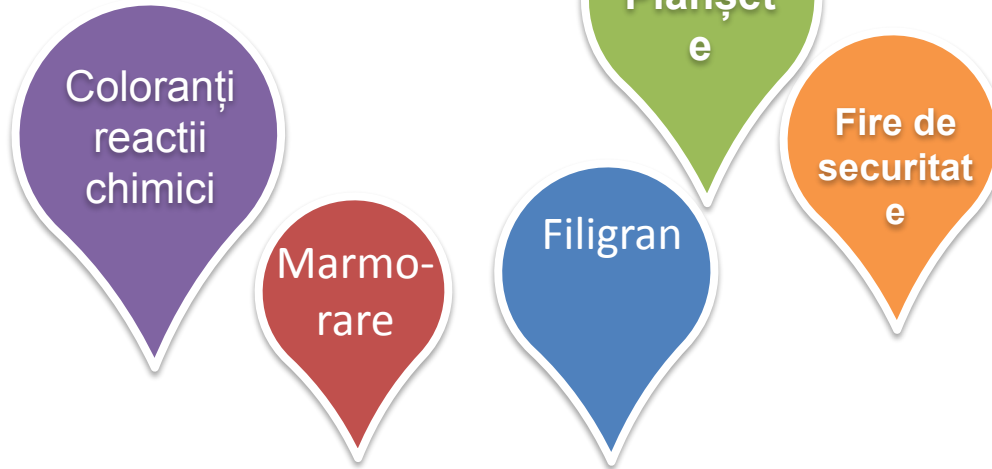


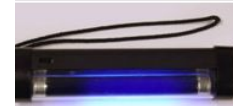
# Caracteristici de securitate a hârtiei

# Caracteristici de securitate



•Hârtie de securitate

# Fluorescență – verificare

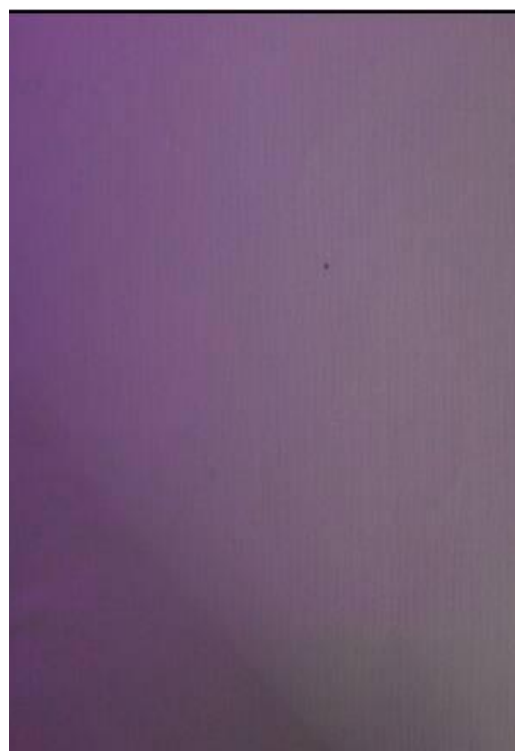


Hârtia de securitate nu conține înălbitori optici

Hârtie cu înălbitor optic

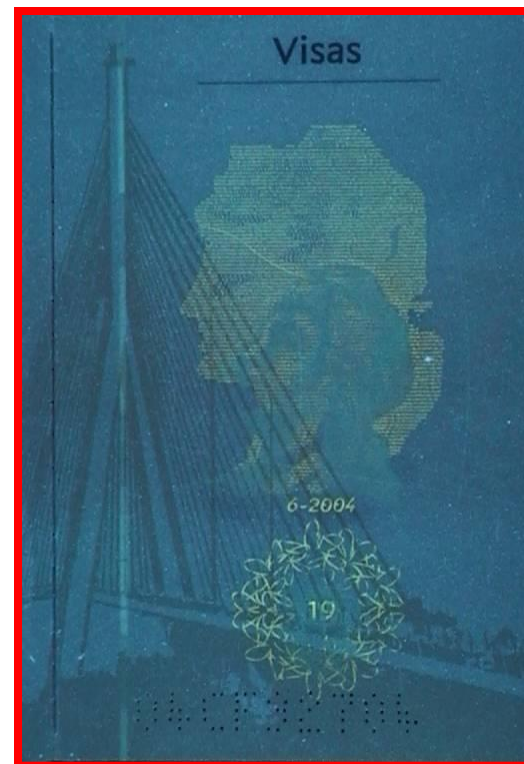
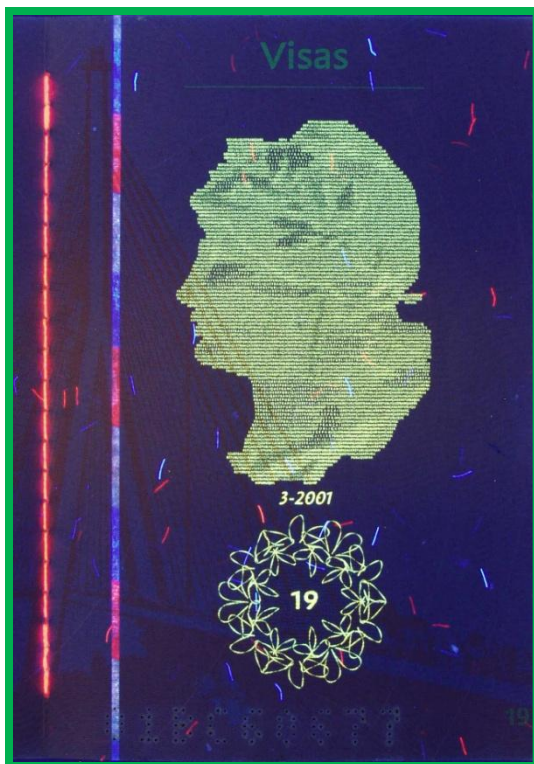


Hârtie fără înălbitor optic



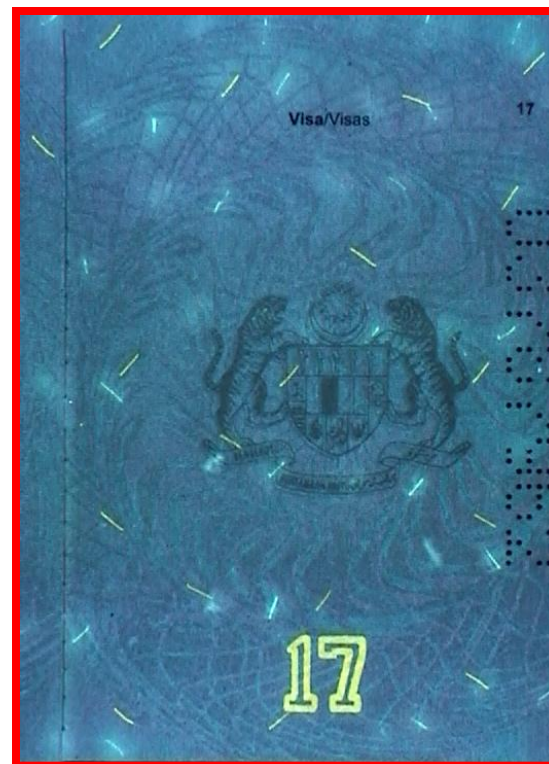
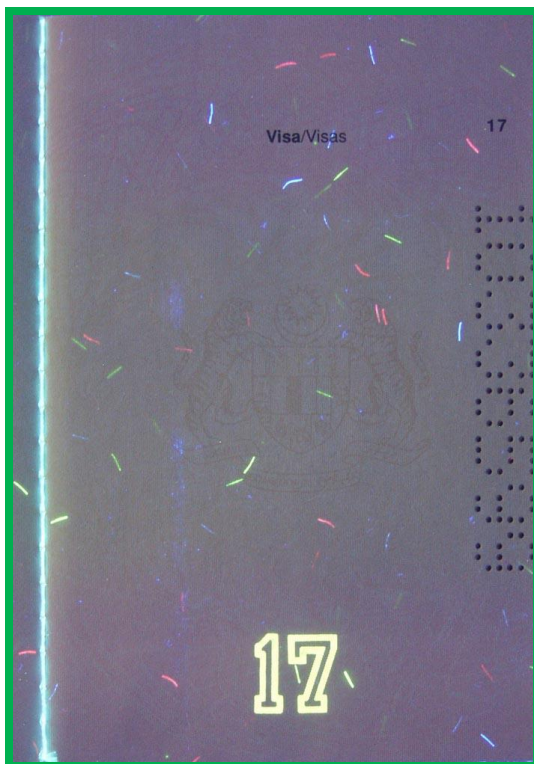
# Fluorescență – verificare

Hârtia de securitate nu conține înălbitori optici

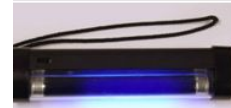


# Fluorescență – verificare

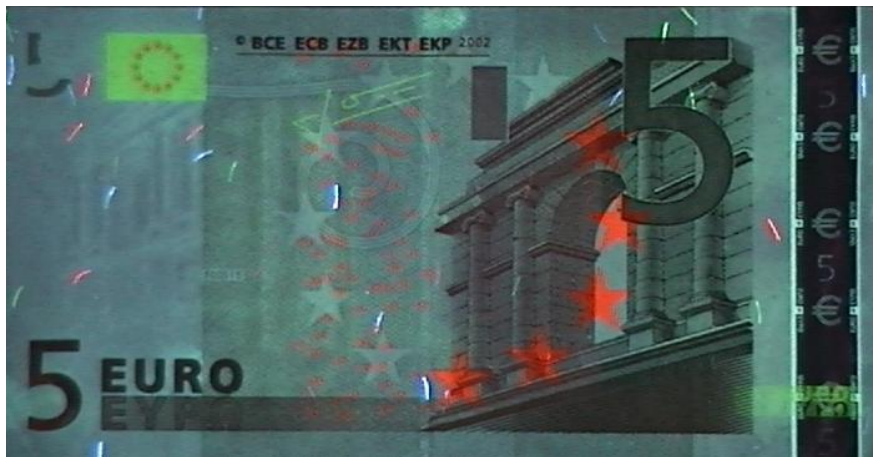
Hârtia de securitate nu conține înălbitori optici



# Fluorescență – verificare

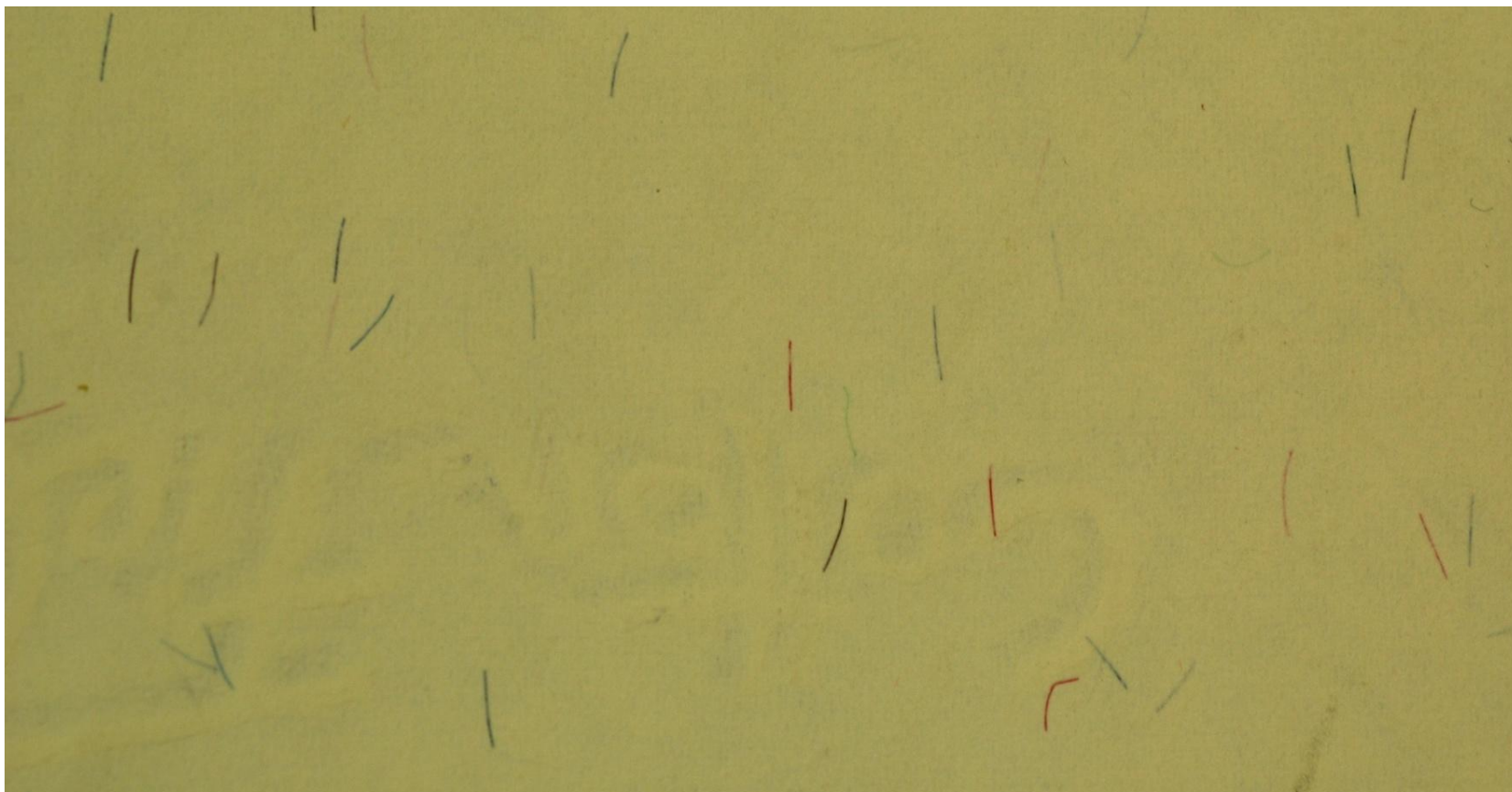


Hârtia de securitate nu conține înălbitori optici



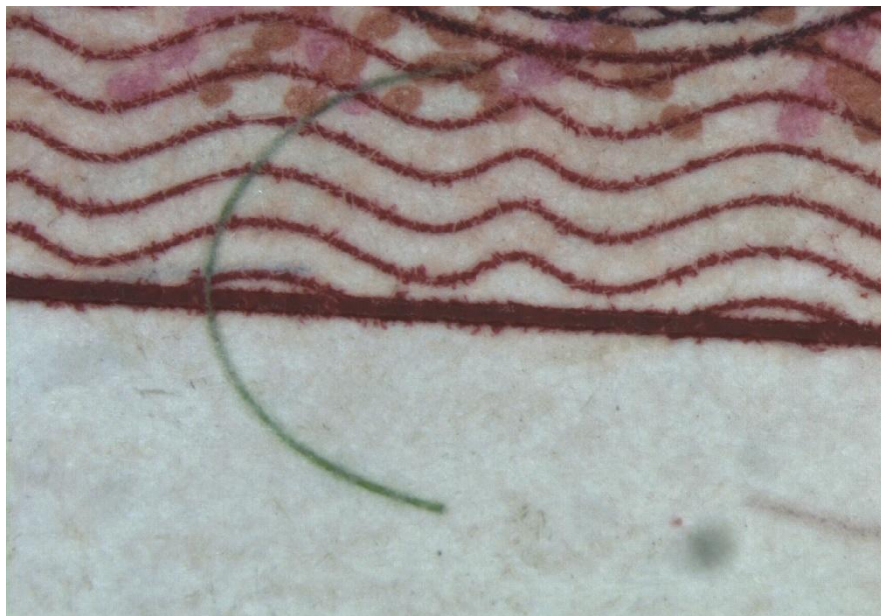
# Marmorare

Firele din masă plastică de lungime și culori diferite, care sunt incorporate în hârtie.

