



TAPE
WEEK
2025

PERFECTLY INTEGRATED SECURITY FEATURES

THE VERSATILITY OF HOTMELT ADHESIVES IN
SECURITY SYSTEMS



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Justine Hanlon
Technical Sales Manager
artimelt



Who we are



- Highly specialized supplier of hot melt adhesives since more than 40 years
- Family-owned company
- Pioneer in UV-curing adhesives
- Adhesives for medical applications since 1992
- First generation of linerless adhesives in 2004
- Launch of Ecoline range in 2021 with biobased raw material share of > 90%

Security applications & functionalities in packaging

- Void tapes
- Tamper evident seals
- RFID / NFC tags
- Pharma packaging
- Authenticity features
- Manipulation indicators



Security applications & functionalities in packaging



Tamper evidence

- indicates if a container / packaging has been opened
- prevents manipulation or exchange of content

Authenticity proof / brand protection

- clearly identifying counterfeits or copies
- protects reputation of the brand
- proof of originality of the product
- increases value and recognition

Adhesives in security packaging systems



Functions of adhesives in security packaging systems

- indestructible bond
- defined balance between adhesion and cohesion
- nondestructive opening is impossible
- detectability
- sustainability

Adhesives in security packaging systems



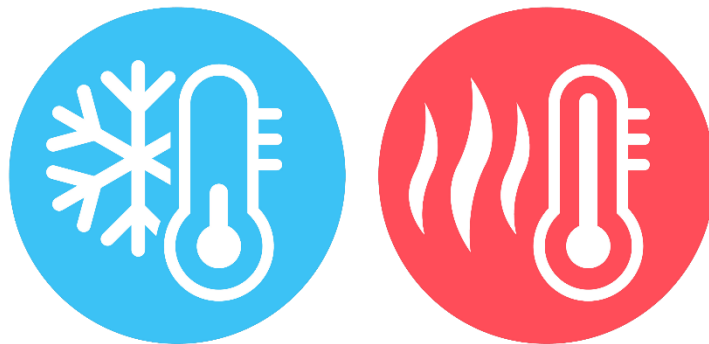
Expertise of the adhesive supplier

- adhesive with optimized, substrate-specific adhesion provides high initial tack and final adhesion
- when opened, adhesive supports and guarantees the intended destruction of bag or closure tape or seal
- adhesive shall prevent interaction with other system components (e.g., migration)

Common manipulation techniques

Target

- manipulation while preventing potential disintegration of system components
- open & close the package without damaging the physical or optical appearance of the system (invisible manipulation)



Treatment with heat

- weakens the strength of the bond (softening of adhesive)
- facilitates cohesive break

Treatment with cold

- weakens the strength of the bond (adhesive becomes brittle)
- facilitates adhesive break

Color additives in adhesives



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Color additives in adhesives



Standard Colors

- for design / style integration

fluorescent colors

- to visualize the presence of adhesive

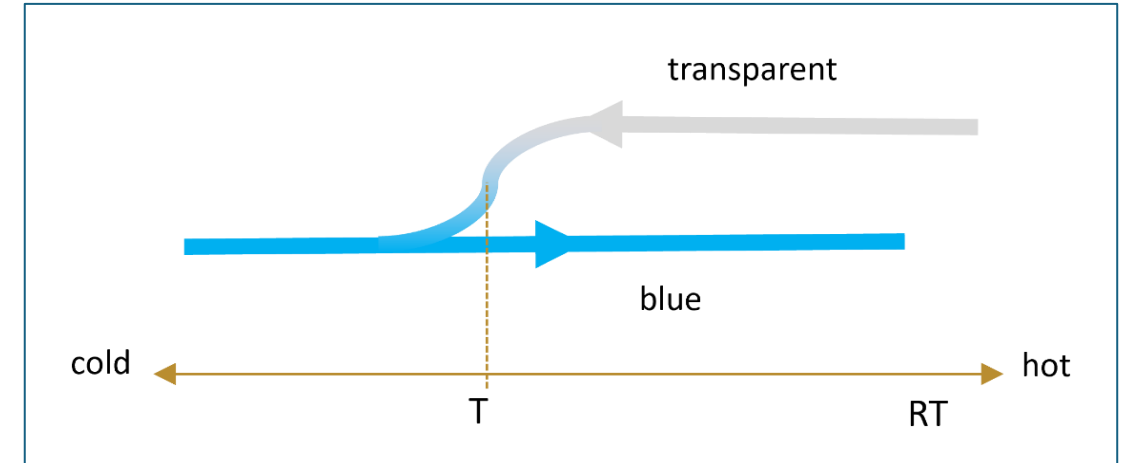
Thermochromic additives

- to create additional safety features
- temperature provokes color change
- can be integrated into the adhesive

