



VERIDOS

IDENTITY SOLUTIONS

by Giesecke+Devrient
and Bundesdruckerei

Identity secured by design

Advanced security features and personalization techniques



www.veridos.com



Every identity deserves protection

Security features don't just protect passports, they protect people. At Veridos, we employ cutting-edge security features and technologies to deliver passports of the highest quality. We cover the entire value chain from document production and identity management to issuance and verification.

Today's travel documents have to combine robust security with efficiency, enabling travelers to cross borders seamlessly. Effective protection requires the right mix of features across all three verification levels: Level 1 (human senses), Level 2 (simple tools such as a UV lamp), and Level 3 (specialized equipment). Veridos is your trusted partner to select the optimal combination for strong protection, practical usability, and reliable verification.

Turn your national identity documents into documents of national identity

Passports are the best traveled ambassador of every nation. Combining advanced security with bespoke design, we work with our customers to create documents that are highly secure, ICAO-compliant, and visually meaningful.

MORE INFORMATION



Scan to learn more about our security features and the design process.

Security features to stay ahead of forgers

Cover



1 Cover material

Our passport covers are made from material specially designed to be tear-proof and resistant to heat, sweat, moisture and chemicals. The high-quality covers are environmentally friendly and either comprised of woven textile or cellulose-based and acrylic-coated.

2 Symbol for electronic passport

The chip can be stored in the polycarbonate (PC) data page as well as in the eCover in combination with a paper data page or thin PC data page.

3 Foil embossing

The front cover comprises different metallic foils that can be heat embossed in accordance with EU regulations and ICAO recommendations.

4 Blind embossing

The back cover includes blind embossing, with details such as the country's name. Also braille text or customized symbols can be used.

Data page



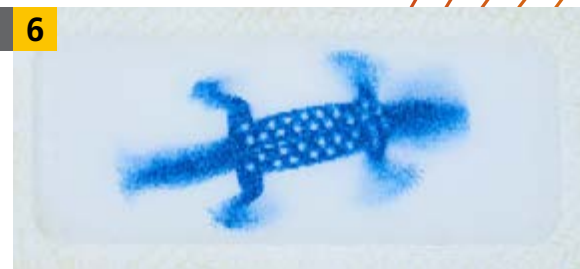
5 Hinge



The hinge is made from a specially coated flexible material designed for use in PC data pages for passports. The hinge stripe is embedded in the data page, providing a strong and durable integration in multi-layered data pages.

MAGIC ID 6

MAGIC ID is an advanced multiple image technology. Depending on the viewing angle of the card, images appear to move in multiple and/or opposite directions. A specific line structure is generated by a computer program in a precise configuration; when combined with sophisticated lens structures, this creates a new dimension of dynamically moving effects when printed.



7 Guilloche fine line and anti-copy pattern

The very fine, interlaced continuous lines composed to ornaments are a primary design element in security documents. Additional security features such as UV fluorescent ink or rainbow printing can further enhance the protection.

8 Microtext printing

Extremely small printed characters with the height of 0.25 mm to 0.35 mm, only readable with magnifying glasses secure the document. Standard reproduction devices like copy machines cannot replicate these details, which can be printed in negative as well as positive.



9 Amber ID

Amber ID is an advanced security feature integrated into the polycarbonate card body as a transparent window, using an optical variable pigment (OVP). This pigment produces a striking gold-to-green color shift when viewed from different angles.



LOOK ID 10

Look ID is a transparent stripe running horizontally across the entire polycarbonate passport page, ideally positioned between the holder's image and the machine-readable zone. For data pages with an integrated electronic component, the antenna can be made visible running through the transparent area.



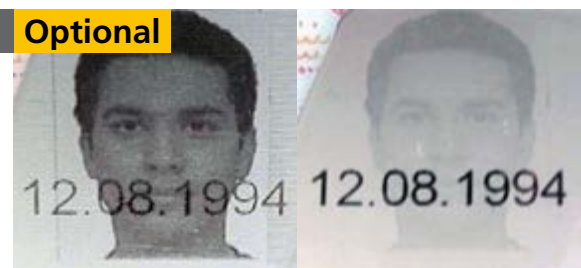
11 CLIP ID

CLIP ID (Color Laser Image Protected ID) integrates high-resolution, vivid color photos into polycarbonate ID documents by combining laser engraving with color (inkjet) printing. The lenticular structure in the photo area is a key component, added during the lamination process.



MLI Optional

MLI (Multiple Laser Image) is laser engraved information of the document holder. Different information such as holder portrait as well as birth dates are visible when tilted.



UTOPIAN

Date of birth/ *Date de naissance*

21 AUG 1991

12 Laser engraving

By laser engraving, the document holder's image and textual data are personalized into the document body.