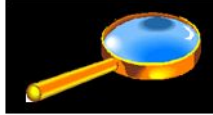


# Marmorare

Marmorare vizibilă

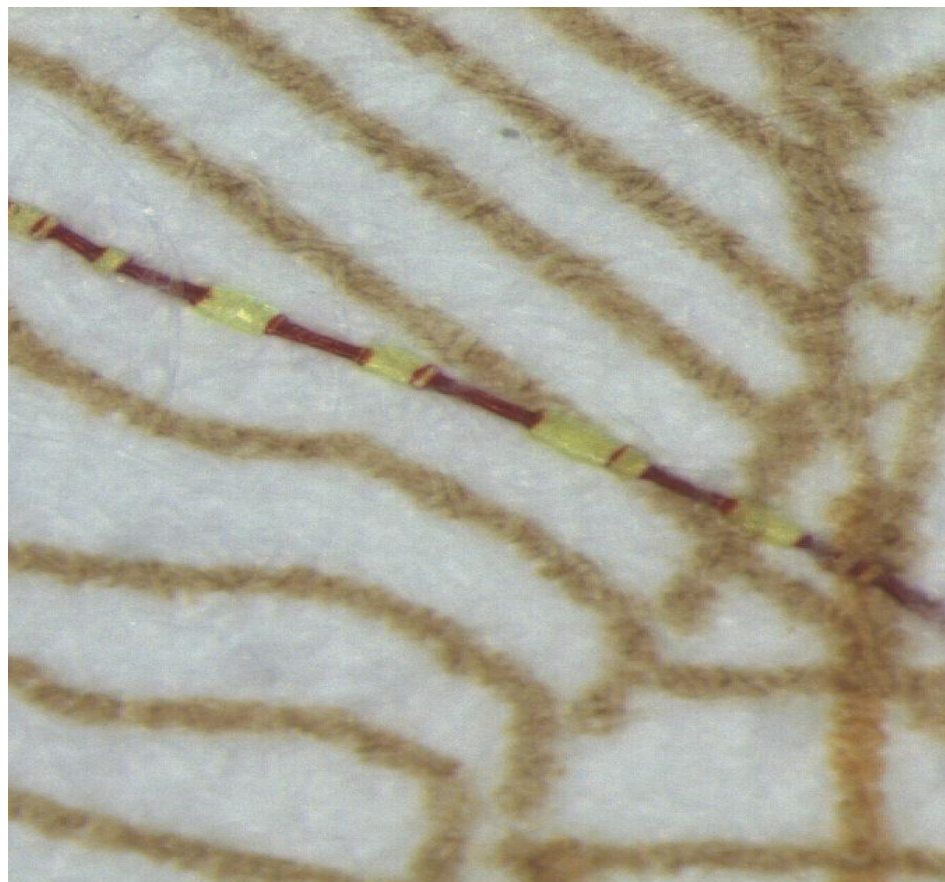
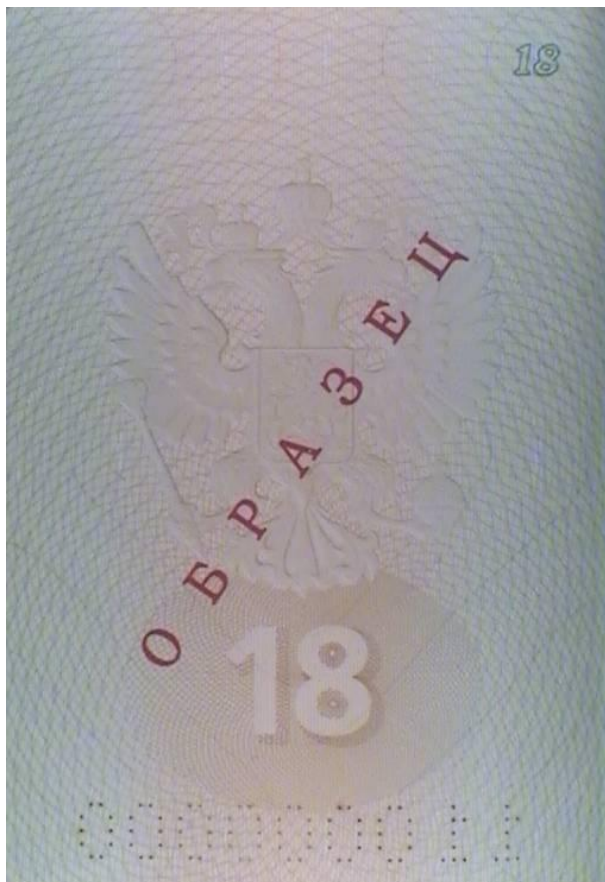


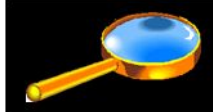




# Marmorare

Marmorare vizibilă





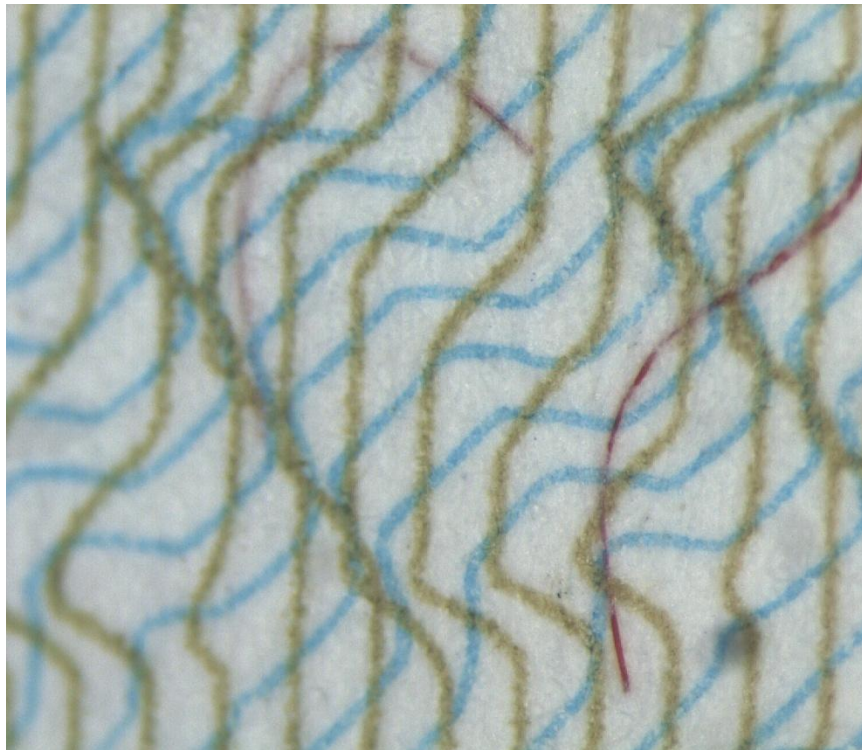
# Marmorare

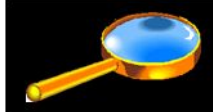
Marmorare vizibilă

Pastă de fibre suprapuse



Pastă de fibre suprapuse

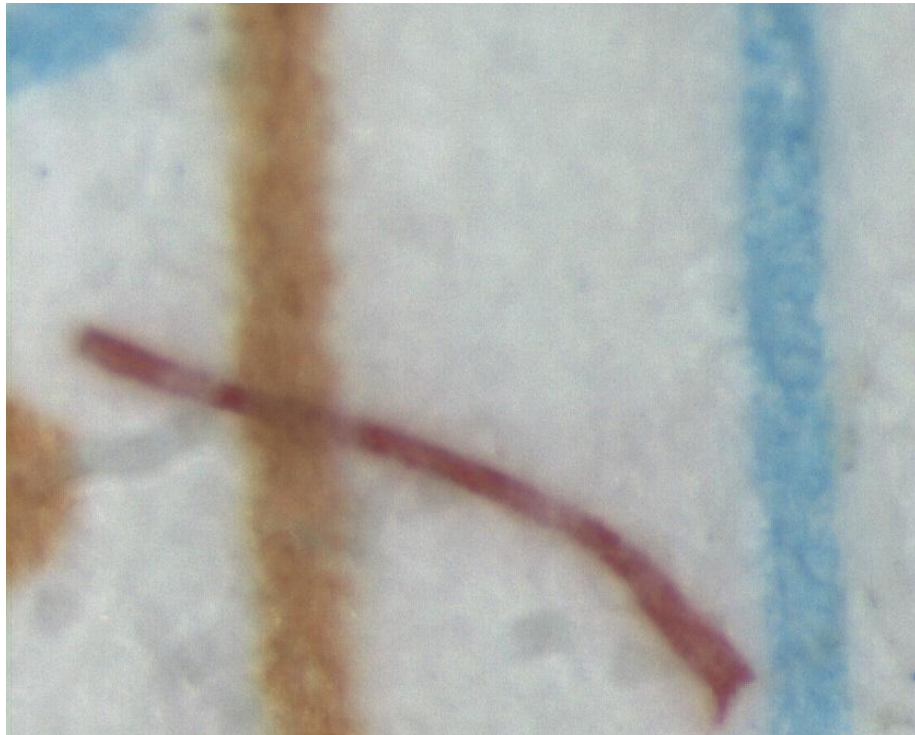




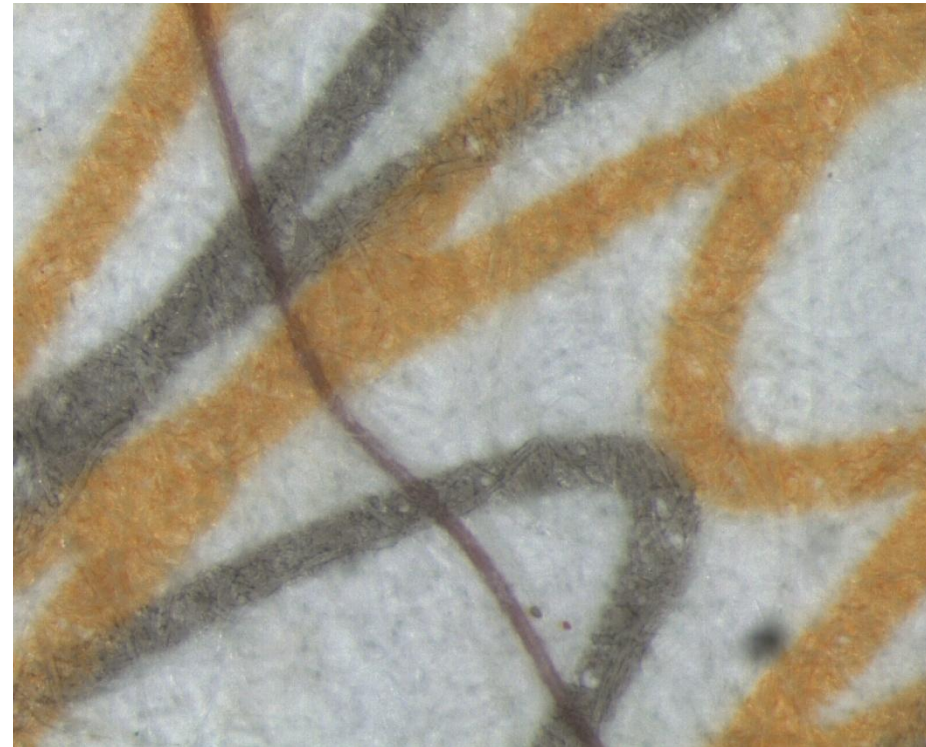
# Marmorare

Marmorare vizibilă

Suspensie sub presiune

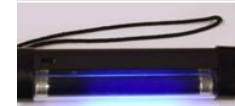
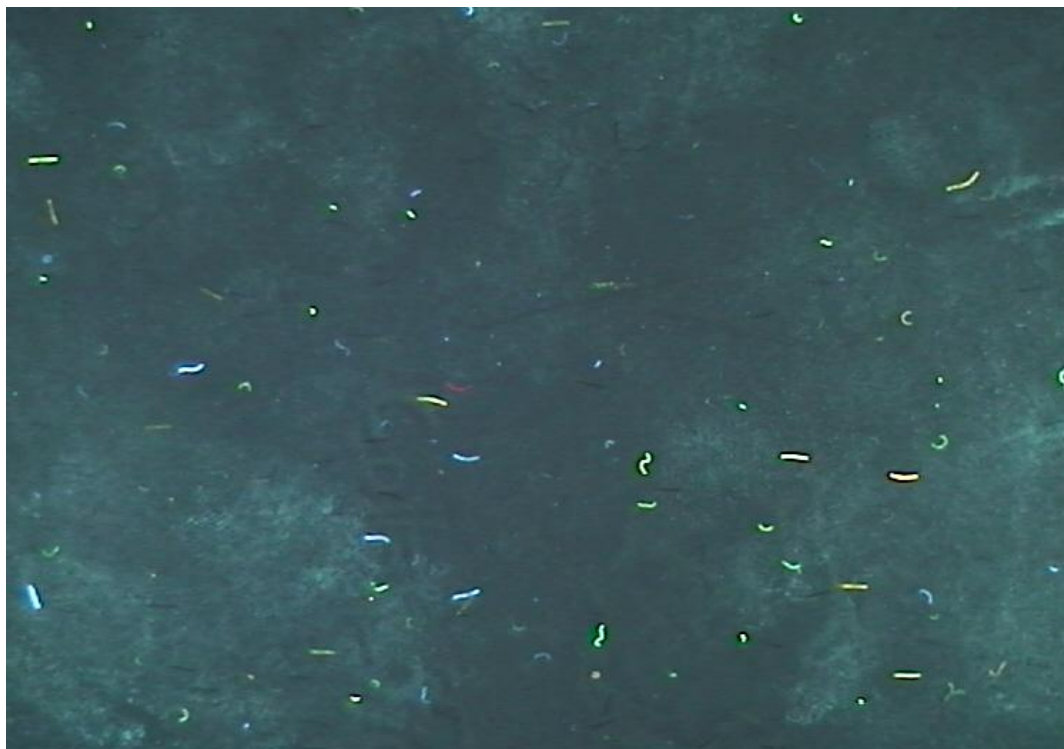


Suspensie sub presiune



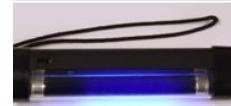
# Marmorare

Marmorare fluorescentă



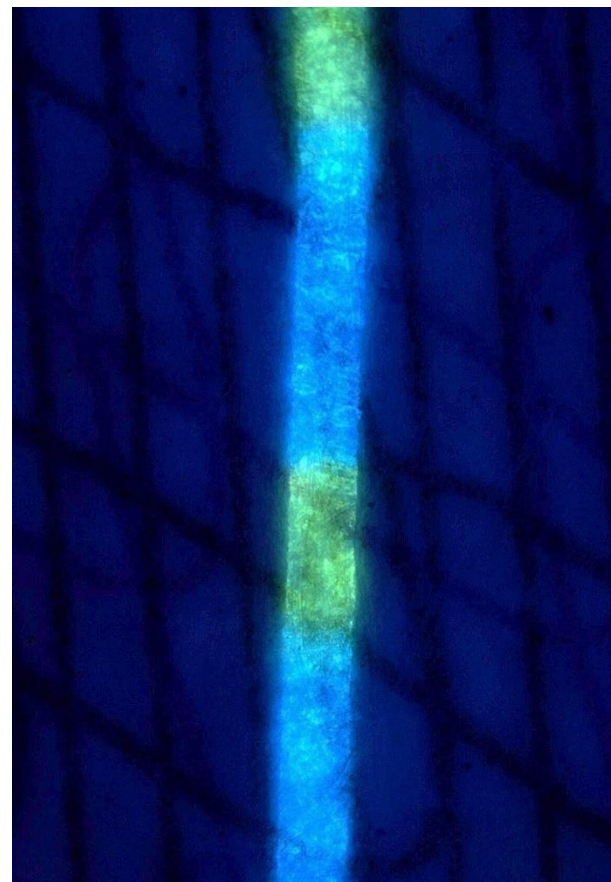
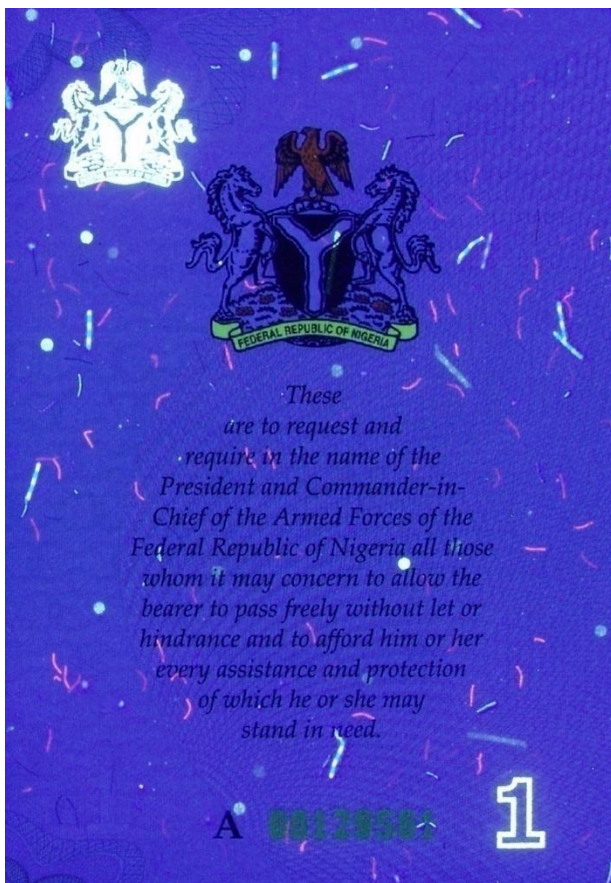
# Marmorare

