AUSTRIACARD
read the future

High Secure Identification Documents

Austria Card's high security identification cards have a long lasting proven record both nationally and internationally. More and more governments and organisations are fast moving towards maximum security in relation to border crossings and access to restricted areas. Furthermore, it will become increasingly important to have individuals carrying their respective identification in a way that is secure, convenient and forgery-proof. For such documents, Austria Card's identification product range covers all government and customer needs.

Fields of Application

National Security	Security on the Road	National Defense Security	Social Security	Education Security
National Identity Card	Driving Licence	Military Identity Card	Social Insurance Card	Student ID Card
Residence Permit	Digital Tachograph	Police Identification	Health Card	School Card
Refugee Card	Vehicle Registration Card	Weapon License	Health Professional Card	
Immigration Card			Work Permit	
Seafarer's Card			Retirement Card	
Voter Registration Card				

Technical Card Characteristics and Feature Description

Durability

It is easy to understand why identification documents need to be able to withstand a large amount of wear and tear as compared to other cards. The usual lifespan of an identification document is designed for a minimum period of 10 years. Identification cards are indicated for their usage under rough environmental conditions – i.e. driving licences. Although the latest generation of vehicles are mostly equipped with state-of-the-art air conditioning systems, the environmental conditions in a car summertime or extreme winters temperatures can easily cover a temperature range of 100 degrees Celsius. Thus, the selected technology has to be adapted accordingly. In particular, neither the document itself, nor the personalisation data must be affected by extreme temperature and changes in moisture levels. Furthermore, the readability of the stored data on the chip and the optical personalisation should be reliable at all times and under any condition.

Design

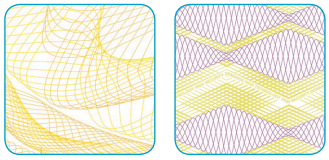
Austria Card relies on years of experience in the development of outstanding card designs in various fields of application. Austria Card is your partner of choice in realising a design with maximum security, quality card features, highly secure personalisation, and restricted security elements.

Card Material

Today, the most frequently used material for plastic card production is PVC. Thanks to its physical characteristics, it combines excellent applicability for card manufacturing and card usage. Nevertheless, the limited mechanical endurance of PVC and ABS only leaves polycarbonate as the preferred raw material when considering the long validity periods of ID cards. Austria Card is one of the few card manufacturers worldwide who has mastered the complex printing, lamination, and personalisation process of polycarbonate cards.

	PVC	PVC/ABS Blend	Polycarbonate	Composite
Field of Application	Loyalty School card Payment card	Identification cards designed for medium lifespan	All high secure identification cards, i.e. national identification, driving licence	Identification cards with medium to high lifespan
Characteristics	Wide processing range Medium temperature stability Cost-benefit ratio Life Span up to 3 years	Wide temperature range High impact strength Cost-benefit ratio Life Span up to 7 years	High temperature range & stability High mechanical strength Long life span up to 10 years High secure laser engraving	High temperature range & stability High mechanical strength Long life span up to 10 years High secure laser engraving
Temperature Range	-25° to +60°C	-25° to +65°C	-25° to +80°C	-25° to +80°C
Life Span	3 years	6 years	10 years	10 years

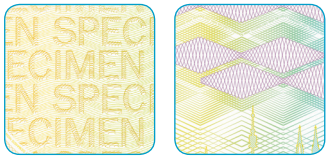
1 Guilloches



Guilloches are printed security lines – the layout of the intersections and geometry is unique. Copying is inhibited by the layout arrangement of fine lines, rainbow print, and the exact colour calibration.

Level 1, printed

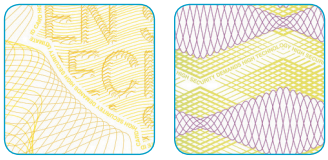
2 Rainbow Print (Iris Print)



The colours gradually change shade from one colour to the next. Colour copies cannot reproduce this effect and counterfeiting can easliy be detected.

Level 1, printed

3 Microtext



Fineline or microprinting refers to very thin, small printed characters or entire words. Without the use of a magnifying lens, the font appears as a continuous line. The characters contained in these lines cannot be reproduced with conventional copying methods.

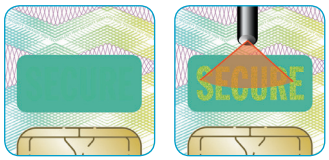
Level 2, printed

4 Fluorescent Print (UV Print)

Fluorescent ink is invisible under daylight. By viewing the card under UV light (A / B), design structures or texts become visible either in blue, red, green, or yellow.
This UV printing element cannot be copied.

