



Specification of quality inspection
Innovation of Diffractive Optically Variable
Image Device for Electronic ID Cards (eID card)
(reissue)



Innovation of Diffractive Optically Variable Image Device for Electronic ID Cards (eID card)

Specification of quality inspection

ANNEX 4 to the Agreement for supply of security elements for
Czech electronic ID cards

No. 029/OS/2021 (hereinafter refer to only as the “Agreement”)



Specification of quality inspection
Innovation of Diffractive Optically Variable
Image Device for Electronic ID Cards (eID card)
(reissue)



Contents

1	General description	2
1.1	Nominal, Limit and Quality Samples.....	2
1.2	Defects and Defects catalogue.....	4
2	Quality requirements	4
3	Acceptance of deliveries and test procedures	5
3.1	Outgoing Inspection Contractor.....	5
3.2	Incoming control at the Contracting Authority.	5
3.3	Procedure for defects	5
4	Attachment No. 1 – Certificate of Conformance, AQL report.....	6

1 General description

The technical specification of the security element for the Czech eID card is included in Annex No. 1 of the Agreement. The security element is placed on 100 microns polycarbonate Sheets, with 15 positions on one PC Sheet of 295x330 mm. The position tolerance of the security element is ± 1 mm in x and y axis (tolerance of the center of the DOVID to the right registration mark, closer to the reference Sheet corner).

Deliveries of the foils with the security element cannot start before the approval of the design, the MasterHologram and Pilot Sheets by the Contracting Authority.

1.1 Nominal, Limit and Quality Samples

For the purpose of this Annex No. 4 the terms “Nominal Sample”, “Limit Sample” and “Quality Sample” shall have the following meaning:

Nominal, Limit and Quality Sample are laminated samples to do quality tests. The Contractor will provide to the Contracting Authority sheets for preparing Nominal and Limit Samples. During the First Delivery both Contracting parties shall jointly approve sheet samples, Nominal and Limit samples for a Defect catalogue, which will be used as the basis for evaluation of possible claims. These samples will be used as a standard to compare the quality of the delivered Sheets.

“Nominal Sample(s)” shall mean the standard for the eID cards production (nominal quality reference).



Specification of quality inspection
Innovation of Diffractive Optically Variable
Image Device for Electronic ID Cards (eID card)
(reissue)



“Limit Sample(s)” shall mean the quality reference for still acceptable defects. These samples will be agreed upon by both Parties. „Limit Sample “will be established according to the Limit values for stated parameters, listed in the table below.

“Quality Sample(s)” shall mean samples which are produced from each production batch by the Contracting Authority and are compared to the Nominal and Limit sample.

“Limit values” shall mean the degree of acceptability of deviations from the perfect condition (nominal quality reference). If the controlled parameter extends the Limit value, then it is a defect that by its nature impairs the appearance or functionality of the ID.

Table of Limit values:

No.	Evaluated parameter	Method of evaluation	Limit value of acceptability
1	Sheet size	Measuring device	must correspond to the Technical drawing*
2	Position of DOVIDS and registration marks on the sheet	Measuring device	15 ± 0 pcs of DOVID on the sheet, must correspond to the Technical drawing
3	Partly or fully missing DOVID	Visually with the naked eye/machine reading	Not acceptable
4	Contamination	Visually with the naked eye /machine reading (evaluated on non laminated sheet)	No impurities in the photo area are acceptable. Impurities in the rest of the card: max 1 loose particle ≤ 1 mm ² for each sheet.
5	Negative flaking**	Visually with the naked eye /machine reading	≤ 0.1 mm
6	Positive flaking ***	Visually with the naked eye /machine reading	≥ 0.2 mm
7	Optical defects	Visually with the naked eye /machine reading	Single defects ≤ 0.5 mm ² , no optical defects in the photo area are acceptable

*Technical Drawing is included in Technical specification - Annex No. 1 of the Agreement

** Negative flaking – missing parts of the applied Diffractive Optically Variable Image Device in relation to the defined shape

*** Positive flaking – parts of the applied Diffractive Optically Variable Image Device, which is over the defined shape

The Measuring device is a transparent control film with printed sheet edges, register marks, DOVID positions, and DOVID application tolerance according the Technical Drawing approved by the Contracting Authority pursuant to Article IV paragraph 5 of the Agreement. The measuring device will be made by the Contractor and provided to the Contracting Authority before the first delivery.



Specification of quality inspection
Innovation of Diffractive Optically Variable
Image Device for Electronic ID Cards (eID card)
(reissue)



1.2 Defects and Defects catalogue

The Defect catalogue will be used to store the agreed Nominal and Limit samples and non-laminated sheet samples used for Nominal and Limit sample preparation.

