

# SECURITY INKS



Normal Light



Under UV Light

## INVISIBLE INKS

Many colors  
Security and Forensic levels available



## THERMOCHROMIC INKS

Invisible at low temperatures



## TAGGANT INKS

RFID, Magnetic, Infra-Red



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# SECURITY INKS



## TAGGANT INKS (TAX STAMPS)

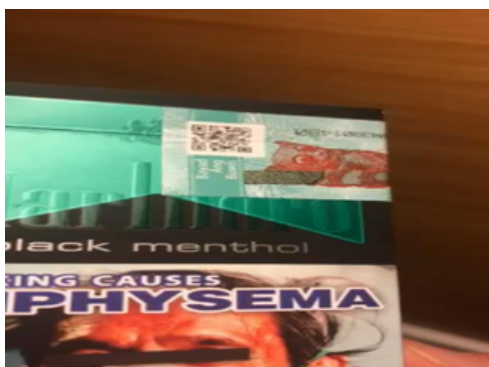
- 1) OVI Ink  
(Optical Variable)
- 2) Taggant
- 3) Silver Ink
- 4) Taggant
- 5) Invisible UV  
Flourescent Red



- 1) Color Shifting Ink
- 2) Taggant



- 3) Up-converter Ink Transforms  
low energy into higher energy light  
(use laser pointer)



- 4) Color shifting: Green to Gold  
Particle size 50um, print using  
flexo, rotary screen or screen



- 5) Invisible UV Illum Red



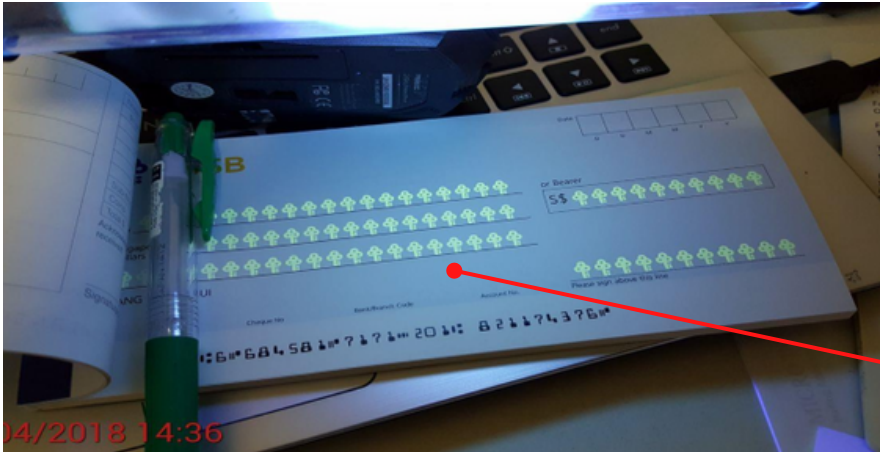
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## INVISIBLE INKS (CHEQUES)

Yellow Invisible Ink which is visible under UV Lamp



## INDELIBLE INK (ELECTIONS)



15ml bottles of indelible ink Silver nitrate 7-15%

After MEK cleaning



Room temperature 30 deg Celsius



Hot Water at above 60 deg Celsius added into both cups

## THERMOCHROMIC INK (SECURITY FORMS AND CERTIFICATES)



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# SECURITY INKS



3D Holographic Ink



Color Shifting Ink, Invisible Ink and UV Fluorescent Ink

## COLOR SHIFTING, INVISIBLE, MAGNETIC, HOLOGRAPHIC INK (PASSPORT)



Color Shifting Ink and Magnetic Ink

## CREDIT CARD, SECURITY PASSES, ATM CARD AND PHONE CARDS (SILK SCREEN, OFFSET)



IR Blocking Ink, Magnetic Ink, Holographic Ink



UV Fluorescent Ink, Invisible Ink



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Scratch Off Ink - Offset



Scratch Off Ink - Flexo

## LOTTERY TICKETS - SCRATCH OFF (FLEXO, OFFSET)

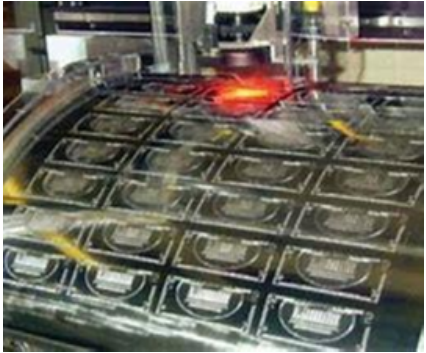


Thermal Paper - Offset

## CURRENCY- INVISIBLE, MAGNETIC, HOLOGRAPHIC INKS (OFFSET)



Offset



Inspection



# SECURITY INKS



## Overt - Visible/On-Site Detection

- ✓ Anti-Copy Colors
- ✓ 3-Dimensional Holo-Glitter
- ✓ Watermark
- ✓ Color-Shift

## Covert - Invisible/On-Site Detection

- ✓ UV Luminescent
- ✓ IR Upconverter
- ✓ NIR Absorbing
- ✓ IR Audible Tracer Taggant
  - Powder Adhesive Labels
  - Tamper-Evident Labels
  - Lamination Strips
- ✓ UV Fluorescent Markers
- ✓ Photochromic Dyes and Pigments
- ✓ Thermochromic Pigments

## Forensic Technologies - Invisible/Off-Site Detection

DNA

Encrypted Elemental Taggants (Forensic On-Site Equipment Available) Track & Trace for Pharmaceuticals and Manufacturing

Layered solutions combine overt, covert and/or forensic measures, multiple measures within identification classes and combinations thereof. Periodic substitution of security measures achieves randomness and therefore further enhances anti-counterfeiting.

Typical layered solution examples include:

- Color-Shift (Overt) + UV-Vis (Covert)
- Microparticles (Overt) + IR Taggant (Covert)
- UV-Vis (Covert) + DNA (Forensic)



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