Color additives in adhesives

Advantages of thermochromic adhesives

- can be an additional security feature to indicate manipulation with cold
- temperature range can be adjusted by artimelt
- various colors available
- patented technology

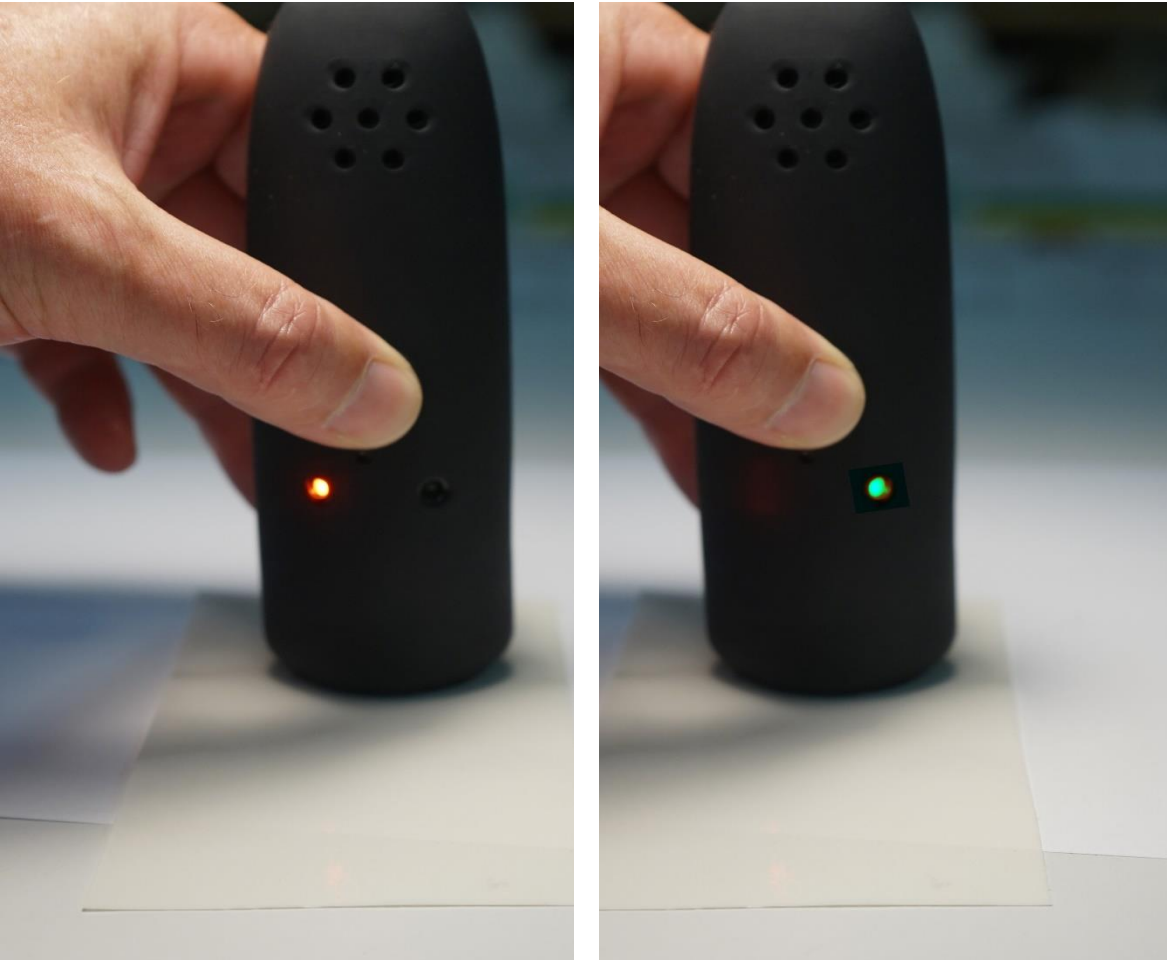


Tracer Additives



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Verifying product authenticity



Tracer additives can be added to the adhesive

- to enable brand identification (brand protection, customer complaints, etc.)
- robust technology (temperature, humidity, physical disintegration safe)
- easy detection
- easy handling
- invisible

