PRESENTATION FOR A SECURITIZED

NATIONAL NUMBER PLATE

PREPARED BY THE

SOUTH AFRICAN NUMBER PLATE ASSOCIATION

SANA
The South African Number Plate Association
Registration No: 2012/005768/08

GAUTENG PROVINCE 2020
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ZA

Frequent problems:

1. **Materials used for number plate production are freely accessible.**

2. **Limited control over distribution of blank plates and number plate embossers.**

3. **Number plate theft and re-use of stolen number plates or remake of fake plates using original data (cloning)**

4. **No machine-readable feature to verify authenticity of number plates and vehicle registration.**

Familiar Security Features used today…

- Watermark
- National Emblem
- Holographic Stripe
- Serial Number
- Hologram

National Number Plate Proposal

1. South African National Flag
2. Watermarks provide added security & the vehicle shaped design ensures easy recognition of the retro-reflective sheeting applicable for number plate specification
3. Provincial ID
4. Expiry Year
5. Attachment Rivet Hole
6. 75 mm Font as per SANS 1116-2008
7. OVD (optical variable device) stripe with machine readable sequential number (linked to blanker)
8. Holographic Validation label with QR code containing vehicle details for on- and offline verification (printed and applied by Embosser)
9. Two Multi-directional watermarks across the width of the entire number plate as added security.

National Number Plate Proposal

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1. South African National Flag
2. Watermarks, in the shape of a motor vehicle will ensure that the correct retro-reflective sheeting is used for number plate specification
3. Provincial ID
4. Two Multi-directional watermarks across the width of the entire number plate

All these elements are part of the reflective sheeting and integrated in the deeper layers of the reflective to achieve the necessary durability (under the top of the clear film).

The specification of multi-directional watermarks must avoid proprietary technologies.
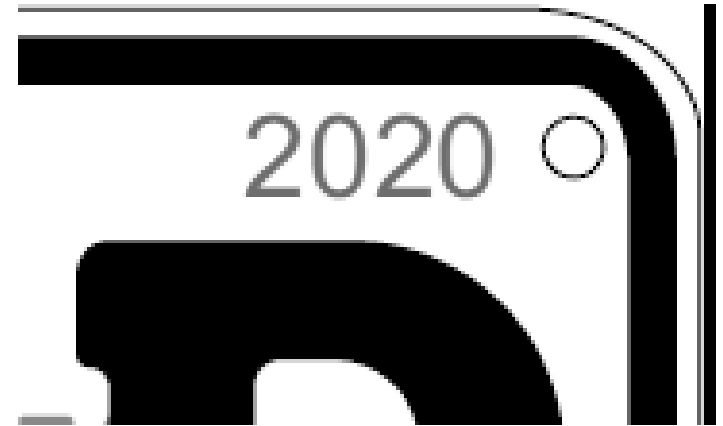
4. Expiry Year

The Expiry Year is linked to the expected lifetime of the retro-reflective values of the plate – 5 years from date of production. This would provide an indication about the age of the plate and its necessary replacement to ensure ongoing road and traffic safety by virtue of strong retro-reflective properties.

The Expiry Year will be laser marked into the deeper layers of the reflective by the Blanker during production of the blank number plate and cannot be deleted or tampered without visible damage of the retro-reflective sheeting.

5. Attachment Rivet holes

The holes are suitable for permanent fixing of the plates to the motor vehicles, as per the National Road Traffic Act, Regulation 35, sub-regulation 7 (f):-

"7. A number plate shall be affixed –

f) one to the back and one to the front of all other motor vehicles :
Provided that no person shall operate on a public road a motor vehicle first registered on or after 1 July 2011, unless the number plate fixed to such motor vehicle is affixed within 20 millimetres from the edges by means of 4 millimetres rivets or 4 millimetres one-way self tapping screws either directly onto the motor vehicle or onto an integral part thereof or onto an intermediate metal holding bracket which complies with the provisions of SANS 973 "Number Plate Carrier" approved by the Department of Transport, and which is attached to the motor vehicle in such a way that it cannot be removed while the number plate is affixed to it in the aforesaid manner."

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6. 75 mm & 60 mm Font as per SANS 1116-2008

Unique Font

This unique font is not a standard and was especially designed by the German "Federal Highway Research Institute" to fight vehicle related crime. The South African Motor Industry followed and adopted the font. It provides extra security and regulation via law enforcement.

