Physical security features for polycarbonate ID documents

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Morpho
BU Identity Documents

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7.1   *Displayed portrait*. A displayed portrait of the rightful holder shall be either a photograph or other faithful reproduction of the image of the holder securely affixed to or represented on/within the substrate of the MRP. See Appendix 11 to this section for examples of acceptable and unsatisfactory portraits. Necessary measures shall be taken by the issuing State or organization to ensure that the displayed portrait is resistant to forgery and substitution. The displayed portrait shall have been taken within the six months preceding the issue of the MRP. The portrait shall not be larger than 45.0 mm x 35.0 mm (1.77 in x 1.38 in) and no smaller than 32.0 mm x 26.0 mm (1.26 in x 1.02 in). Digital imaging is strongly recommended, as affixed photographs are prone to fraudulent photo substitution.

**TECHNICAL ADVISORY GROUP ON MACHINE READABLE
TRAVEL DOCUMENTS (TAG-MRTD)
NINETEENTH MEETING
Montréal, 7 to 9 December 2009**

"Photo substitution is a key risk, and remains the number one abuse of travel documents."

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What can be done against photo substitution?

Tactile relief & Gloss/matt structures

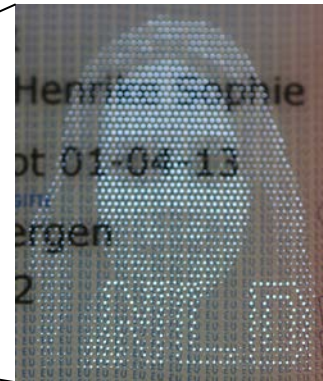**2ⁿᵈ photo in different technique ImagePerf/TLI**

3D Photo ID & Floating data

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Tactile relief structure integrated with the photograph

Relief and matt image against a high gloss background

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ImagePerf/Tilted Laser Image

Dutch Resident permit

In transmission

In diffuse reflection

3D Photo ID

Normally 2D photos are used

3D photos are much more difficult to substitute and therefore much more suitable to protect against photo substitution than a 2D photo.

3D Photo ID® is a three-dimensional image of the holder of the document, clearly visible without any tool (auto stereoscopy)
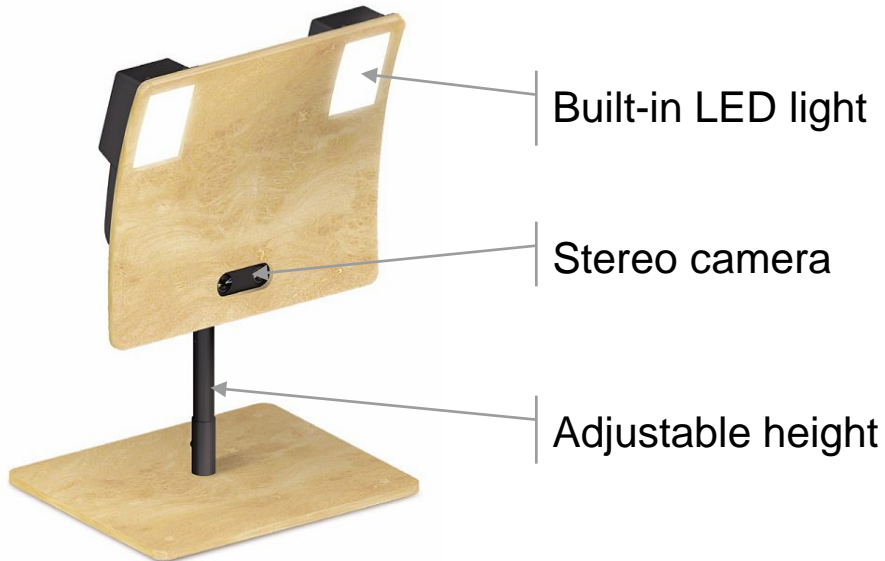
3D Photo Capture

