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STANDARD

ISO/IEC
7813

Third edition
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**Identification cards — Financial transaction
cards**

Cartes d'identification — Cartes de transactions financières
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ISO/IEC 7813:1990

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Reference number
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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 7813 was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*.

ISO/IEC 7813:1990

This third edition cancels and replaces the second edition (ISO 7813 : 1987), clause 9 of which has been technically revised.

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Introduction

This International Standard is one of a series of standards describing the parameters for identification cards as defined in clause 3 and the use of such cards for international interchange.

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Identification cards — Financial transaction cards

1 Scope

This International Standard specifies directly or by reference the requirements for cards used in financial transactions. It takes into consideration both human and machine aspects and states minimum requirements for conformity. It contains physical characteristics, layout, recording techniques, numbering system, registration procedures, but not security requirements.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 554 : 1976, *Standard atmospheres for conditioning and/or testing — Specifications.*

ISO 3166 : 1988, *Codes for the representation of names of countries.*

ISO 4217 : 1987, *Codes for the representation of currencies and funds.*

ISO 4909 : 1987, *Bank cards — Magnetic stripe data content for track 3.*

ISO 7810 : 1985, *Identification cards — Physical characteristics.*

ISO 7811-1 : 1985, *Identification cards — Recording technique — Part 1: Embossing.*

ISO 7811-2 : 1985, *Identification cards — Recording technique — Part 2: Magnetic stripe.*

ISO 7811-3 : 1985, *Identification cards — Recording technique — Part 3: Location of embossed characters on ID-1 cards.*

ISO 7811-4 : 1985, *Identification cards — Recording technique — Part 4: Location of read-only magnetic tracks — Tracks 1 and 2.*

ISO 7811-5 : 1985, *Identification cards — Recording technique — Part 5: Location of read-write magnetic track — Track 3.*

ISO 7812 : 1987, *Identification cards — Numbering system and registration procedure for issuer identifiers.*

3 Definitions

For the purpose of this International Standard, the definition of "identification card" given in ISO 7810 and the following definition apply.

financial transaction card: A card used to identify the card issuer and the card holder to facilitate the financial transaction and to provide input data for such a transaction.

4 Physical characteristics

4.1 The physical characteristics of financial transaction cards shall conform to ISO 7810.

4.2 Flammability: A method of test for this requirement is under study and will be included in this International Standard when agreement is reached on it.

5 Dimensions (see figure 1)

5.1 Unembossed cards

The nominal dimensions shall conform to those specified for card type ID-1 in ISO 7810. The following dimensions and tolerances apply to cards under the standard test atmosphere of 20 °C (68 °F) and 65 % relative humidity (see ISO 554).

5.1.1 Card height and width

All points on the edges of the card in the finished state, except for the rounded corners, shall fall between two concentric, similarly aligned, rectangles which are dimensioned as follows:

- outer rectangle: width 85,72 mm (3,375 in)
height 54,03 mm (2,127 in)
- inner rectangle: width 85,47 mm (3,365 in)
height 53,92 mm (2,123 in)

Dimensions in millimetres
(inch dimensions in parentheses)

