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Identification cards — Recording technique —

Part 1: **Embossing**

Cartes d'identification — Technique d'enregistrement —

Partie 1: Estampage

Reference number
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Fax: +41 22 749 09 47
Email: copyright@iso.org
Website: www.iso.org

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/IEC JTC 1, *Information technology*, SC 17, *Cards and personal identification*.

This fifth edition cancels and replaces the fourth edition (ISO/IEC 7811-1:2014), which has been technically revised.

Major changes from the previous edition are as follows:

— Annex D has been added to define the minimum spacing from embossing and IC components;

— the title of Clause 6 was changed to avoid confusion. Formerly, the title was “Visually and machine readable characters” which could be interpreted to include characters in the following clause. The reference in Table 1 was also changed.

Notes in this document are only used for giving additional information intended to assist in the understanding or use of the document. They do not contain provisions or requirements to which it is necessary to conform in order to be able to claim compliance to this document.

A list of all the parts in the ISO/IEC 7811 series, can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Identification cards — Recording technique —

Part 1: Embossing

1 Scope

This document is one of a series of International Standards describing the parameters for identification cards as defined in the terms and definitions clause and the use of such cards for international interchange.

This document specifies requirements for embossed characters on identification cards. The embossed characters are intended for transfer of data either by use of imprinters or by visual or machine reading. It takes into consideration both human and machine aspects and states minimum requirements.

It is the purpose of this document to provide criteria to which cards shall perform. No consideration is given within this document to the amount of use, if any, experienced by the card prior to test. Failure to conform to specified criteria is negotiated between the involved parties.

ISO/IEC 10373-1 specifies the test procedures used to check cards against the parameters specified in this document.

NOTE 1 Numeric values in the SI and/or Imperial measurement system in this document may have been rounded off and are consistent with, but not exactly equal to each other. Using either system is correct but intermixing or reconverting values can result in errors. The original design was made using the Imperial measurement system.

NOTE 2 Tactile Identifier Mark (TIM) defined by ISO/IEC 7811-9 can be located in the name and address area of this document. The layout of embossed characters in this area is not intended to interfere with TIM.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1073-1, *Alphanumeric character sets for optical recognition — Part 1: Character set OCR-A — Shapes and dimensions of the printed image*

ISO 1073-2, *Alphanumeric character sets for optical recognition — Part 2: Character set OCR-B — Shapes and dimensions of the printed image*

ISO 1831, *Printing specifications for optical character recognition*

ISO/IEC 7810, *Identification cards — Physical characteristics*

ISO/IEC 7811-9, *Identification cards — Recording technique — Part 9: Tactile identifier mark*

ISO/IEC 7812-1, *Identification cards — Identification of issuers — Part 1: Numbering system*

ISO/IEC 7812-2, *Identification cards — Identification of issuers — Part 2: Application and registration procedures*

ISO/IEC 10373-1, *Identification cards — Test methods — Part 1: General characteristics*

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ISO/IEC 14443-1:2018, *Identification cards — Contactless integrated circuit cards — Proximity cards — Part 1: Physical characteristics*

ISO/IEC 15693-1, *Identification cards — Contactless integrated circuit cards — Vicinity cards — Part 1: Physical characteristics*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 7810 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
embossing
characters raised in relief from the front surface of the card

3.2
unused card
card which has been embossed with all the characters required for its intended purpose but has not been issued

3.3
returned card
embossed card after it has been issued to the card holder and returned for the purpose of testing

3.4
identification number
number that identifies the card holder

4 Conformance

A prerequisite for conformance with this document is conformance with ISO/IEC 7810 for the ID-1 size card. An identification card is in conformance with this document if it meets all mandatory requirements specified herein. Default values apply if no others are specified.

5 Card characteristics

5.1 General

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 the embossed parts when operating in imprinters.

Cards shall be made of PVC (polyvinyl chloride) and/or PVCA (vinyl chloride/vinyl acetate copolymer) or materials having equal or better performance such as polyesters, polyethylenes and polycarbonates.

NOTE Refer to machine manufacturer instructions regarding card construction requirements for achieving embossed character relief heights in compliance with this document. At the time of publication there was no agreed on test method for verifying the suitability of card structures for embossing. See informative Annex C.

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