

Guide to

Construction and use of 130 mm (5.25 in) flexible disk cartridges for data interchange using modified frequency modulation recording at 7958 ftprad, 3.8 tpmm (96 tpi) on both sides —

Part 1: Dimensional, physical and magnetic characteristics

[ISO title: Information processing — Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad, 3,8 tpmm (96 tpi), on both sides — Part 1: Dimensional, physical and magnetic characteristics]

The European Standard EN 28378-1:1989 has the status of a British Standard

UDC 681.327.634:002.2:004.14

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- Institute of Administrative Management
- Institute of Quality Assurance
- Institution of Electrical Engineers
- Institution of Electronic and Radio Engineers
- Institution of Mechanical Engineers
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This British Standard, having been prepared under the direction of the Information Systems Technology Standards Committee, was published under the authority of the Board of BSI and comes into effect on 28 February 1989

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The following BSI references relate to the work on this standard:
Committee reference IST/4
Draft for comment 88/60280 DC

ISBN 0 580 16914 6

Amendments issued since publication

Amd. No.	Date of issue	Comments
7042	February 1992	Indicated by a sideline in the margin

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National foreword

This Part of BS 7023, prepared under the direction of the Information Systems Technology Standards Committee, is identical with ISO 8378-1:1986 “*Information processing — Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad, 3,8 tpmm (96 tpi), on both sides — Part 1: Dimensional, physical and magnetic characteristics*” published by the International Organization for Standardization (ISO).

In 1989 the European Committee for Standardization (CEN) accepted ISO 8378-1 as European Standard EN 28378-1:1989.

The purpose of this standard is to define those characteristics necessary for successful data interchange using flexible disk cartridges. The information contained is intended as a guide to writing complete specifications for manufacture, purchasing and/or testing. The text of the International Standard does not accord with the recommendations for drafting product specifications given in the ISO Directives, or in BS 0-3, but the BSI Technical Committee considers the text is useful as a guide when cartridges are being described or specified. For this reason this Part of BS 7023 has a different title from the International Standard; it is issued as a British Standard guide and it should only be used as such. It should not be used on its own as a British Standard product specification and, in particular, no claims of compliance with this Part of BS 7023 should be made.

Terminology and conventions. The text of the International Standard has been approved as suitable for publication as a British Standard without deviation. Some terminology and certain conventions are not identical with those used in British Standards; attention is drawn especially to the following.

For metric units the comma has been used as a decimal marker. In British Standards it is current practice to use a full point on the baseline as the decimal marker.

Wherever the words “part of ISO 8378” and “ISO 8378” appear, referring to this standard, they should be read as “Part of BS 7023” and “BS 7023” respectively.

Cross-references

International Standard	Corresponding British Standard
ISO 7665:1983	BS 6542 <i>File structure and labelling of flexible disk cartridge for information interchange</i> Part 1:1984 <i>Specification for sequential file allocation structure</i> (Identical)
	BS 7023 <i>Guide to construction and use of 130 mm (5.25 in) flexible disk cartridges for data interchange, using modified frequency modulation recording at 7 958 ftprad, 3,8 tpmm (96 tpi) on both sides</i>
ISO 8378-2:1986	Part 2:1988 <i>Track format A</i> (Identical)
ISO 8378-3:1986	Part 3:1988 <i>Track format B</i> (Identical)

The Technical Committee has reviewed the provisions of ISO 9293, to which reference is made in the text, and has decided that they are acceptable for use in conjunction with this standard.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, the EN title page, pages 2 to 20, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

UDC 681.327.634

Descriptors: Data processing, information interchange, flexible disk cartridges, magnetic recording, frequency modulation, dimensions, physical properties, magnetic properties

English version

Information processing. Data interchange
on 130 mm (5,25 in) flexible disk cartridges using
modified frequency modulation recording
at 7 958 ftprad, 3,8 tpmm (96 tpi), on both sides.
Part 1: Dimensional, physical and magnetic characteristics

(ISO 8378-1, 1st edition, 1986)

Traitement de l'information. Echange de
données sur cartouches à disquette
de 130 mm (5,25 in) utilisant un
enregistrement à modulation de fréquence
modifiée à 7 958 ftprad, 3,8 tpmm (96 tpi),
sur deux faces.
Partie 1: Caractéristiques dimensionnelles,
physiques et magnétiques
(ISO 8378-1, 1ère édition, 1986)