Level 2, printed

5 IR Up Converting Feature



A special pigment is mixed into a printing ink using a special process. Stimulated with invisible IR light (laser beamer with certain range of wave length), the pigment reflects visible light in greenish/blueish shades.

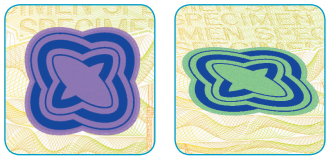
Level 2, printed

6 IR Drop Out Feature

Standard printing inks are not visible in the IR spectrum. Special inks are used to create designs consisting of IR (non) visible areas - being both visible under daylight. Preferred elements of colour are printed with IR visible ink.

Level 2, printed

7 OVI®



OVI® – Optical Variable Ink is a security feature showing different colours as the angle of view changes. Using a dark background colour, the colour changing effect can be enhanced. The OVI® is often used for covering the chip cavity on the reverse side of the card.

Level 1-2, printed

8 Kinegram® + TKO

A Kinegram® consists of microscopic areas with refractive characteristics. When viewing the Kinegram® from different angles, various designs or structures become visible. It is transparent and preferably placed in the area of the card holder's photo.

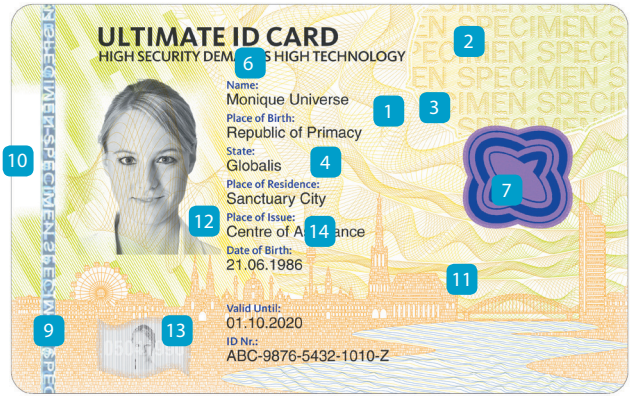
In comparison to the Kinegram®, the TKO® (Total Kinegram® Overlay) shows the Kinegram® characteristics across the entire card surface.

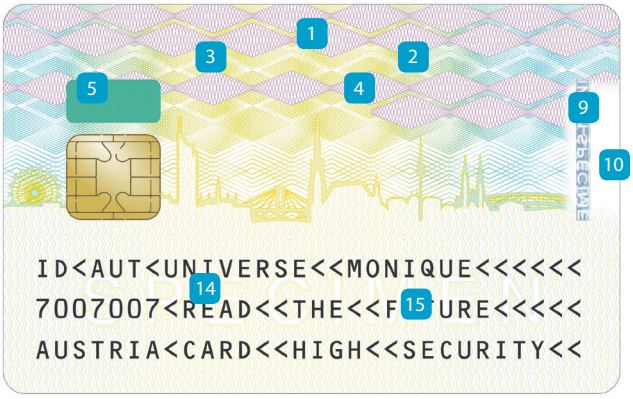
Level 1-3, applied

9 Security Stripe

A holographic security stripe can be metallised (or partly demetallised) and used as a security thread up to 2 mm or as a completely non-metallised HRI Hologram stripe with a width of 4 mm. Both solutions can be arranged vertically or horizontally under the top layer of the card.

Level 1-2, applied



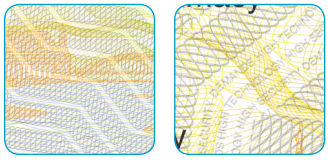


10 Safeguard Lookthrough

The Safeguard Lookthrough is a transparent window allowing the application of printed or personalised data, which can be seen from both sides of the card. It significantly complicates forging the card body and manipulating personalised data.

Level 1, special processing

11 Positive/Negative Embossing (Surface Relief)



Using highly sophisticated structured lamination plates, the cards can be finished with a raised and deepened structure to produce the so-called "positive/negative embossing". This structure can consist of Guilloches, Microtext, logos, etc. Latent images are also possible.

Level 1-2, special processing

12 Latent Image – Anti Copy Pattern

Also called the 'intaglio feature', this element includes a geometrically determined relief on the card surface.

By tilting the card to a certain angle, elements can be recognised.

Level 1, printed

13 CLI – Changeable Laser Image MLI – Multiple Laser Image

The CLI/MLI uses an area of very fine lenticular lenses. In a highly specialised process, the lenses are integrated into the transparent overlay of the card body. Up to three images can be integrated. These images appear and disappear while tilting the card vertically (CLI) or horizontally (MLI).

