Anti-counterfeiting and anti-piracy technology guide

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Magnetic Stripes

Magnetic stripes are most commonly found on the back of payment and identification cards – most typically credit and debit cards. They contain data that is read when the striped part of the card is swiped through a card reader.

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

Magnetic stripes usually consist of a single layer of PVC (polyvinyl chloride) covered in tiny magnetic resin particles. Data is written and stored in magnetic stripes by modifying the magnetism of the particles, forming a unique sequence of bits. This sequence can subsequently be read through physical contact with a special device (e.g. by ‘swiping’), which interprets it. As the information is written into the physical make up of magnetic stripes, it cannot be modified.

Magnetic stripes are mainly placed on cards. There are internationally defined standards that cards must comply with in order to support this technology. These cover size, flexibility, position of the magnetic stripe, magnetic characteristics and data formats.

Uses

Magnetic stripes are most widely used on financial cards. However, they can also be applied directly to a valuable object (where physical characteristics and conditions of use allow), in order to guarantee its authenticity and track it (e.g. as a post-sales service for customers).

If the main purpose of the stripe is to ensure security, then it is preferable to apply the stripe directly (and inseparably) to the product.

Implementation

If you want to use cards to associate magnetic stripes with your products, then you do not need to make any changes to the production process.

If, however, you want to apply a magnetic stripe directly to your product, you will need to make specific

changes to the production chain.

Cost

As this technology is so well-established and widespread, the costs associated with implementing it are not high.

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