



Security/Tamper Resistant/Anti-Counterfeiting labels

When and where did it begin?

Prior to 1982 over the counter medication was rarely if ever in a tamper-proof or tamper-evident package or bottle. That all changed when 7 people died in Sept of 1982 as a result of Tylenol capsules being laced with cyanide. I would venture to say that anyone who was an adult at the time remembers it well.

It was quickly determined that the bottles of Tylenol had been tampered with while on supermarket and drug store shelves in the metropolitan Chicago area. Johnson and Johnson conducted one of the first national recalls of over 31 million bottles of Extra Strength Tylenol. Three 3 more bottles were found to be laced with cyanide. As a result, pharmaceutical, food and consumer product industries developed tamper resistant packaging and federal anti-tampering laws and reforms to packaging of over-the-counter substances were enacted.

Today there are a many methods of Tamper-proofing a product and/or protecting a brand from counterfeiting. The method chosen depends on the level of security required and the cost of the method. What follows are a few of the methods used in the labeling industry.

Methods of security using face-stocks, inks, and/or design features

Creating a tamper-evident label construction for product security

Adding tamper-evident **die cuts** on a label is one of the most common and cost effective ways to create a label that shows if a product has been opened or tampered with. The label is usually constructed using a lightweight paper face-stock with an aggressive permanent adhesive. A tamper-proof tool is used to put small slits (or pattern), across the face of the label as it is being converted. Once applied to the product, any attempt at removing the label would be apparent. The label would break apart at the slits and come off in small shreds leaving an incomplete label on the product. This method is commonly used on pricing labels.

A **Void patterned** adhesive construction is used with face-stocks that would likely be removed in one piece as with a film face-stock. The label leaves the word "Void", on the product when the label is removed, indicating that the label was removed.



Photo © Avery Dennison

Using a **destructible vinyl** is another way of creating a tamper-evident construction with the face-stock. This material tears off in tiny pieces, once applied to the product.

Holographic images embedded into a face stock can either overtly or covertly be used for product verification.

Using inks for security purposes

Thermochromic inks can be used in instances where products need to be in controlled environments, as with some pharmaceuticals that need to be kept cool. These are color changing inks based on temperature. The inks can be created to be reversible or irreversible, with temperature changes.

Metacromic inks change their appearance with different light sources. They may appear white until viewed under a neon light in which they would appear pink.

Watermarks can be added to a design to show authenticity.

Machine readable features like variable data and serial numbering may also be an option to brand protection.

Invisible inks that are revealed with the use of an infrared light for anti-counterfeiting a product label.

Taggants can be added to the face stock or inks of a label. Taggants are microscopic chemical markers that are detected with a special reader to determine if a product is authentic or counterfeit.

Label shape

The shape of a label in itself can be both a branding and security device by using unique shapes that are easily recognized but not easily duplicated make it more difficult to counterfeit.

Depending on the level of security required, a security label may incorporate several different security layers.

Typical applications for security labels

- Price labels
- Luxury goods
- Pharmaceutical Products
- Wines and Spirits
- Chemical drums

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