Marmorare fluorescentă



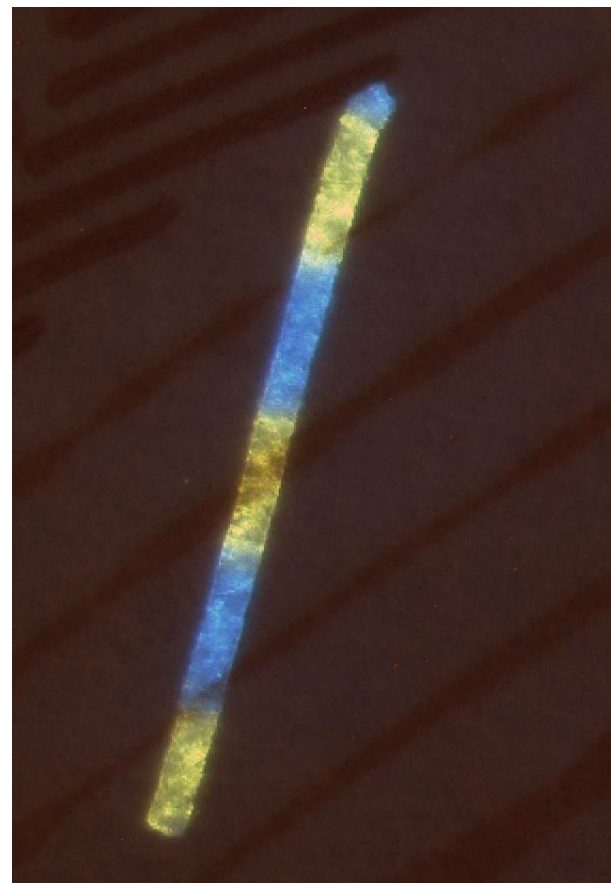
# Marmorare

Marmorare fluorescentă  
multicoloră



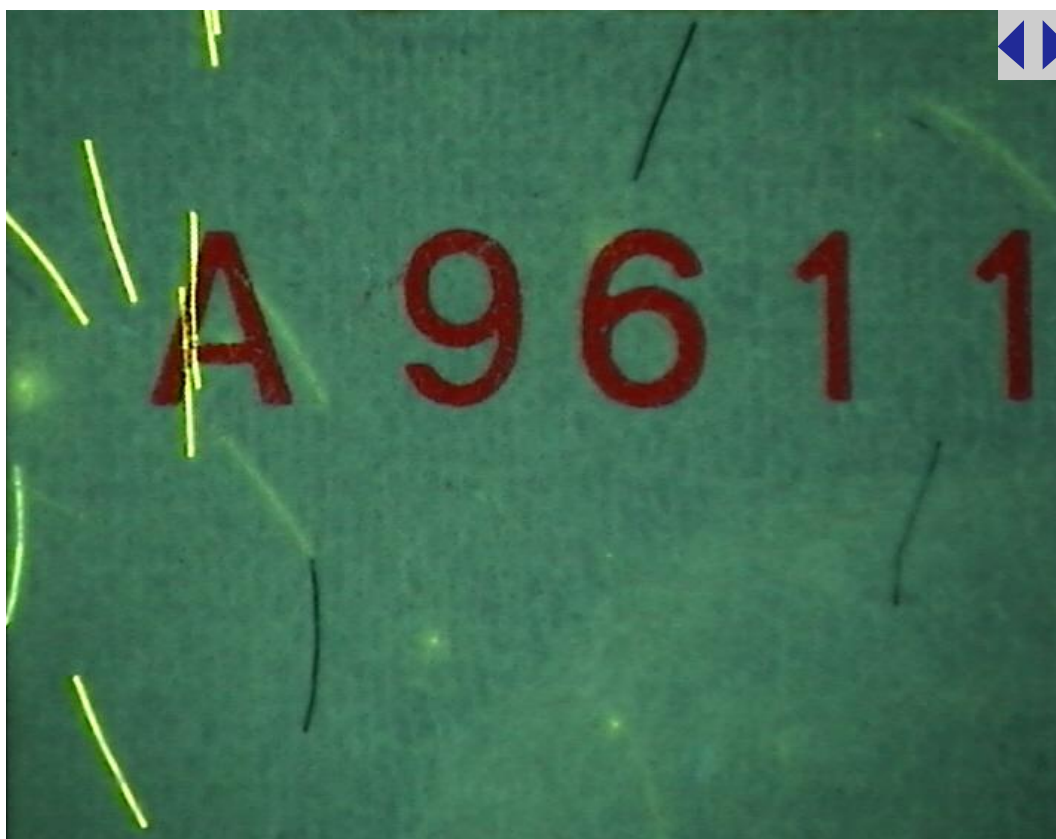
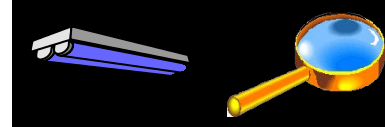
# Marmorare

Marmorare fluorescentă  
multicoloră



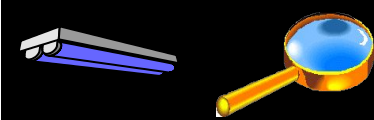
# Marmorare

Marmorare  
vizibilă/fluorescentă



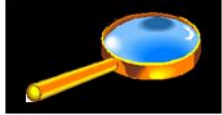


# Marmorare



Marmorare  
vizibilă/fluorescentă





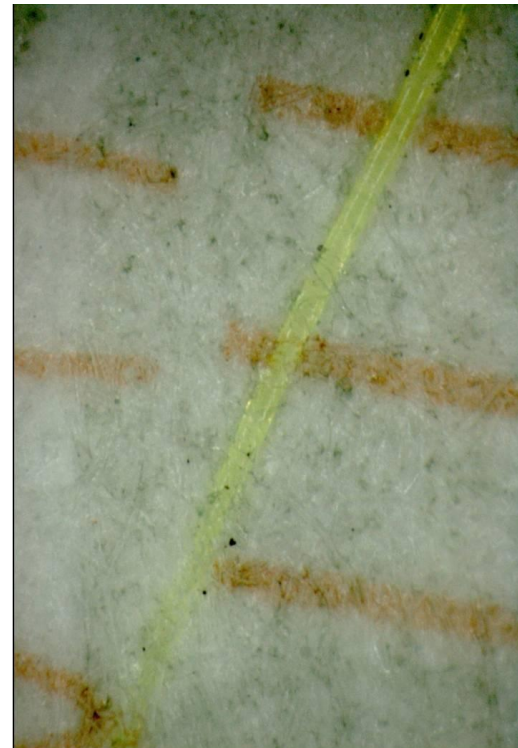
# Marmorare

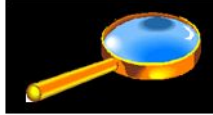
Imitație prin: Înregistrare

Original



Înregistrat

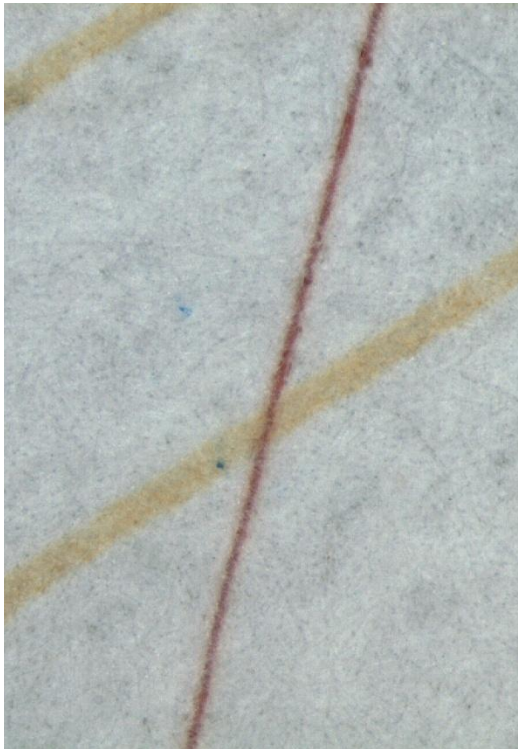




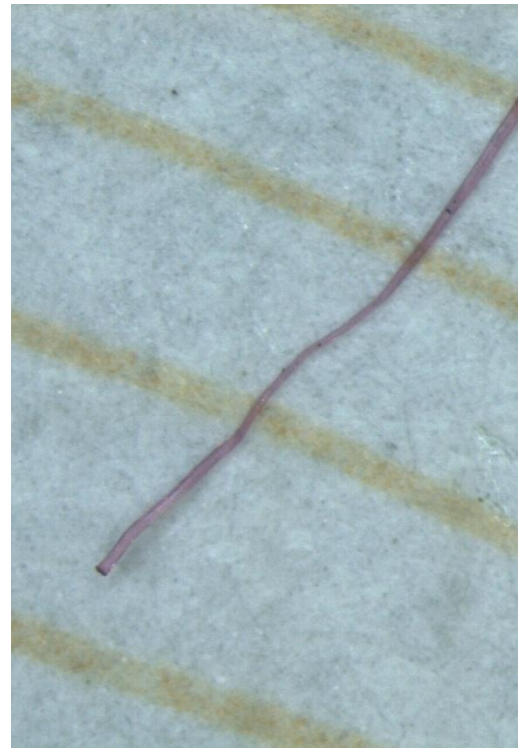
# Marmorare

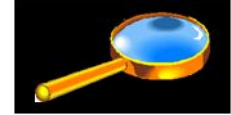
Imitație prin: Lipire

Original



Lipit

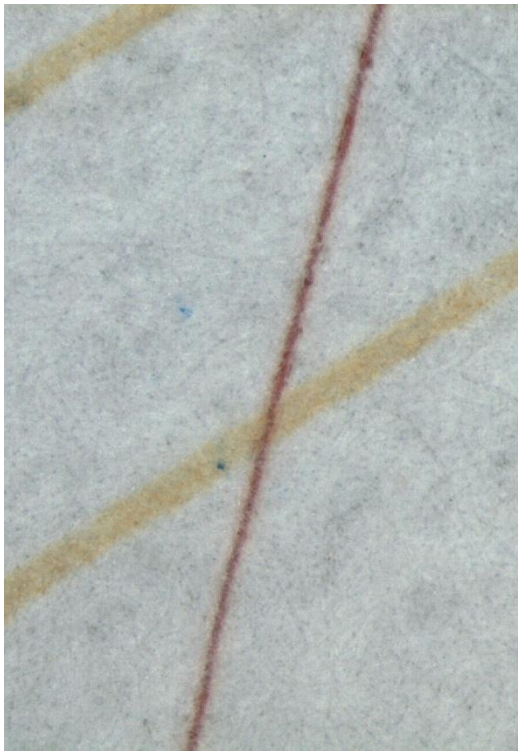




# Marmorare

## Imitație prin: Imprimare

Original



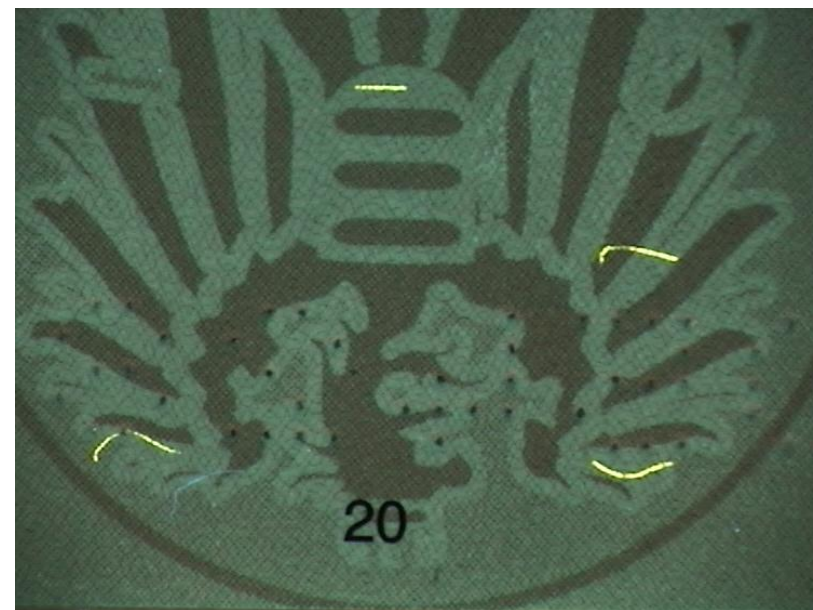
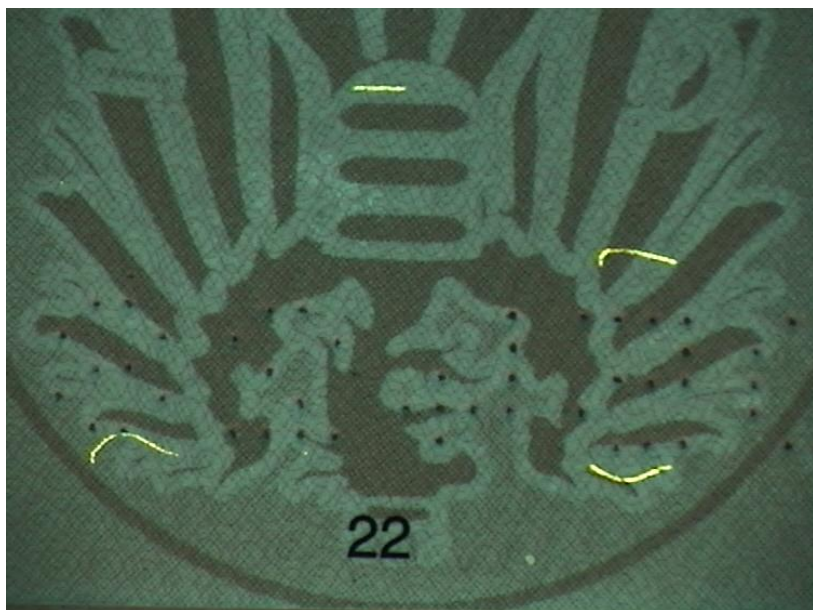
Imprimat