Laser markable adhesive



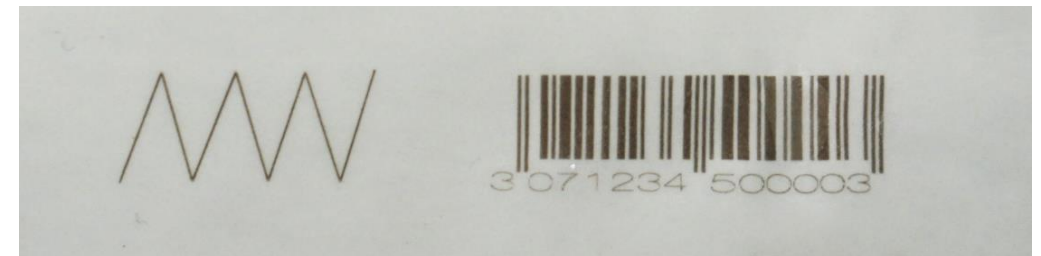
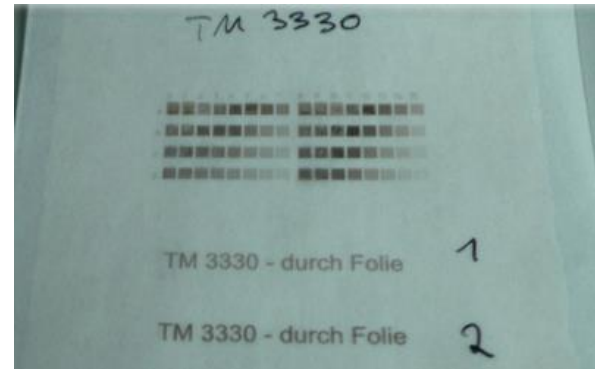
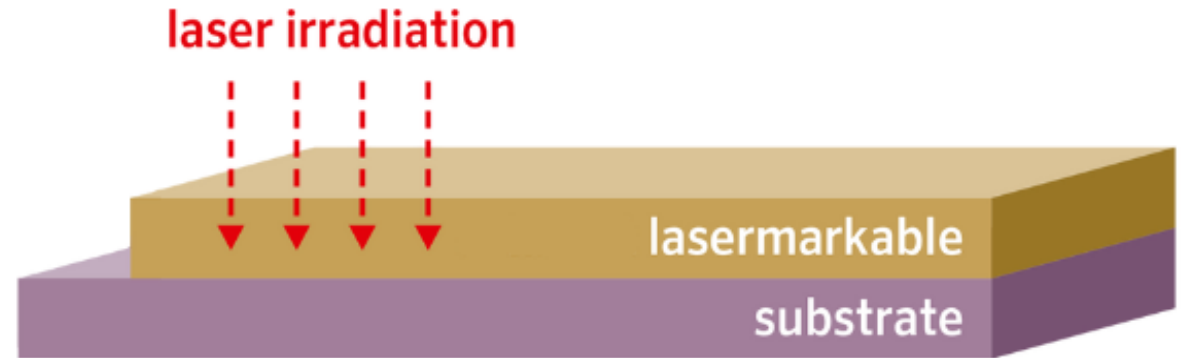
General advantages of laser marking

- The easiest and fastest way to apply a marking
- Environmentally friendly
- Gentle on materials (because it is non-contact)
- High quality (for highest decorative demands)
- Precise (even with the smallest marking)
- High repeatability
- Almost all materials can be labeled

