

This is a preview of "BS ISO/IEC 7811-6:20...". Click here to purchase the full version from the ANSI store.

**BS ISO/IEC 7811-6:2014**



**BSI Standards Publication**

# **Identification cards — Recording technique**

Part 6: Magnetic stripe — High coercivity

**bsi.**

...making excellence a habit.™

This is a preview of "BS ISO/IEC 7811-6:20...". [Click here to purchase the full version from the ANSI store.](#)

This British Standard is the UK implementation of ISO/IEC 7811-6:2014. It supersedes BS ISO/IEC 7811-6:2008 which is withdrawn.

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

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2014. Published by BSI Standards Limited 2014

ISBN 978 0 580 80373 4

ICS 35.240.15

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2014.

#### **Amendments issued since publication**

Date	Text affected
------	---------------

---

Fourth edition  
2014-09-01

---

---

## Identification cards — Recording technique —

### Part 6: Magnetic stripe — High coercivity

*Cartes d'identification — Technique d'enregistrement —  
Partie 6: Bandeau magnétique — Haute coercitivité*

This is a preview of "BS ISO/IEC 7811-6:20...". Click here to purchase the full version from the ANSI store.



## **COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested 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](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "BS ISO/IEC 7811-6:20...". Click here to purchase the full version from the ANSI store.

## Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Conformance</b> .....	<b>1</b>
<b>3 Normative references</b> .....	<b>1</b>
<b>4 Terms and definitions</b> .....	<b>2</b>
<b>5 Physical characteristics of the identification card</b> .....	<b>3</b>
5.1 Magnetic stripe area warpage.....	3
5.2 Surface distortions.....	4
<b>6 Physical characteristics of the magnetic stripe</b> .....	<b>4</b>
6.1 Height and surface profile of the magnetic stripe area.....	4
6.2 Surface roughness.....	6
6.3 Adhesion of stripe to card.....	6
6.4 Wear of magnetic stripe from read/write head.....	7
6.5 Resistance to chemicals.....	7
<b>7 Performance characteristics for the magnetic material</b> .....	<b>7</b>
7.1 General.....	7
7.2 Testing and operating environment.....	7
7.3 Signal amplitude requirements for magnetic media.....	7
<b>8 Encoding technique</b> .....	<b>9</b>
<b>9 Encoding specification, general</b> .....	<b>10</b>
9.1 Angle of recording.....	10
9.2 Nominal bit density.....	11
9.3 Signal amplitude requirements for tracks 1, 2 and 3.....	11
9.4 Bit configuration.....	12
9.5 Direction of recording.....	12
9.6 Leading and trailing zeroes.....	12
<b>10 Encoding specifications</b> .....	<b>12</b>
10.1 Alphanumeric track, track 1.....	12
10.2 Numeric track, Track 2.....	15
10.3 Numeric track, Track 3.....	16
<b>11 Error detection</b> .....	<b>17</b>
11.1 Parity.....	17
11.2 Longitudinal redundancy check (LRC).....	17
<b>12 Location of encoded tracks</b> .....	<b>17</b>
<b>Annex A (informative) Read compatibility of magnetic stripes (ISO/IEC 7811-2 and ISO/IEC 7811-6)</b> .....	<b>19</b>
<b>Annex B (informative) Magnetic stripe abrasivity</b> .....	<b>20</b>
<b>Annex C (informative) Static magnetic characteristics</b> .....	<b>21</b>

This is a preview of "BS ISO/IEC 7811-6:20...". Click here to purchase the full version from the ANSI store.

## 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 ISO/IEC JTC 1, *Information technology, SC 17, Cards and personal identification*.

This fourth edition cancels and replaces the third edition (ISO/IEC 7811-6:2008), which has been technically revised. It also incorporates the Technical Corrigendum ISO/IEC 7811-6:2008/Cor.1:2010. Major changes from the previous edition are as follows:

- Wherever possible, the same definitions, criteria, and test methods are used in ISO/IEC 7811-2 and ISO/IEC 7811-6.
- 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.
- The supplier of secondary reference cards has changed from PTB to Q-Card
- During revision, some figure and table numbers might have changed and might not be the same between the two International Standards.
- Changed the title of [Figure 10](#) to Noise in signal waveform
- Changed 0,08 UR to 0,07 UR in [Figure 10](#) to match text

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*

This is a preview of "BS ISO/IEC 7811-6:20...". [Click here to purchase the full version from the ANSI store.](#)

— *Part 8: Magnetic stripe — Coercivity of 51,7 kA/m (650 Oe)*

— *Part 9: Tactile identifier mark*

Notes in this part of ISO/IEC 7811 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 claim compliance to this part of ISO/IEC 7811.

This is a preview of "BS ISO/IEC 7811-6:20...". [Click here to purchase the full version from the ANSI store.](#)

This is a preview of "BS ISO/IEC 7811-6:20...". Click here to purchase the full version from the ANSI store.

# Identification cards — Recording technique —

## Part 6: Magnetic stripe — High coercivity

### 1 Scope

This International Standard defines the characteristics for identification cards as defined in [Clause 4](#) of this part of ISO/IEC 7811 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, the encoding technique, and coded character sets. 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 International Standard provides criteria to which cards are to perform. No consideration is given within this International Standard 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 10373-2 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 are therefore consistent with, but not exactly equal to, each other. Either system can be used, but the two are not to 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 4287, *Geometrical Product Specifications (GPS) — Surface texture: Profile method — Terms, definitions, and surface texture 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*