dimensionally and three-dimensionally, and compare it to the signatures in the database.

Uses

This technology can be used to secure a wide variety of products against counterfeiting, as it is compatible with many different types of material.

Implementation

It is difficult to give specific implementation requirements for glue coding as the technology can be applied to such a wide range of different materials. Any changes that need to be made to the production process will therefore depend on your product/material and the corresponding attachment method.

Cost

As the resources required for glue coding will depend greatly on the particular product and attachment method, it is difficult to give a general idea here of the costs involved in implementing this technology.

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