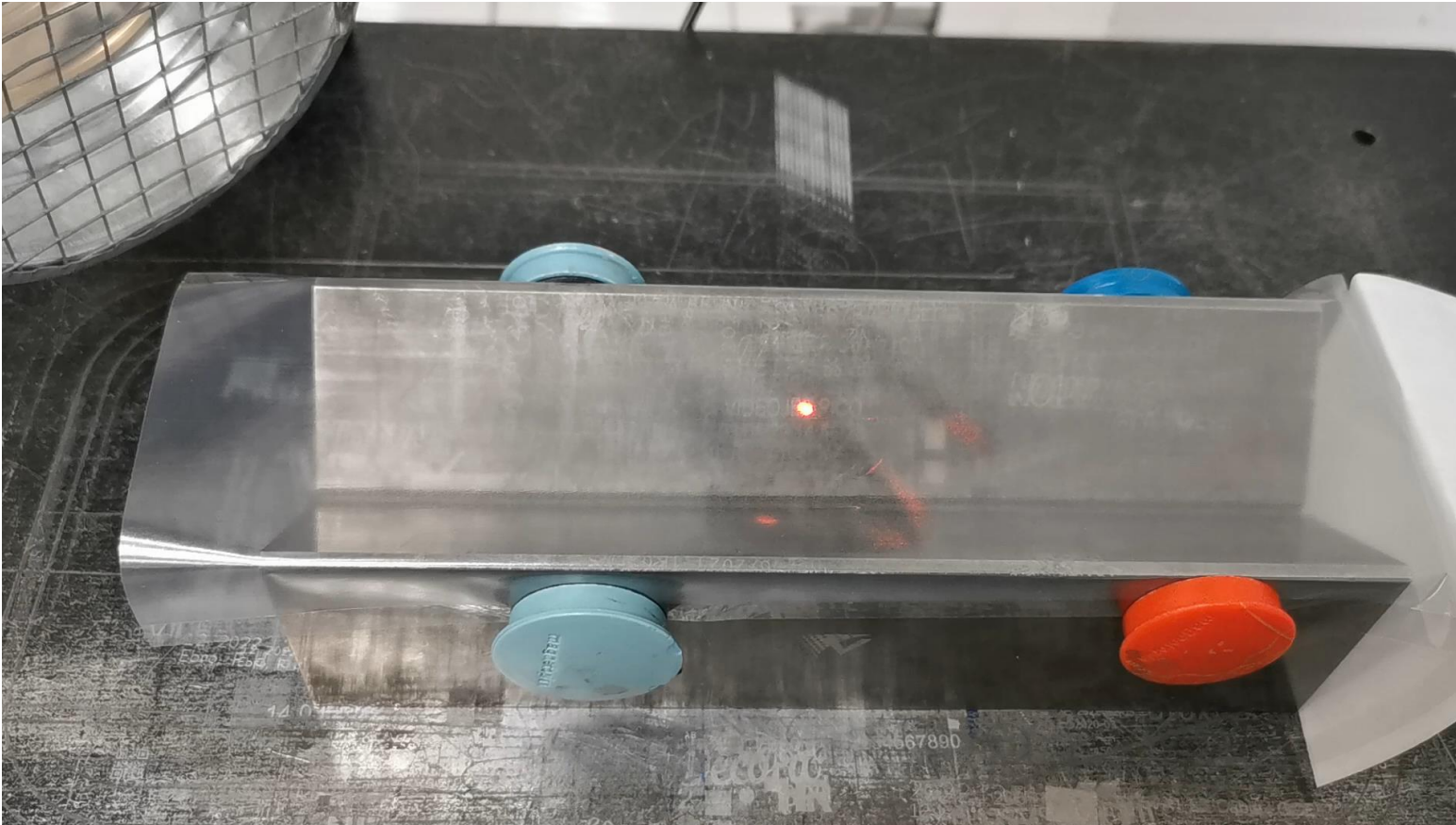


Laser markable adhesive

- Laser light irradiation changes the color of the adhesive at the irradiated points
- The technology works with standard laser engraving equipment
- The involved system components shall be temperature-resistant
- Laser can be applied directly to the adhesive or through a transparent substrate
- The substrate should be temperature-resistant, otherwise the substrate can be damaged (burn holes)



