Partial List of Security Features with Descriptions

Guilloche Pattern – An intricate pattern of curvilinear fine lines which was originally created by an engine turning different gears, but is currently done with specialized security software which can incorporate specific anti-copy features. Guilloche printing is commonly used in currency design.

Rainbow Guilloche – Same as Guilloche Pattern and is used in conjunction with a color spectrum which gradually changes from color to color achieving a continuous effect across the surface of the card. A slightly higher level of security is achieved due to the fact that a high-end color copier is required to duplicate effectively.

Moiré Pattern – A design based pattern which superimposes two patterns whose periodic variations are not identical. The effect is visually detected after utilizing a normal photocopier to reproduce the original pattern. The reproduced pattern induces a "moiré" or aliasing which immediately suggests the reproduced image is counterfeit. The original is produced utilizing digital image technology which differs from normal photocopy technology. This effectively "tricks" the photocopier and reveals the moiré in the reproduced pattern.

Microprint – Offset printed visual and machine-readable text of particular size. The text is indecipherable without the use of a reading lens and is usually incorporated within the art to appear as a singular line. Microprint is often used to print misspelled words to fool counterfeiters, who assume it is complete and correctly spelled. The offset printed text is located under a translucent lamination for protection from abrasion. This feature is difficult to produce with clarity and resolution using a photocopier, scanner or dye sublimation printer.

UV Fluorescence – Offset printed covert visual and machine-readable art or text which produces light when activated by an ultraviolet light source. This feature is normally undetectable to the naked eye and can be overlooked by counterfeiters. The feature is not easily produced with simple equipment. Special fluorescent colors are available.

Watermark – A localized modification of the structure and opacity of plastic such that a pattern, text or design can be seen when the card is held to a light source. This is a machine-readable feature (light source required, such as a flashlight) which is substrate based within the laminations of the plastic. Usually undetectable counterfeiters, this feature is especially difficult to reproduce unless there is access to card specific production equipment.

Lightpipe – A substrate-based machine-readable feature requiring a light source to detect. This feature is produced using optical techniques which direct light to specific location(s) on the card, such as the edge. The effect is a brilliant light at the location in a specific color, even when the location is different from where the light source is located. Since this feature involves specific translucent materials and optical design of substrates, the casual counterfeiter may never detect this feature and the professional will have the highly difficult task of recreating such an effect.

Laser Ablation/Engraving – This visual and substrate-based feature can be either tactile or sub-surface depending upon the types of plastics employed. Using a laser, a graphic pattern or alpha-numeric text is ablated into the sub-layers of a plastic card. Depending on the parameters of the laser system and the materials of card substrate, a tactile or sub-surface mark appears. This feature is particularly effective for the serialization of cards to reduce the risk of lost or stolen cards. Every card is marked with an individual serial number and can thus be accounted for. The mark cannot be "scraped off" without noticeable damage to the card surface. Foil and hologram cards with lasered features offer extra security, as any attempt to compromise the material destroys the hologram. A tactile surface is helpful in quick recognition of authenticity. Laser systems of such complexity are expensive, hence difficult, for a counterfeiter to obtain.

Metalized/HRI Holographic Stripes – This is a visual and substrate-based feature which can also be machine-readable. This feature uses a special metalized or High Refractive Index (transparent) holographic stripe, found commonly inside various currencies. These special stripes (up to 1/2" wide) can be machine readable to verify authenticity. This feature offers a high level of security since one would need to have access to both card manufacturing equipment and a source for holographic materials, both of which are difficult to obtain.