Informationsverarbeitung. Datenaustausch
auf 130 mm (5,25 in) Disketten mittels
modifizierter
Frequenzmodulationsaufzeichnung
bei 7 958 ftprad, 3,8 tpmm (96 tpi), auf beiden
Seiten. Teil 1: Mechanische physikalische und
Grössenanforderungen
(ISO 8378-1, 1 Ausgabe, 1986)

This European Standard was approved by CEN on 1988-12-21. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Brief history

The Technical Board has decided to submit the International Standard

ISO 8378-1, 1st edition 1986 “*Information processing; Data interchange on 130 mm (5,25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad, 3,8 tpm (96 tpi) on both sides; Part 1: Dimensional, physical and magnetic characteristics*”

to the formal vote. The result of this vote was positive.

For the time being, this document exists only in the English and the French versions.

According to the CEN/CENELEC Common Rules, the following countries are bound to implement this standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Statement

The text of the International Standard

ISO 8378-1, 1st edition, 1986, was approved by CEN as a European Standard without any modification.

0 Introduction

ISO 8378 specifies the characteristics of 130 mm (5.25 in) flexible disk cartridges recorded at 7 958 ftprad, 3,8 tpmm (96 tpi), using modified frequency modulation (MFM) recording on 80 tracks on each side.

ISO 8378-2 and ISO 8378-3 each specify the quality of recorded signals, the track layout, and a track format to be used on 130 mm (5.25 in) flexible disk cartridges, intended for data interchange between data processing systems.

ISO 8378-1 and ISO 8378-2, together with the labelling scheme specified in ISO 7665, provide for full data interchange between data processing systems.

ISO 8378-1 and ISO 8378-3, together with the labelling scheme specified in ISO 9293, provide for full data interchange between data processing systems.

1 Scope and field of application

This part of ISO 8378 specifies the dimensional, physical and magnetic characteristics of the cartridge so as to provide physical interchangeability between data processing systems.

NOTE Numeric values in the SI and/or Imperial measurement system in this part of ISO 8378 may have been rounded off and therefore are consistent with, but not exactly equal to, each other. Either system may be used, but the two should be neither intermixed nor re-converted. The original design was made using Imperial units and further developments were made using SI units.

2 Conformance

A flexible disk cartridge shall be in conformance with ISO 8378 when it meets all the requirements of this part of ISO 8378 and all those of either ISO 8378-2 or ISO 8378-3.

3 References

ISO 7665, *Information processing — File structure and labelling of flexible disk cartridges for information interchange*.

ISO 8378, *Information processing — Data interchange on 130 mm (5.25 in) flexible disk cartridges using modified frequency modulation recording at 7 958 ftprad, 3,8 tpmm (96 tpi), on both sides —*

— Part 2: Track format A;

— Part 3: Track format B.

ISO 9293, *Information processing — Volume and file structure of flexible disk cartridges for information interchange*.

4 Definitions

For the purpose of this part of ISO 8378 the following definitions apply.

4.1

flexible disk

a flexible disk which accepts and retains on the specified side or sides magnetic signals intended for input/output and storage purposes of information data processing and associated systems

4.2

reference flexible disk cartridge

a flexible disk cartridge arbitrarily selected for a given property for calibrating purposes

4.3

secondary reference flexible disk cartridge

a flexible disk cartridge intended for routine calibrating purposes, the performance of which is known and stated in relation to that of the reference flexible disk cartridge

4.4

signal amplitude reference flexible disk cartridge

a reference flexible disk cartridge selected as a standard for recording field and signal amplitude

NOTE A master standard for signal amplitudes, reference fields, overwrite and resolution characteristics has been established by the Physikalisch-Technische Bundesanstalt (PTB) Bundesallee 100 in Braunschweig, Germany, F.R. Secondary reference flexible disk cartridges can be ordered from PTB Lab 1.41 under part number RM 7487 as long as available.

4.5

typical field (for each side)

the minimum recording field, which, when applied to a flexible disk cartridge, causes a signal output equal to 95 % of the maximum average signal amplitude when taken as a function of the recording field at the specified track and flux transition frequency of that flexible disk cartridge

4.6

reference field

the typical field of the signal amplitude reference flexible disk cartridge

4.7

test recording current (for each side)

the current between 145 % and 155 % of the current which produces the reference field at 125 000 flux transitions per second (ftps) on track 00 on both sides