# Marmorare



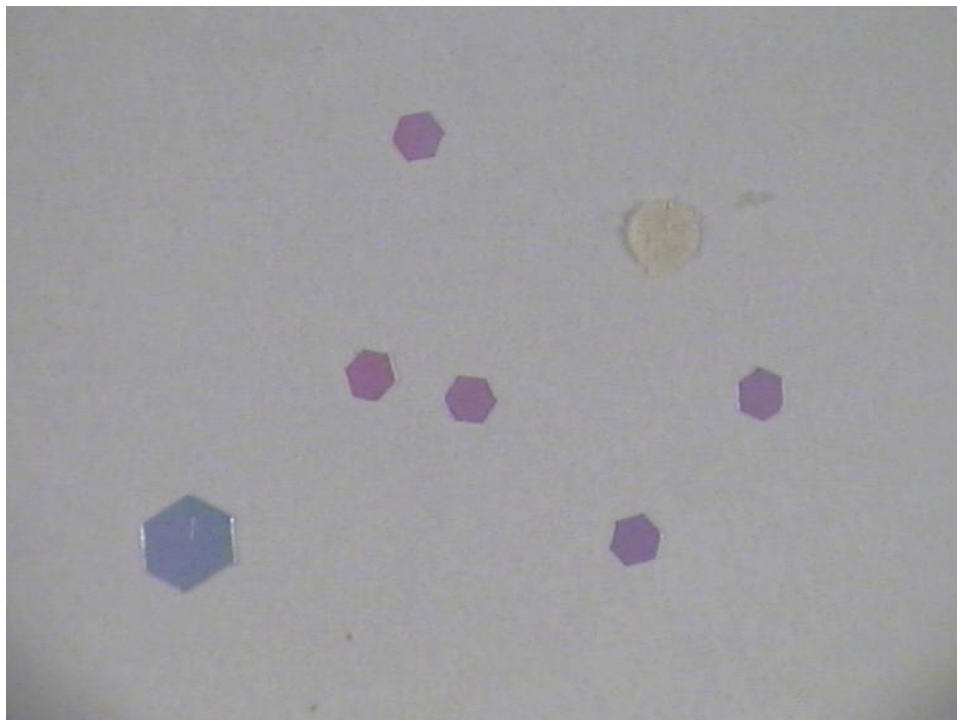
Marmorarea imprimată se află adesea în aceeași poziție





# Planșete

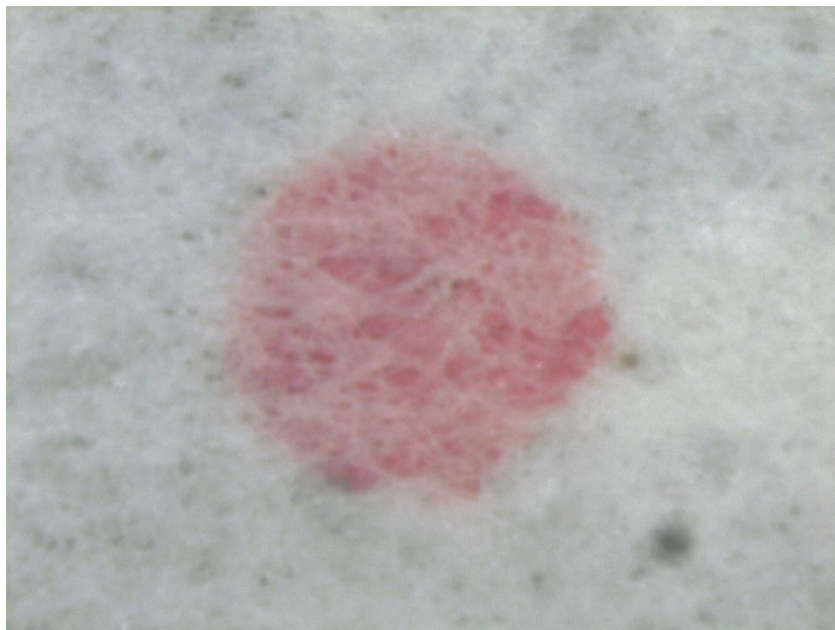
Foliile din mase plastice în forme geometrice și culori diferite, care sunt incorporate în hârtie în timpul producerii hârtiei.



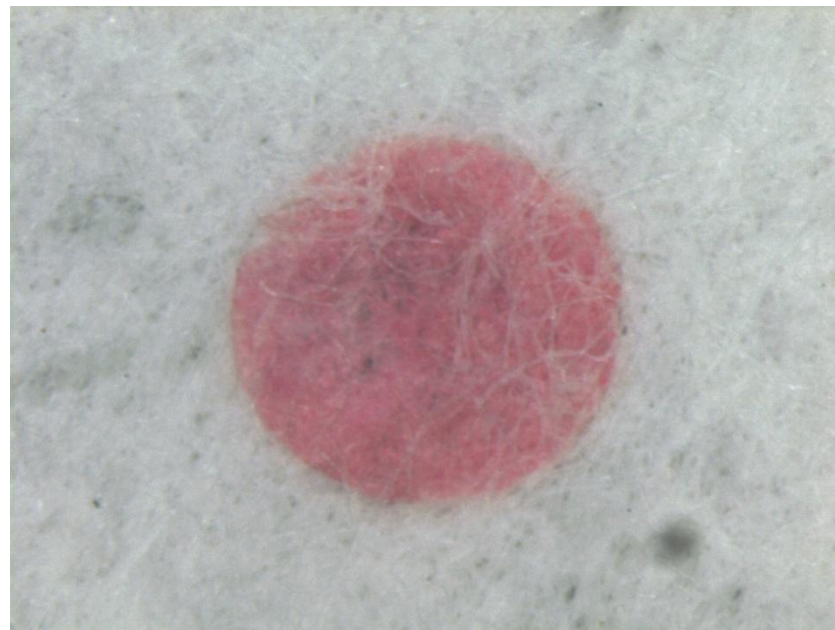
# Planșete

Planșete vizibile

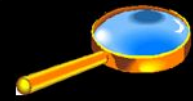
Pastă de fibre suprapuse



Pastă de fibre suprapuse

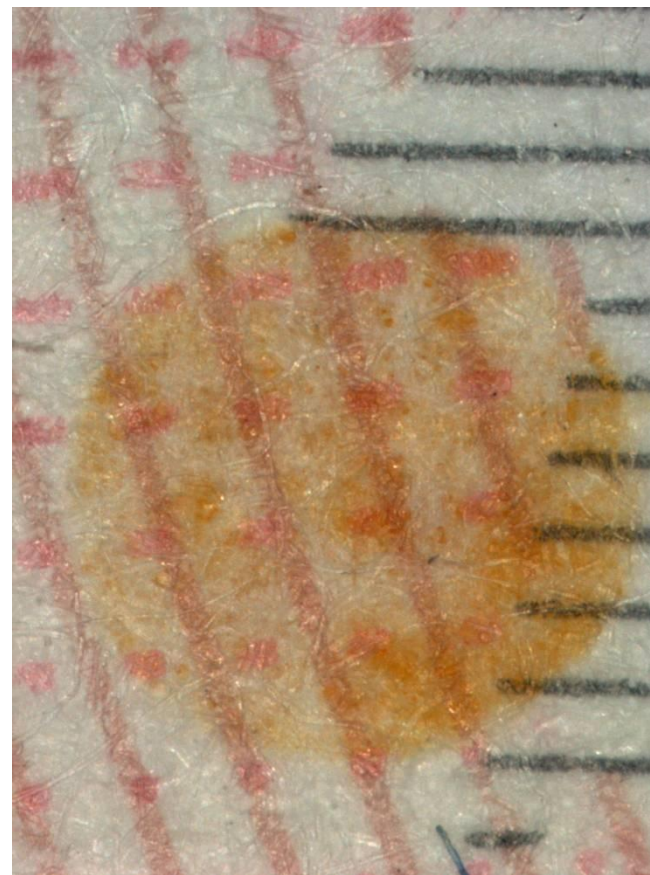
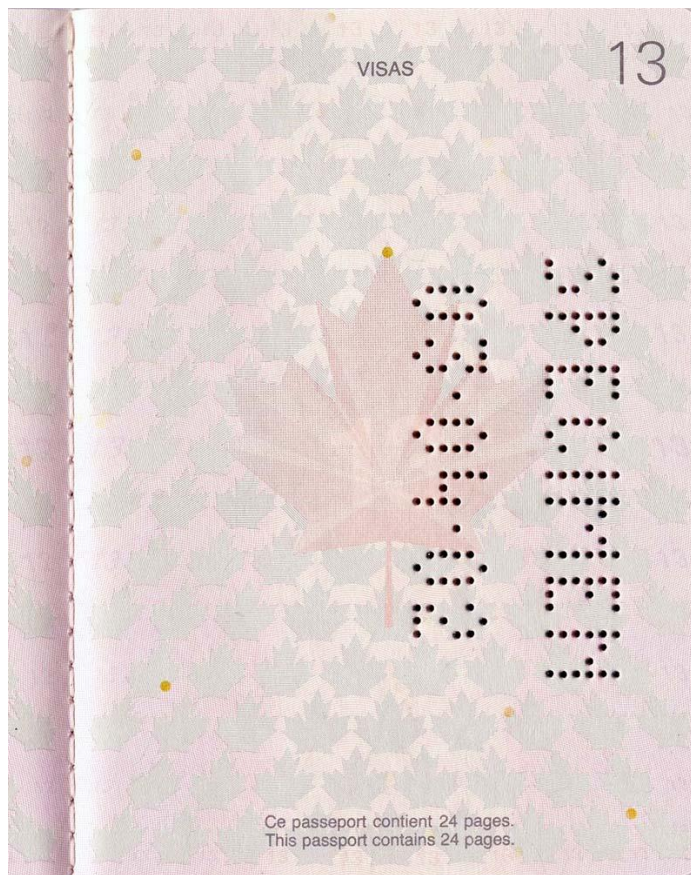


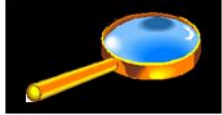




# Planşete

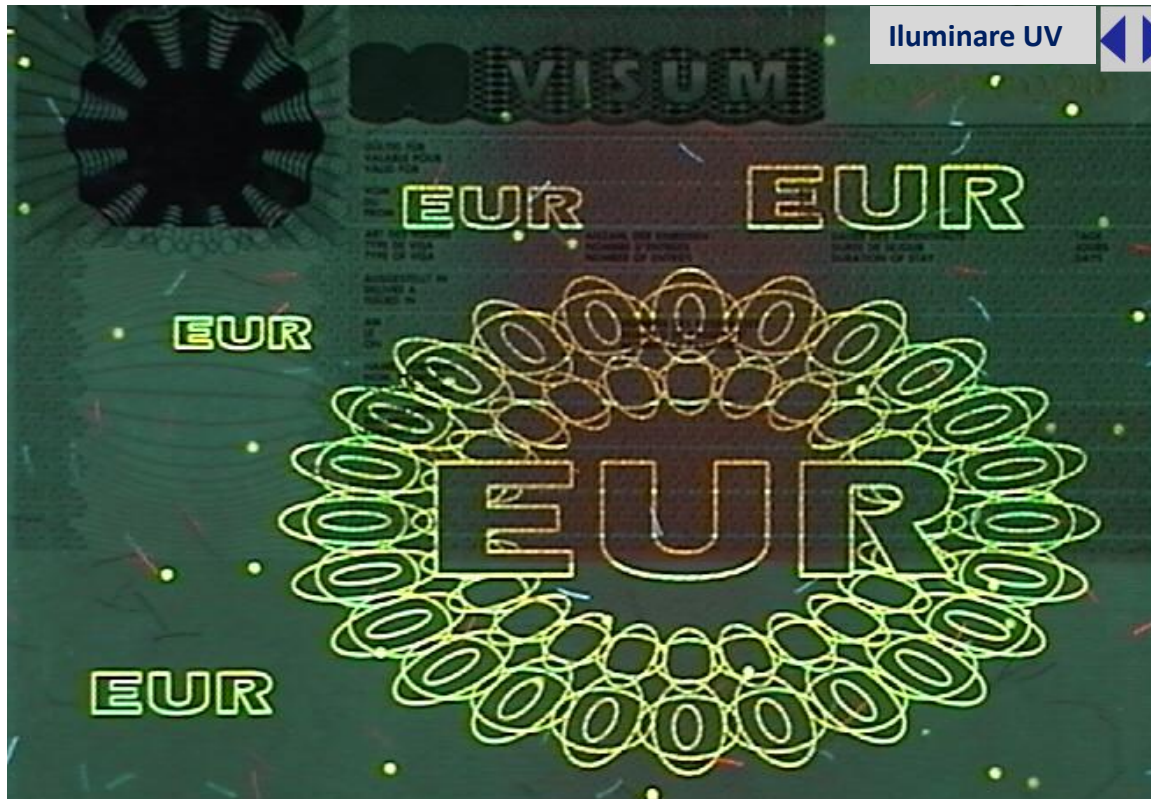
Planşete vizibile





# Planşete

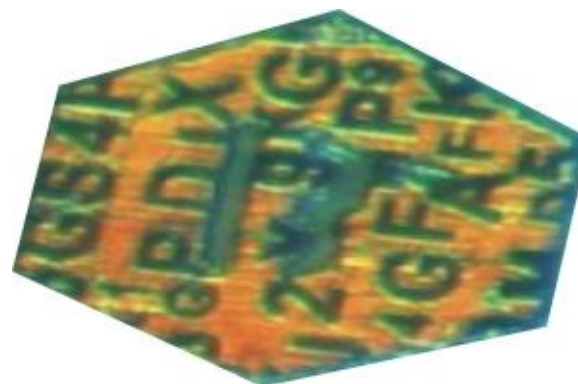
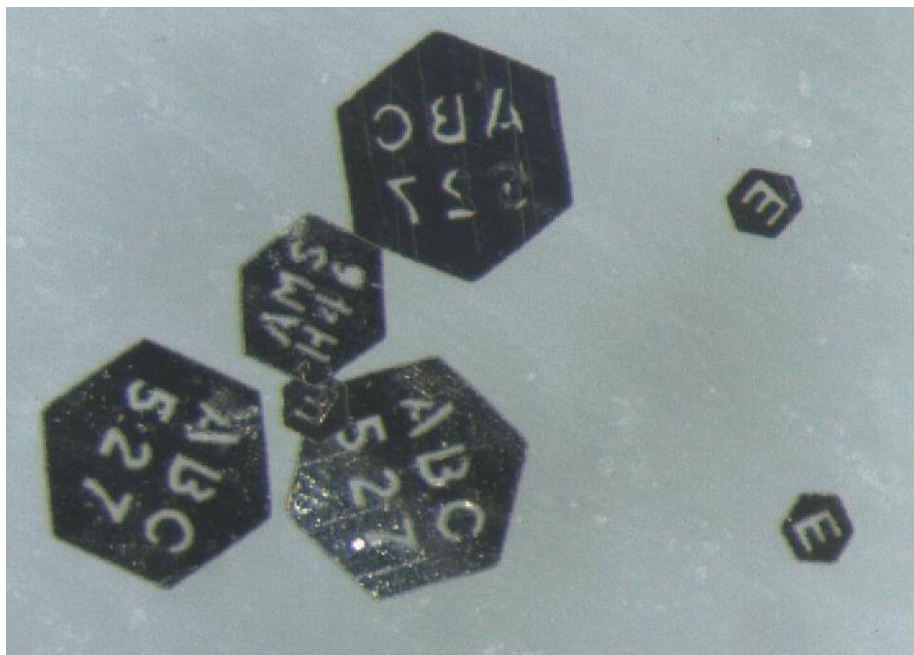
Planşete fluorescente



