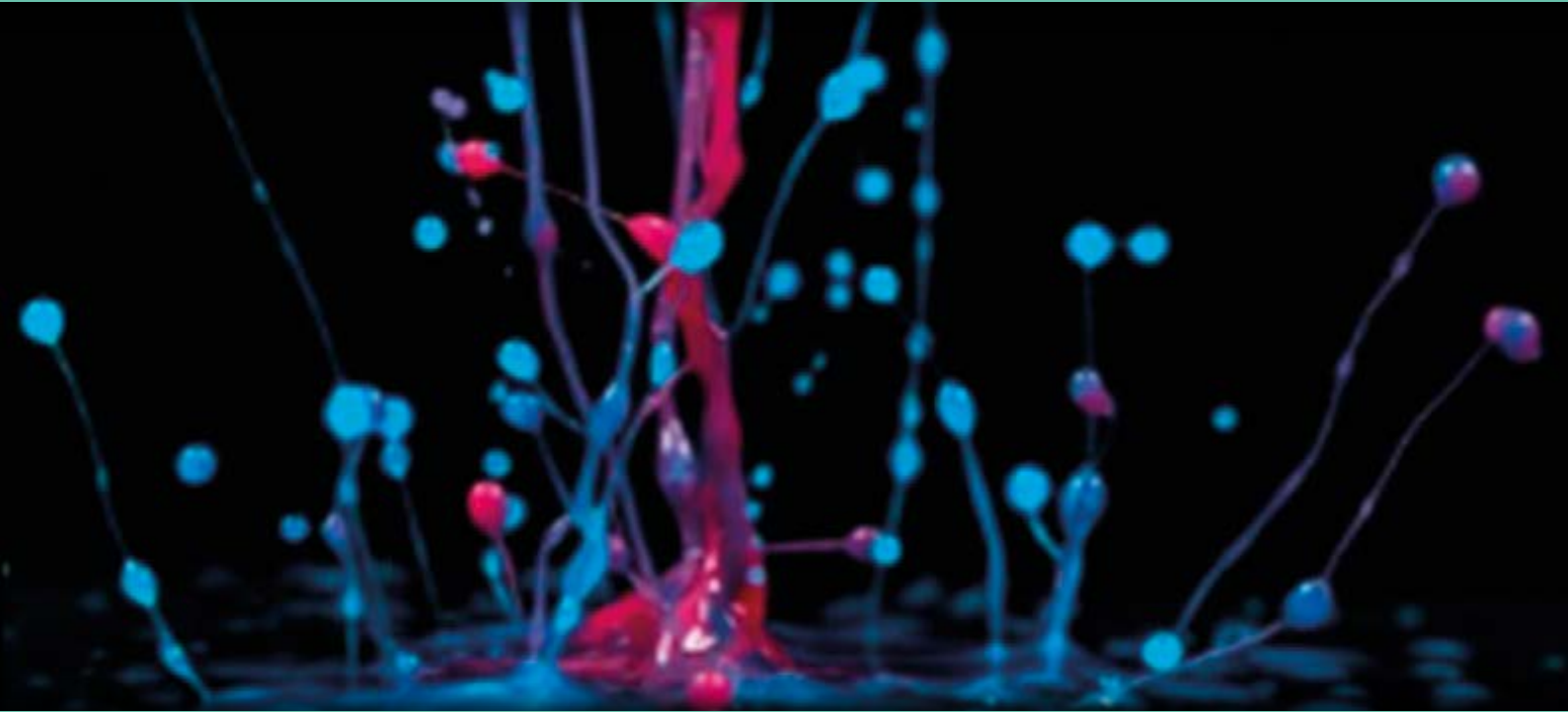




Security Printing Inks

and verification solutions

Security printing inks

for trusted document security





The specialists of the Document Security Laboratory of ANY Security Printing Company PLC have developed numerous complex, effective protection solutions. The Company – as a result of its decades of experience – can assist its customers in document and product protection projects from the design to the implementation phase. Furthermore, it can serve partners who need only partial solutions for their particular projects.

ANY offers a wide range of inks of its own development with UV, IR and unique additives including mono-, bi-, tri-, quadro- and penta-fluorescent inks emitting different colours and it provides anti-Stokes inks as well.



