



KANEMATSU USA®

SOLUTIONS FOR BUSINESS PRINTING

Card Printer – Consumable





PPT Thread

1. Ribbon



2. Transfer Film



3. Laminate





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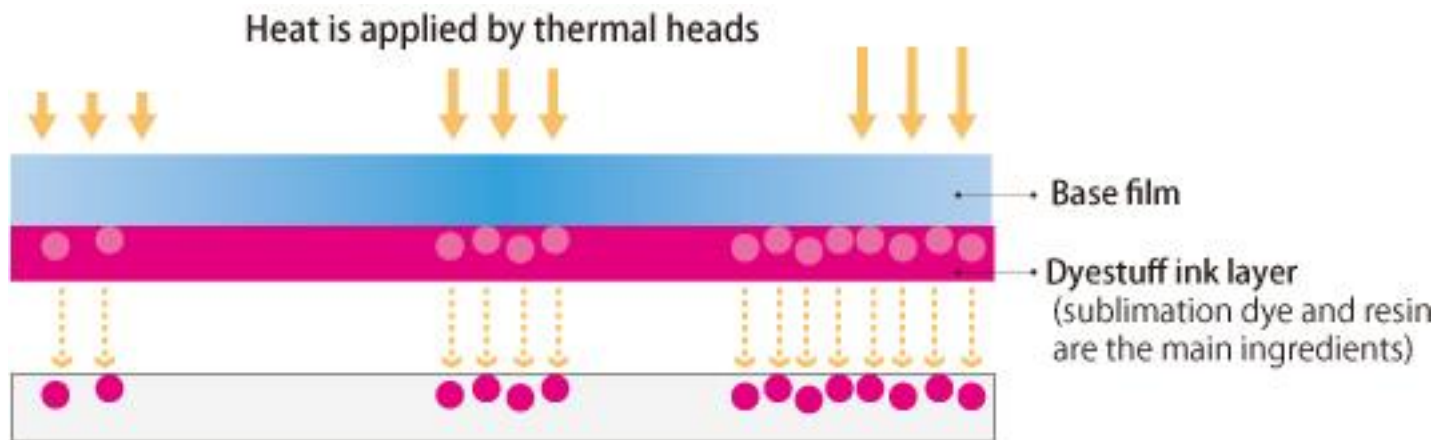


Ribbon



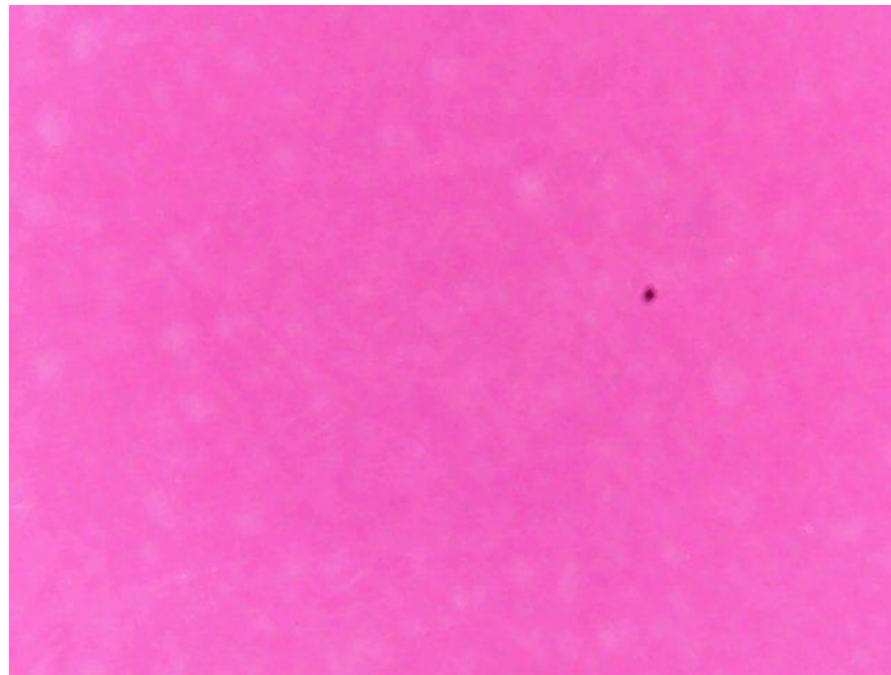
1.1 The operating principle of sublimation type ribbon

