# SEAL OF APPROVAL

**Kai Schnapauff** *reports on how solutions for protection against tampering of official documents is adding value to government products*

**P**rotection against tampering and counterfeiting of official documents or seals has traditionally been an important concern. Equally important in government applications are seamless process integration capabilities and additional functional features. This means that customised solutions must be designed for all specific applications, for instance with RFID and efficient documentation and control capabilities.

This article shows examples from the areas of document security and vehicle identification, illustrating the interaction between security elements on the one hand and additional functional features on the other.

Documents that are traditionally authenticated by signatures or conventional stamps can be easily copied and so difficult to recognise as fakes by laypersons and government authorities. Transfer seals offer simple, clearly enhanced protection against such tampering and counterfeiting.

The principle of these seals is simple, but effective. When applying them to a substrate only the adhesive and inks from a liner film are transferred directly to the document, so there is no film to be peeled off afterwards. The seal enhances security while yielding important benefits in the processes of the authorities.

Transfer seals may be used to replace conventional stamps or to protect signatures. They serve to validate and legally mark documents (authentication, certification) and additionally facilitate the prosecution of criminal acts of damaging, detaching or defacing official seals (Breach of Seal according to Section 136, German Criminal Code). Due to their special composition and integrated security elements, they offer additional counterfeiting protection and proof-of-authenticity for official forms and other documents.

## TRANSFER SEALS OFFER SIMPLE, CLEARLY ENHANCED PROTECTION AGAINST COUNTERFEITING

To complement its 'basic functions', the adhesive document seal can be customised to suit the respective application. The version with a serial number serves to accurately document the issuance of the seals. It makes the seals 'countable', which means that unauthorised issuing of seals can be prevented. In addition, it allows for seals to be specifically allocated to a particular document. If precise positioning of the seal is required in the process – or handling in general is supposed to be simplified – the seals can be provided with a starter tab. In Schreiner PrinTrust's patented solution, the tab itself is slightly adhesive as well so that the seal will effectively adhere to the user's finger while being placed on the document, albeit without damaging the sensitive adhesive coating on the back of the seal. The document seal can be securely and accurately positioned and fixed in place on documents. An audible click when bending the tab indicates to the user when to peel off the liner film. After applying the seal, there will be no adhesive residues remaining on the employee's finger.

### BIRTH CERTIFICATE
Millions of people in Europe are presumed to live under a false identity – detailed statistics are not available. This not only refers to individuals entering the EU with counterfeit documents, but also to people holding valid passports with state-of-the-art security features, who in fact have a different identity. In many cases, passports are based on false source data, obtained for instance from counterfeit birth certificates. If a birth certificate has been tampered with, a valid passport on which it is based can easily be obtained. Consequently, certificates of birth and ancestry are often the weakest link in the identity chain. Therefore, the validity of such documents, ensured by the adhesive document seal, is of crucial importance if ID cards and passports designed to be highly secure are to fully deliver their intended benefits.

### EMERGENCY TRAVEL DOCUMENT
Emergency Travel Documents (ETD) are issued for humanitarian purposes to people who do not have a passport or other recognised travel document and

find themselves unable to return to their country of origin or residence, or to proceed to a country offering temporary or permanent refuge or asylum. A prominent document is issued by the ICRC and is developed with the help of Swiss security consultants SECOIA. Each ETD has a unique, letterpress-printed, six-digit serial number, which is tactile, front and back, and fluorescent green under UV light. Such documents can be enhanced by security transfer seals including numerous security features and unique identifiers. While the document itself is sufficiently secure, the greatest security challenge in the field is the secure storage of the blank documents before completion. In its present state, the document carries almost all security features before personalisation. It is, therefore, of utmost importance that the document stock be protected from theft during transportation and storage. An important characteristic of a crisis-proof document is the very strong bond between the various components. The issuance process and critical data are additionally protected by a security transfer seal, which itself includes numerous security features and unique identifiers.

### VEHICLE REGISTRATION
Improperly registered vehicles are the cause of major damage around the world – from lost taxes to vehicle thefts to increased security risks such as the circumvention of access controls. These issues call for effective actions to deter and provide faster proof of fraud and wrongful use. This is another case in point where, in addition to security, practical processes of issuing and subsequently checking the security solution are important.

