INTERNATIONAL STANDARD

ISO 12656

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Micrographics — Use of bar codes on aperture cards

Micrographie — Emploi de codes à barres sur les cartes à fenêtre

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 12656 was prepared by Technical Committee ISO/TC 171, *Document imaging applications*, Subcommittee SC 2, *Application issues*.

Annex A forms a normative part of this International Standard.

Introduction

Aperture cards are widely used for the storage and distribution of technical drawings and associated documents. For more than twenty years, punched codes have been used to identify the cards. Recent developments in encoding methods have led to the introduction of a number of printed codes that can be read by automated means. These machine-readable codes are simpler to apply than punched codes and require less expensive equipment.

This International Standard has been prepared to ensure that machine-readable codes appear in a standard position with standard dimensions on each card, to facilitate the use of these machine-readable codes in automatic equipment.

Micrographics — Use of bar codes on aperture cards

1 Scope

This International Standard specifies the type, dimensions, and positions of the coding on aperture cards that comply with ISO 3272-3.

This International Standard is applicable to OCR characters, bar codes, Hollerith, and printed Hollerith codes. It is not applicable to compressed bar codes.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 1073-1:1976, *Alphanumeric character sets for optical recognition — Part 1: Character set OCR-A — Shapes and dimensions of the printed image*

ISO 1073-2:1976, *Alphanumeric character sets for optical recognition — Part 2: Character set OCR-B — Shapes and dimensions of the printed image*

ISO 1682:1973, *Information processing — 80 columns punched paper cards — Dimensions and location of rectangular punched holes*

ISO 3272-3:1975, *Microcopying of technical drawings and other drawing office documents — Part 3: Unitized 35 mm microfilm carriers*

ISO 6586:1980, *Data processing — Implementation of the ISO 7-bit and 8-bit coded character sets on punched cards*

3 Terms and definitions

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

3.1
coding area
area of aperture card, excluding aperture and build-up area, in which coded data (i.e. optical coding) may be recorded

3.2
machine readable code
code, printed or punched on an aperture card, that can be read automatically by suitable equipment

3.3
main message
principal or only machine-readable message on an aperture card

3.4
message
line or group of a machine-readable message code

4 Codes

4.1 General

The code used on an aperture card shall be one of the codes specified in 4.2, 4.3, and 4.4. If it is necessary to use more than one code on one aperture card, codes shall be positioned so that they do not obscure each other.

4.2 OCR

4.2.1 General

The font used shall be OCR-A as specified in ISO 1073-1 or OCR-B as specified in ISO 1073-2. The code lines shall be parallel to the longer edges of the aperture card. The maximum number of characters in any code line shall be 68. The nominal character height shall be 2,54 mm, and the nominal character pitch 2,54 mm.

For cards with 80 columns, the position of the OCR characters shall correspond to the position of the eye-readable interpretation along the top of the face of the card as described in normative annex A.

4.2.2 Main message

The distance from the top of the aperture card to the bottom of the code line of the main message shall be 4,34 mm ± 0,25 mm. The distance from the right-hand edge of the aperture card to the first character of the main message shall not be more than 178,72 mm, and the distance from the right-hand edge to the last character shall not be less than 10 mm.

4.2.3 Additional messages

The minimum separation between any two messages shall be 6,35 mm. The maximum distance of any character from either end of the card shall be 10 mm.

4.3 Bar code

4.3.1 General

The bar code symbology shall be one of the following codes:

— code 39 (preferred);

— industrial code 2 of 5;

— interleaved code 2 of 5;

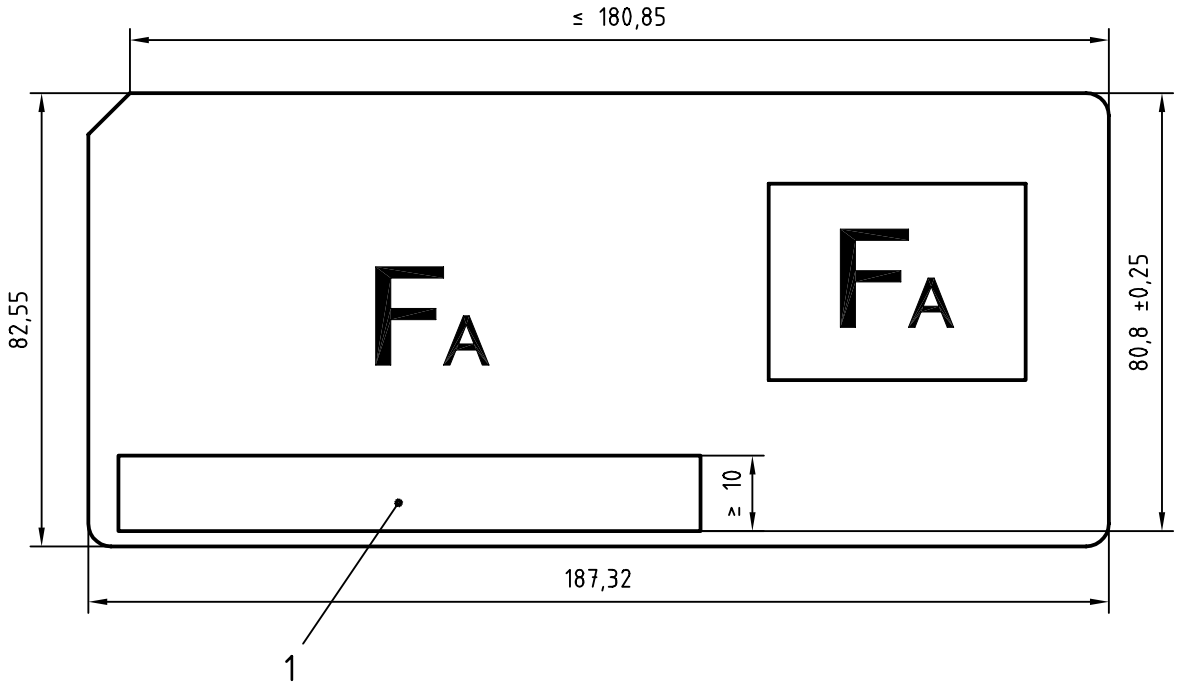
— symbology 128.