Verification of Number Plates Classes by Colour

General Number Plates > Blue

Commercial Vehicles > Black

Personalised Number Plates > Green

Government Number Plates > Red

Defence Force > Brown

National Number Plate Proposal

7. The Optical Variable Device (OVD) stripe with machine readable sequential number (linked to Blanker).

We recommend the use of a human and machine readable sequential number, to be applied by each authorised blanker. In order to combine the serialisation of blanks with an anti-counterfeit device, we further recommend the use of a hot-stamped vertical OVD (optical variable device) stripe incorporating this sequential number which is repeated in a QR barcode.

The OVD (optical variable device) stripes can be issued by the National or Provincial authority to the authorised blanker who affixes the stripe on each blank plate. The Blanker thereby validates each blank by permanently applying a serial number which is human and machine readable to each blank.

Due to its incorporation in a holographic OVD (optical variable device) stripe, the serial number cannot be reproduced, tampered or transferred, hence creating a unique blank identity. The sequential number can further include a prefix to identify the blanker, e.g. one letter followed by an 8 digit sequential number.

The OVD (optical variable device) stripe must have the following properties:

- tamper-proof and not transferable, to avoid transfer from one vehicle to another

- weather and UV resistant

- include sequential number in open text and as machine readable code

- customised high-security holographic design controlled by National Authority

The manufacturer of the OVD (optical variable device) stripe must be a security hologram manufacturer with suitable certification such as CWA 14641:2009 security certification.

8. **Holographic Validation label containing vehicle details for on- & offline verification (printed and applied by Embosser)**

We recommend to adopt a system with a holographic tamper evident label issued by the Province or National Authority to the Embossers which can be printed at the Embosser when issuing the finished number plates.

The information to be printed should be machine readable and digitally signed in compliance with SANS1368 allowing for on- and offline verification e.g. by smart phones. The minimum information to be included should be the following:

- scanned serial number of the compliant blank number plates used (see item 7)
- the registration number of the number plate
- further vehicle related data such as make, model, colour, VIN etc.

The holographic validation label must have the following properties:

- tamper-proof and not transferable -> to avoid transfer from one vehicle to another

- weather and UV resistant

- customised high-security holographic design controlled by National Authority

- suitable for printing of QR code by desktop thermal transfer printer

The manufacturer of the validation label must be a security hologram manufacturer with suitable certification such as CWA 14641:2009 security certification.

Production & Distribution

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Registration Nr: 2012/067650/08

National or Provincial Transport Authority

- The National or Provincial Authority will distribute the holographic OVD stripes for the sequential marking of the blanks to authorised blankers only.

- The authority will also distribute the holographic validation labels ready for printing to the registered Embossers.

- Both products will have customised design for South Africa and the authorities will source directly from the Manufacturers or their designated Agents

- Both products contain serial numbers suitable for distribution and stock control at Blankers and Embossers, hence allowing for an audit of the Blankers and Embossers by the Authorities.

Database
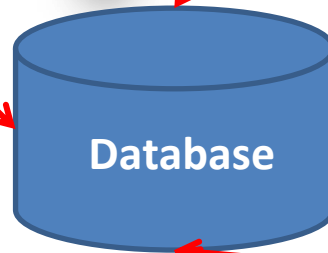
Authorised Blankers

- Authorised Blankers will apply the OVD strip including sequential number onto the blanks during production
- The machine readable sequential number will be used for Quality Control
- Log of all blanks produced and shipped to Embossers
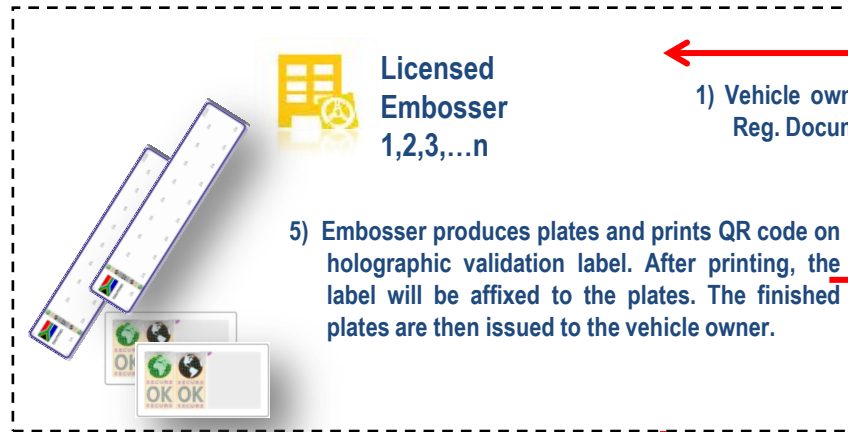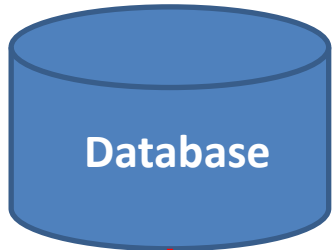
Licensed Embosser 1