Sublimation type





1.2 The print result of the sublimation type ribbon

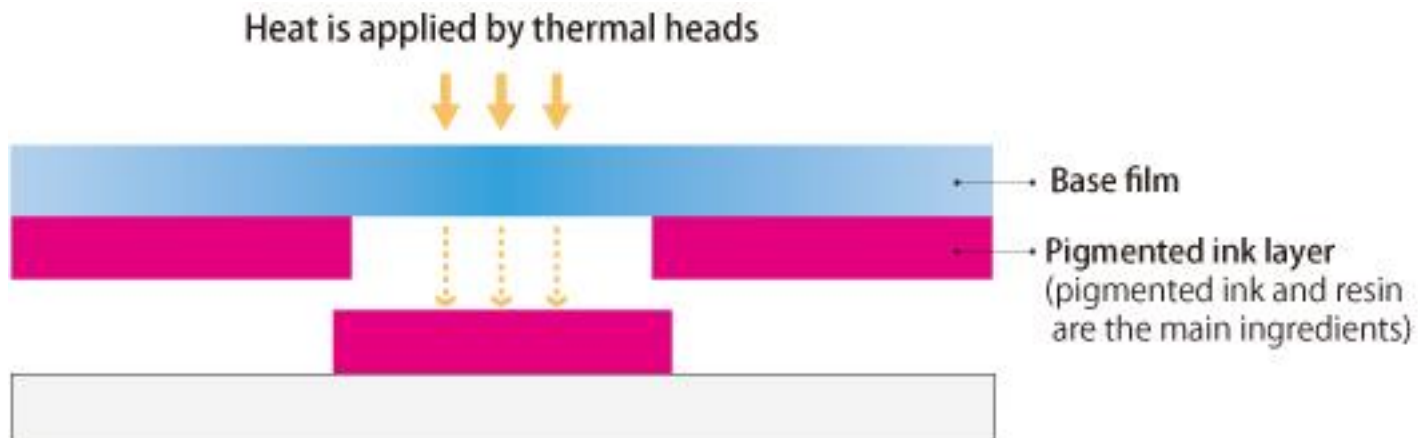


**The print result of the
sublimation type
ribbon**



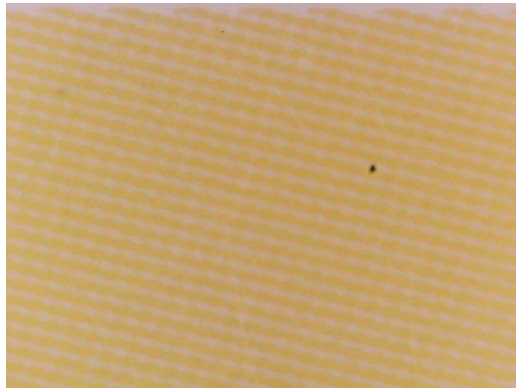
1.2 The operating principle of melting type ribbon

Melting type

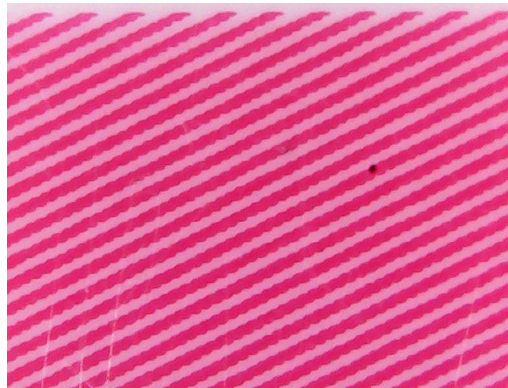




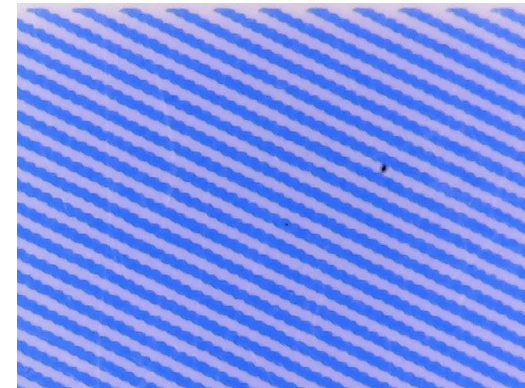
1.2 The print result of the melting type ribbon