RECENTLY DEVELOPED INKS

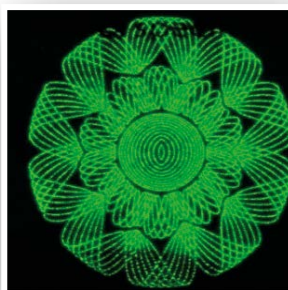
Multi-fluorescent ink

Multi-fluorescent inks are a new and unique grade of security inks. This grade (or family) of inks exploits the possibilities that lie in the versatile application of HEV (High Energy Visible) materials. These materials can be excited with blue light and they typically emit yellowish light. To detect this fluorescence, one needs not only a blue light source but a yellow optical filter too. We provide a small, handheld device with a built-in light source and filter for checking this feature.

Combined with our HEV material we provide numerous different combinations, like

- Fluorescence in almost any colour at different wavelengths (365, 313, 254 nm)
- Bi- and tri-fluorescent combinations
- Up-converting (anti-Stokes) feature

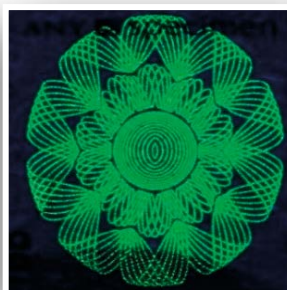
The number of possible variations is huge; we are ready to supply our partners with exclusive combinations.



Anti-stokes



UV 313 nm



UV 365 nm



HEV (Highly Energy Visible)



Penta-fluorescent ink

Blue/pink/greenish yellow fluorescence in long/medium/short wave UV respectively, plus anti-Stokes and infrared fluorescence: these are the five fluorescent features that are available in one offset ink. The print made with this ink may give unique protection for documents of high security.

InKrypt™ ink

Our new grade of inks is called InKrypt™ inks. This grade of security inks is based on time-resolved fluorescence. For most people, fluorescence is an immediate process: some materials emit light as long as they are excited with UV light e.g. once the lamp is switched off the fluorescence is gone. However, by analysing the process in the microsecond scale a totally new picture develops. Different materials may behave differently as a function of time.

Encrypted inks may show different visible colours and/or different fluorescence. The number of combinations is infinite; thus we are able to offer our partners exclusive inks. Our new set of inks exploits this specific behaviour of different materials. Of course, for the detection of this feature, a device is needed that has been specifically developed for this purpose. We offer ANYFluo device for our partners.



OUR STANDARD RANGE OF INKS

Luminescent inks at long wavelength (365 nm)

This is one of the most widely used protective elements, which is easy to verify, and provides a high level of protection against photocopying.



Luminescent inks at short wavelength (254 nm)

These security elements provide a higher level of protection, as UV lamps using short wavelengths are less common.

Bi-fluorescent inks (365/254 nm)

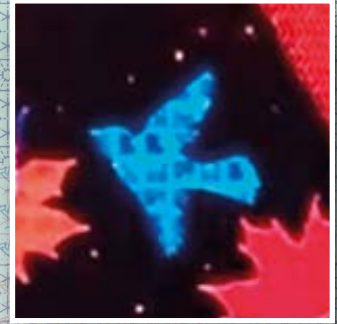
Bi-fluorescent security inks emit fluorescence of different colours when exposed to UV light of different wavelengths. These inks are easy to verify and difficult to reproduce.

Tri- and quadro fluorescent inks

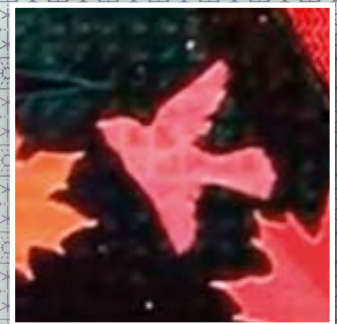
Our unique tri-fluorescent UV security ink provides the same security advantages as our bi-fluorescent inks, but on a higher level. This UV security ink of ours displays blue/pink/green luminescence under 365/313/254 nm illumination. The quadro-fluorescent security ink is an even more sophisticated one. It shows an additional anti-Stokes luminescence compared to our tri-fluorescent ink.

