



International Civil Aviation Organization

Sixth Symposium and Exhibition on ICAO MRTDs, Biometrics and Security Standards

ICAO Headquarters, Montréal, Canada
1 - 4 November 2010



Combating Document Fraud: MRTD Security Features and Forensic Document Examination

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Problems and Threats for MRTDs

- Document Security - Why does an MRTD need to be secure?



Document manufacture and issuing processes – Why do these need to be secure?

- Stolen Blank Documents
- Fraudulently Obtained Documents
- Corruptly obtained documents



Document Security

The Threat Posed by Organised Crime and Terrorism



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Document Security

The Role of ICAO



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The Security Value of ICAO Standard MRTDs



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Why are many security features used in each MRTD?



Why do we need security features in biometrics MRTDs?



Why is front line examination so important?

- This is the start of the examination chain. If suspicions are not raised here then back office or forensic checks will not be conducted
- Often it is behaviour of the document holder that gives rise to suspicions, not simply the document itself
- At this point impostors as well as other types of document fraud are identified



Detection at the front line

- At the front line the passenger's bona fides are tested
- Compliance of the MRZ is validated
- Checks of passengers against watch lists are made
- Checks of document numbers against watch lists are made (such as the Interpol database)
- Is the passenger the rightful holder? Biometrics verification is carried out, if possible
- MRTD security features are checked



Security features in MRTDs



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Watermarks

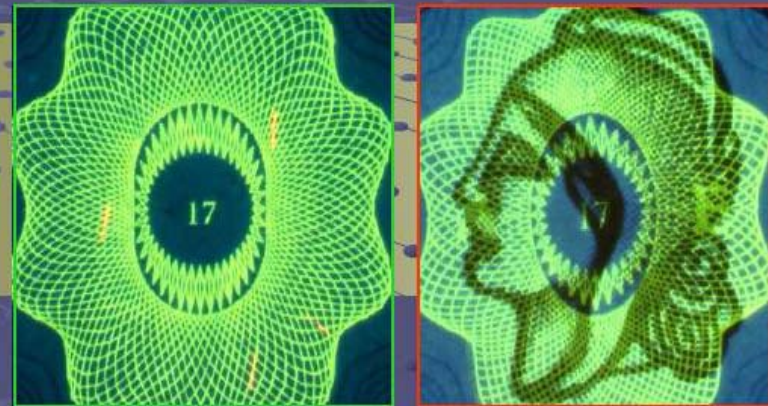
Watermarks

On the left we can see a genuine watermark with tonal variation whereas on the right is a counterfeit watermark with hard edges



Watermarks viewed in Ultraviolet Light

On the left we have no sign of the watermark in ultraviolet light. In contrast on the right the chemically simulated counterfeit on the right is reacting in UV.





Ultra-violet reactive ink

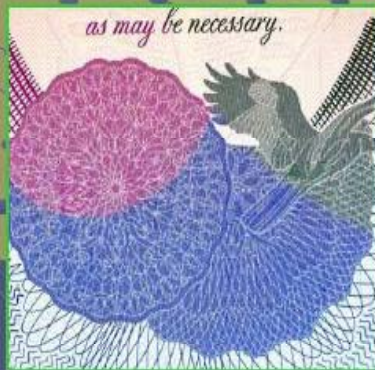


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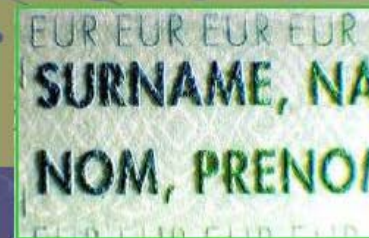
Intaglio printing

Genuine intaglio print often includes a latent image which can be seen when the area of intaglio is viewed at 90 degrees.