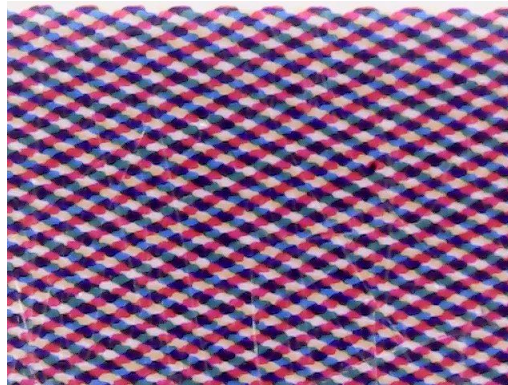
Y



M



C



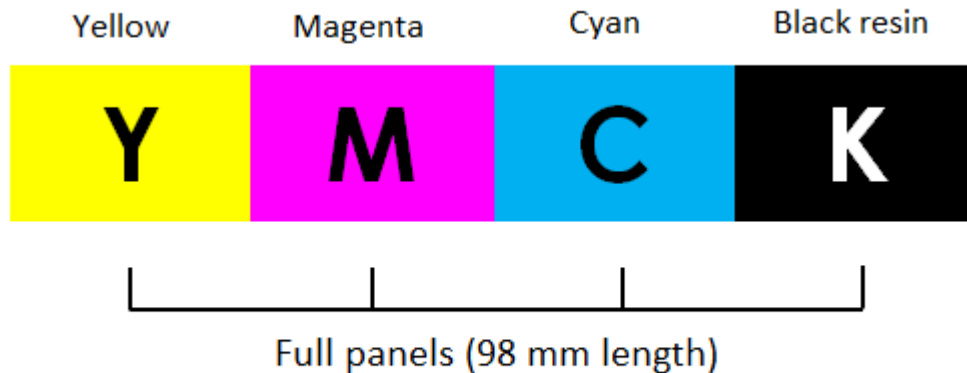


1.3 Analysis of advantage and disadvantage

| Type | Printer quality | Color stability | Price | Use brand |
|------------------|---------------------------|-----------------|--------|---|
| Melting type | Good (narrow color gamut) | Best | High | TOPPAN |
| Sublimation type | Best (wide color gamut) | Good | Middle | A majority of brand in the market (EVOLIS ZEBRA FARGO,etc) |



2.1 Y,M,C,K? What is Y,M,C,K?



RGB is the three primary color from incident light or through the light. The display board of the digital camera or computer is RGB.

YMCK is to describe the three primary color of the incident light. YMCK is used in oil painting and printer.



2.2 “O” Protection & security “O” layer

Yellow

Magenta

Cyan

Black

Overlay



Whole panels (length: 98 mm)

There still exist
YMCKO except
standard ribbon
YMCK. “O” layer is
used to protect the
printing element of
card and the security.



PS: “**T**” layer of DATECARD, the similar function, that is YMCKT(T: TOPCOAT)



2.3 Security Uv ribbon



Y M C K UV

By fluorescent security ribbon (YMCK UV)
You can easily fluorescent security printing



By UV fluorescent light may show an image you print documents in order to ensure your safety

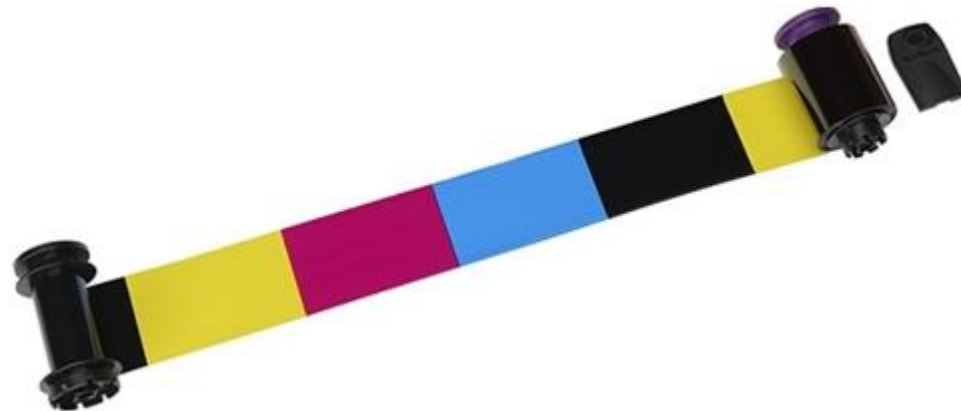


2.3 Security Uv ribbon





3.1 YMCK Standard ribbon-YMCK



YMCK ribbon can be used in the single-sided or dual-sided color print. Full color print (Y/M/C) and monochrome text or barcode (K) and various collection is available. K is black resin. Ribbon should be used with transfer film.



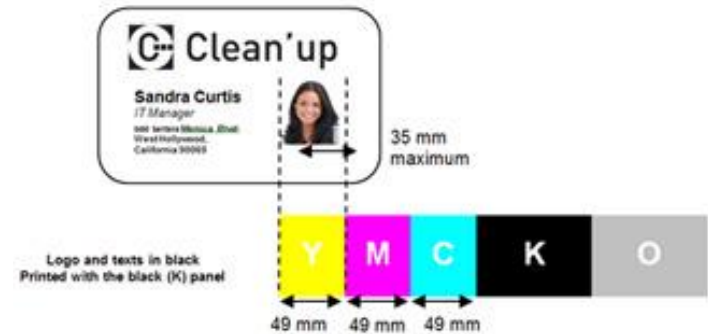
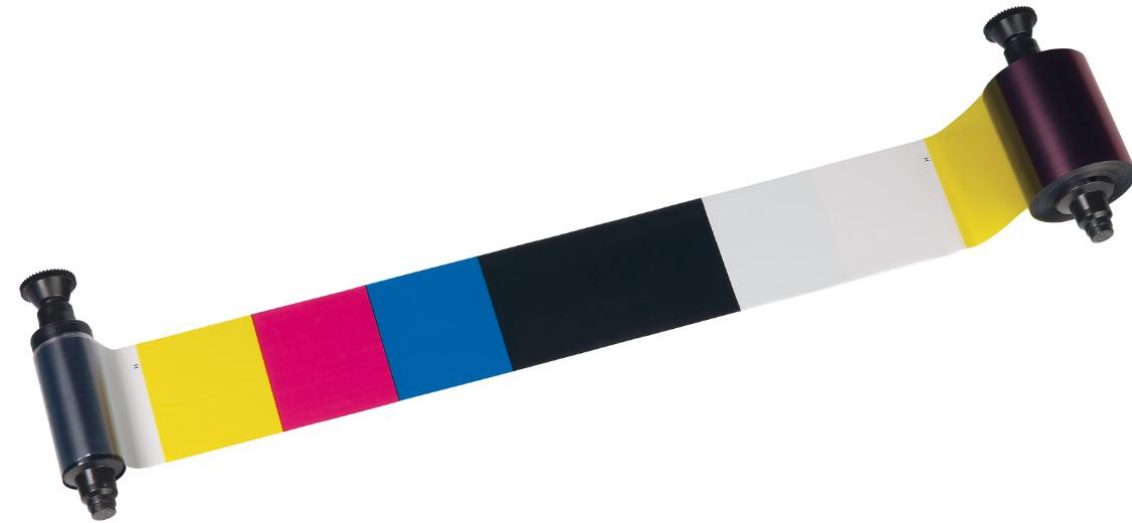
3.2 YMCKO Standard ribbon-YMCKO