SP1 and anti-Stokes inks

These inks are to be activated with IR irradiation and are able to emit not only green but orange and blue light as well. They are ideal to place hidden information and also lend themselves to use with mechanical verification systems.



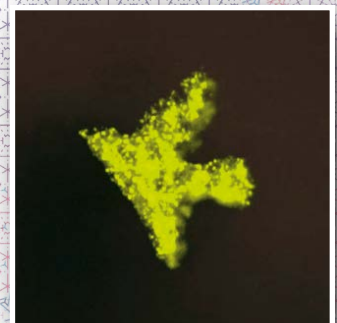
UVA



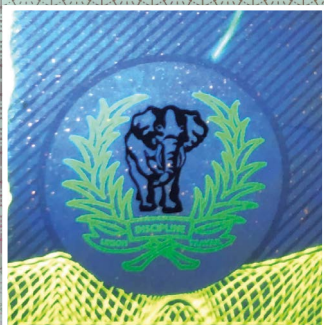
UVB



UVC



Anti-Stokes



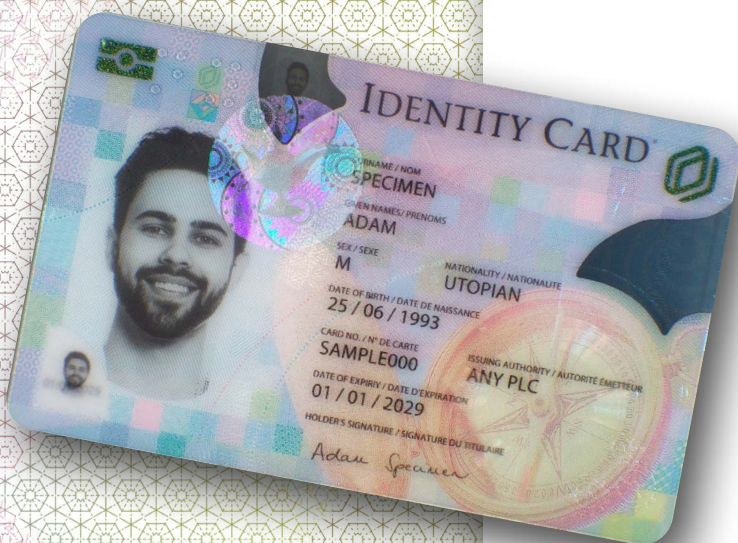
Green fluo black ink

This special black ink shows intensive green fluorescence under the influence of ultraviolet activation of any wavelength. This security ink is absolutely suitable for serial numbering, or individual visualisation of logos.

IR/IR fluorescent ink (IF 15)

Prints with this ink emit infrared radiation when irradiated in the near-infrared (IR) range. The prints are not visible to the naked eye or with regular verification equipment. IF 15 ink can be detected with a special verification device developed for this purpose. Our device called RadIR™ reacts with a flashlight and sound to the presence of such inks.

Parts of our product portfolio can be seen in the following tables. To meet individual demands, we undertake the development of further inks with special features for paper-based documents and plastic cards, data pages as well.



UV LUMINESCENT INKS

code	excitation 365 nm	excitation 313 nm	excitation 254 nm
	emission colour		
MF 01	yellow	yellow	yellow
MF 05	orange	orange	orange
MF 06	yellow	yellow	yellow
MF 08	orange	orange	orange
MF 12	green	green	green
MF 13	greenish blue	greenish blue	greenish blue
MF 14	intense green	intense green	intense green
MF 15	green	green	green
MF 24	blue	blue	blue
MF 28	blue	blue	blue
MF 36	red	red	red
MF 60	-	red	red
MF 71	-	-	green
MF 72	-	green	green
Green Twin 365	green	green	green
Green Twin 254	-	green	green
Red Twin 365	red	red	red
Red Twin 254	-	red	red
BF 01	yellow	orange	orange
BF 12	blue	pink	pink
BF 13	greenish blue	reddish	reddish
BF 16	blue	magenta	magenta
BF 18	blue	pink	pink
BF 22	green	yellow	yellow
BF 32	red	yellowish	yellowish
BF50	yellow	turquoise	turquoise
TF 03	blue	pink	green