# Planșete

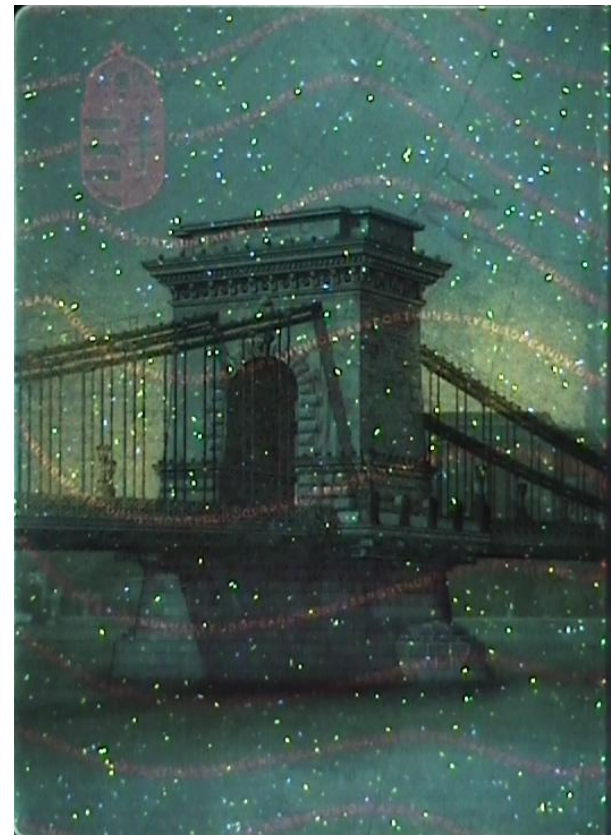
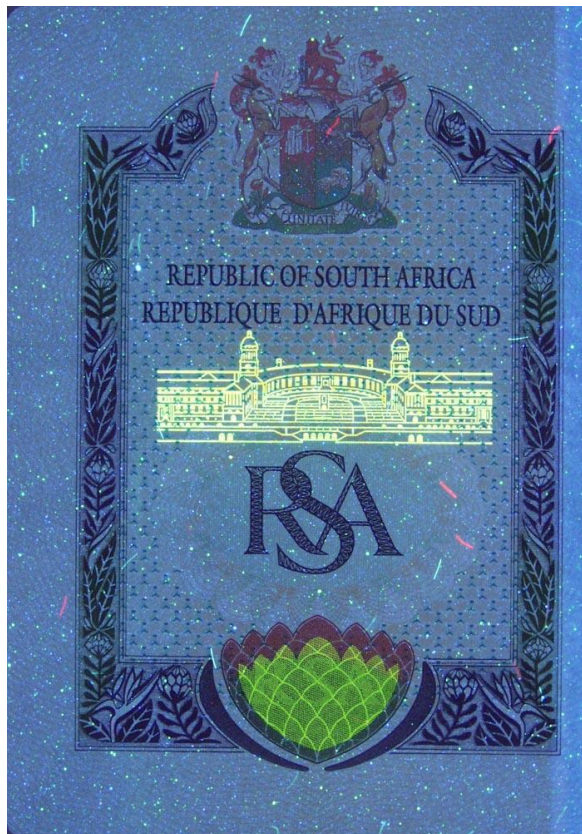


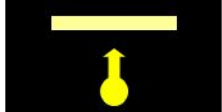
Microparticule OVDot<sup>®</sup>, cu microcaractere imprimare în nanotehnologie și efecte holografice.



# Planşete

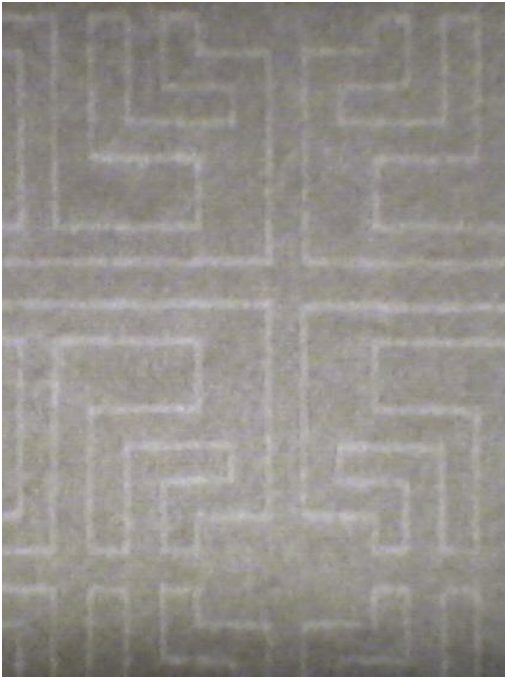
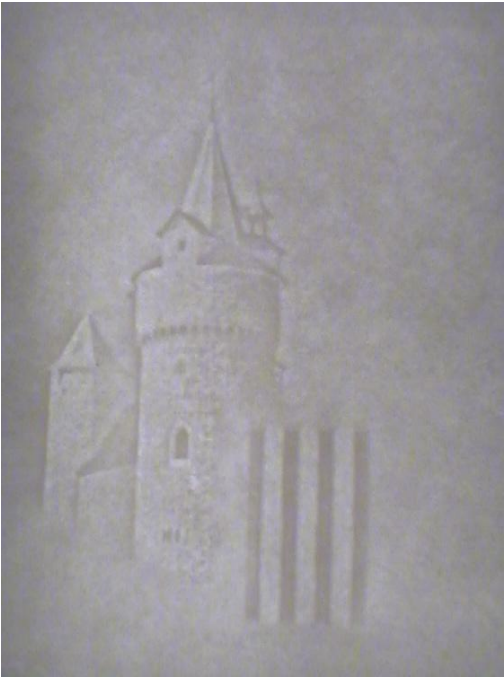
Hi Lites fluorescentă





# Filigran

Un motiv vizibil în lumină, care apare prin aplicarea straturilor mai subțiri și mai groase de fire.

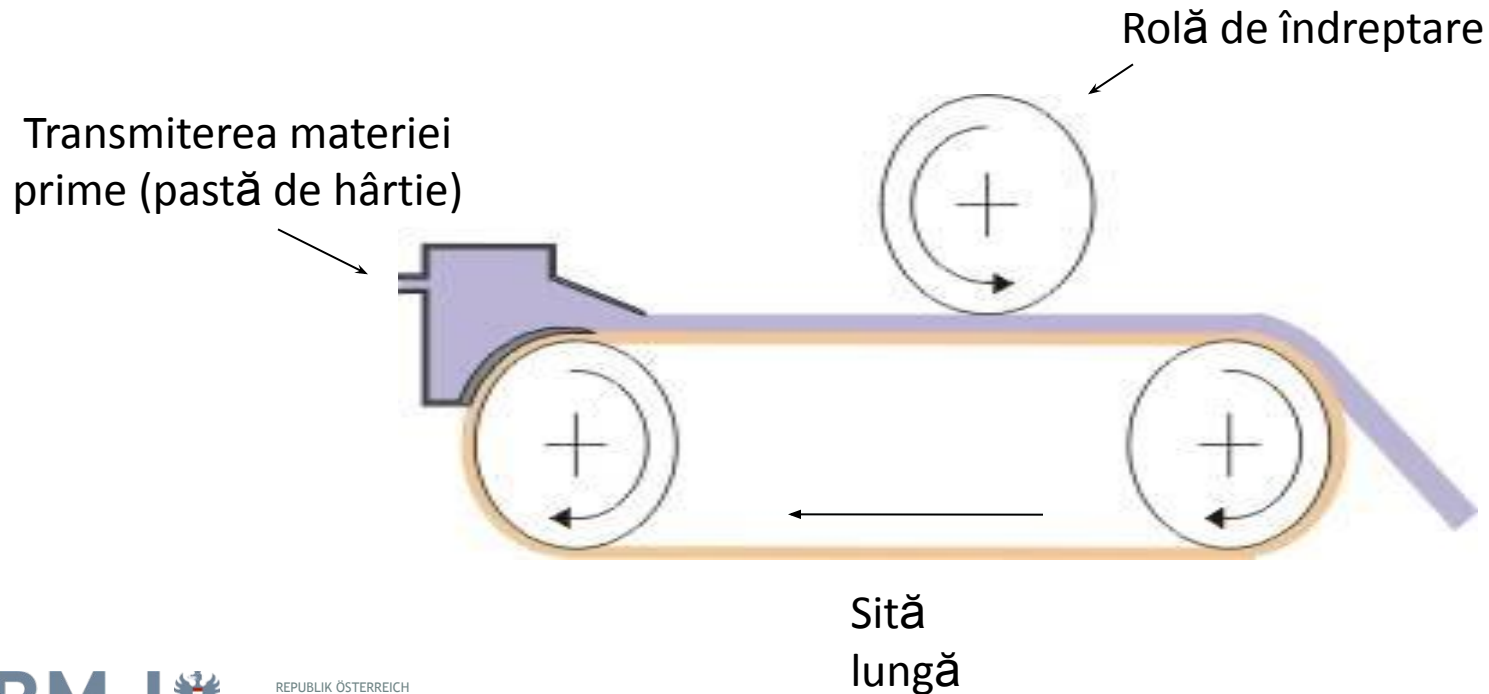


# •Filigran

- Filigran real
  - Filigran liniar
    - Deschis
  - Întunecat
  - În două trepte
- Filigran cu umbre
  - Filigran portret sau relief
- Filigran semireal
  - Filigran molette
- Filigran ireal
  - Filigran decolorat

# Filigran real

Producerea unui filigran liniar are loc pe mașina cu site lungi



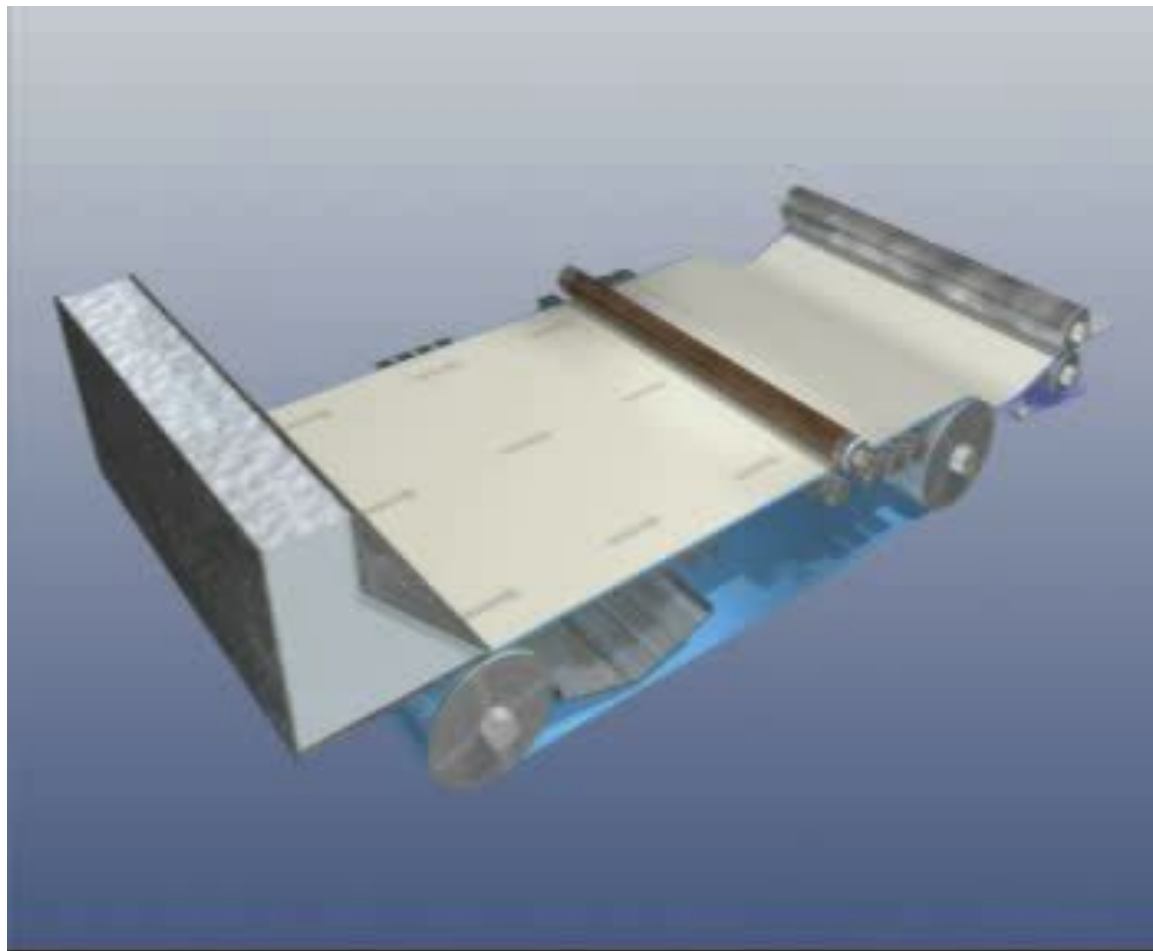
# Filigran liniar

Producerea unui filigran liniar are loc pe o mașină cu sită lungă.





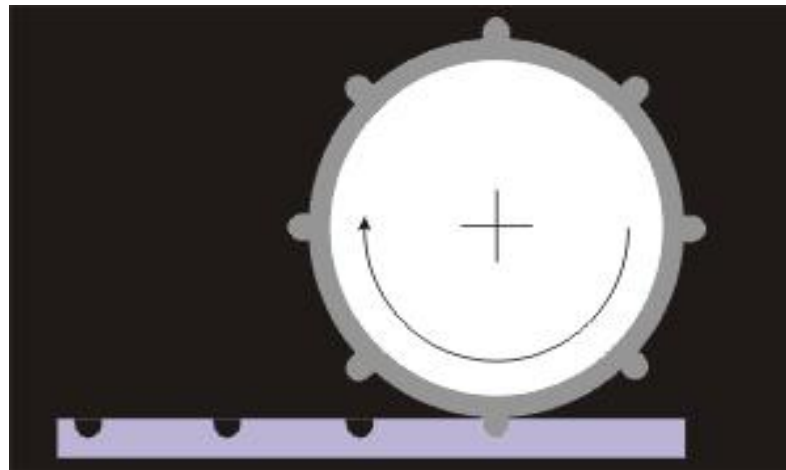
# Filigran liniar

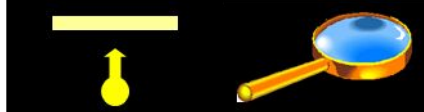


# Filigran liniar

## Filigran liniar de culoare deschisă

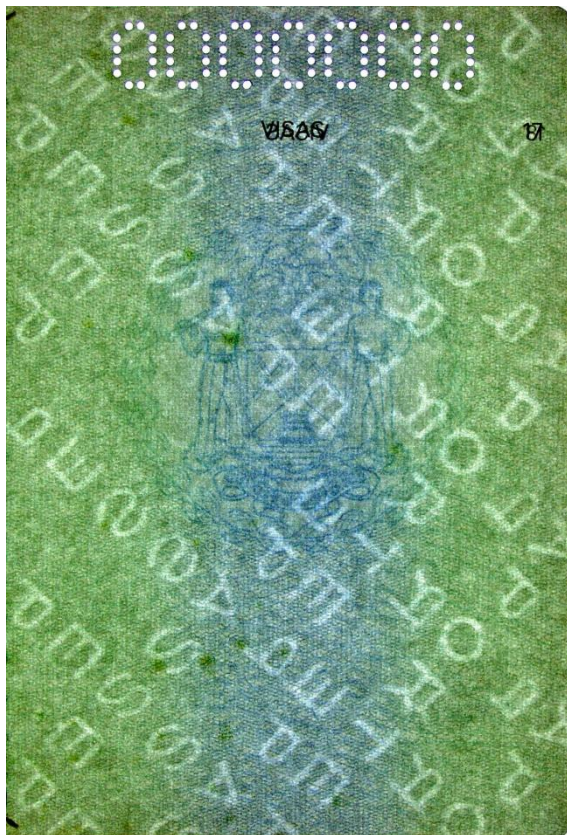
Pentru producerea unui filigran de culoare deschisă este pe rola de întindere sunt lipite fire cu motivul corespunzător.