Except the standard color yellow, magenta, cyan and black, YMCKO ribbon will apply a protection layer on the card, which can ensure the card still can be printed with high-quality after being used frequently. This procedure can improve the image and logo quality to make the resolution reach 300DPI, which ensure the high-quality print result.



3.3 YMCKO-half panel ribbon



Half panel ribbon is suitable for printing colorful identification photo and text, logo or barcode. The identification photo can be printed colorfully, and the other content can be printed with black resin.

Mainly used in student card, transportation card, employee card, VIP card and driver's license.



3.4 YMCKOK



This ribbon is divided into six panels, yellow, magenta, cyan, black, laminate and black.

Used in colorful dual-sided printing, which the front is high-quality resolution and the back is black resin print.



3.5 UcYMCK (DTC)



Uc is one color panel on the color ribbon and print before Y,M,C,K, etc color panel. Transparent layer (Uc) cover on the card surface through direct to card (DTC) printer. Afterward, to customize the D2T2 (sublimation transfer) color card (single-sided or dual-sided) can continue.



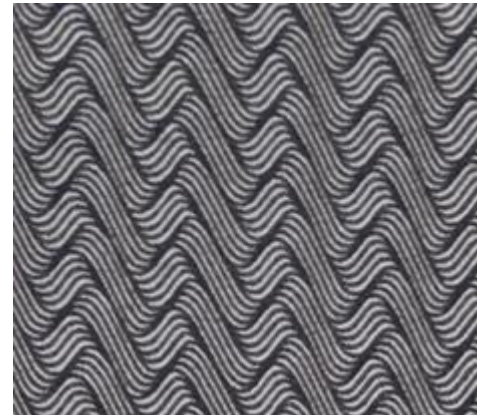
3.6 Monochrome ribbon



Monochrome print use one color to print, which is the most economic technology to make customized card. It substantially reduce the cost. When being used, it can increase the card quantity of every ribbon to print. Main color is black resin + laminating, black, blue, red, green, white, golden and silver.



3.7 Scratch-off ribbon



Scratch-off ribbon is a special ribbon. It is grey and can be eliminate through scratching. This function is used for covering the amount and password on the gift card.



3.8 White signature ribbon



**White signature ribbon
can be printed out an
area where you can
write your signature on
the card.**



3.9 Summary of the ribbon type

| Type | YMC | YMCK | YMCKO | YMCKO K | YMCKO KO | Monochrome ribbon | Special ribbon |
|---------------------------|-----|------|-------|------------|-------------|----------------------|-------------------|
| Direct to card printer | ● | ● | ● | ● | ● | ● | ● |
| Retransfer printer | | ● | | | | | |
| Single- sided | ● | ● | ● | ● | ● | ● | ● |
| Dual-sided | ● | ● | ● | ● | ● | ● | ● |
| Use life (year) | 3 | 3 | 3 | 3 | 3 | 3 | 3 |