QUADRO-FLUORESCENT INK

code	excitation 365 nm	excitation 313 nm	excitation 254 nm	980 nm led/laser
QF 02	blue	pink	green	green

ANTI-STOKES (UP-CONVERTING) INKS

code	excitation	emission colour
SP1	980 nm led/laser	green

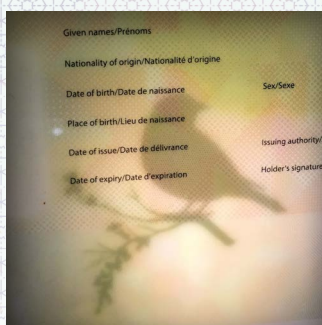
MISCELLANEOUS

code	excitation	emission colour	special feature
Green Fluo Black	UV 365 nm	green	black visible colour

Special security features

the use of inks in practice

Buried image



This is a security element printed inside of the data page, acting like a watermark. By turning the data page against a powerful light source an image of a bird sitting on a brunch becomes visible.

Shadow image

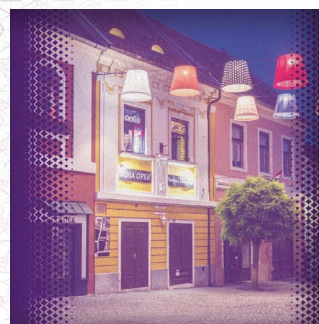


This watermark-like feature gives extra security to the document. In infrared radiation (850-950 nm) the image of the bird only (without the brunch) shows up as a faint shadow image. The MRZ area remains completely free of IR absorbing elements as per the ICAO 9303 recommendations.



LENA™

The print is invisible in both normal and UV light. However, its presence can be easily verified by holding the window over a simple piece of copy paper and illuminating it with a basic flashlight. The printed pattern becomes clearly visible as a shadow. This provides the simplicity of checking like a usual second-level device, while being more deeply concealed than a typical fluorescent print.



Invisible colourful fluorescent image. This is a unique printed feature that is completely invisible under normal light but becomes visible under UV 365 light.

MA – mark advanced™



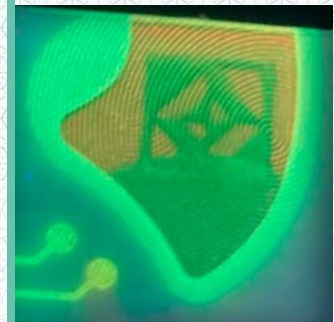
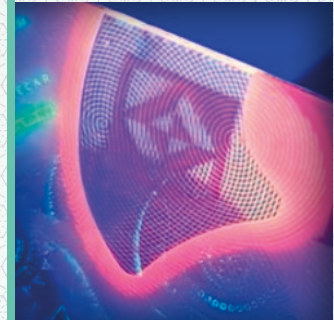
ColorChange Ink

ColorChange ink is ANY's own development that optically changes the colour between gold and green.

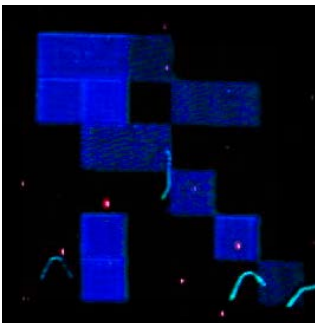
The ink, developed in our in-house laboratory contains a special marker, that can be identified using an infrared detector. It can be used both on paper and on card-based documents, and can be easily combined with other safety features (UV, SP1, InKrypt™).

Invisible UV fluorescent clear window feature, which shows two different emission colors on the front and back side.

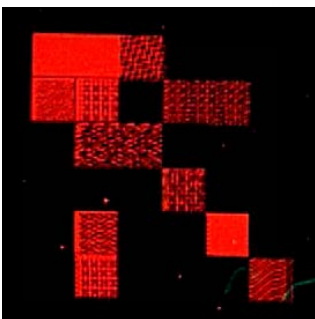
DualGlow™



Taggants combined with fluorescent inks



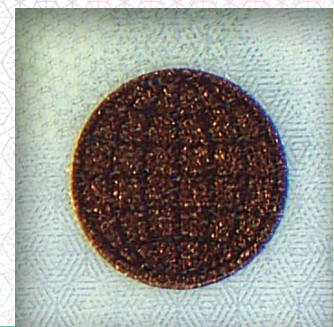
Fluorescent inks at long wavelength (UV 365)



Fluorescent inks at shorter wavelengths (UV 254)

Ink containing not only colour pigments, but also fluorescent substances (pigments), used to print both text and motifs is called fluorescent ink. Unique taggants combined with uv fluorescent features provide bi-tri-quadro and penta fluorescent inks. The print contains an IR luminescent marker (taggant) with a unique spectral property that is invisible to the naked eye and can only be detected with VerifiR™ mini device.