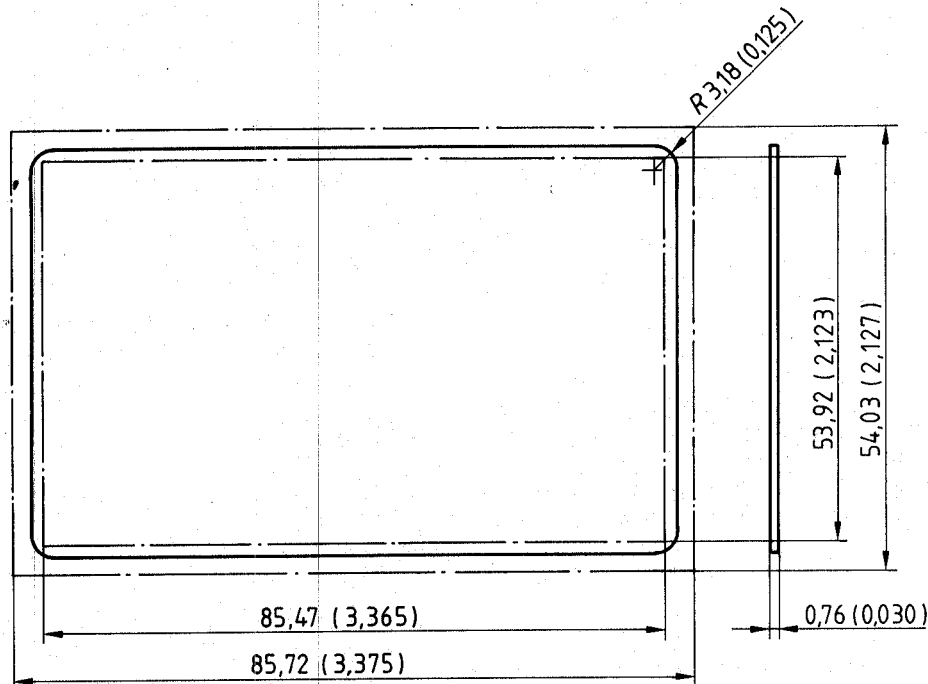


Figure 1 — Card dimensions
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5.1.2 Card thickness

The thickness of the card shall be 0,76 mm ± 0,08 mm (0,030 in ± 0,003 in).

5.1.3 Corners

The corners shall be rounded with a radius of 3,18 mm (0,125 in). Care should be taken to avoid misalignments between the rounded corners and the straight edges of the card.

5.1.4 Card edges

Edge burrs normal to the card face shall not exceed 0,08 mm (0,003 in) above the card surface.

5.2 Embossed cards

The specification of dimensions of cards after they have been embossed is at present under study and will be included in this International Standard when agreement has been reached on it.

6 Layout

The following areas are defined for various media to be selected for the application concerned. One or more areas may be used but may not be relocated.

6.1 Embossing area

The embossing area shall be located on the front of the card as specified in ISO 7811-3.

6.2 Magnetic stripe area

The magnetic stripe area shall be located on the back of the card adjacent to the top edge as specified in ISO 7811-4 and ISO 7811-5.

7 Embossing

Embossing shall be as specified in ISO 7811-1 and ISO 7811-3.

8 Magnetic stripe

The magnetic stripe shall conform to ISO 7811-2, ISO 7811-4 and ISO 7811-5.

9 Information contents, formats

Track 1 and/or track 2 may be used with the following structures.

9.1 Track 1 structure

| | | |
|-----|-------------------------------|-----------------------|
| DD | Discretionary data | balance of characters |
| ETX | End sentinel | position 1/15 |
| LRC | Longitudinal redundancy check | <u>1 character</u> |
| | Maximum record length | <u>79 characters</u> |

9.1.1 Structure A

Reserved for proprietary use of card issuer.

9.1.2 Structure B

| | | |
|-----|-------------------------------|--------------------|
| STX | Start sentinel | position 0/5 |
| FC | Format code | B (position 2/2) |
| PAN | Identification number | up to 19 digits |
| FS | Separator | position 3/14 |
| CC | Country code (see 9.1.2.2) | 3 digits |
| NM | Name (see 9.1.2.3) | 2 to 26 characters |

| | | |
|---|--|---------|
| surname | | |
| surname separator | | /(0/15) |
| first name or initial space (when required) (see 9.1.2.4) | | 0/0 |
| middle name or initial period (when followed by title) | | .(0/14) |
| title (when used) | | |

| | | |
|----|----------------------------------|---------------------------|
| FS | Separator | position 3/14 |
| ED | Expiration date (see 9.1.2.5) | 4 digits or position 3/14 |
| SC | Service code (see 9.1.2.6) | 3 digits or position 3/4 |

9.1.2.1 Character positions shall be as described in ISO 7811-2, table 1.

9.1.2.2 When the primary account number commences with the major industry identifier "5" followed by the digit "9", the encoding of the numeric country code (as specified in ISO 3166) in this position is mandatory. In all other situations, the name shall immediately follow the separator which terminates the primary account number.

