



**BSI Standards Publication**

## **Identification cards — Physical characteristics**

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## National foreword

This British Standard is the UK implementation of ISO/IEC 7810:2019+A1:2024. It supersedes BS ISO/IEC 7810:2019, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO/IEC text carry the number of the ISO/IEC amendment. For example, text altered by ISO/IEC amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee IST/17, Cards and security devices for personal identification.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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# Identification cards — Physical characteristics

*Cartes d'identification — Caractéristiques physiques*



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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.

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)) or the IEC list of patent declarations received (see <http://patents.iec.ch>).

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

For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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](http://www.iso.org/members.html).

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

This fourth edition cancels and replaces the third edition (ISO/IEC 7810:2003), which has been technically revised. It also incorporates the Amendments ISO/IEC 7810:2003/Amd.1:2009 and ISO/IEC 7810:2003/Amd.2:2012.

The main changes compared to the previous edition are as follows:

- the test method and criteria for opacity has changed; previously the test method used a spectrophotometer and criteria included both visible and IR light; the present method uses 2 frequencies of only IR light and a reference material to establish compliance;
- criteria for cards containing certain types of IC's has been added (formerly these were in the specific IC card standards but as the same requirement applies to many types of IC cards they have been placed in this document);
- the heat deflection test (formerly Annex A) has been placed in ISO/IEC 10373-1;
- the clause on light exposure has additional explanation;
- the overall size tolerance of the ID-1 size returned card has changed ([5.2](#));
- patch layer peel strength has been added and is lower than other values ([8.7](#));
- address for availability of optical reference media has changed.

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](http://www.iso.org/members.html).

## Introduction

This document defines the minimum physical requirements for the identification card and is used by the following identification card standards for recording technologies. Other standards not listed here may also refer to this document.

- ISO/IEC 7501 (all parts), *Identification cards — Machine readable travel documents*
- ISO/IEC 7811 (all parts), *Identification cards — Recording technique — Embossing and magnetic stripes*
- ISO/IEC 7812 (all parts), *Identification cards — Identification of issuers*
- ISO/IEC 7813, *Identification cards — Financial transaction cards*
- ISO/IEC 7816 (all parts), *Identification cards — Integrated circuit(s) cards with contacts*
- ISO/IEC 10373 (all parts), *Identification cards — Test methods*
- ISO/IEC 10536 (all parts), *Identification cards — Contactless integrated circuit(s) cards — Close-coupled cards*
- ISO/IEC 14443 (all parts), *Identification cards — Proximity integrated circuit(s) cards*
- ISO/IEC 15693 (all parts), *Identification cards — Vicinity integrated circuit(s) cards*
- ISO/IEC 11693-1, *Identification cards — Optical memory cards — Part 1: General characteristics*
- ISO/IEC 11694 (all parts), *Identification cards — Optical memory cards — Linear recording method*
- ISO/IEC 24789 (all parts), *Identification cards — Card service life*
- ISO/IEC 18328 (all parts), *Identification cards — ICC-managed devices*

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

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# Identification cards — Physical characteristics

## 1 Scope

This document describes the characteristics for identification cards and the use of such cards for international interchange.

This document specifies the physical characteristics of identification cards including card materials, construction, characteristics and dimensions for four sizes of cards.

ISO/IEC 10373-1 and ISO/IEC 24789-2 specify the test procedures used to check cards against the parameters specified in this document.

This document specifies the requirements for cards and card interface devices used for identification. It takes into consideration both human and machine aspects and states minimum requirements.

It is the purpose of this document to provide criteria for the performance of cards. No consideration is given within this document to the amount of use, if any, experienced by the card prior to test.

NOTE 1 Numeric values in the SI and/or Imperial measurement system in this document have been rounded off and therefore are consistent with, but not exactly equal to, each other. Either system can be used, but intermixing or reconvertng the two can result in errors. The original design was made using the Imperial measurement system.

NOTE 2 Thin flexible cards are not within the scope of this document (see the ISO/IEC 15457 series).

## 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/IEC 7816-2, *Identification cards — Integrated circuit cards — Part 2: Cards with contacts — Dimensions and location of the contacts*

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

ISO/IEC 24789-2, *Identification cards — Card service life — Part 2: Methods of evaluation*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) — Part 4-2: Testing and measurement techniques — Electrostatic discharge immunity test*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1 identification card

card identifying its holder and issuer which may carry data required as input for the intended use of the card and for transactions based thereon