ColorChange Ink with hidden ghost image



A hidden ghost image can be placed under a specially designed colour changing print. The image is made during personalisation using laser engraving technology. The image can be visualised in the IR range by using IR cameras.

Security Stamp Inks

ANY SecLab is capable of producing customized security stamp inks tailored to specific customer requirements. We offer visible and invisible UV sensitive inks for special purposes. These high-security solutions are ideal for covert marking, document authentication, and anti-counterfeiting measures where reliability and discretion are essential. Areas of use include ministerial certifications, notarized documents, certified diplomas issued by educational institutions, government-issued licenses and permits, etc.

Our security stamp inks are specialized products developed exclusively for governmental use and are not available through commercial retail channels. Designed for long-term durability, the stamp can produce thousands of clear impressions under normal use before requiring replacement.

Stamp inks can even be bifluorescent, emitting different colors under varying wavelengths. Upon request, we also develop stamp inks for use on "standard" office paper (paper with optical brighteners).



UV 365



UV 254



Verification Devices

ANY's inspection device portfolio is focused on user-friendly, mobile, handheld instruments designed for on-site verification processes. During personalisation, data can be printed using visible or covert inks — including UV- or IR-reactive formulations — to prevent the falsification of highly secure information. Beyond personalisation, the applied inks may also incorporate a variety of advanced security additives that enhance document protection by enabling authentication through chemical, spectral, or physical properties. ANY provides a range of inspection devices and integrated solutions tailored to the detection and verification of these specialised ink components, ensuring the security of the protected documents.

Horus

4 in 1

The four types of Horus equipment featuring different functions may even be fixed on a belt. Their most important features are the 10x optical magnification, UV lamps used for the control of mono-, bi- and tri-fluorescent inks and infrared laser LEDs needed for the check of the anti-Stokes effect.



ANYFluo device

This device is developed for verifying luminescent graphic patterns. It can detect unique chemical-physical features of tailor-made ultraviolet and infra light excited luminescent inks, giving a valid / invalid / no signal answer. The solution provides a 'Level 3' anti-counterfeiting protection for value documents, like ID cards, passports or tax stamps.

Applying this hidden feature, the ANYFluo Reader can distinguish between two, completely the same appearing UV fluorescence or IR luminescence printed graphic patterns.



InKrypt™ inks could also have combinations of two/three/four luminescence features, which can be printed out by offset / letterpress / screen printing technology.

VerifIR™ mini

The system provides the high security of third (laboratory) level devices.

This handheld device gives a green light if it finds the signal set beforehand. The signaling ink can be printed out by offset, letterpress and screen technology.

VerifIR™ mini is combinable with the simple second level security elements (i.e. fluorescent offset inks).

VerifIR™ ONE

The members of VerifIR™ ONE series (501/601/701) work with untuneable excitations and detections. Each of them can detect invisible, non-UV-fluorescent taggants, depending on the chemical-physical features of the taggants.

With properly chosen taggant and VerifIR™ ONE device (i.e. IF17 ink and VerifIR™ ONE 501) any document can be identified.

With two or three taggants (and devices) same appearing security elements in one document can be distinguished, therefore the security level of the document can be increased.

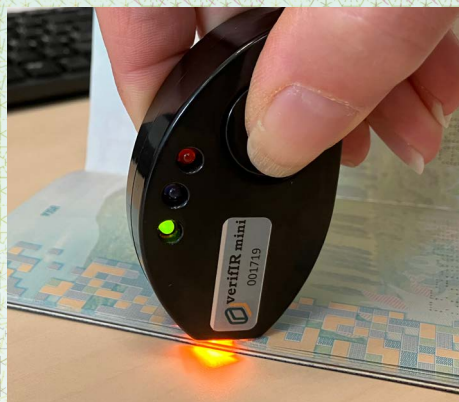
The device gives sharp whistle for the detected taggant.