The Third License Plate is a security label applied to the inside of the windshield and thus complements the commonly known metal license plates because the externally installed plates are easy to steal, copy and reuse for illegal purposes.

With the security label, this is not possible without a special effort because it is located in the vehicle's interior and has additional protective mechanisms against tampering and counterfeiting, and self-destroys in any attempt to remove it.

In the process of issuing the seal, the vehicle data, – typically that found on the license plate – is imprinted on an inscription field by the vehicle registration authority. In addition to the registration, proof of insurance, taxes or fees paid, parking permits, toll fees paid or access control may be integrated.

An additional RFID chip that can be custom-programmed and subsequently read in a contactless process from a distance of a few meters – eg for control purposes – enables even more functions. The utilisation of suitable chips and encryption technologies can raise security to an even higher level.

### FLEXIBLE PROOF OF INSURANCE
Adhesive plates are another example focused on security, and particularly on flexibility and benefits for the issuing authority and the end user. In Germany, this topic received particular emphasis in 2019 in the wake of 'micro electric vehicles' having become street-legal: any electric scooter used in public traffic areas requires an insurance tag. Insurance services provider GDV commissioned Schreiner PrinTrust to

develop a suitable solution: an adhesive plate as proof of insurance. In many countries, electric scooters have already been utilised for some time as a practical electric mobility alternative. Micro mobility is the keyword, going forward. It refers to practical, flexible and mostly electric micro vehicles used in urban areas as well as in rural regions for the so-called first and last mile of a commute. The practical e-scooters reach a large target group as a convenient and eco-friendly alternative to vehicles requiring a driver's license. To be street-legal, these vehicles require a license plate. However, unlike license plates on cars, they do not represent a classic form of registration on these micro electric vehicles, but provide proof of insurance – like on small mopeds. Because these small vehicles of various designs and makes often lack sufficient space to accommodate conventional metal plates, Schreiner PrinTrust developed an adhesive plate that requires minimal space and can be affixed to the vehicle. In addition, it is easier to issue the adhesive plates because they are lighter and thinner than metal plates. The required security is ensured by an integrated hologram. Other overt and covert security features may be integrated as well.

### RFID-PARKING PERMIT

Reduction of the administrative effort for the city of Vienna, inspectors and drivers was of paramount importance in the new development of a parking permit for the city. Vienna's former parking permit was replaced by an innovative electronic RFID-Parking Permit in 2016. The RFID parking permit for on-street parking was developed for the municipal district office responsible by Schreiner PrinTrust. Thousands of cars are already equipped with the electronic parking sticker. Just as with the 'conventional' sticker before, users apply the new RFID parking permit to the inside of the windshield. One of its many benefits is that it is applied only once. "When the validity of the sticker is extended, the old one no longer has to be scratched off and replaced with a new one. It can remain on the windshield for years and should last as long as the vehicle's lifetime. As a result, we're able to process requests for extensions more efficiently and economically," explains Irene Krasa-Oppolzer, Head of the Magistrate District Office for the 4th/5th District.

### THE THIRD LICENSE PLATE APPLIED INSIDE OF THE WINDSHIELD DESTROYS ITSELF IF TAMPERED WITH

Scratching off stickers when they had to be returned, used to pose a problem. Now, all owners can use them for the permits they have been issued—even after moving to another district or selling their cars. The reason is that even multiple permits can be connected with each RFID label. Only an identification number is stored on the chip, but no personal details. "And it's strictly this number, and no other data," says Krasa-Oppolzer. "That's why there are no concerns about privacy protection." Parking inspectors are able to conveniently identify the vehicles from the outside. They check the permits using handheld RFID readers. The number is then automatically matched with a database in which only the license number, type of vehicle, scope of application and period of validity are stored. The parking permits are read in a contactless process from a distance of a few meters, which enormously reduces the inspection effort. Thanks to RFID, the checks can be performed without direct line of sight ●

**Dr. Kai Schnapauff** is the Director of Schreiner and has more than 15 years' experience in the security and identification industry with specific areas of expertise in RFID and security label solutions for Government, automatic vehicle identification and logistics.

**Transfer seals offer a simple way to provide an unobtrusive way to secure documentation**





M-SG 1951