real left **virtual** **virtual** **real right**
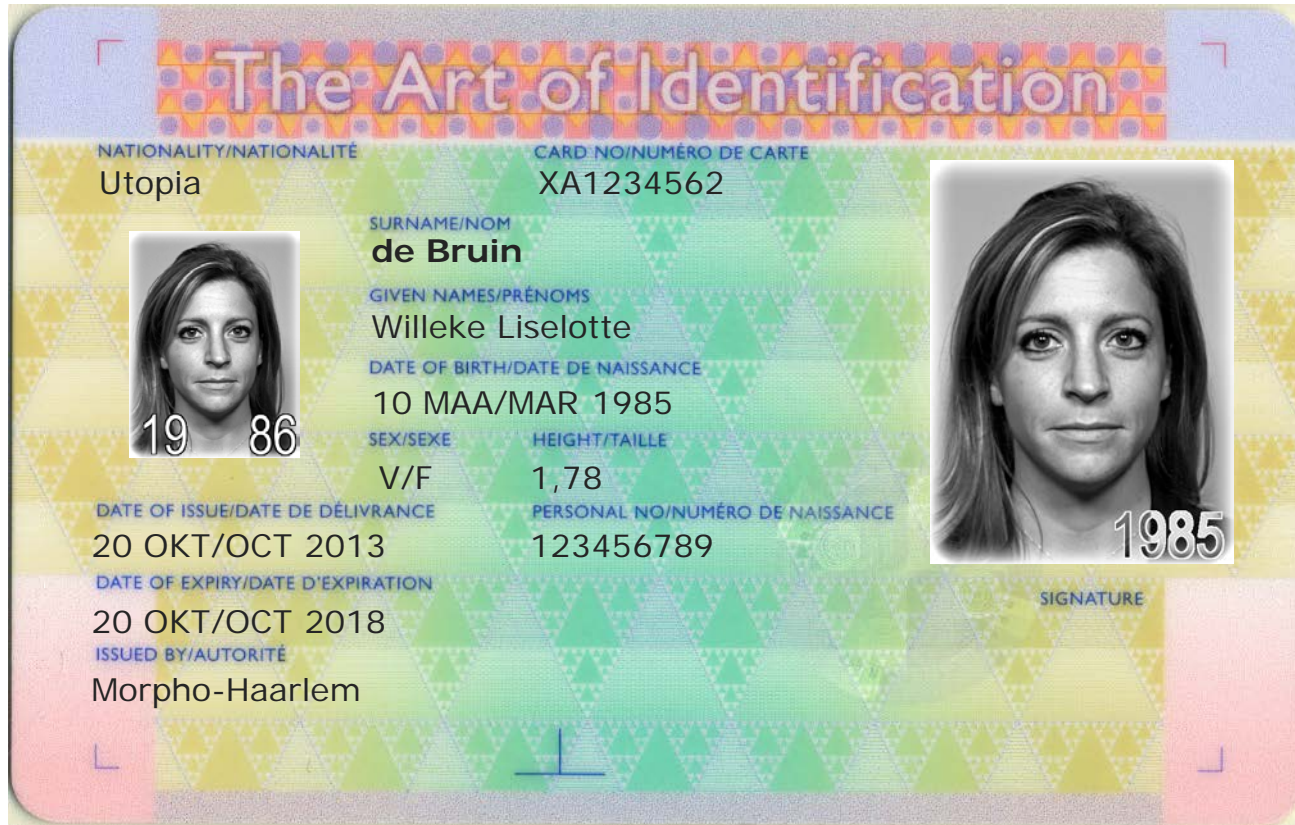

Built-in LED light

Stereo camera

Adjustable height

↘ 3D PhotoCaM

↘ Economic solution

↘ Simultaneous capture of two images

↘ Generation of two virtual pictures

↘ Compact, robust and reliable

Application of 3D Photo ID

Dutch Resident Permit, The Netherlands

Interpol passport

Driver License, North Carolina (USA)

Stereo Laser Image

Other card body features

Angle dependent images

Clear Window

Moiré effects

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Finish passport

Angle Dependent Image

Clear Window

Front side in diffuse reflection: Shadow of tactile relief and ghost image visible against white background

Date of Birth: 020850

Secondary image

OVI changes colour under lens array

Reverse side in transmission: Mirrored image visible from other side.