RadIR™+ mini

The special handheld device can detect the hidden barcode (printed with security IR ink), and transmit the data to the background system via Bluetooth channel (appropriate legitimacy needed).

Infrared inks are security elements that cannot be photocopied.

The device measures and evaluates the light response of materials induced by infrared light. It is suitable to detect invisible codes printed with security materials combined with different carriers (e.g.: paper, textile, plastic, solid or liquid ink) as well.



ANY Security Printing Company PLC

About the Company

ANY Security Printing Company PLC is one of the leading security printing companies and an identity solutions provider in the Central Eastern European region, with a significant presence in more than 70 countries worldwide. More than 1000 people in 5 countries at 10 premises work according to the highest standards through continuous innovation and development to serve our Partners. The Company's shares have been listed on the Budapest Stock Exchange in the premium category since 2005.

The Company's mission includes the facilitation of state administrations in secure person and product identification projects from the design to the implementation phase. The acquired international qualifications and certificates assure the appropriate level of security in the field of paper-based document and card production, as well as personalisation. Aside from manufacturing high security products, ANY Security Printing Company PLC – as a system integrator – offers complex solutions and know-how transfer for the preparation, execution and operation of a document reform, including a security printing house establishment.

The specialists of the Document Security Laboratory of ANY have developed numerous complex, effective protective solutions, including document printers, security inks, paper additives and special control devices. These products can be offered as a supplement to the project, further maximising the security features of the goods to be manufactured at the future plant. The Company – as a result of its decades of experience – can assist its customers in document and product protection projects from the design to the implementation phase. Furthermore, it can serve partners who need only partial solutions for their particular projects. In this manner, ANY is a synergistic partner of paper-mills, security printing houses, state administration and private companies. Its own Document Security Laboratory, references, special technology, security preparedness and more than 170 years of experience guarantee that it can offer the best possible products for its Customers.

Domestic and international certificates

- certified bidder and securities producer of Hungary
- authorised supplier to NATO (up to NATO "Secret" level)
- Industrial Security Clearance up to NATO and EU "Secret" level, system licence for classified data management
- Industrial Security Clearance up to national "Strictly confidential" level, system licence for classified data management
- ISO 9001 quality management system certificate
- ISO 14001 environmental management system certificate
- ISO 27001 information security certificate
- ISO 14298 certificate (Central Bank level, Governmental level)
- ISO 45001 occupational health and safety management system certificate
- AQAP 2110 certificate
- MasterCard Card Quality Management certificate

Value-added services

- decades of experience in document production and issuing
- special inks and additives, printers and control devices developed by ANY
- full lifecycle management of issued documents
- know-how transfer



Our products are manufactured using cutting-edge technology coupled with our staff's innovative professional knowledge. Our references, special technology and security preparedness guarantee that we can offer the best possible product for our customers. Please do not hesitate to contact our colleagues if you have questions.

ANY SECURITY PRINTING COMPANY PLC

- ☎ +36 1 431 1200
- 🌐 www.any.hu/en/
- ✉ info@any.hu
- ✉ Halom utca 5, Budapest 1102, Hungary

THIS DOCUMENTATION AND ALL TECHNICAL AND BUSINESS INFORMATION CONTAINED HEREIN, AS WELL AS THE ATTACHED PRODUCT SAMPLES AND GRAPHIC DESIGN ELEMENTS ARE EXCLUSIVELY OWNED BY AND FORM THE INTELLECTUAL PROPERTY OF ANY SECURITY PRINTING COMPANY PLC. ANY SECURITY PRINTING COMPANY PLC RESERVES ALL RIGHTS IN THIS REGARD. THE INSPECTION OR USE OF THE PRODUCT SAMPLES SHALL ONLY BE PERFORMED ACCORDING TO THE PURPOSE OF DELIVERY AND UNDER PRE-DEFINED CONDITIONS. ANALYSIS FOR ANY OTHER REASON IS PROHIBITED.