
**Identification cards — Thin flexible
cards —**

**Part 1:
Physical characteristics**

*Cartes d'identification — Cartes flexibles fines —
Partie 1: Caractéristiques physiques*

Reference number
ISO/IEC 15457-1:2008(E)



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2008

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 General characteristics	3
4.1 Introduction	3
4.2 Materials	4
4.3 Finishing	4
4.4 Quality of TFC products	4
4.5 Reference edges	5
4.6 Card life	5
4.7 Environmental conditions	5
5 Outline geometry	6
5.1 Dimensions	7
5.2 Corners	7
5.3 Edges	8
6 Presentation	9
6.1 Single card	10
6.2 Fan-fold pack	12
6.3 Reel	15
7 Positioning features	16
7.1 Punched positioning hole	16
7.2 Printed positioning mark	17
8 Characteristics specific to contactless TFCs	18
8.1 Local overthickness due to the presence of the chip	18
8.2 Antenna location in Special TFC.1 cards	18
8.3 Location of chip and forbidden area for thermal printing	19
8.4 Joins and splices	20
8.5 Ultra-violet light	22
8.6 X-rays	22
8.7 Dynamic bending stress	22
8.8 Dynamic torsional stress	22
8.9 Static electricity	22
8.10 Operating temperature	22
Annex A (normative) Paper TFC material characteristics	23
Annex B (normative) Composite TFC material characteristics	28
Annex C (normative) Plastic TFC material characteristics	31
Annex D (informative) Recommended location of TFC.1 tactile identifiers	33
Bibliography	34

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. 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.

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.

ISO/IEC 15457-1 was prepared by 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 15457-1:2001), which has been technically revised.

ISO/IEC 15457 consists of the following parts, under the general title *Identification cards — Thin flexible cards*:

- *Part 1: Physical characteristics*
- *Part 2: Magnetic recording technique*
- *Part 3: Test methods*

Identification cards — Thin flexible cards —

Part 1: Physical characteristics

1 Scope

Thin flexible cards (TFC), the subject of ISO/IEC 15457, are used to automate the controls for access to goods or services such as mass transit, highway toll systems, car parks, vouchers, stored value, etc.

For these applications, data can be written and/or read by machines using various recording techniques such as magnetic stripe, optical character recognition (OCR), bar code, contactless, etc.

This part of ISO/IEC 15457 specifies the physical characteristics of thin flexible cards at two points in the card life cycle:

1. at the point of loading into the card issuing equipment;
2. at the point of issue to the public.

It takes into consideration both human and machine aspects and states the minimum requirements.

The principal card sizes are identified and the characteristics and dimensions are specified.

Guidance concerning the storage and use of cards under various environmental conditions is given.

NOTE ID-1 cards, specified in ISO/IEC 7810, do not come within this scope.

2 Normative references

The following referenced documents are indispensable for the application 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 1831, *Printing specifications for optical character recognition*

ISO 1924-2, *Paper and board — Determination of tensile properties — Part 2: Constant rate of elongation method (20 mm/min)*

ISO 2144, *Paper, board and pulps — Determination of residue (ash) on ignition at 900 °C*

ISO 2471, *Paper and board — Determination of opacity (paper backing) — Diffuse reflectance method*

ISO 5626, *Paper — Determination of folding endurance*

ISO 5627, *Paper and board — Determination of smoothness (Bekk method)*

ISO 5629, *Paper and board — Determination of bending stiffness — Resonance method*

ISO 6383-2, *Plastics — Film and sheeting — Determination of tear resistance — Part 2: Elmendorf method*

ISO 8570, *Plastics — Film and sheeting — Determination of cold-crack temperature*

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

ISO/IEC 10373-6, *Identification cards — Test methods — Part 6: Proximity cards*

ISO/IEC 15457-2, *Identification cards — Thin flexible cards — Part 2: Magnetic recording technique*

ISO/IEC 15457-3, *Identification cards — Thin flexible cards — Part 3: Test methods*