International Standard ISO 7810

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Identification cards — Physical characteristics

Cartes d'identification — Caractéristiques physiques

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7810 was prepared by Technical Committee ISO/TC 97, *Information processing systems*.

The following International Standards cancel and replace ISO 2894 and ISO 3554, of which they constitute a technical revision:

ISO 7810, ISO 7811/1, ISO 7811/2, ISO 7811/3, ISO 7811/4, ISO 7811/5, ISO 7812, ISO 7813.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

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Identification cards — Physical characteristics

0 Introduction

This International Standard is one of a series of standards describing the parameters for identification cards as defined in clause 2 below and the use of such cards for international interchange.

1 Scope and field of application

This International Standard specifies the physical characteristics of identification cards including card materials, construction, characteristics, and nominal dimensions for three sizes of cards.

2 Definition

For the purpose of this International Standard the following definition applies.

identification card: A card identifying its bearer and issuer which may carry data required as input for the intended use of the card and for transactions based thereon.

3 Card construction

The card may be made of solid, laminated, or bonded materials, with or without inserts.

4 Card materials

The card shall be made of PVC (polyvinyl chloride) and/or PVCA (polyvinyl chloride acetate) or materials having equal or better performance characteristics such as polyesters and polyethylene. Card insert materials may be used. They are not, however, specified in this International Standard and shall not interfere with other requirements specified in this International Standard.

WARNING: Rigid PVC and PVCA are sensitive to the effects of plasticizers which may be incorporated in some flexible plastic materials. Identification cards kept in contact with such flexible plastics may soften, harden, or deform.

5 Card characteristics

5.1 General

The following general characteristics apply to identification cards.

NOTE — *Specific test methods applicable to several of the characteristics are under study and will be added to this International Standard at such time as the test methods are deemed satisfactory.*

5.1.1 Deformation properties

The nature of the card shall be such that deformations in normal use (bends not creases) can be reduced elastically to flatness by the recording or printing device without impairing the function of the card.

5.1.2 Flammability

Resistance to flammability, where required, is specified in the International Standards dealing with the various applications of identification cards.

5.1.3 Toxicity

The card shall present no toxic hazards in the course of normal use.

5.1.4 Resistance to chemicals

The card shall be resistant to chemical effects arising in normal handling and use.

5.1.5 Temperature stability

The card shall remain structurally reliable and usable at environmental temperatures between −35 °C and +50 °C (−30 °F and +122 °F).

NOTE — Environmental temperatures as defined do not mean card temperatures but refer to the environment in which the card is used.

5.1.6 Humidity

The card shall be reliably usable at a relative air humidity between 5 % and 95 % with a maximum wet bulb temperature of 25 °C (77 °F).

5.1.7 Light

The card and its printed text shall resist deterioration from exposure to light encountered during normal use.

5.1.8 Durability

Durability of the card is not established in this International Standard. It is based on a mutual agreement between the card issuer and the manufacturer.

5.2 Special characteristics for embossed cards

For cards that are embossed special attention shall be paid to the characteristics of the material affecting its suitability for this purpose, particularly in respect to its ability to resist crushing and collapsing of embossed parts when operating in the imprinter.

5.3 Special characteristics for cards with magnetic stripe

The following special requirements apply to cards with a magnetic stripe.

5.3.1 Card material

The card material shall not contain elements which might migrate into and modify the magnetic material to such an extent that, during normal use of the card, this material is likely to become incapable of meeting the characteristics specified for it in this series of International Standards for identification cards.

5.3.2 Card warpage

5.3.2.1 ID-1-type card

When lying front side up on a flat surface, the maximum distance from the flat surface to any non-embossed portion of the front side of an embossed, encoded card immediately prior to issue shall not be greater than 2 mm (0.08 in). Application of a 2,2 N (0.5 lbf) load evenly distributed on the front face opposite the magnetic stripe shall bring the entire stripe within 0,08 mm (0.003 in) of the flat surface.

5.3.2.2 ID-2-type card

To be defined.

5.3.2.3 ID-3-type card

To be defined.

5.3.3 Surface distortions

In area *B* minus area *A* (see the figure) there shall be no surface distortions, irregularities or raised areas that might interfere on the back with the magnetic head, or on the front with magnetic encoding and reading.

If, however, a raised area is a signature panel, whether located on the front or the back of the card, then regardless of the magnetic stripe width, the following shall apply:

a) When the signature panel is at least 79,88 mm (3.145 in) long and displaced from the right-hand edge of the card by not more than 2,92 mm (0.115 in), the raised area shall be no closer to the top edge of the card than 16,76 mm (0.660 in).

b) In all other cases the raised area shall be no closer to the top edge of the card than 19,05 mm (0.750 in).

No raised area shall exceed 0,51 mm (0.020 in) in the embossing area (see area *C* minus area *D*).

Edge burrs shall not exceed 0,08 mm (0.003 in).

No raised area shall exceed 0,25 mm (0.010 in) over the entire remaining front or back of the card.

NOTE — Scratching or markings of a signature panel may occur in some reading or encoding devices.

5.3.4 Contamination

The card material and any material added to the card shall not contaminate the devices which stripe, encode, or read the card.

5.4 Special characteristics for cards with integrated circuits

To be defined.

6 Nominal dimensions of card

The nominal dimensions of the three sizes of card are shown in the table. Dimensional tolerances and requirements for corners and edges are specified in the International Standards dealing with the application of identification cards.

Table

Card type	Width		Height		Thickness [1]	
	mm	in	mm	in	mm	in
ID-1	85,60	3.370	53,98	2.125	0,76	0.030
ID-2	105	4.134	74	2.913	0,76	0.030
ID-3	125	4.921	88	3.465	0,76	0.030

1) In cases when embossing and magnetic recording are not required other thicknesses may be specified.