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Moiré Effects: Moving print
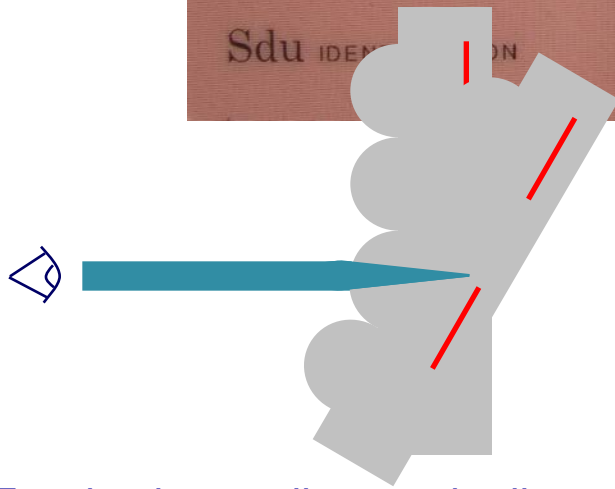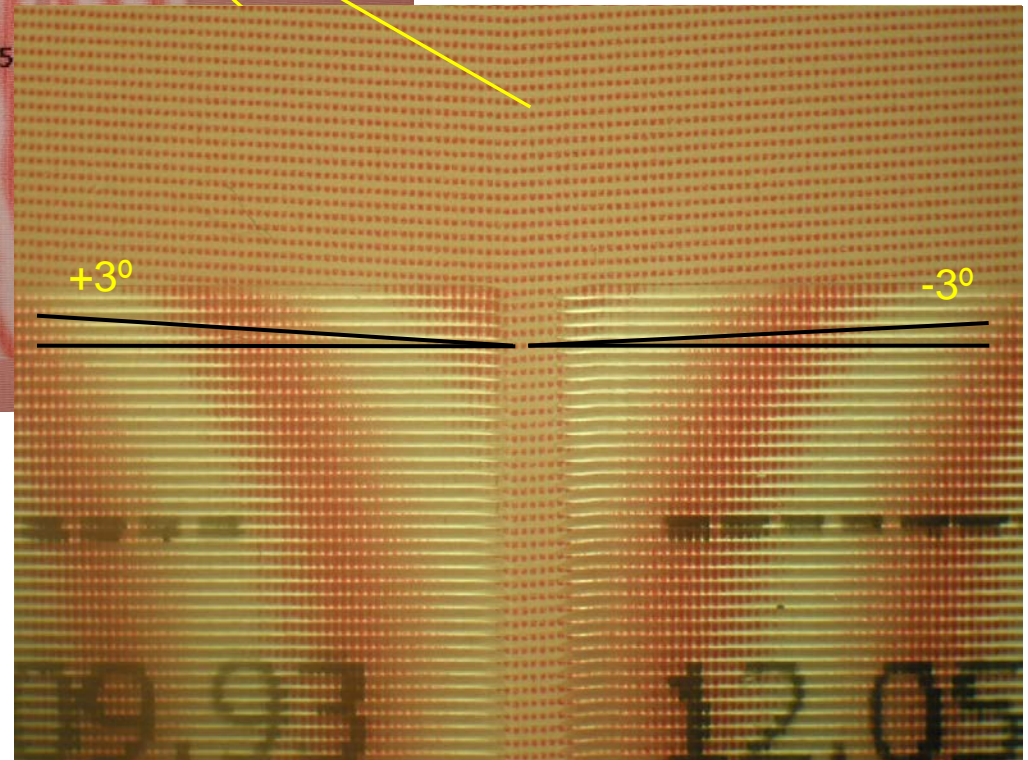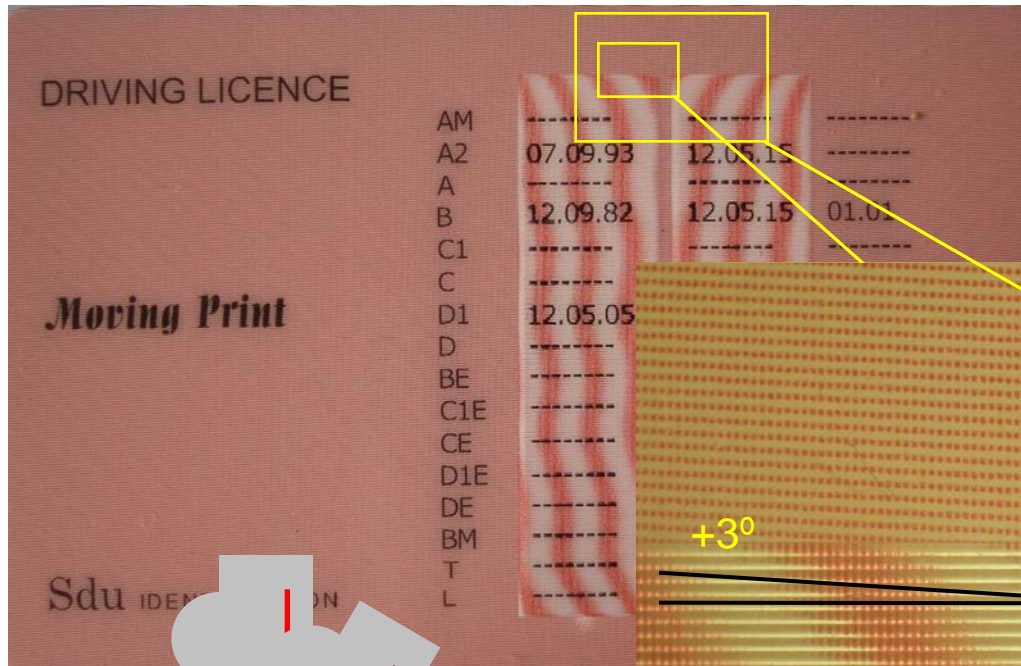
Focal point scrolls over the lines