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**Identification cards — Recording  
technique —**

**Part 7:  
Magnetic stripe — High coercivity,  
high density**

*Cartes d'identification — Technique d'enregistrement —*

*Partie 7: Bandeau magnétique — Haute coercitivité, haute densité*

Withhold

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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](http://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](http://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 meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 17, *Cards and personal identification*.

This second edition cancels and replaces the first edition (ISO/IEC 7811-7:2004) of which it constitutes a major revision with the following changes.

- The primary standard cards held by Q-Card are used to calibrate the manufacture of secondary reference cards. Other primary standard cards held by PTB and Card testing International (CTI) are used as backup to replace cards held by Q-Card as they wear out.
- Delete reference to character sets in the Scope since none are used in this International Standard.
  - List of major differences has been moved from the Introduction to [Annex A](#).
  - The supplier of secondary reference cards has changed from PTB to Q-Card.

ISO/IEC 7811 consists of the following parts, under the general title *Identification cards — Recording technique*:

- *Part 1: Embossing*
- *Part 2: Magnetic stripe — Low coercivity*
- *Part 6: Magnetic stripe — High coercivity*
- *Part 7: Magnetic stripe — High coercivity, high density*
- *Part 8: Magnetic stripe — High coercivity of 51,7 kA/m (650 Oe)*
- *Part 9: Tactile identifier mark*

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

# Identification cards — Recording technique —

## Part 7:

# Magnetic stripe — High coercivity, high density

## 1 Scope

This part of ISO/IEC 7811 is one of a series of International Standards describing the characteristics for identification cards as defined in the definitions clause and the use of such cards for international interchange.

This part of ISO/IEC 7811 specifies requirements for a high coercivity magnetic stripe (including any protective overlay) on an identification card and encoding technique. It takes into consideration both human and machine aspects and states minimum requirements.

Coercivity influences many of the quantities specified in this part of ISO/IEC 7811 but is not itself specified. The main characteristic of the high coercivity magnetic stripe is its improved resistance to erasure. This is achieved with minimal probability of damage to other magnetic stripes by contact while retaining read compatibility with magnetic stripes as defined in ISO/IEC 7811-2.

This standard provides for a card capacity of approximately 10 times that of a card conforming to ISO/IEC 7811-6. The number of tracks has been increased to six, each track being approximately half the width of tracks conforming to ISO/IEC 7811-6, located so that readers designed to read these high density tracks will also be able to read cards conforming to ISO/IEC 7811-2 and ISO/IEC 7811-6. Data is encoded in 8 bit bytes using the MFM encoding technique. Data framing is used to limit error propagation and error correction techniques further improve reliability of reading.

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

ISO/IEC 10373-2 specifies the test procedures used to check cards against the parameters specified in this part of ISO/IEC 7811.

**NOTE** Numeric values in the SI and/or Imperial measurement system in this part of ISO/IEC 7811 might have been rounded off and therefore are consistent with, but not exactly equal to, each other. Either system can be used, but the two should not be intermixed or reconverted. The original design was made using the Imperial measurement system.

## 2 Conformance

A prerequisite for conformance with this part of ISO/IEC 7811 is conformance with ISO/IEC 7810. An identification card is in conformance with this part of ISO/IEC 7811 if it meets all mandatory requirements specified herein. Default values apply if no others are specified.

## 3 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 4287-1, *Surface roughness — Terminology — Part 1: Surface and its parameters*

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

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

ISO/IEC 10373-2, *Identification cards — Test methods — Part 2: Cards with magnetic stripes*

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