9.1.2.3 Name: Minimum encoded data shall be a single alpha character (as surname) and the surname separator.

9.1.2.4 Space: The space character is required to separate the logical elements of the name field other than the surname. The separator terminating the name field should be encoded following the last logical element of the name field. If only the surname is encoded, it will follow the surname separator.

9.1.2.5 Expiration date: Format YYMM.

9.1.2.6 Service code: A three-digit code assigned by the ISO/IEC technical body responsible for this International Standard; currently agreed assignments being as given in table 1.

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Table 1 – Service code assignments

| Values | Position 1 | Position 2 | Position 3 |
|--------|---|---|--------------------------------------|
| 0 | | Normal limit indicator ⁴⁾ | No restrictions/PIN required |
| 1 | International ¹⁾ | Low limit indicator | No restrictions |
| 2 | International/alternative technology(ies) ¹⁾ | Positive authorization is mandatory | Goods and services only |
| 3 | | High limit indicator | Cash only/PIN required |
| 4 | | Normally positive authorization but special backup arrangements | Cash only |
| 5 | National ²⁾ | | Goods and services only/PIN required |
| 6 | National/alternative technology(ies) ²⁾ | | |
| 7 | Private ³⁾ | | |
| 8 | | | |
| 9 | Test | | |

Notes relating to Position 1

- 1) 1 and 2 = available for international interchange.
- 2) 5 and 6 = available for interchange only in country of issue (although specific bilateral agreements between issuers may override this restriction).
- 3) 7 = not available for general interchange (although specific bilateral agreements between issuers may override this restriction).

Note relating to Position 2

- 4) 0 = shall be used where the issuer does not wish to assign a specific value to the authorization processing indicator.

Position 1 signifies a) the extent of interchange permitted (international, national or restricted); and b) whether additional read facilities, using an alternative technology other than magnetic stripe encoding, are available on the card.

Position 2 signifies the authorization processing indicator attached to this card by the card issuer and used by the issuer or its agent.

Position 3 signifies a) the range of services available to this card; and b) details of the PIN requirement imposed by the card issuer.

Positions 2 and 3 are associated with international interchange — i.e. those listed applying specifically to service codes between 100 through 299. The meaning attached to the values in positions 2 and 3 for all other service code values is outside the scope of this International Standard.

NOTE — The introduction of the service code field is a change to ISO 3554 which this International Standard replaces. Certain format B cards (notably in Mills 1 and 2) issued under ISO 3554 may not contain this field.

9.2 Track 2 structure — Standard structure

| | | |
|-----|--------------------------------|--------------------|
| STX | Start sentinel | BCD 11 |
| PAN | Identification number | up to 19 digits |
| FS | Separator | BCD 13 |
| CC | Country code (see 9.2.2) | 3 digits |
| ED | Expiration date (see 9.2.3) | 4 digits or BCD 13 |
| SC | Service code (see 9.2.4) | 3 digits or BCD 13 |

| | | |
|-----|-------------------------------|-----------------------------|
| DD | Discretionary data | balance of available digits |
| ETX | End sentinel | BCD 15 |
| LRC | Longitudinal redundancy check | <u>1 digit</u> |
| | Maximum record length | <u>40 digits</u> |

9.2.1 BCD (binary coded digits) are as described in ISO 7811-2, table 2.

9.2.2 When the primary account number commences with the major industry identifier "5" followed by the digit "9", the encoding of the numeric country code (as specified in ISO 3166) in this position is mandatory. In all other situations, the expiry date field shall immediately follow the separator which terminates the primary account number.

9.2.3 Expiration date: Format YYMM.

9.2.4 Service code: The three-digit code specified in 9.1.2.6 shall be available for use in this structure.

9.3 Track 3 structure

The structure and information content of track 3 is described in ISO 4909.

10 Numbering system

The numbering system for issuer identifiers is described in ISO 7812.

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