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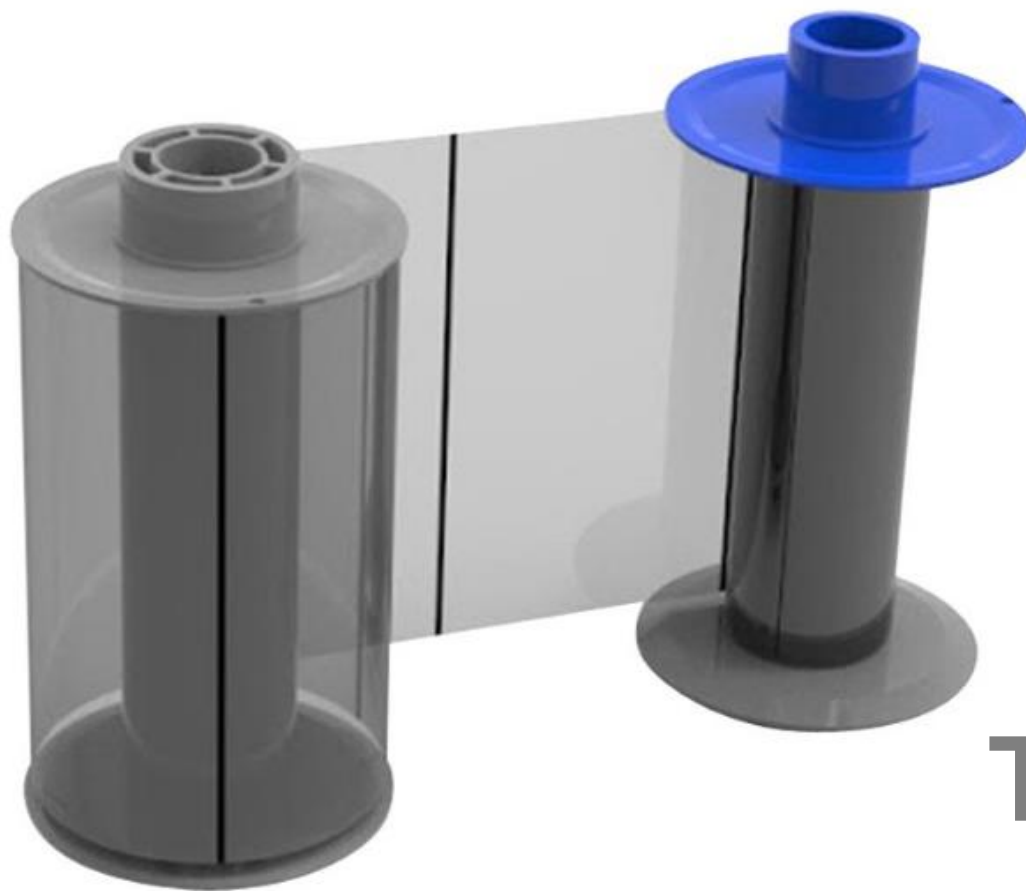
3.10 Common ribbon security





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Transfer film



1 Transfer film function



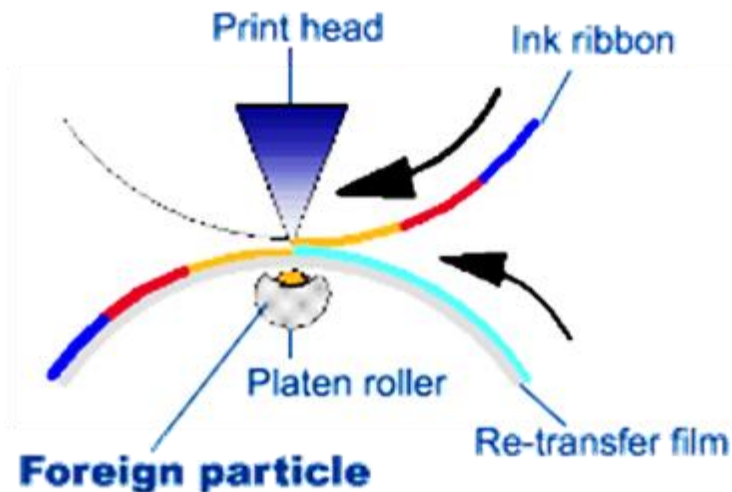
Transfer film is used in retransfer printer. Contents are transferred to transfer film in the first time and the contents on the transfer film are transferred to the card in the second time, which achieve the over edge print.