Laser markable hot melt

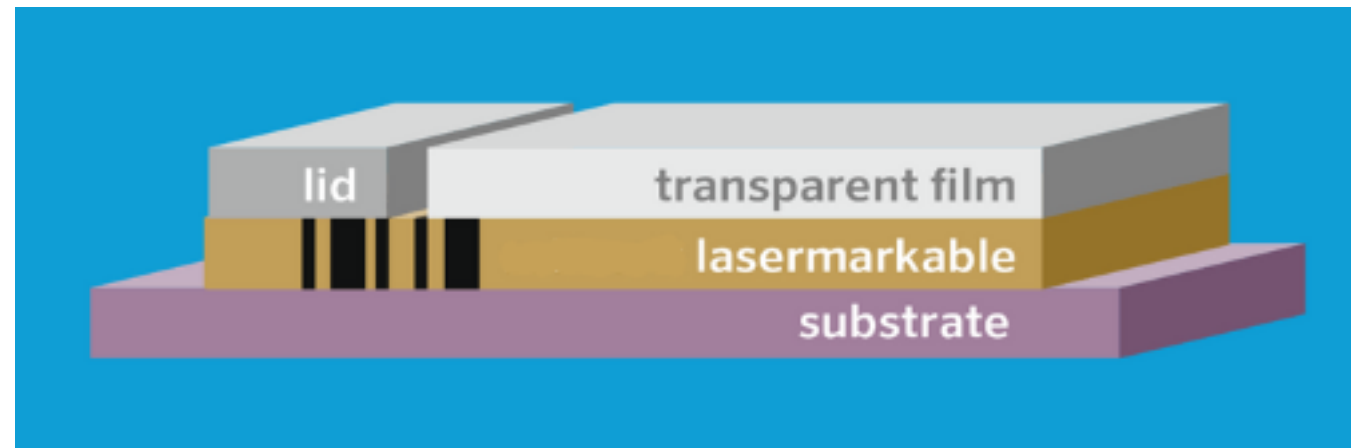
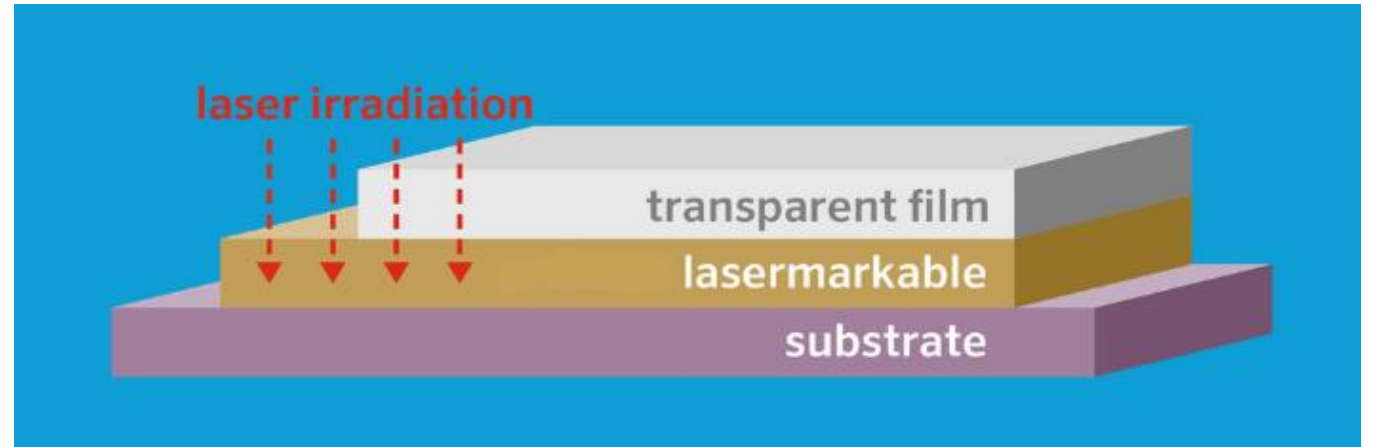


Application example

- Transparent BOPP substrate
- Adhesive layer towards bottom
- Laser marking through substrate into the adhesive

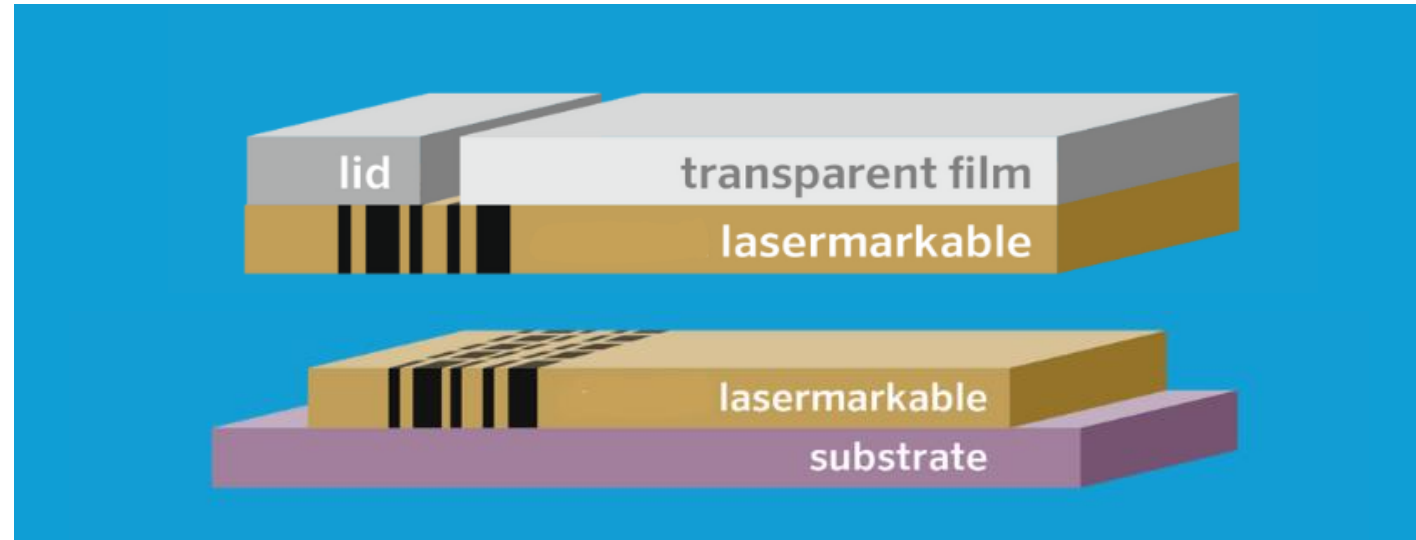
Laser markable hotmelt in security systems