# Filigran liniar

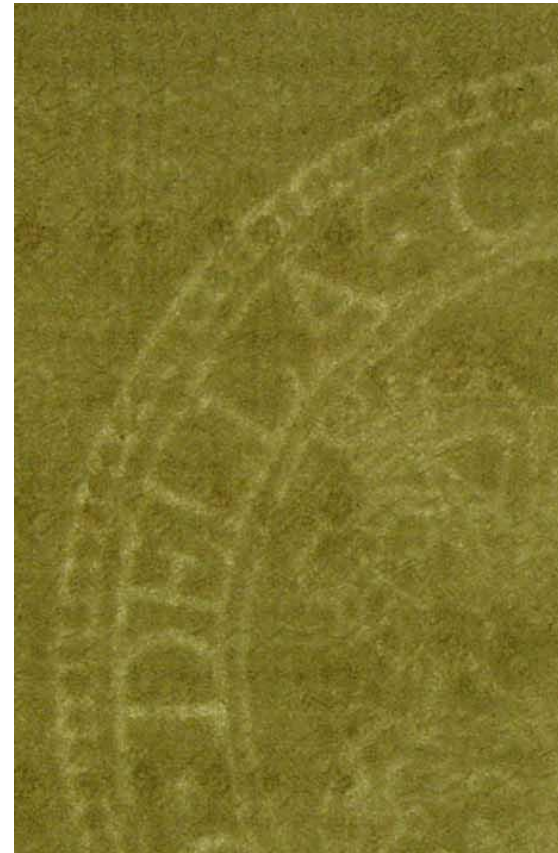
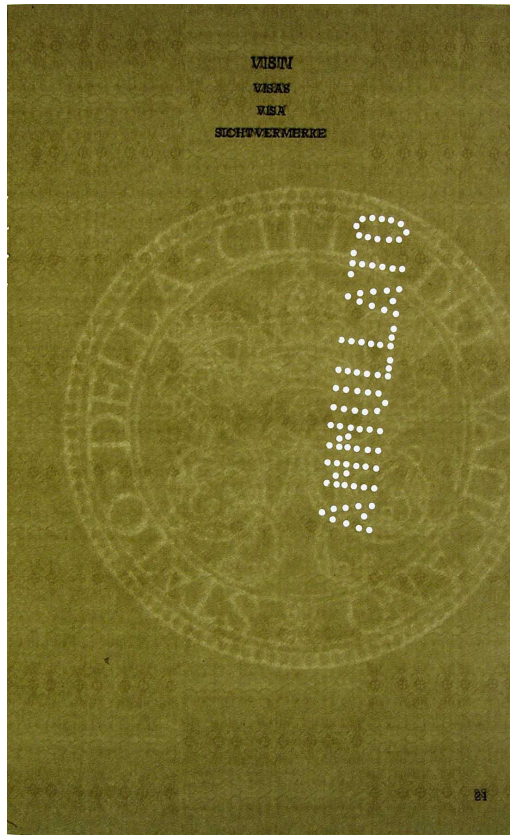
## Filigran liniar de culoare deschisă





# Filigran liniar

## Filigran liniar de culoare deschisă



# Filigran liniar

**Filigran liniar de culoare deschisă**

**Filigran liniar HighLight / Filigran electrotip**

Prin motivele metalice lipite se reduce puternic duritatea hârtiei. Apare filigran de culoare foarte deschisă.

Adesea aceste filigrane se utilizează pentru indicarea valorii, în combinație cu filigranul umbrat, pe bancnote.



# Filigran liniar

**Filigran liniar de culoare deschisă**

**Filigran liniar HighLight / Filigran electrotip**

Prin motivele metalice lipite se reduce puternic duritatea hârtiei. Apare filigran de culoare foarte deschisă. Adesea aceste filigrane se utilizează pentru indicarea valorii, în combinație cu filigranul umbrit, pe bancnote.



# Filigran liniar

**Filigran liniar de culoare deschisă**

**Filigran liniar HighLight / Filigran electrotip**

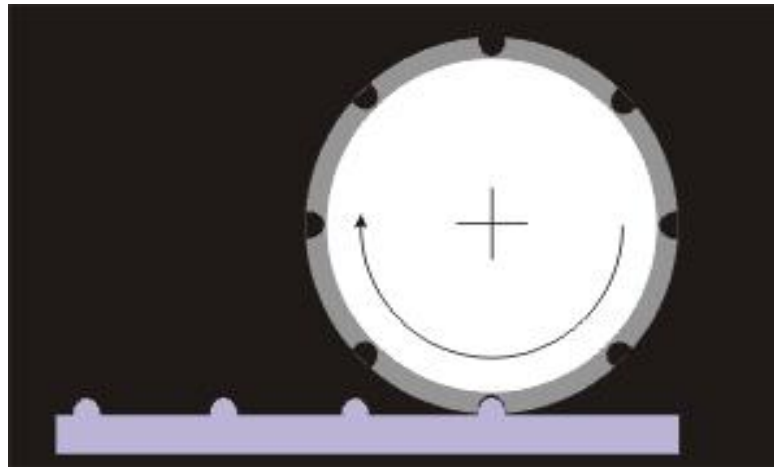
Prin motivele metalice lipite se reduce puternic duritatea hârtiei. Apare filigran de culoare foarte deschisă. Adesea aceste filigrane se utilizează pentru indicarea valorii, în combinație cu filigranul umbrit, pe bancnote.



# Filigran liniar

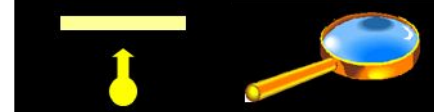
## Filigran liniar de culoare închisă

Pentru producerea unui filigran liniar de culoare închisă pe rola de întindere se gravează adâncituri în carcasa din sârmă.





# Filigran liniar



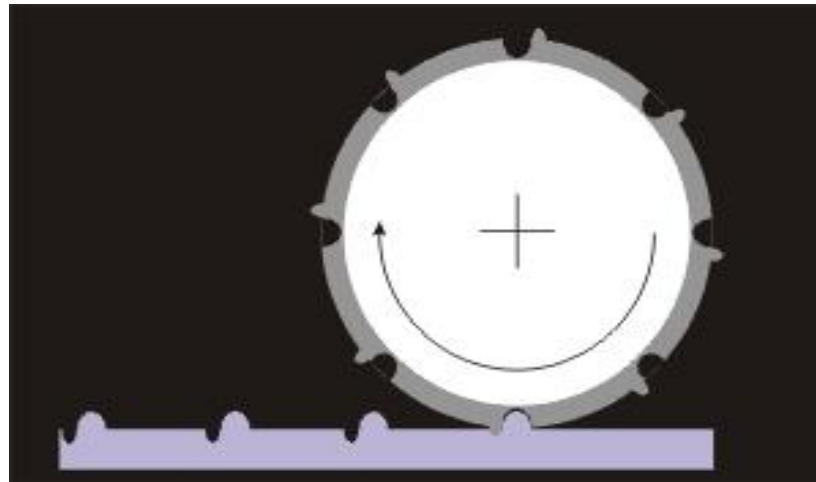
## Filigran liniar de culoare închisă

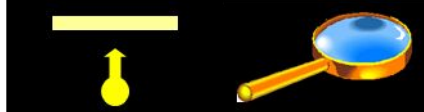


# Filigran liniar

## Filigran liniar în două trepte

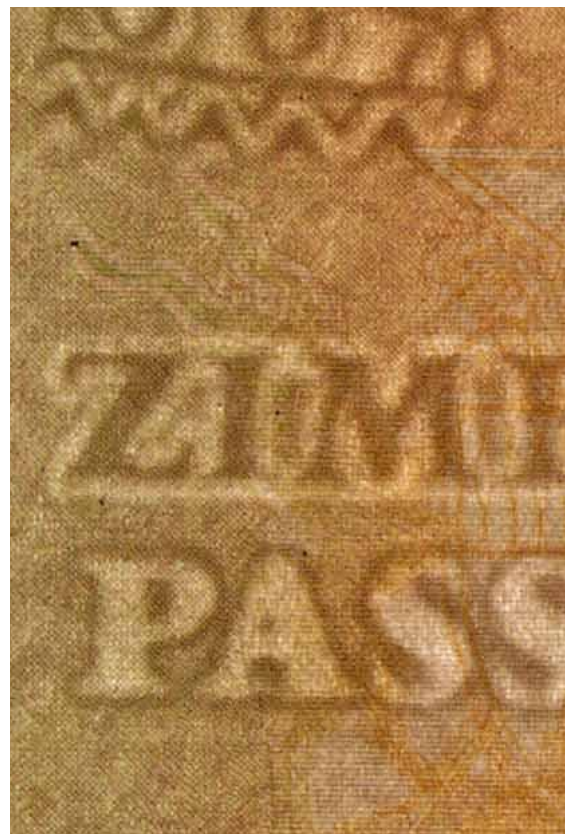
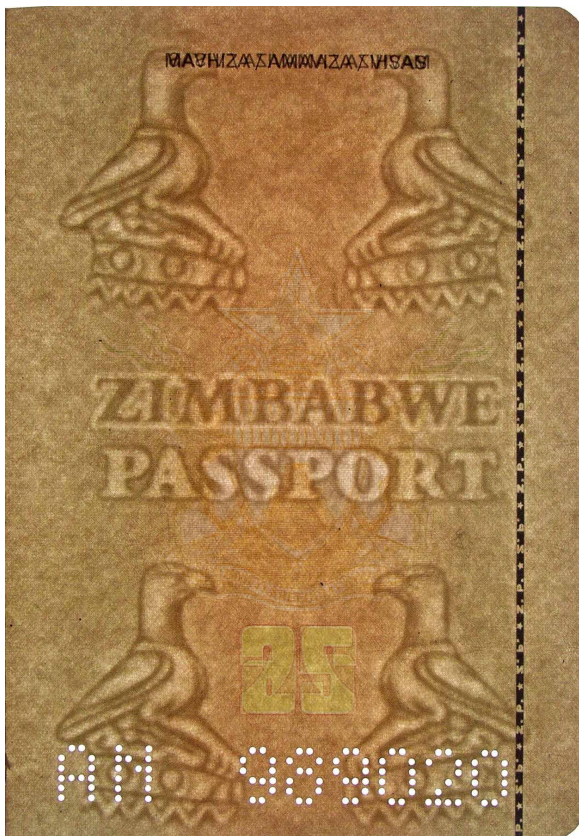
Pentru producerea unui filigran liniar în două trepte pe rola de întindere se află creșteri lipite și adâncituri gravate.



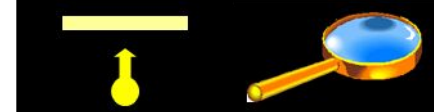


# Filigran liniar

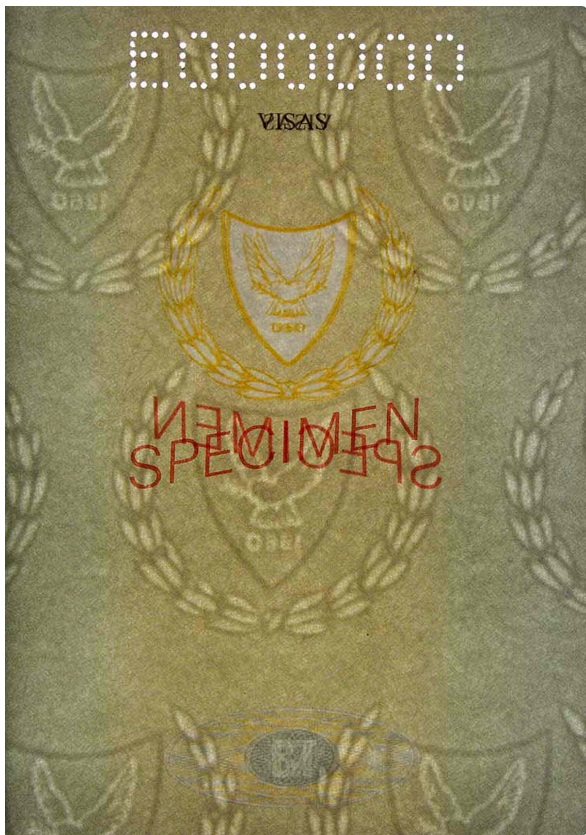
## Filigan liniar în două trepte



# Filigran liniar



## Filigran liniar în două trepte

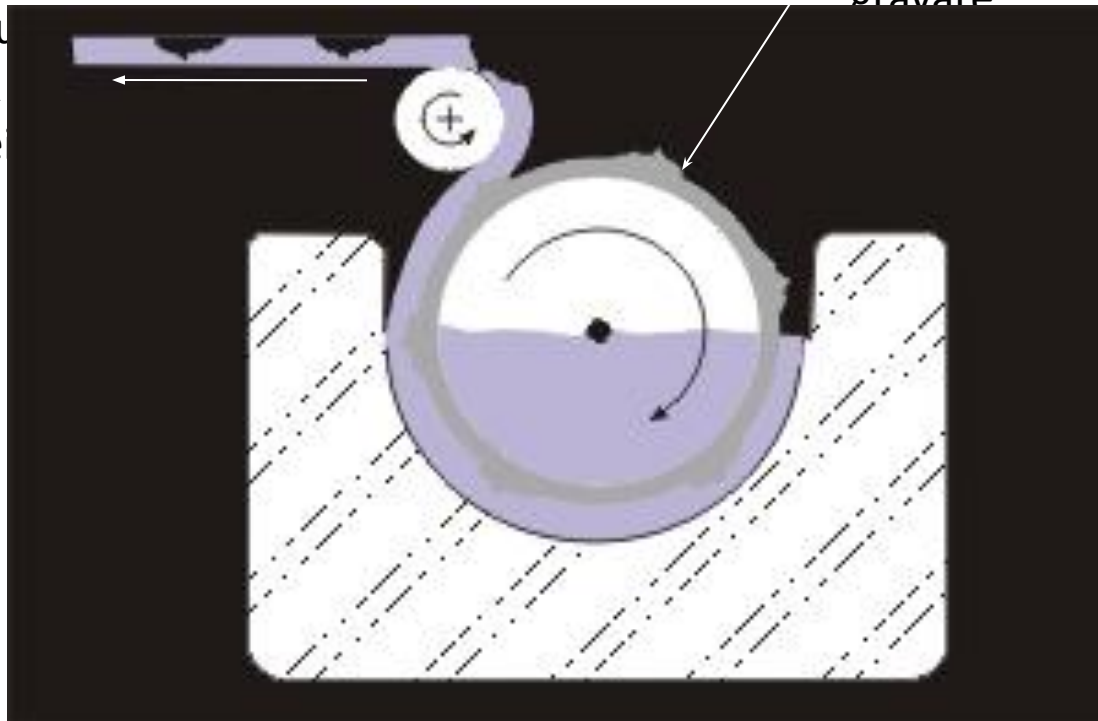


# Filigran real

## Filigran umbrit

Producerea unui filigran umbrit are loc pe utilajul cu sită rotundă.