13 Tactile laser engraving

Laser technology is used to incorporate images and text into plastic laminates and cards during the personalization process. In laser engraving, data is written by blackening (carbonizing) the document surface, resulting in raised data that can be felt.

Passport No./ *N° de passeport*

VG4900974

14 UV printing / UV rainbow printing

UV-security printing includes ultraviolet fluorescent prints (hidden text, images, or patterns). These elements are invisible under normal light but become visible under UV light, glowing in various colors.

15 Transparent window

A transparent window is integrated within the layers of the polycarbonate document. The window shape can be customized.



15 Spectre ID

Spectre ID combines two embossing structures, one on the front and one on the rear side of a transparent window. This design prevents any manipulation of the window by forgers. Depending on the viewing angle, the Spectre ID motif appears to move when the card is tilted and gives this highly dynamic effect. Motifs are selected by the customer during the design phase and are then incorporated into the Spectre ID structure.



15 Ghost image

Laser technology is used to incorporate images and text into plastic laminates and cards during the personalization process. In laser engraving, data is written by blackening (carbonizing) the document surface, resulting in raised data that can be felt.



15 Diamond ID

Diamond ID is a security feature, seamlessly integrated into the polycarbonate (PC) material of a fully transparent window. Completely transparent in daylight, the window shines in bright white under UV light, with integrated UV pigments adding extra brilliance at the edges.

RollingStar® i+ thread 16

This thread sets a new benchmark in visual authentication. Its brilliant color-shifting effects ensure outstanding visibility, even in low-light environments. Authentication is fast and intuitive with extensive customization options.



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[illegible]

1UT09601019F3505193<<<<<<<<<<<<08

Inner cover and title page



Thermochromic ink 17

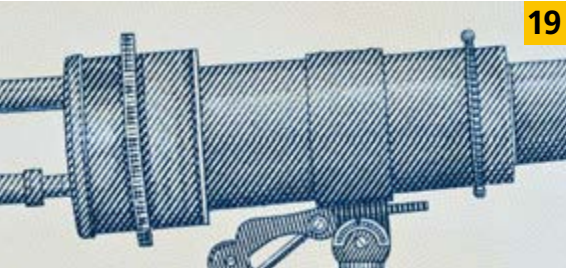
The special type of ink changes color when the temperature changes. With an increased temperature the picture is getting less visible. This effect can also be generated when rubbing with the finger above the area.



18 Laminated tactile structure

Embossed surface elements can be implemented on the document. The depth of the embossing depends on the line width of the embossing structure. This surface feature is clearly tactile and visible when the page is tilted.





19 Fine Intaglio Technology

FIT® (Fine Intaglio Technology) is a computer-based, high resolution engraving technique that produces extremely fine lines and intricate designs. FIT® creates a detailed relief element that can be easily detected by touch.

Deliberate errors

Deliberate errors (e.g., reversed spelling, missing letters, misspelled word, misaligned line or symbol, wrong date or number) are intentionally included. These are known only to the manufacturer and inspection officials.



21 Holographic security thread



Security threads can be integrated into or applied onto materials as metal or plastic threads. A wide variety of security threads is available, including polymer, metal-coated, colored, microprinted, fluorescent, holographic, or machine-readable threads. They can be fully embedded within the substrate or partially exposed on the surface (windowed).

ID Optics

22

ID Optics integrates multiple dynamic optical effects: it creates a 3D height illusion, enables latent image visibility, and allows contrast switching between background and foreground. Animated effects appear when the document is tilted, and a two-way image switch is also visible upon tilting. Created during the lamination process, ID Optics enhances security through its unique visual properties.



23 PEAK® Dynamic



PEAK® (Printed Embossed Anticopy Key) Dynamic combines offset printing with intaglio embossing technology and is an advanced development of latent printing. It shows a moving effect while tilting.

PEAK®

24

PEAK® (Printed Embossed Anticopy Key) combines offset printing with intaglio embossing technology and is an advanced development of latent printing. Depending on the angle, the feature appears as light on a dark background or dark on a light background.



25 STEP



STEP (Shimmery Twin Effect Protection) are transparent liquid crystal effect pigments applied over the entire surface of a highly opaque background printing. The color of the pigments varies depending on the viewing angle (OVI).

Visa pages

Rainbow printing 26

The background design patterns on each page of the document include fine color gradients that are impossible to reproduce on conventional scanners and color printers.