2 The theory of transfer film

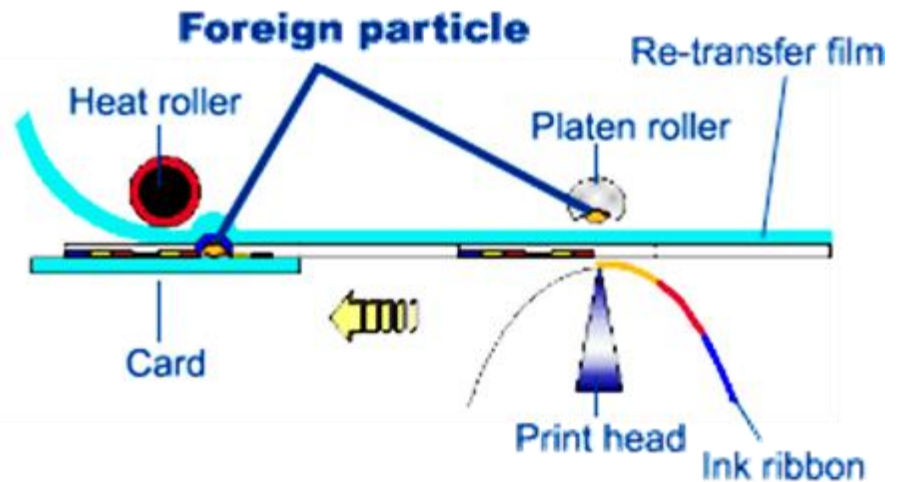
Case 1

Foreign particle on re-transfer film



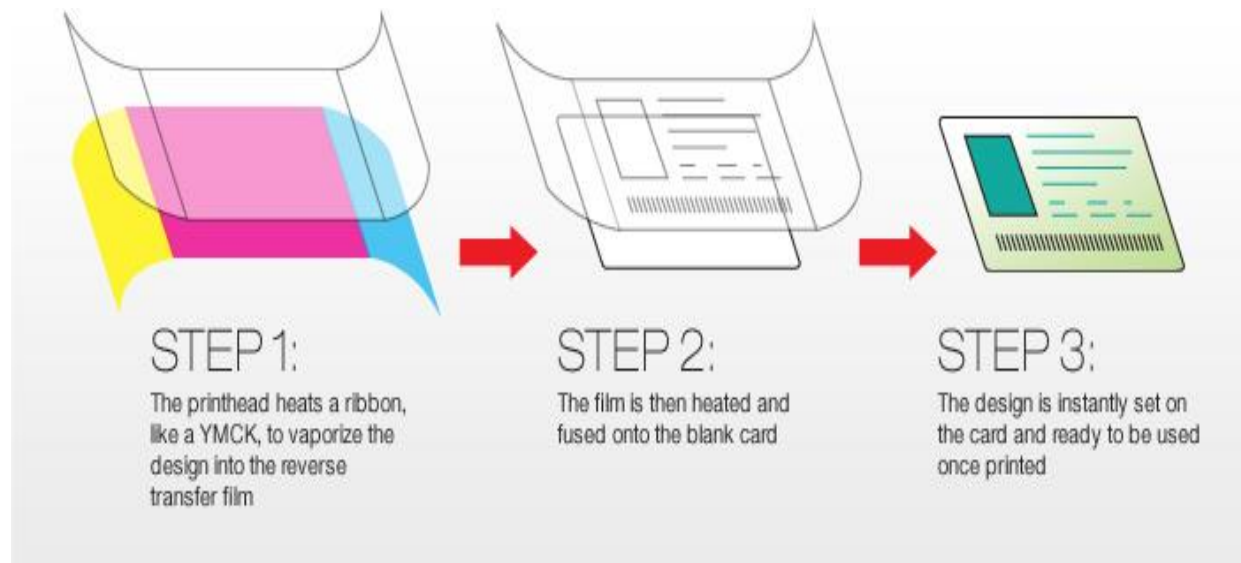
Case 2

Foreign particle on blank card





2 The theory of transfer film





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3 Use comparison of the transfer film



