

Crack-resistant Polycarbonate Inlay and Prelaminate

Contactless inlays suitable for ID cards and e-Passport Datapages

• PCAx, PCBx

- ▶ One of the thinnest and most flexible inlay structures available
- ▶ Optimized with patented crack prevention technology to extend the life time of any card or document
- ▶ The perfect combination of high-tech inlay material, IC chip, antenna and operating system
- ▶ Proven secure contactless technology and antenna design ensures optimum chip performance
- ▶ Complies with and exceeds ISO and ICAO specifications and standards



SECURE identification.

Designed to specifically address the unique needs of governmental agencies, HID Global's contactless laminated Polycarbonate inlays for e-Passports provide the highest level of security, reliability and durability as required by this ever-changing market. A reliable and highly secure solution, the tamper-resistant inlays reduce authentication errors and falsification of documentation.

One of the thinnest and most flexible available, the inlays are optimized to prevent cracking and extend the overall lifetime of the final card design. Constructed with HID Global's patented transfer wire technology and ceFLEX™ material, the inlays are extremely durable and guarantee full protection of the electronic chip and antenna. Compliant with the electromagnetic, physical and mechanical requirements with ISO 14443 parts 1-4, ISO 10373-6 and with ICAO 9303, the inlays are ideal for use in the production of mono block Polycarbonate cards, and e-Passports PC and datapages.

- ▶ Available with a choice of contactless e-Passport ICs from leading suppliers
- ▶ High quality inlays are based on HID Global IP and patents
- ▶ Antenna and module fully covered and isolated for long term stability
- ▶ Durable inlay material provides advanced document resiliency (up to 10 years)
- ▶ Antenna module connected through thermo-compression process
- ▶ Features HID Global's patented crack-prevention technology
- ▶ Inlays are performance tested for durability
- ▶ Customer-specific formats and sizes available upon request
- ▶ HID's close supplier relationships guarantees best choice of components
- ▶ Extensive technical support provided by HID Global

Specifications

| | PCAx | PCBx |
|--------------------------------------|---|---|
| Available with different IC's | Chip: Available with a choice of contactless e-Passport IC's from leading chip suppliers based on customer requirements within different proven module types (e.g. MOB4, MCC8, etc.) Operating system: ICAO conform OS according to customer preference | |
| Dimensions | Format: Customer specific formats like 3x7 or 3x8. Other formats are available upon customer request within the maximum criteria given. Width: max. 480mm ± 1 mm Length: max. 635 mm ± 1 mm Thickness: 400 µm ± 45 µm Thickness over module: 400 µm ± 60 µm | Format: Customer specific formats like 3x7 or 3x8. Other formats are available upon customer request within the maximum criteria given. Width: max. 480mm ± 1 mm Length: max. 635 mm ± 1 mm Thickness: 350 µm ± 35 µm (thinner upon request) |
| Material | All layers: Polycarbonate Color: White | |
| Electrical | Operating frequency: 13.56 MHz Resonance frequency: According to best performance for specific IC Data transfer: Up to 848 kbits/s (depending on IC and reader) | |
| Antenna | Size: 47 mm x 78 mm ± 2 mm Material: Copper wire (Ø100 µm) Module connection: Thermo-compression bonding Technology: Transfer wire technology, patented by HID Global | |
| Storage conditions | Recommended temperature: +10°C to +35°C Recommended humidity: < 70 % rel. humidity | |
| Operating conditions | Recommended temperature: -25°C to +80°C Thermal resistance: -35°C to +85°C (acc. ICAO 9303 ¹) | |
| Processing condition | Temperature: max. 210°C Humidity: max. 60 % rel. humidity Pressure: 100 N/cm ² (Process parameters may vary due to specific customer conditions during lamination step) | |
| Adhesion | Inlay integrity test: > 3.5 N / cm; de-lamination test (HID method) Adhesion to PC: Very good using standard lamination process; values depending on customer process conditions | |
| Certifications | ISO 9001:2000 certifications for the manufacturing sites Common Criteria EAL5+ for chip Common Criteria EAL4+ for operating system ROHS conformity 2002/95/EG | |
| Resistance | This inlay is designed to resist parameters acc. to passport system Dynamic Bending stress: 1000 cycles (ISO/IEC 10373) ¹ Dynamic torsion stress: 1000 cycles (ISO/IEC 10373, ICAO 9303 ^{1,2}) Impact test: 25 cycles each side; 250 g at 320 mm height (HID test standard) ¹ Climatic test: acc. ISO 10373 ¹ Chemical: According to ISO 10373-6 and ICAO 9303 ² UV exposure: According to ISO 10373-6 ICAO 9303 ² X-Ray exposure: According to ISO 10373-6 and ICAO 9303 ² | |
| | This inlay has been qualified successfully by ID card manufacturers through demanding internal test procedures exceeding ISO and ICAO requirements. HID is constantly reviewing the test procedure based on ICAO recommendations. | |

¹ performed using reference card according to HIDG 108-008

² test methods according to ICAO Doc. 9303 - Durability of MRTDs v.3.2

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SECURE identity.

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