025-7401-804

Tamper evidence: techniques, products and solutions

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Tamper evidence: improve safety and security

In today's world, ensuring the integrity and safety of both transport and products is crucial in various sectors such as pharmaceutical production or food packaging or financial transactions.

Tamper-evident products play a key role in detecting unauthorised access and preventing fraud or contamination. Here below, we explore the key aspects of tamper protection solutions and their importance.

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Container seals

Security labels for pharmaceuticals products

Food control

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1) Tamper evident definition

Tamper-evident product are designed and manufactured to protect products or means of transport from being meddled with or contaminated during storage or transportation, whether it is the end user or one of the various responsible actors in the production and transport chain, including Customs and Police bodies.

Lack of goods or contaminated products are some of the problems linked to unauthorised access to goods or means of transport.

Therefore, the main purpose of tamper evident products made by LeghornGroup is to provide clear and visible signs that a package or means of transport have been tampered with.

It goes without saying that a tamper evident product may also be improperly opened, but its technical characteristics make it extremely difficult, if not impossible in some cases, to reuse it, showing evidence of tampering.

It should be noted that the seal itself does not prevent theft, but guarantees that a package or a door has not been opened.

The use of the security seal is closely related to the person choosen to place it in the correct way, otherwise it could be tampered with easily.

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2a) Customer trust

The commitment of a manufacturer of security products to create innovative products by increasing their tamper-proof specifications, guarantees the customer from any unauthorized access to goods, whether we are dealing with tampering or contamination.
This commitment is rewarded by the customer's trust and loyalty, who feels confident in choosing the product that best suits his needs and which is made by experts of tamper evident systems.

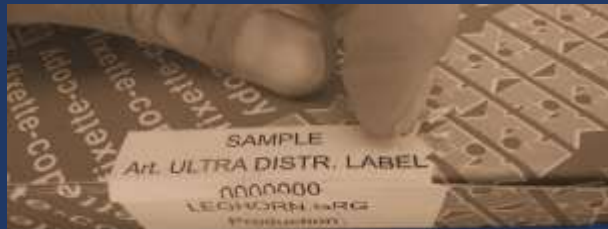**Customer trust**

Tamper evident experts

The right product

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2b) Customer trust

Tamper evident products offer a major advantage to both the consumer goods manufacturer, the carrier and the end consumer. Let's take as an example a security seal for transports: the seal becomes a visible deterrent against any form of tampering. The better a seal is and the more difficult it is to tamper it with, the more companies will save on costs from missing or contaminated goods while ensuring that products arrive intact at their final destination. Overall, there is a wide range of tamper evident solutions, from seals for different applications to ultra-destructible or VOID labels, security envelopes which have a progressive numbering, security bags and pallet covers.

Container seals

Ultra destructibles labels

Void labels with residu

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3) Control. Identification. Protection. Tracking.

All these products must satisfy customers requirements to identify, protect, control and track goods, whether a traditional mechanical product is used or an RFID and electronic solution is chosen.

Specifically, by RFID solutions (acronym for Radio Frequency IDentification) we are referring to all solutions that use radio frequency to uniquely identify an asset, a vehicle, a person.

In authentication and anti-counterfeiting and/or tamper applications, RFID-based security devices combine unique identification with the integrated ability to automatically store and communicate data without contact and line of sight, Thus interacting with computer systems for the automatic and real-time collection and processing of information.

Therefore, RFID tamper evident products are designed to significantly improve security in their field of application, such as transport and international trade, with the advantages of low cost and ease of integration and application.

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4) Employee training

You can choose the best tamper evident products available on the market, but if they are not properly used, they won't satisfy your requirements.

Therefore, it is necessary to ensure that your employees are trained in the correct use of all tamper evident systems that the company offers and that they are able to drive the customer to the product that better satisfies his requirements.

Formare i dipendenti

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5) Deal with tamper evident experts

It is important to rely on a partner with extensive experience in tampering prevention: his advice can be valuable. The advice of an expert in tamper evident products often enables maximum security results to be achieved at the lowest possible cost.

LeghornGroup works with the most important consumer product companies, with the main international transport players and with electricity/ water/ gas distributors, by solving daily dozens of extremely different problems related to any type of tampering.

Tamper evident experts

6) Cargo security

Securing shipments (both goods sent and received) has become a major concern for companies. Overall, the volume of goods traded with any carrier is increasing sharply as a result of the markets. The integrity of the delivered packaging is an increasingly important and current element: just think of the exponential growth of e-commerce, a phenomenon that has allowed the international sale of online products to exceed the sales of services (70% versus 30%).

Let's look at some of the most commonly used types of tamper solutions for protecting goods during transport.

Securing shipments

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7) Mechanical and RFID security seals

Security seals are one of the most popular solution of tamper evident products. They can be indicative seals, both in plastic or metal with a low or medium tamper evident results depending on the tensile strength of the seal. High security seals: metal seals with high tamper evident performing results

Each type of seal listed, if it is also made in RFID technology version, offers significant benefits since it cannot be replicated/cloned (unique number) and it can be tracked automatically. Electronic seals are also essential devices to support digitisation of operations and paperless data exchange across supply chains.. Finally, electronic seals provide a range of additional information related to the monitoring of the supply chain and communication of unauthorised access.

