

A Glossary of Security Features for Printed Documents

- **Security Paper**
i.e. embedded threads and watermarks
- **Special Inks and Coatings**
i.e. color shifting and fluorescent inks or coatings
- **Complex Imaging**
i.e. fine line graphical backgrounds and borders,
and microprinting
- **Secure Appliqués**
i.e. holographic or prismatic images, and foils
- **Informational Add-ons**
i.e. magnetic stripes and RFID chips that contain
bearer or other unique information.
- **Calculated or Changeable Content**
i.e. check digit numbering and images that
alter after copying

Security and Intelligent Documents Business Unit

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This glossary is for informational purposes only and does not provide legal definitions. Inclusion or exclusion of any brand name product does not indicate endorsement by the U.S. Government Printing Office.

Active Security Feature A characteristic used to identify an original document by sight or touch. See also *Passive Security Feature*.

Anti-copying Mark A barely visible mark in a document that is "hidden" in a pattern and becomes very visible after the document has been copied.

Artificial Watermark A printed simulated watermark applied by the paper manufacturer or by the form manufacturer as opposed to a true *Fourdrinier* watermark produced during paper manufacturing. An artificial watermark visually simulates a true watermark but is only visible on the side where the artificial mark is applied. See also *Digital Watermark* and *Fourdrinier Watermark*.

Biometric Identification Data Individual identification information such as fingerprints, facial geometry, and/or geometry of the iris of the eye contained in a chip in the product (for example, in a passport.)

Bleed-through Ink Ink that produces a red halo around serial numbers that penetrates through the document for easy verification. The reverse image of the serial numbers should appear on the back of the document.

Check Digit Numbering An additional digit to the right of a number used to authenticate that number. It may be static, consecutive, or modular. See also *Modular Check Digit Numbering*.

Chemical Stain Protection A means to treat paper that gives it extreme sensitivity to acids, alkalis, or oxidants that may be used to alter the paper or an image thereon.

Chemical Toner Anchorage A means to bond the laser toner to the paper fiber surface to prevent its removal.

Chemically Reactive Paper Paper that will turn colors such as brown, blue, pink or black when bleach or solvents are used on it in an attempt to wash the ink from its surface.

Color Shifting Ink Ink that shifts from one color to another based on the angle that you are holding the paper.

Color Tint An overall shade of ink used to prevent show-through, as for example, one type of printing on the inside of an envelope.

Cryptoglyph® A trademarked security system from Alpvision SA using encrypted invisible marks. Often used for product packaging authentication.

Cryptography The process of translating data into an unintelligible form to keep it secure and then retranslating back to an intelligible form by the desired end user.

Custom Barcode The use of a non-standard system of bars and spaces to encode data.

Digital Watermark A machine readable covert pattern in a digital image in either the digital or printed format. Often used to identify the copyright holder of a photograph. See also *Fourdrinier Watermark*

DNA Ink Ink with a unique biological marker.

Duplex Registration Precise alignment of the copy on both sides of a printed sheet.

EID Card Electronic Identification Card See *Smart Card*.

Electronic Identification Card See *Smart Card*.

Erasable Ink Ink that will rub off when an attempt is made to erase information in the area that has been printed. The ink will also have an affect on the paper in the same manner as solvent/chemical reactive inks do, giving you two security features in one. Often used to print the background of a check.

Fugitive Ink Ink that runs and stains the document when water or any aqueous type of solution is used to alter the document.

Erasol Ink Ink in a pattern that causes any attempted erasure to distinctly mar the design and become apparent.

Fiber Security Any one of several means using visible or invisible threads in the paper. See also *Visible Fiber* and *Fluorescent Fiber*.

Fluorescent Ink Visible or invisible ink that glows under UV light.

Fluorescent Paper Fiber Visible or invisible paper fibers that glow under UV light.

Fluorescent Coating A visible or invisible coating such as varnish that glows under UV light.

Fourdrinier Watermark A translucent image created in paper on the paper making machine, with the use of a dandy roller. The image is generally the name of the paper or a company logo and can be viewed from both sides of the paper when it is held up to the light. A.k.a. a genuine watermark. See also *Artificial Watermark*

Geometric Lathe Work An ornamental pattern of two or more interlaced curved bands that produce a unique circular design, commonly seen on banknotes. Also known as a *Rose Engine*, or *Guilloche*.

Ghost Watermark An artificial watermark printed on the back of a sheet that will not appear on a scanned or copied document.

Guilloche See *Geometric Lathe Work*.

High Residue Labels Labels that when removed, leave a gummy surface behind to indicate that a seal has been removed.

High Resolution Image Fine line work too thin to reproduce by copier or scanner. When copied, detailed lines blend together and spaces fill in.

Hologram A seal, tape, or label containing two images that morph into each other according to the angle of view. Security holograms may contain stock or customized images.

ID Card Identification Card A document that certifies who the bearer is. For example a drivers license which uses a photograph. See also *Smart Card*.

ilam A patented process of the Brite ID company to laminate an RFID chip into a document

Image Replacement The use of a digital image to replace an actual document, as in the recently established use of digital images for check clearing purposes.

Intaglio A printing process that uses an etched or engraved plate; the plate is smeared with ink and wiped clean, the remaining ink in the recesses makes the print. A printing technique that produces very sharp images that cannot be easily copied without filling in.

Invisible Barcode The placement of information typically in a visible bar code into an invisible nano polymer.

Invisible Fluorescent Fiber Fibers in paper that are invisible under normal viewing conditions, but can be checked for authenticity by viewing the document under ultraviolet (black) light.

Invisible Ink Ink that produces an image that is only visible under ultraviolet or black light.