If any new defect arises during the production of sheets with DOVIDs, the Contractor has to notify the Contracting Authority without any delay. The new defect will be added to the Defect catalogue and the Contracting Authority will evaluate the new defect and to what extent it is acceptable or unacceptable. If a new quality limit will be approved, the defect catalogue has to be supplemented by the new Limit samples. The validity date for the new quality limit must be mutually agreed by the Parties in writing.

2 Quality requirements

According to the Tender documentation the Contractor must before the signing the Agreement provide the evidence of the quality test of his product at least: the resistance to climatic conditions (temperature and humidity aging) and test of resistance to light. References to test parameters are listed in the table below, parameters specified in more detail in the mentioned standards. A more detailed specification of this requirement is specified in the Tender documentation.

No	Test	Standards	Parameters	Method of evaluation
1.	Resistance to climatic conditions (Temperature and humidity aging)	ISO 24789-2	Refers to the article 5.7 of ISO 24789-2	When comparing the tested cards to the non-aged cards with the naked eye, the cards shall not show any defects
2.	Resistance to light aging	ISO/IEC 7810:2019 ISO 105 - B02:2014	Refers to the article 5.2 of ISO 105-B02	When comparing the tested cards to the non-aged cards with the naked eye, the cards shall not show any defects

After the first delivery, the Contracting Authority will produce test cards, which will be used for the quality tests according to ISO/IEC 7810 and ISO/IEC 10 373-1, in the accredited laboratory to get a certificate of quality for the eID cards.



Specification of quality inspection
Innovation of Diffractive Optically Variable
Image Device for Electronic ID Cards (eID card)
(reissue)



3 Acceptance of deliveries and test procedures

3.1 Outgoing Inspection Contractor

The Contractor will provide quality control for each production batch in the minimum scope of the controlled parameters according to the table of Limit values stated in the Article 1.1 above. The Contracting Authority does not require a lamination test to be performed.

As proof that the delivered products have been duly tested and declared to meet all stated parameters, the Contractor will fill the Certificate of Conformance and send it to the Contracting Authority with each production batch.

3.2 Incoming control at the Contracting Authority.

The Contracting Authority shall ensure that the Control Numbers and labels attached to the packages remain unaltered and undamaged.

After each delivery the Contracting Authority will perform a receiving inspection test (standard AQL quality inspection). The nonlaminated sheets will be controlled according to the conditions stated below and also the Quality samples will be prepared and compared with the Nominal and the Limit Sample. Then the Certificate of Conformance will be filled, if some of the limit values will be exceeded, so such material will be considered insufficient and will not be released for production. The sheets for receiving inspection are performed by the ISO 2859-1, the single sampling plans for normal inspection, general inspection level II. The sheets are controlled according to the parameters (defect description/test methods and limit values) specified in the Certificate of Conformance. The result of each inspection test shall be supplied to the Contractor on request.

3.3 Procedure for defects

If the actual results during the Contracting Authority incoming quality control or production of eID cards, deviate from the Limit values stated in Article 1.1 above (the limit values will be exceeded) or a new defect appears, the Contracting Authority will immediately inform the Contractor without delay. In such a case, information regarding the type of defect, control number, (label with detailed batch number) and photos of the defects will be electronically sent to the Contractor and the Complaint will be initiated.

The Contracting Authority shall send back defective Sheets, as well as laminated Quality Samples on request by the Contractor. The material will tread according to the security rules and only a limited number of people from the Contracting Authority will have access to the material.

The Control Numbers, subject to a notice of defect, will not be released for production, and will be stored separately until the Complaint is closed.



Specification of quality inspection
 Innovation of Diffractive Optically Variable
 Image Device for Electronic ID Cards (eID card)
 (reissue)



4 Attachment No. 1 – Certificate of Conformance, AQL report

Certificate of Conformance

Date Our reference
 Your contact Direct tel.
 E-Mail Direct fax
 E-Mail to:

Project:
 Batch number:
 Batch size:
 Inspection level: Normal test method, test level II

Defect classification	Defect description/Test method	AQL	Limit values	Test results
Critical	Amount of patches per Sheet	0.025	15 ± 0 pcs	
Main	Negative Flaking	0.65	≤ 0.1 mm	
	Positive Flaking		≥ 0.2 mm	
	Dimension Product		According to Technical drawing	
	Application Tolerances		± 1 mm	
	Lamination Test		Limit sample	
	Contamination		Max 1 loose particle ≤ 1 mm ² each sheet, no impurities in the photo area	
	Optical Defects		Single defects ≤ 0.5 mm ² , no optical defects in the photo area	

*Control of a polycarbonate sheet with an applied diffractive element according to the ISO 2859-1, acceptance plan AQL for each delivery control.

Note:

Acceptance:

Controlled by:

Name

Signature