Rezervor pentru  
materie primă  
(Pastă de hârtie)



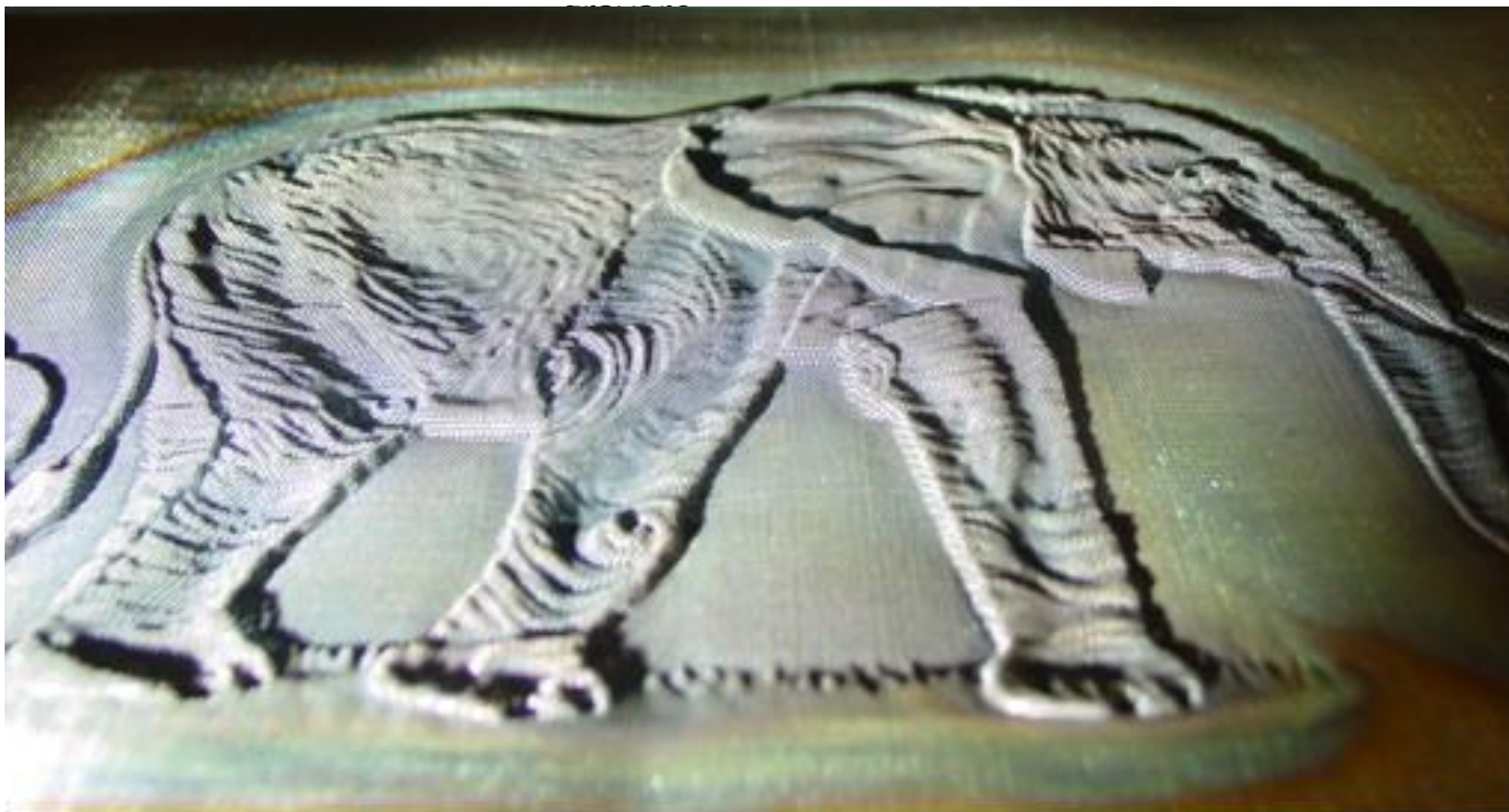
Sită rotundă cu  
gravare

# Filigran umbrit



Producerea unui filigran umbrit are loc pe utilajul cu sită rotundă.

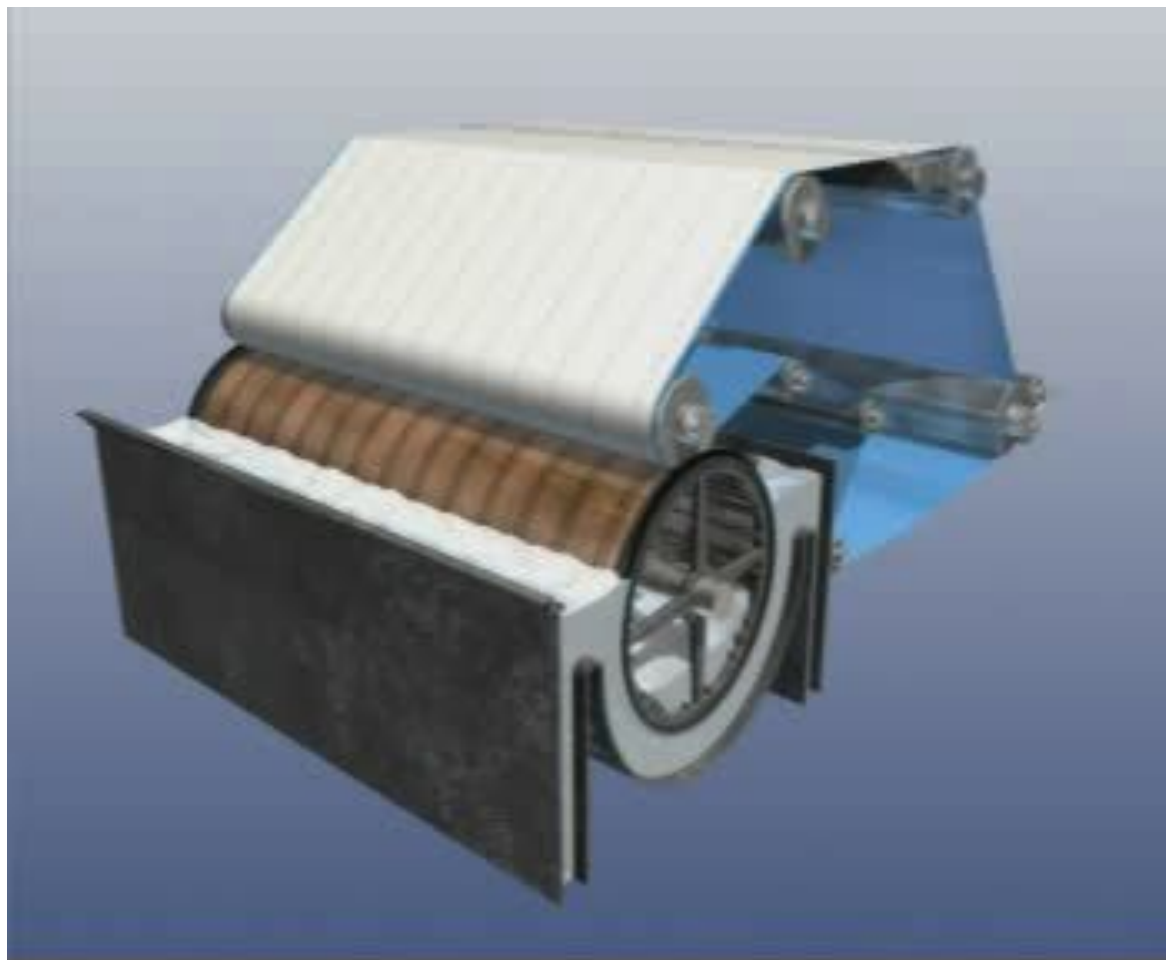
Sită rotundă cu



# Filigran umbrit



# Filigran umbrit

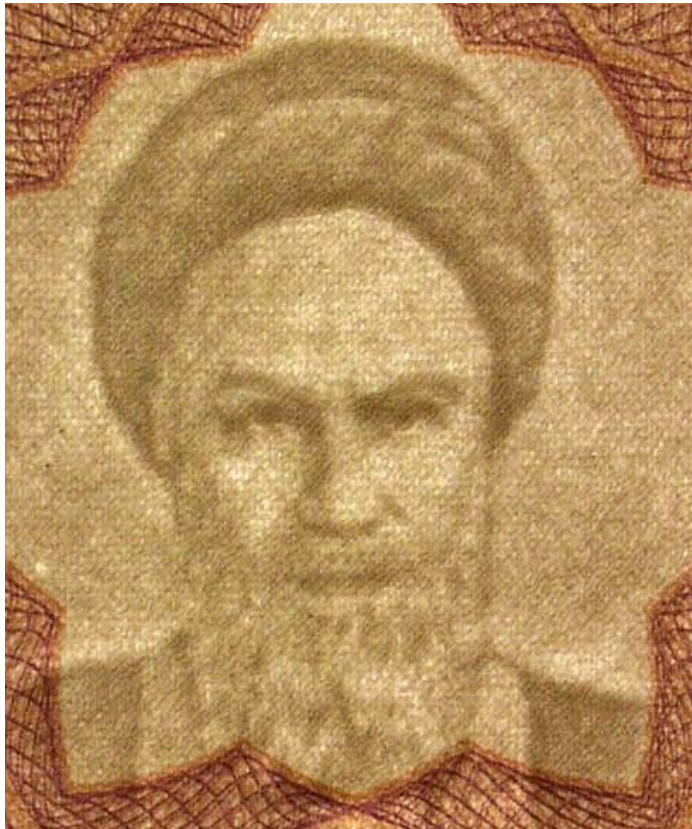
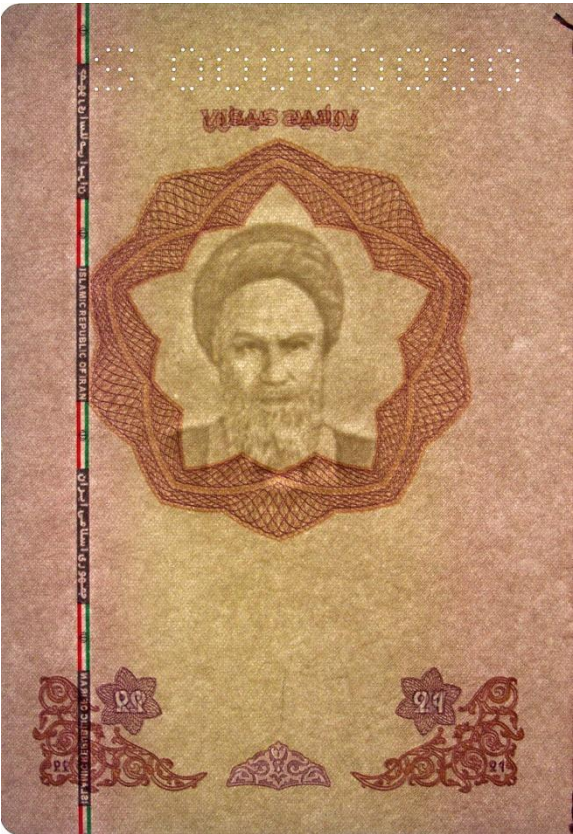




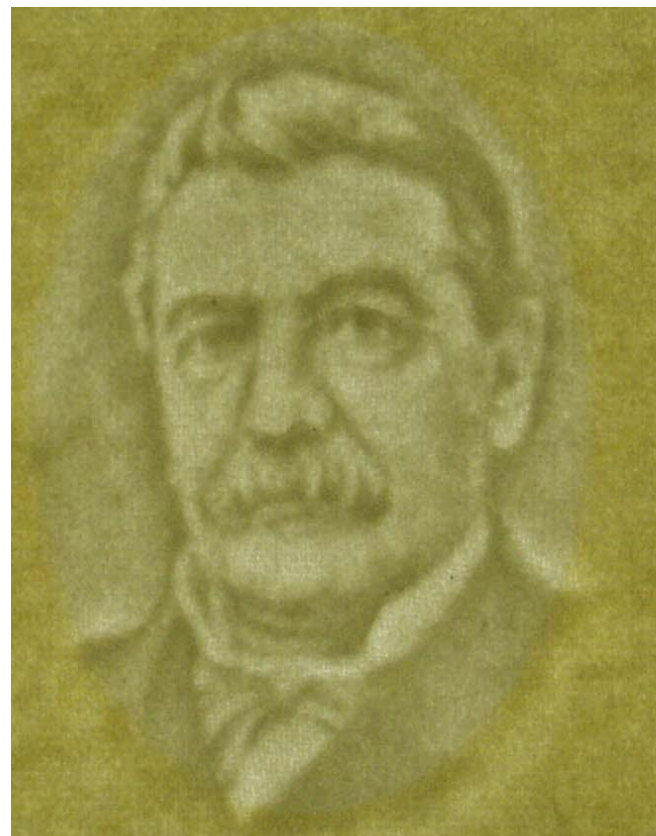
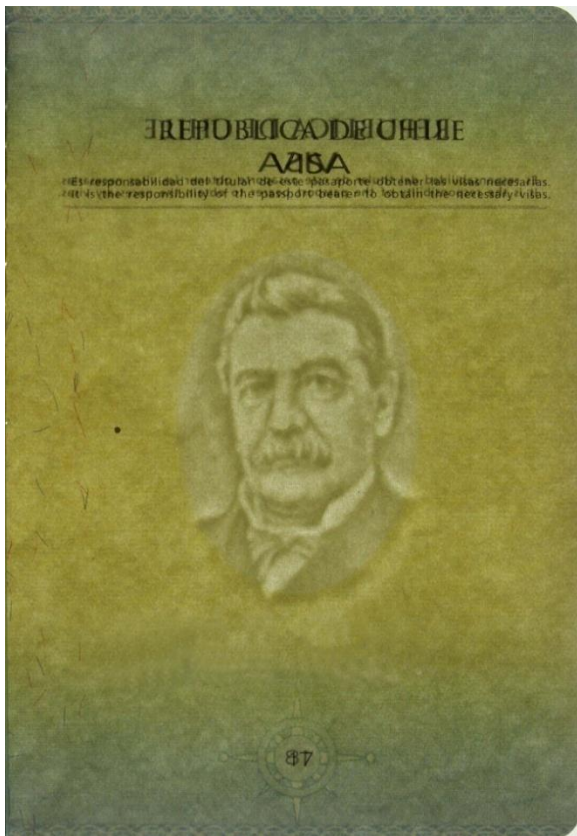
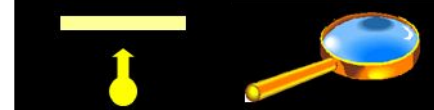
# Filigran umbrit



# Filigran umbrit



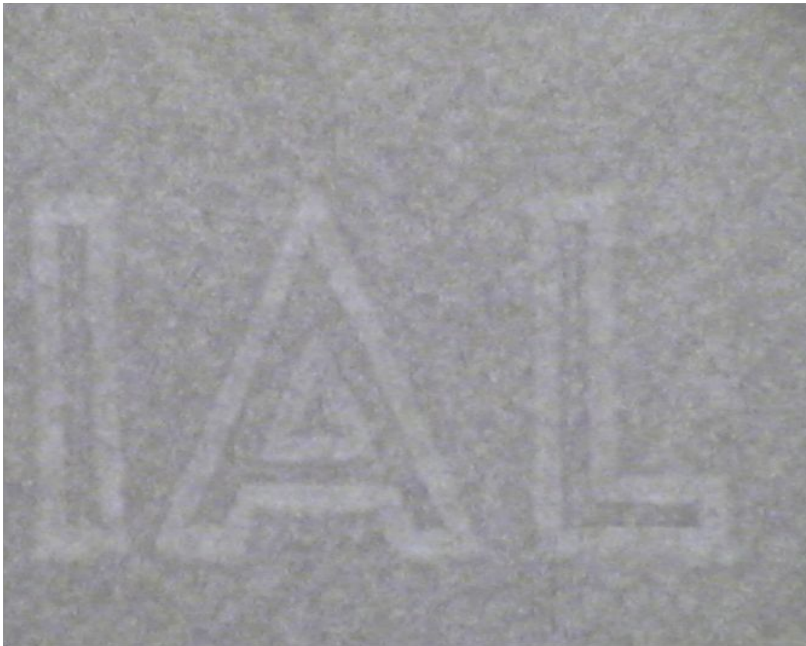
# Filigran umbrit



# Filigran semireal

## Filigran cu Molette

Filigranele cu molette se crează de abia după formarea filei prin apăsarea cu o rolă de cauciuc gravată în care se apasă o bandă de hârtie puțin umedă.



# Filigran ireal

## Filigrane înălbite

Filigranul ireal se produce prin imprimarea diferitor lacuri și substanțe chimice.



# Filigran înălbit

Filigranele înălbite indică, contrar filigranelor reale, margini ascuțite.