27 Pagination



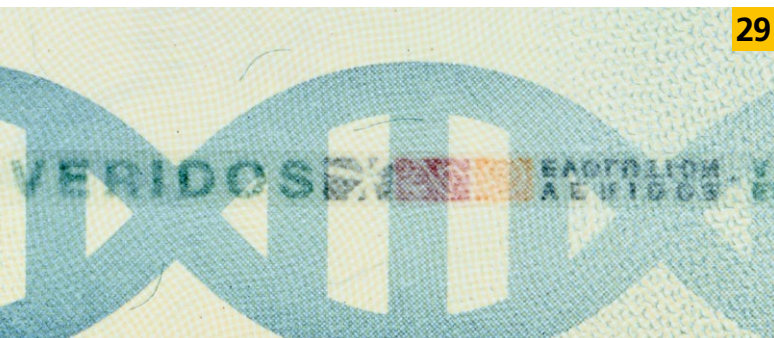
The pagination on each page is fully integrated into the guilloche pattern, thereby minimizing the risk of manipulation. In addition, the size and position of the page numbers can be varied from page to page.

Multitone watermark 28

Premium cylinder mould technology enables finely scaled, three-dimensional grayscale effects for enhanced security.



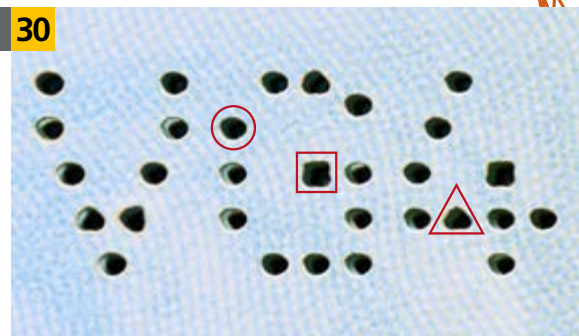
29 CountryCode™ Security Thread



CountryCode™ Security Thread is a fully embedded security thread within the paper of the inner pages. The thread displays elements such as the national flag and country name. For enhanced security it can also feature rainbow fluorescence under UV light.

Laser-perforated numbering 30

Laser perforation makes it possible to create extremely small holes that decrease in diameter with each ascending page number. This allows the location of each page within the document to be verified with accuracy. Laser perforation holes could also be made in other shapes, such as triangles and squares.



Microlettering / Microlines 31

Microlettering incorporated in the print is a feature that is especially difficult to counterfeit. It can only be verified with a magnifying glass.