Licensed Embosser 2

Licensed Embosser 3

Licensed Embosser 4

- Embossing of License Plates
- Printing of Validation label
- Fixing of number plates to vehicles

Production & Distribution

Licensed Embosser 1,2,3,…n

1) Vehicle owner submits ID & Vehicle Reg. Documents (tax disc)

5) Embosser produces plates and prints QR code on holographic validation label. After printing, the label will be affixed to the plates. The finished plates are then issued to the vehicle owner.
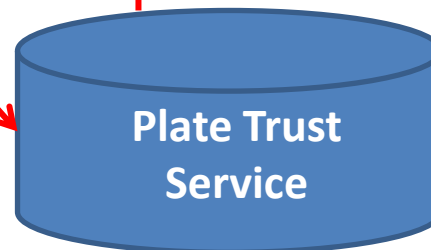
OK OK

Database

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4) Plate Trust Service generates QR code with vehicle details and registration number (or other info as required by authorities)

2) Embosser enter ID and Vehicle details on Plate Trust System (by scanning tax disc) and scans sequential numbers of blank plates used for production using the QR code in the holographic OVD strip.

3) Plate Trust Service checks if Embosser and Blanker are authorised / certified to provide plates. It is also possible to include a cross-check to Enatis database for the vehicle/holder related data scanned off the tax disc.
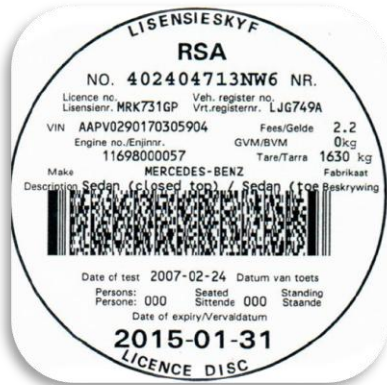
National or Provincial Transport Authority

Plate Trust Service

SANA
The South African Number Plate Association
Registration No: 2012/067688

Like a banknote or a passport, the security features proposed can be verified by a visual check by any person – public or police.

The security features for visual control are:

1) Watermarks in the reflective
2) Holographic information in OVD stripe and Validation sticker
3) Comparison with information on vehicle tax disc.

Verification at Any Time – Via Smartphone

MERCEDES BENZ
C63 AMG
VIN: WDB1704471A23456
Color: White
BB 00 CC GP
123456789

Using a Smartphone, the QR code can be scanned and vehicle data etc. can be verified – either online on the secure website or offline using the related app.

Due to the Digital Signature used, the QR code content can only be read – it cannot be changed or reproduced! App's are available for on- & offline verification and verification is always free!
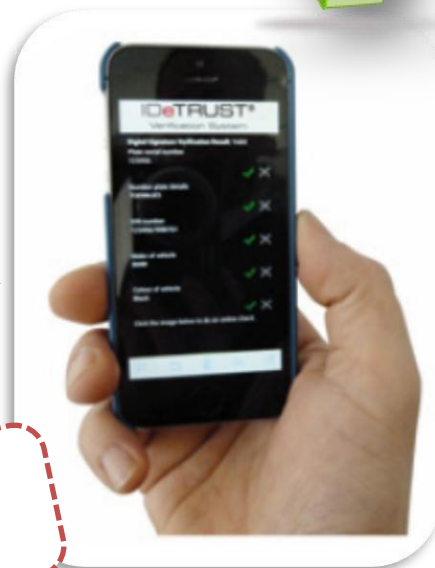
SANS1368 compliant

THANK YOU FOR YOUR CONSIDERATION!

SANA CONTACT DETAILS

Contact Person: Ms. Zurika Louw

Tel: 082 322 5208   Fax: 086 684 1304

Email: zurika@neza.co.za   Website: www.sa-na.co.za

Physical Address: 31 Oaklands, 1035 Cura Avenue

                       Equestria, Pretoria East

Postal Address: P.O. Box 1584

                       Wapadrand, Pretoria East

                       0050