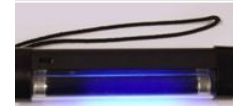
Filigran înălbit



Filigran liniar



# Falsificarea filigranului

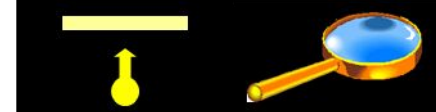


# Falsificarea filigranului

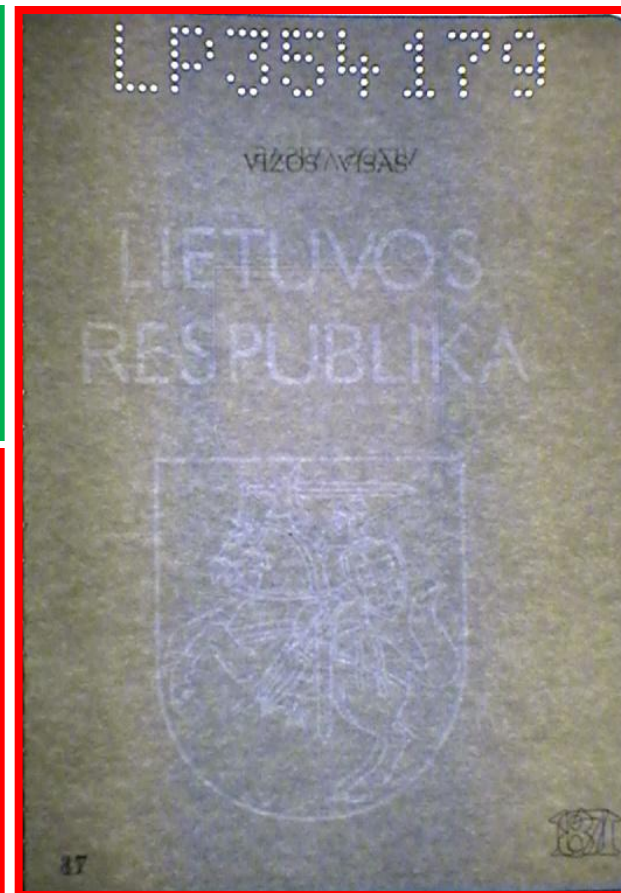
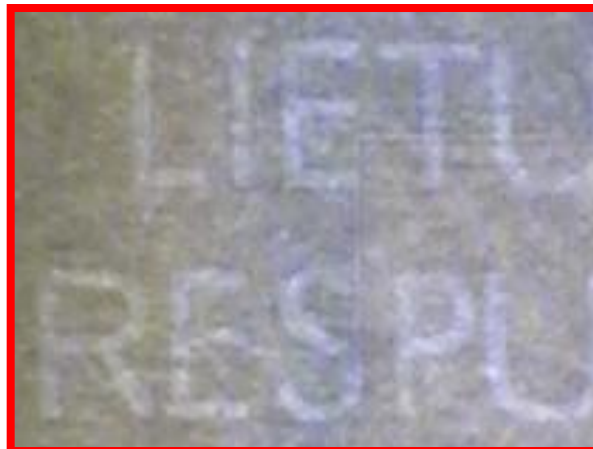
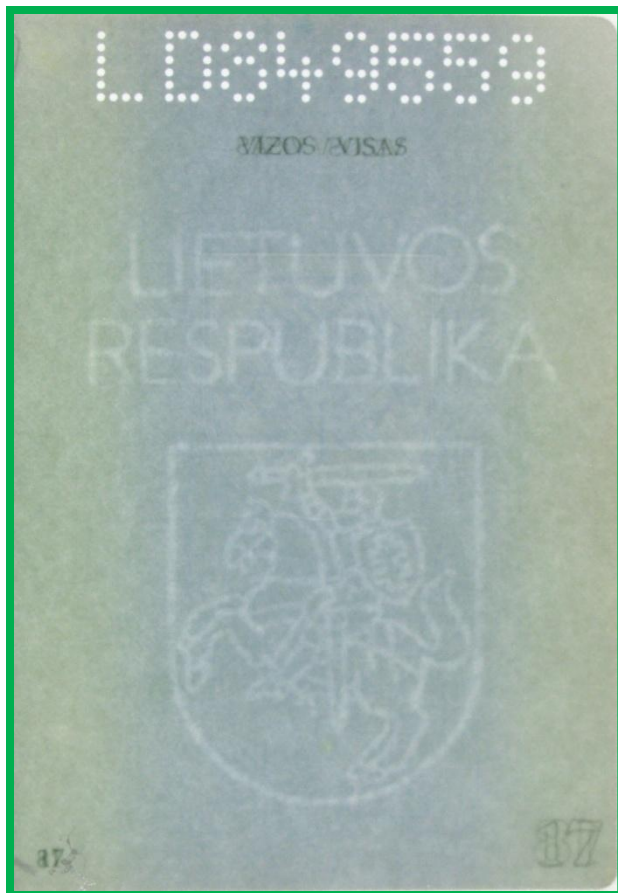




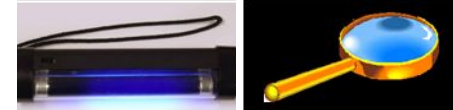
# Falsificarea filigranului



Date fiind particularitățile de producere, filigranele reale nu au margini ascuțite.



# Fire de securitate

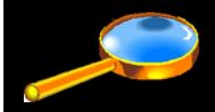


Firele de securitate constau preponderent din folii de masă plastică cu o lățime de la 04 până la 10 mm.

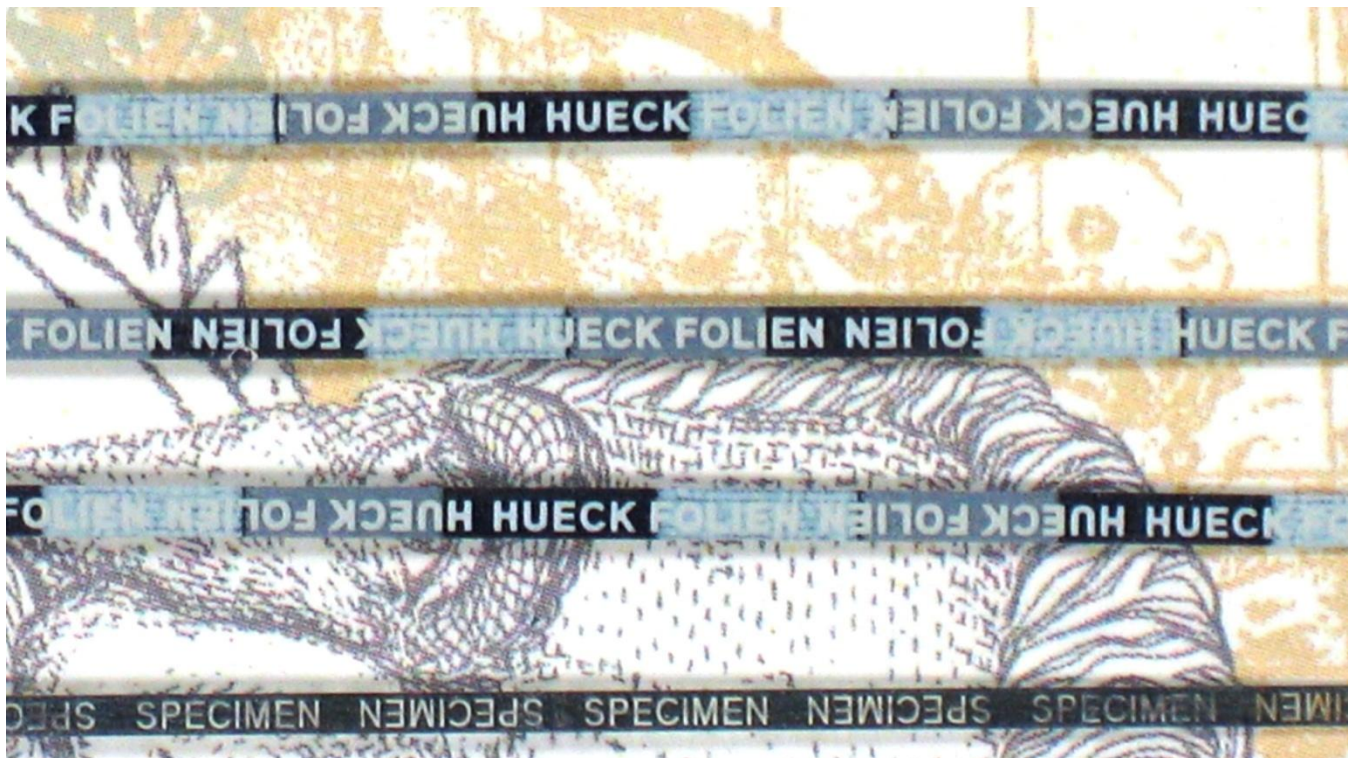
Acestea pot fi:

- cu acoperire metalică
- imprimată
- colorată
- prevăzută cu substanțe sub formă de pigment

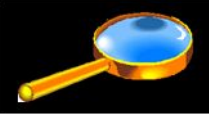
# Fire de securitate



Firele de securitate cu microcaractere gravate.



# Fire de securitate



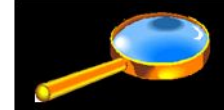
Fire colorate – microcaractere evitate



Fire transparente – microcaractere imprimare



# Fire de securitate



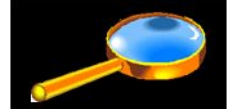
1) Culoare termocromatică (sub 25 grade)



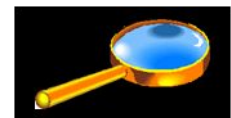
Culoare termocromice (peste 25 grade)



# Fire de securitate



# Fire de securitate

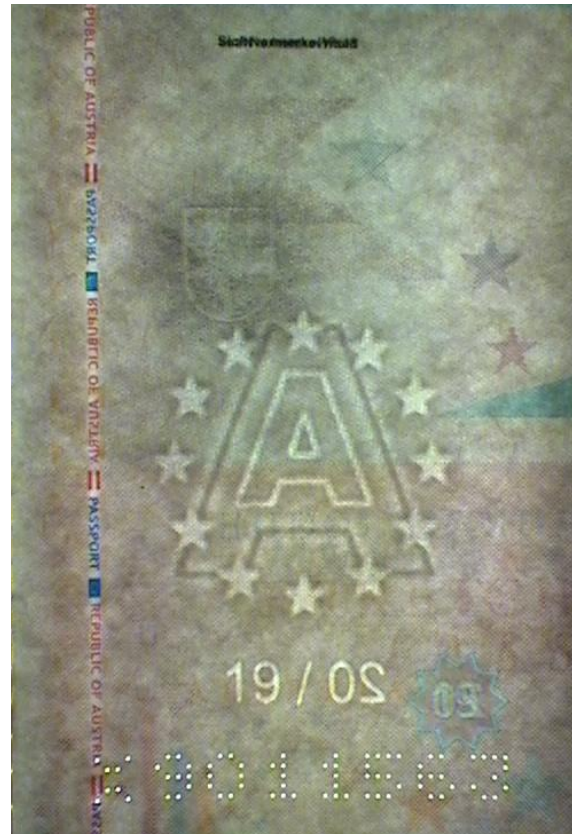


„Fire de securitate“



# Fire de securitate

Fire transparente – microcaractere tipărite

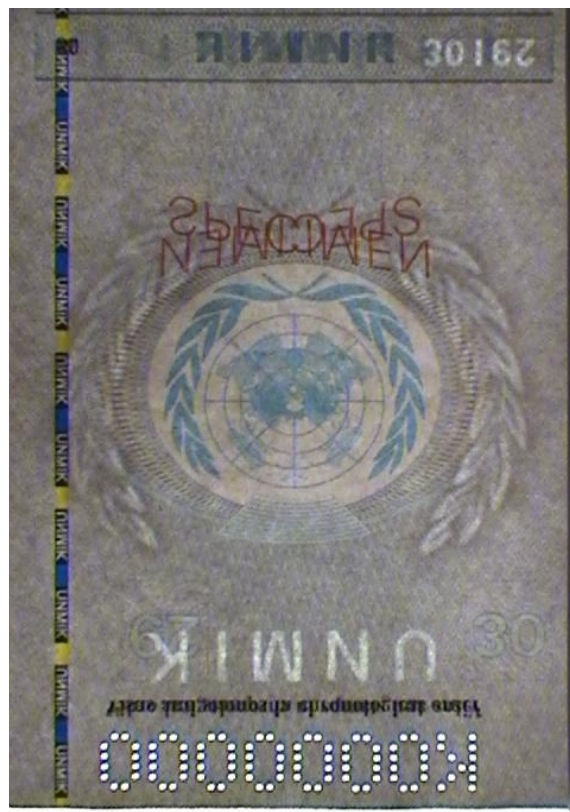




# Fire de securitate



Fire colorate – Microcaractere încastrate



# Fire de securitate

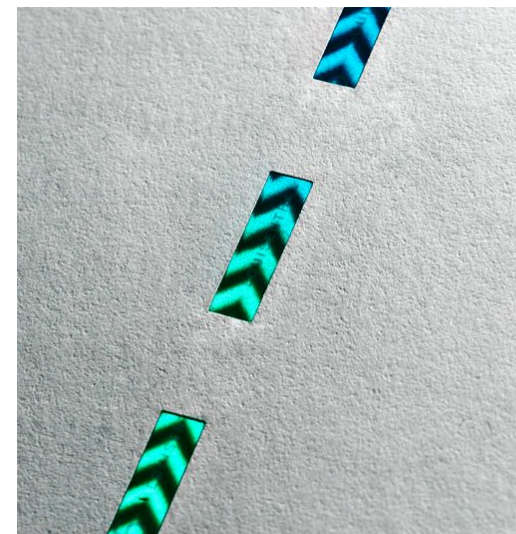
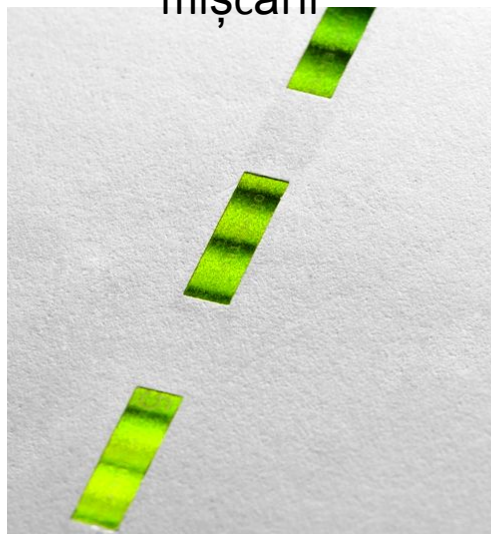
Fire de securitate variabile – Rolling Star® al firmei Louisenthal

Prin structura de „Microoglinzi” încorporate, firele de securitate au un efect de expirare a mișcării și un efect de schimbare a culorilor.

Structura microoglinzi



Schimbarea culorii și expirarea mișcării



Bildmaterial Fa. Louisenthal

# Fire de securitate

Fișe de securitate optic variabile – Rolling Star® al firmei Louisenthal

Prin structura de „Microoglinzi” încorporate, firele de securitate au un efect de expirare a mișcării și un efect de schimbare a culorilor.



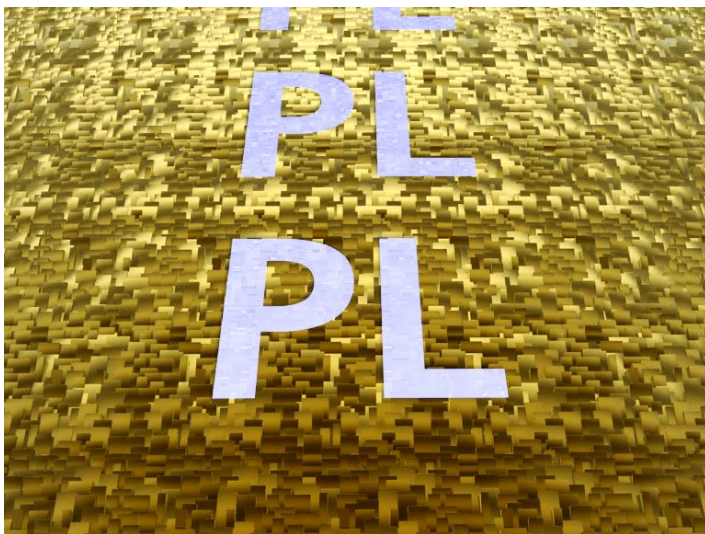
Video Fa. Louisenthal

# Fire de securitate

Fire de securitate optic variabile – Rolling Star® al firmei Louisenthal

Firele de securitate pot fi prevăzute cu microcaractere transparente și Magnetism mecanolizibil.

Microcaractere transparente



Date codificate



Bildmaterial Fa. Louisenthal

# Fire de securitate

Firele de securitate holografice ale firmei HUECK FOLIEN

Prin elementele de suprafață difractive se obține varierea culorilor și design-ului



Bildmaterial Fa. Hueck

# Reactivi chimici

Coloranții adăugați în hârtie, care în cadrul contactului cu leșie, acizi, solvenți și înălbitori organici devin vizibili.