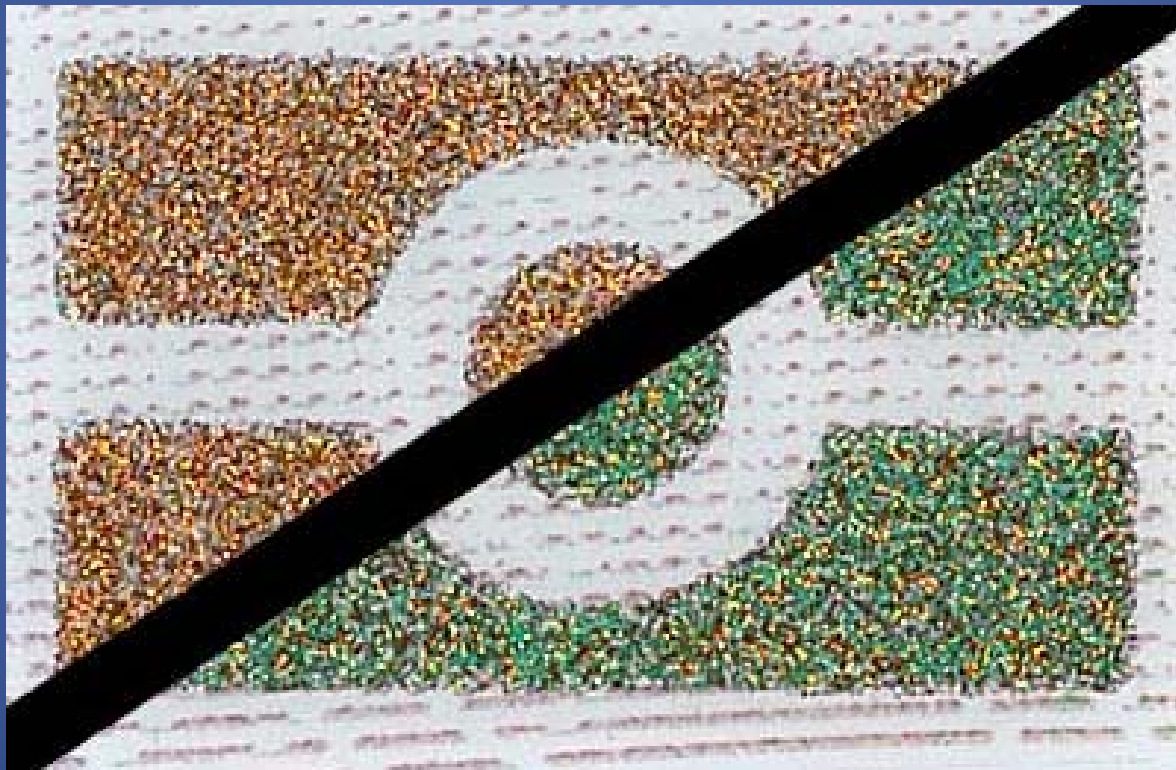


Intaglio Printing

Genuine intaglio printing will have raised print which can be identified by touch. In contrast the counterfeit on the right has been simulated using an embossing process, which is also out of registration.



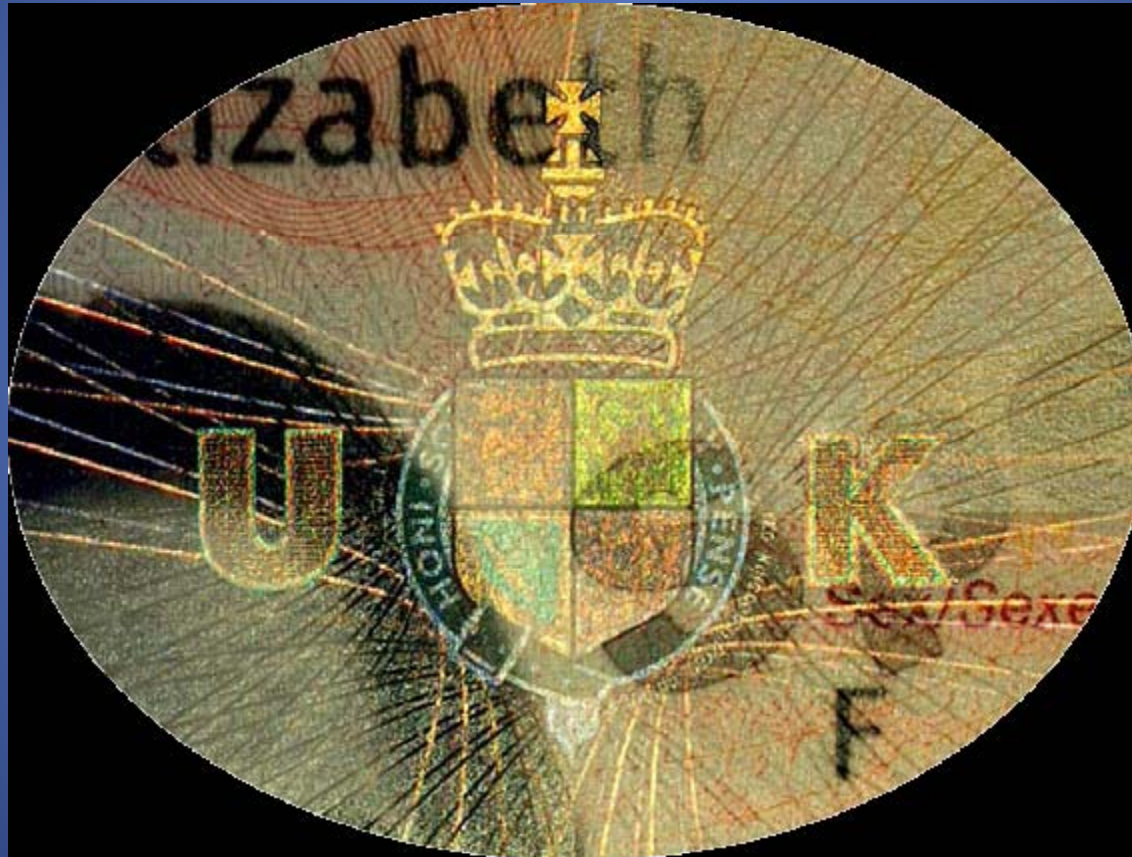
Optically variable ink



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DOVIDS (Diffractive Optical Variable Imaging Devices)



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QUESTIONS?



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