IRD See *Image Replacement Document*

Laid Lines The closely spaced watermark lines in paper caused by wires during production.

Laser Treatment A procedure done to paper that makes it difficult to remove toner when the paper is used for laser printed documents.

Laser-cut A series of laser produced micro cuts forming a secure pattern.

Magnetic Ink Character Recognition (MICR) A line or lines printed with magnetic ink that contain authenticating information. MICR is used for substitute check Image Replacement Documents (IRD).

MICR Print Band A removable MICR strip.

Microprint Signature Line The words "Authorized Signature" repeated in tiny, type, so small that the letters blur to a dotted line when copied or scanned. The distinct "MP" near the signature line alerts the recipient to look for legible little words.

Micro Printing Printing at a very fine line screen and resolution that provides text that is nearly visible and fills in when photocopied or scanned.

Micro-text See *Micro Printing*.

Modulus Check Digit Numbering Any one of several specific systems of non-consecutive, complex, check digit numbering.

Mould Watermark A watermark produced by a cylinder mould paper making process. These watermarks are full of detail, extraordinarily clear, and demonstrate the full range of shading from light to dark in a three dimensional impression.

OCR Line A line of machine readable copy printed in a special OCR (Optical Character Recognition) font.

Padlock Icon A printed symbol of a lock indicating that the document meets the voluntary security guidelines issued by the Financial Stationers Association.

Pantograph® A safety paper technology patented by Document Security Systems that causes words such as "unauthorized copy" or "VOID" to appear when the document is scanned or photocopied.

Paper Toner Fusion Treating paper to bond with inks or laser toners in an effort to prevent alteration.

Passive Security Feature A security feature that requires an action such as scanning or photocopying to become visible. See also *Active Security Feature*.

Penetrating Ink Ink that contains a penetrating red dye that goes into the fibers of the paper and will show through to the back of the document. Penetrating inks are commonly used on the Arabic and MICR numbering of negotiable documents to deter forgers from trying to scrape the number off the document. If the number is scraped off, the red stain remains on the document.

Photochromic Ink Colored or colorless ink that when exposed to UV or sunlight, instantly change color. Once the source of the UV light is removed, the ink will change back to its original color.

Printed Watermark *See Artificial Watermark. See also Fourdrinier Watermark.*

Prismatic Pattern The overprinting of two or more colored inks to create a blended color affect that is difficult to match on copiers. Prismatic color blending is visually similar to split fountain printing, but differences become apparent when the images are magnified.

Radio Frequency Identification Device (RFID) A tag such as a chip or adhesive sticker incorporated into a product to electronically store data about the product or bearer and allows remote retrieval of that data. RFID tags contain antennas to enable them to receive and respond to radio frequency queries from an RFID transceiver.

Rose Engine *See Geometric Lathe Work.*

Safety Background A type of security paper manufactured with a printed pattern to show evidence of any attempt made to alter the document by erasing or by chemical alteration.

Safety Paper Paper with hidden words that appear in the duplicate when the document is copied or scanned.

Scratch-off A process to cover printed data with a opaque covering so it cannot be read until the final user removes the coating to read the data. Most often used for gaming or lottery tickets.

Scrip Safe® A brand of security paper from the Scrip Safe corporation.

Security Foil A patterned thin, metallic layer stamped onto a document. Can be flat or embossed to create a raised image. Foils scan poorly and are impossible to reproduce with printers or photocopiers.

Security Paper Paper manufactured with a printed pattern that will show evidence of document alteration by erasing or by chemical alteration.

Security Tapes and Seals Frangible tapes and seals that tear into multiple pieces when removed indicating tampering or opening.

Security Thread A thin strip of polymer film precisely embedded or windowed into the paper. The thread can be microprinted, demetalized, have UV features, and have optically variable characteristics.

Self Voiding Label A label that when removed, leaves a pattern or text (often "Void").

Serial Numbering or Bar-coding Sequential numbering to identify each document.

Simulated Watermark *See Artificial Watermark.*

Smart Card A credit card-sized plastic card with a special integrated circuit (IC) chip imbedded in the surface of the card which is used to store information in a secure electronic form. *See also Identification Card.*

Solvent-Reactant Inks Inks that react when a solvent is applied to its surface.

Split Ink Fountain Printing with more than one ink in a printing fountain to achieve a unique blended pattern that is difficult to reproduce. *See also Prismatic Ink.*

Taggents Tiny tracers in the inks or base materials that can be traced and used to authenticate the document with a reader.

Tamper Evident Label Labels that when removed show evidence of tampering by leaving a message on the base surface such as "VOID" or "OPENED." The label cannot be replaced without indication that it was tampered with.

Thermochromic Ink Ink that changes color when exposed to heat and then changes back to its original color when cooled.

TouchSafe™ Seal A trademarked interactive verification means that will change color and show the hidden word "VALID" when rubbed or breathed upon.

Ultra Destructible Labels *See Security Tapes and Seals.*

UV Ink *See Invisible Ink and Fluorescent Ink.*

Visible Paper Fiber Easily seen, randomly placed fibers that are added to the paper when it is manufactured. Can also add invisible UV properties to make the fibers glow different colors in UV or black lights.

Void Pantograph The word "VOID" that appears when an attempt is made to copy a document.

Warning Band A disclaimer on the document stating the inclusion of security features.

Warning Regulation A warning of the legal ramifications of altering or copying the document.

Watermark A translucent design, pattern or symbol created in paper by varying the distribution of fibers within an area of the paper to identify the manufacturer, brand, or customer. It is best seen when held up to a light. A watermark cannot be copied. Also known as Fourdrinier Watermark. *See also Fourdrinier, Mould, and Artificial Watermark.*