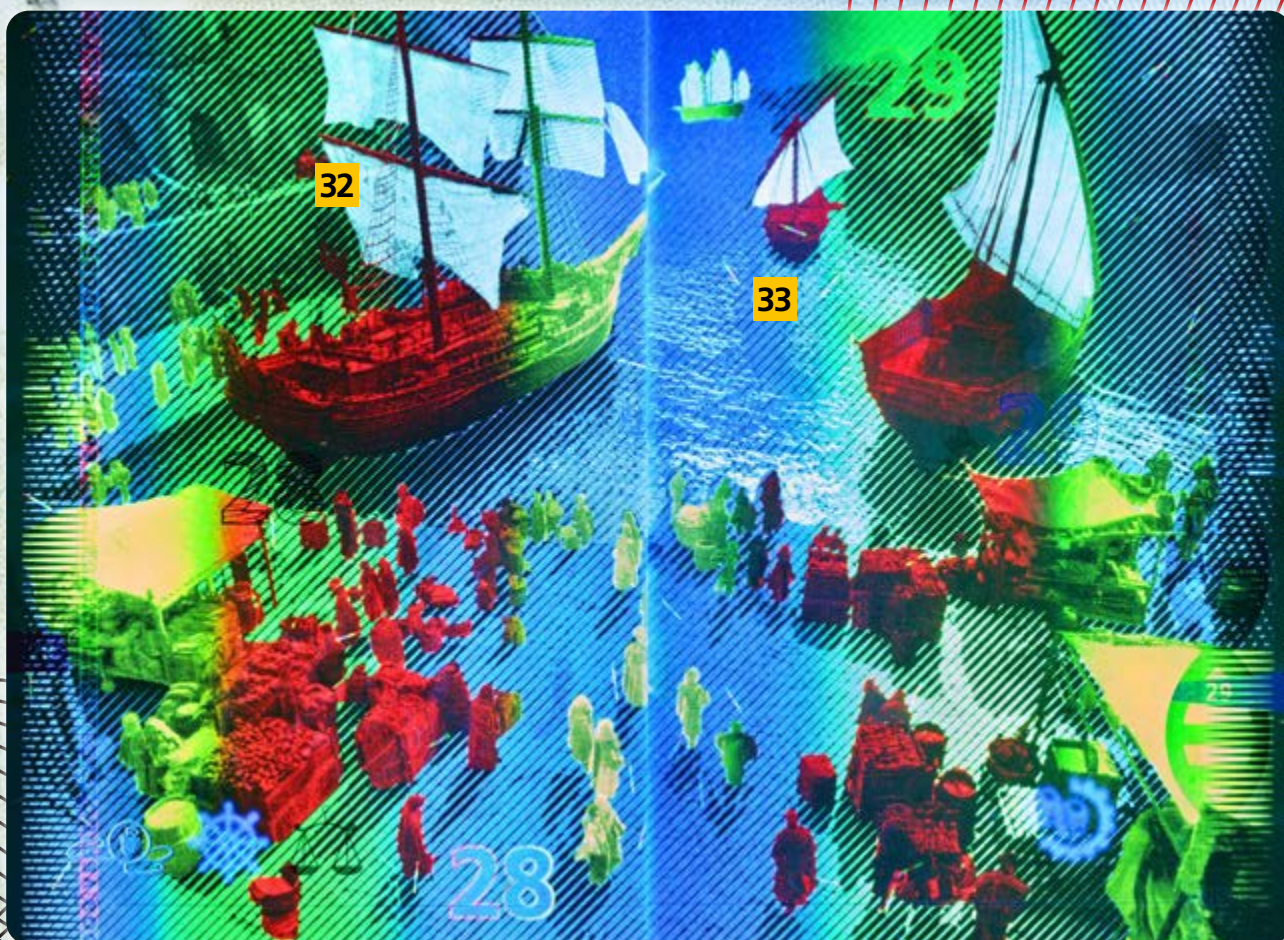


32 Fluorescent printing

All inner pages contain elements that are invisible under natural light but fluorescent under ultra-violet light. Also elements in rainbow (iris) printing, photo realistic elements and bi-fluor elements are possible.

Multi-color security fibers 33

This feature contains protective fibers within the paper. Some fibers are visible under normal light and will appear in bright, customized colors when exposed to UV light. Some fibers are only visible under UV light and others are only visible under daylight.



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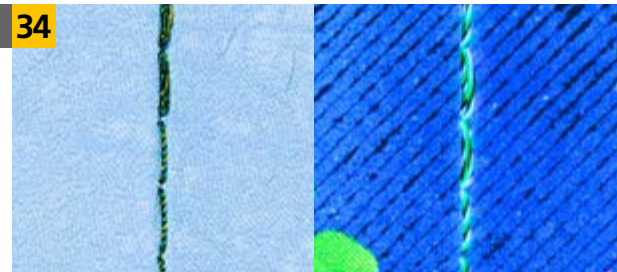


VISA



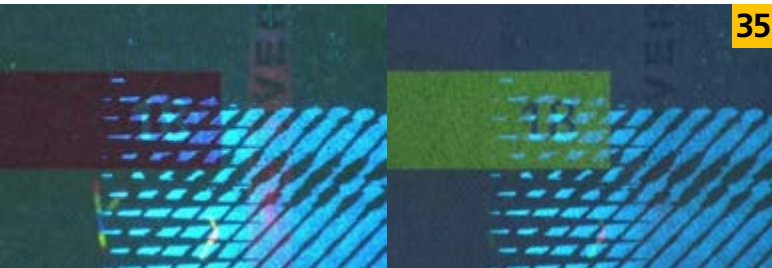
Sewing thread 34

Sewing thread consists of one or more different colored plies, which may fluoresce under ultra-violet light. The Veridos sample booklet contains blue, green and yellow plies in the visible range and blue and yellow as fluorescent colors. The thread is applied to all the end pages, inner pages and the data page, and can be seen in the middle of the booklet.



35 Bi-Fluor

All inner pages contain elements that are invisible under natural light but fluorescent under ultra-violet light. Depending on the wavelength, this feature appears in two different colors.



Tri-Fluor 36

All inner paper pages contain elements that are invisible under natural light but fluorescent under ultraviolet light. Depending on the wavelengths, this feature appears in three different colors (e.g. blue, red, green).



37 Index

The inner pages contain a page number. The position of the numbering is transposed vertically by the height of one square from one page to the next. If the edge of a closed e-passport is viewed, a stepped line becomes visible which can reveal substituted or missing pages. This features is also available with UV-fluorescent ink.

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CLIP ID

Putting security in the picture



CLIP ID is short for Color Laser Image Protected ID. This feature combines laser engraving with color printing within a customized lenticular structure, producing a lifelike, vivid color image of the document holder.

Customers across 4 continents trust CLIP ID. It is hard to forge yet easy to verify. A manipulated ID can be detected by simply touching the surface with a finger or viewing it under an infrared light.

CLIP ID is also available as CLIP ID Echo. The repeated portrait is combined with biographical data that is only visible from certain angles.

WATCH OUR VIDEO



Learn more about our color personalization technology.



38 Latent image

This intaglio printing feature can be applied on paper pages, mostly used in endpages. In combination with special engraving, the light angle shifts and makes this printed feature visible.

IR-A / IR-T inks 39

Under daylight, the color looks like a full picture. Under IR light, certain areas disappear while others remain.



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All technical data subject to change.