1、 Before the transfer



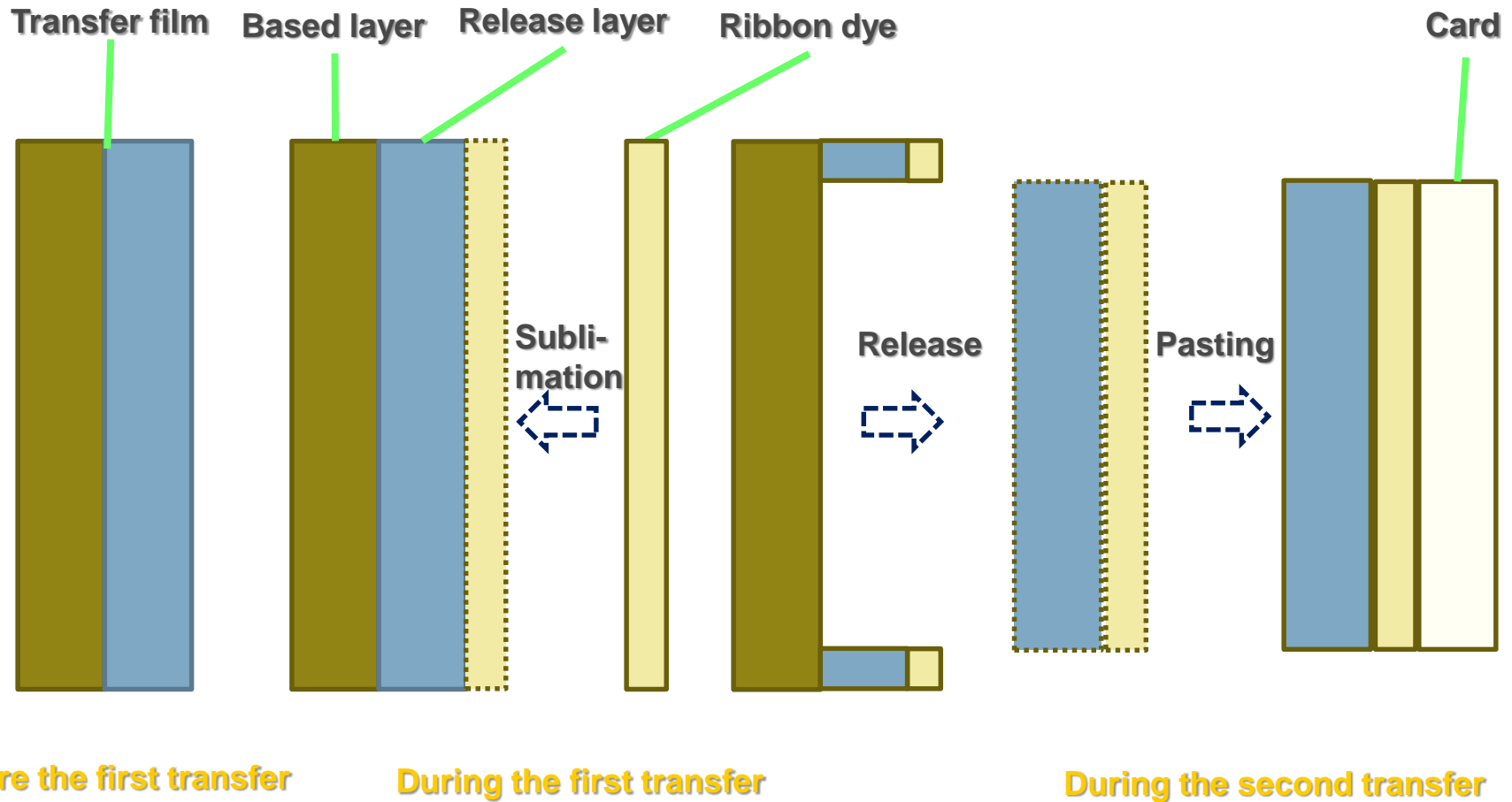
2、 During the transfer



3、 After the transfer



3 The using process of transfer film





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Laminate



1. Introduction of laminate



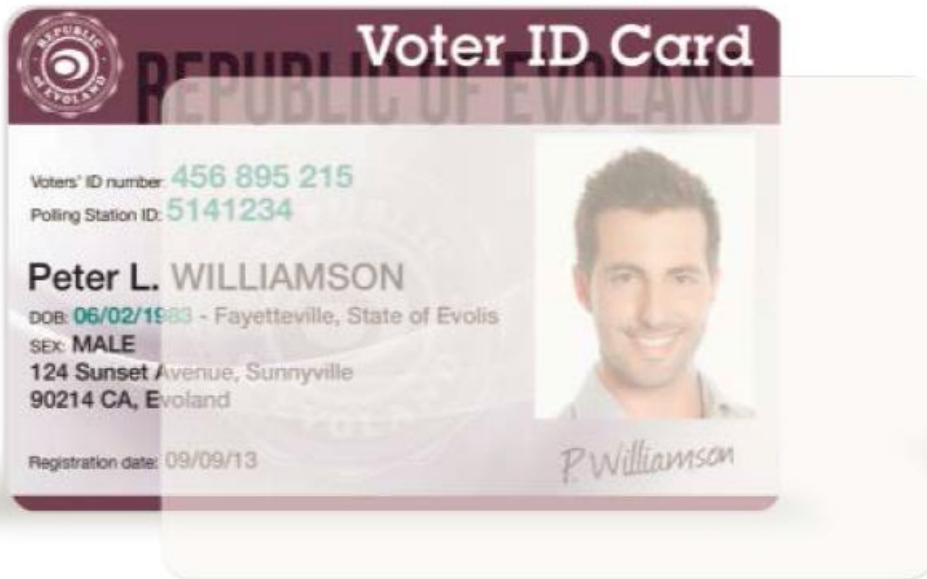
Holographic laminate can prevent card from water and oil to increase security and durability.

Usual laminate is using PET which is compatible with PVC or composite card.





3.1 Laminate for full surface

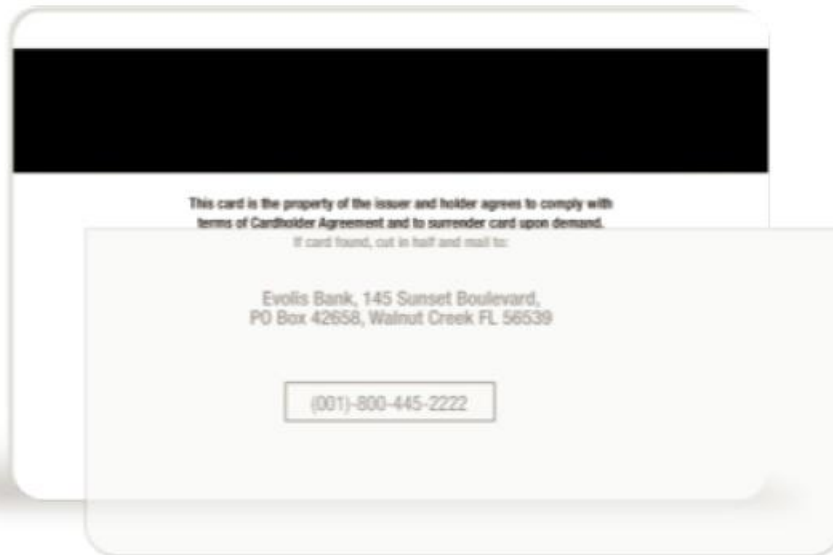


**Using for not
encoding option
card and
contactless smart
card. Patch on the
full surface for
single-sided or
dual-sided**

Patch on the full surface of the
card (near to edge)



3.2 Laminate for magnetic strip card



**Laminate for
cards with a
magnetic stripe**

Layout for cards with a magnetic
stripe



3.3 SIM laminate for SAM card



**Cutting
laminate
properly for
SAM card**

Layout for contact smart cards



5 security

Guilloche Pattern (overt)

Highly complex, multiple-color design pattern generated by a mathematics formula. Virtually impossible to reproduce by copy machine or to re-create digitally.