- Laser irradiation into adhesive
- Laser can be applied directly to the adhesive or through a transparent substrate
- text, barcode, serial numbering, graphics visible through the film

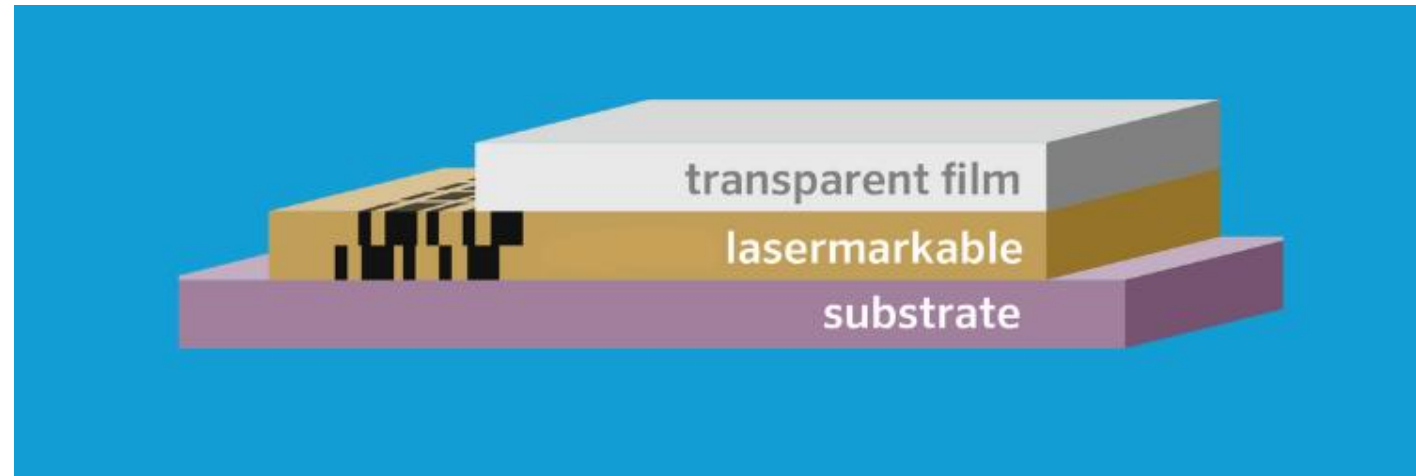


Laser markable hotmelt in security systems

cohesive break by opening:
marked parts are still visible



reclosing: manipulation visible
in laser marked lines



Potential content for laser marking

- One-off production ↔ series production
- Numbering, serial numbers, number series
- Scales / Variable texts
- Logos / Special characters / Images
- Barcodes and many 2D codes
- Personalization



Summary



- adhesive performance plays an important role in demanding applications like security systems
- properties of the adhesive can be adjusted to carrier materials, processing conditions and service conditions to ensure functionality
- Supplementary features can be added to the adhesive
 - colors
 - thermochromic colors
 - laser-marking of the adhesive
 - tracer additives in the adhesive



Contact Information

Justine Hanlon

Technical Sales Manager

justine.hanlon@artimelt.com

770 616 4512