MECHANICAL
Neptune seal:
High security seal
for container

RFID
Soter seal:
RFID high security seal
for container

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8) Ultra destructible labels

With reference to security labels, an important role is played by ultra-destructible labels, which completely flake off when attempting to remove them from the surface. They can be also marked with a specific progressive numbering.

Tamper evident adhesive labels are made of different materials depending on the final application purposes and surfaces, with particular attention to security and traceability. They can be made by including RFID technology – both NCF, HF and UHF.

BEFORE

AFTER

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9) RFID security labels

LeghornGroup is able to manufacture tamper evident products that embed RFID technology for automatic identification and assets traceability.

We support the customer in the technical choice of the best combination of RFID chip, memory and antenna, depending on the required performance in the specific use case.

RFID VOID labels without residu

RFID VOID labels with residu

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10) Security tapes

LeghorGroup tapes and labels are adhesive security solutions that are specifically designed to provide evidence of unauthorised tampering by leaving visible traces on the surfaces which they are applied to;
you can choose to protect your goods by using this solution that once it is removed from the surface, it leaves a film behind showing a Void/Open message as evidence of tampering.

Tamper evident tapes

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11) Tamper evident security envelopes

Among the wide range of **tamper evident security envelopes** of LeghornGroup you will surely find the product that meets your requirements. We can supply different models starting from **envelopes with strong adhesive without numbering** up to **envelopes with double numbering** and Void tamper evident adhesive.
Tamper evident security envelopes may be printed in different colours and branded according to customers' needs.
Furthermore, security envelopes **with NFC chip embedded can be supplied** to allow the tracking of the envelope. All the information stored in the chip can be read using a simple Smartphone and sent to the control unit to for checking purposes

Security envelopes

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12) Pallet covers

Pallet covers are available in various materials, including polyethylene, and protect products from any kind of tampering or inconvenience that may occur during transport. You can anchor the cap to the pallet using a traditional plastic security seal or an RFID e-seal.
Therefore, this type of solution allows to cover all the goods of the pallet that can no longer be easily tampered with

''BOLOGNA'' pallet cover

Seal for pallet cover

13) Security bag for boxes

As much as you can secure and seal a cardboard package, even with adhesive tape on all opening sides, there is always the risk of being able to open it with a sharp, remove a part of the goods and close it without causing any suspicion until the package arrives at destination.

This can be easily avoided by using a security bag for boxes. As an example, LeghornGroup offers LYON bag, which can be fastened with a numbered security seal to avoid any kind of tampering action. This is suitable also to be used in small shipments related to catering, small electronic products or pharmaceuticals ones.

''LION'' security bag with security seal

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14) Security bags

Security bags have multiple uses. In particular, they are used to transport money, values, documents or for key management.

They can be equipped with RFID tags for a secure and unique identification.

Thermal security bags are used for special hospital transport.

All security bags can be sealed with a progressive and customized seal.

''Hamburg'' bag for documents

Barcellona bag for keys

Helsinky bag for cash and transit

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15) Identification wristbands in Tyvek®, vinyl, plastic and RFID version

Using customised identification wristbands the complete monitoring of large events with numerous participants is guaranteed.

Once attached to the wrist, the wristband can be removed only by cutting or tearing.

In this way it cannot be reused twice. These special event bracelets can be made of Tyvek®, vinyl, plastic and in RFID technology. Tyvek® is a material with special tear resistance. For even greater strength, you can choose our vinyl or plastic printed wristbands.

If different information about each guest needs to be linked to the wristbands, we suggest the RFID technology.

Tyvek wristbands

Plastic wristbands

RFID wristbands

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16) Future trends in tamper evident technology

As security threats evolve, so do tampering solutions. Some emerging trends include, for example, smart packaging and the integration of RFID and NFC technology for real-time monitoring and authentication. Biometric authentication: use of fingerprints or facial recognition to protect access. Eco-friendly materials: development of sustainable tamper-proof packaging to reduce environmental impact. Blockchain integration: provide transparent and immutable monitoring of product integrity.

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17) LeghornGroup field of action

PROTECTION: We can protect your goods and assets with security seals and various products for tamper protection. The company can create bespoke, technical solutions to meet client's requirements.

CONTROL: We ensure goods and people can be monitored using security products and integrated complete hardware and software solutions that allow the operator to monitor and intervene in real time, even remotely.

IDENTIFICATION: LeghornGroup's understanding of authentication along with their innovative technical products and solutions allow users to uniquely and securely identify, goods, vehicles, containers, animals and people.

TRACKING: LeghornGroup's real time GPS tracking devices allow users to monitor location, status and movements of vehicles and people.

RFID SOLUTIONS: LeghornGroup also manufactures solutions for product authenticity; automatic identification systems using RFID to aid traceability of objects, animals and people, offering new and efficient operations to speed up the supply chain;

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