Infrared Ink Printing (covert)

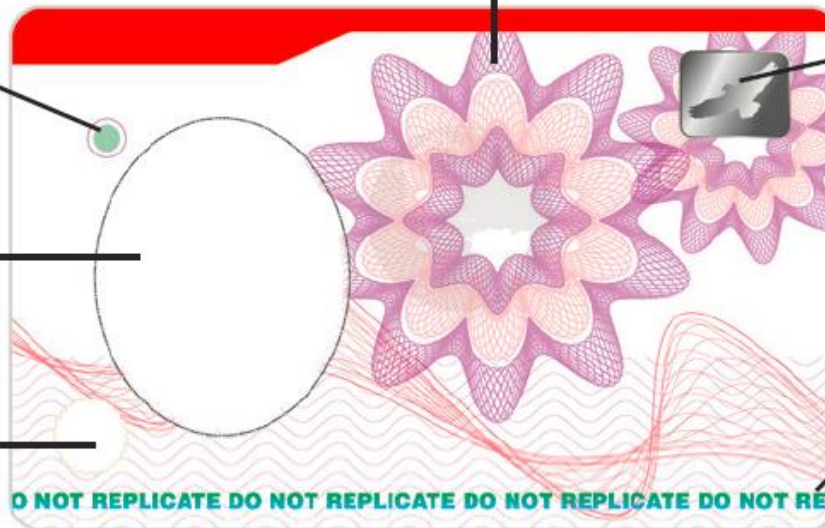
Uses special ink that reacts (fluoresces) when subjected to a specific frequency of laser light.

Photo Box (overt)

A portion of the card design specifically allocated for the digital imaging of the card recipient's photograph.

Clear Window (overt)

Card is constructed with a clear core material to deter any attempt to create a counterfeit card from common card stock.



2-D Holographic Foil (overt)

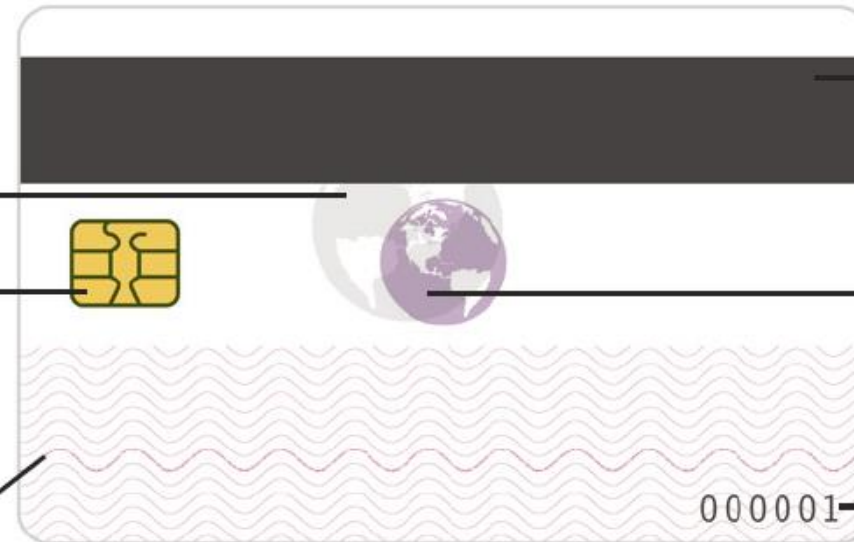
Method of producing a two-dimensional image of an object by recording on a photographic plate or film the pattern of interference formed by a split laser beam, and then illuminating the pattern either with a laser or with ordinary light. 3-D holographic foil also available.

Optical Variable Ink (OVI®) (overt)

Optical variable ink is a high security feature showing different colors as the angle of view changes. Optical Variable Ink can have a support printing by a dark color shade to get a luscious color effect.



5 usual technology for security



Opacity Mark Printing (covert)

An image is printed on the inner layers of the card material, making it visible only via the direct application of an intensely focused light source.

Contact Chip (overt)

An embedded microchip within the card layers that allows for large amounts of data storage and management. Chip is protected by a contact "plate" available in gold or silver.

Micro Text Printing (covert)

Small text that is only visible with an 8x or 10x magnifying loop; typically has a predetermined misspelling or transposed character.

Contactless Chip (overt)

An embedded microprocessor chip within the card layers that is read via radio signals rather than physical contact.

Magnetic Stripe (overt)

Magnetic band capable of storing data by modifying the magnetism of tiny iron-based particles.

Black Light-Reactive Ink Printing (covert)

Uses ink that glows under an ultraviolet light. Available in red for added security.

Serialization (overt)

Unique numbering printed on the card specified by the customer.