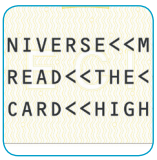
Level 1, special processing

14 Laser Engraving

Highly secure laser engraving makes the ID card defacto "impossible to forge". Any kind of personalised information i.e. text, photos, and signatures can be laser engraved. The data can be additionally protected by laser engraving through a holo-graphic element, such as a Kinegram®.

Level 1-3, personalized

15 MRZ – Machine Readable Zone



The machine-readable zone makes the card ICAO compliant.

With the right reading device and software, the personalised information can be read automatically.

Level 1-2, personalized

16 Micro Tags

Unique pigments – like rare earth – can only be detected using highly sophisticated laboratory equipment. These pigments cannot be detected with the naked eye or standard devices.

Level 3-4, printed or applied

17 Transparent Border

A small border comprised of only transparent material surrounds the card. The transparent border excludes the use of blank card bodies for counterfeiting.

Level 1, special processing

18 Card Body Structure

All manufacturers use different layers and processes for their ID cards. Thus, by analysing the card body structure, it can easily be verified if a card is part of the right batch of ID cards or not.

Level 2-3, special processing

Levels of Security Features

Printed SF	Level	Personalised SF	Level
• Guilloches	1	• Laser Engraving	1–3
• Iris Print	1	• CLI/MLI (Individual Data)	1
• Microtext	2	• Hidden Image IPI®	2
• UV-Print (Fluorescent Inks)	2	• Laser Ink Engraving linked to holographic element	1
• OVI® (Optical Variable Ink)	1		
• IR-Feature (IR Drop Out F.)	2	• MRZ	1–2
• M-Feature (Up Converting F.)	2		
• Latent Image (Anti Copying)	1		
• Micro Tags	3–4		

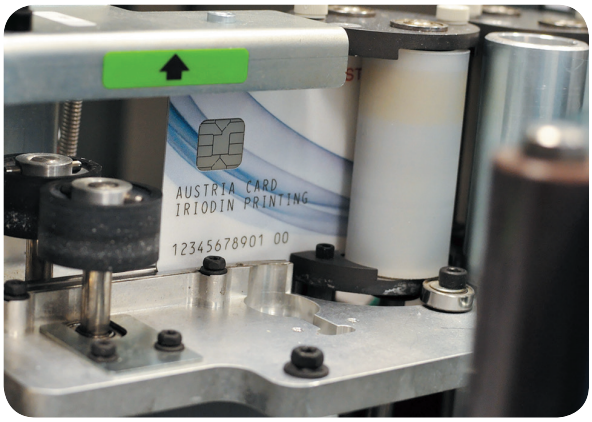
Applied SF	Level	SF by Special Processing	Level
• Hologram	1–3	• Surface Relief	1–2
• Holographic Stripe	1–2	• CLI/MLI – Lense	1
• Kinegram®	1–3	• Transparent Boarder	1
		• Card Body Structure	3

Level 1: No equipment is required in order to verify authenticity.

Level 2: Simple device is required to verify authenticity.

Level 3: Forensic equipment and specialist knowledge is required to verify authenticity.

Level 4: Authenticity only verifiable by manufacturer.



Personalisation Services

Austria Card identification cards are suitable for a variety of personalisation methods:

- Highly Secure Laser Engraving – Scan
- Highly Secure Laser Engraving –Tactile
- Indent Printing
- Thermo Printing
- Thermo Transfer
- Positive Embossing
- Thermo Sublimation Colour
- Thermo Sublimation Grey Scale
- Ink Jet Personalisation
- ...

Personalisation System Development and Set-Up

Typically, high security identification cards and documents are personalised in the issuing country. Austria Card is highly experienced in processing large amounts of sensitive data in the development of high security cards and offers extensive personalisation services and concepts.

The overall system security is based on a reliable personalisation concept. Without a trusted source in the issuing process, there is no security feature on the card – except for cryptographic functions – capable of guaranteeing genuineness.

According to the experience gained from many similar projects, the personalisation and issuance system must be defined in a completely different way as compared to existing paper document issuing processes. Most high security identification cards need to be personalised in a trusted central location.

Austria Card offers personalisation know-how for all card and chip card products within our product range. It is clear that for a large-scale identity card project, a local personalisation bureau will be a partner. Similar to many successful banking projects where Austria Card has successfully transferred know-how to third party personalisation facilities, Austria Card is ready to support the selected local personalisation house with an appropriate solution.

Logistics

A high security identification card needs to be dispatched via means of secure transport. Austria Card offers worldwide highly secure logistic chain services for any identification document – door-to-door.

International Standards

Austria Card identification products fulfil the quality requirements for standardisation – i.e. DIN, ISO and ICAO – as well as the requirements of respective EU regulations.

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