The main bar code message shall be on the face of the aperture card. The code line shall be parallel to the longer edges of the aperture card. The maximum number of characters in any message shall be 30. The unit bar code width shall be at least 0,19 mm, and the maximum character width shall be 0,29 mm.

4.3.2 Main message

The main message shall be either in the position shown in Figure 1 or in the position shown in Figure 2.

Dimensions in millimetres



Key

1 Approximate length of 30 characters of code 39

Figure 1 — Main message position 1a

Dimensions in millimetres

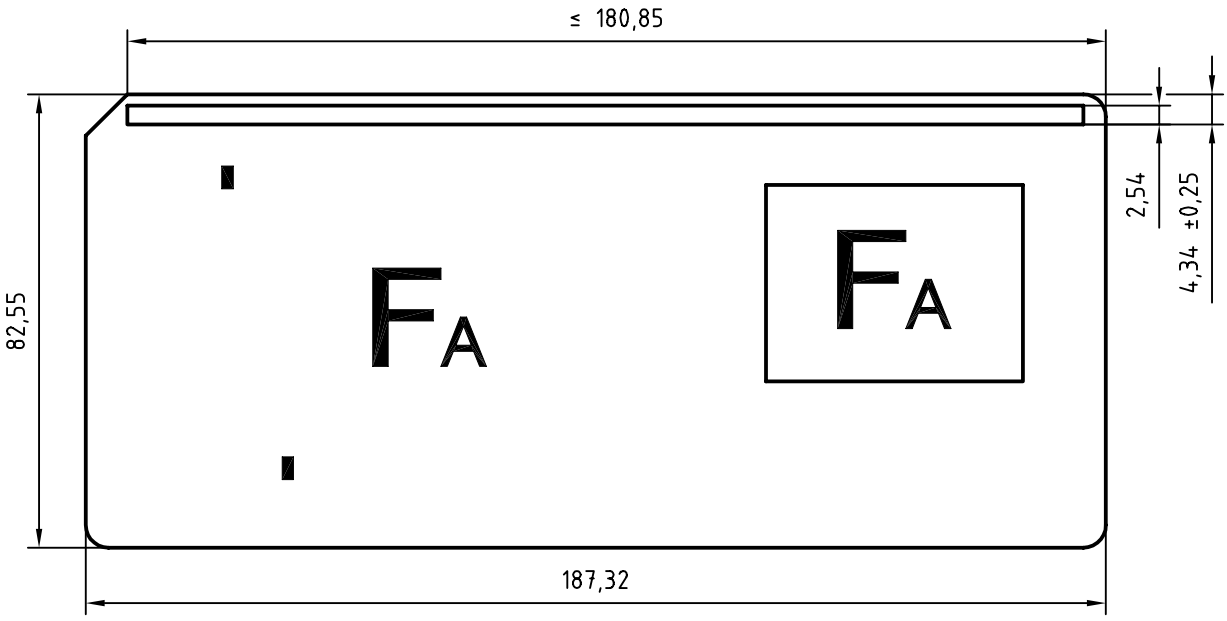


Figure 2 — Main message position 1b

The minimum height of the main message in position 1a shall be 10 mm. The bottom line of this message shall be 80,80 mm ± 0,25 mm from the top edge of the card (as shown in Figure 1). This main message is the preferred message because it is suitable for both machine and hand-guided reading.

The minimum height of the message in position 1b shall be 2,54 mm. The bottom line of this message shall be 4,34 mm ± 0,25 mm from the top edge of the card (as shown in Figure 2).

This main message is only suitable for machine reading.

4.4 Hollerith

Requirements for punched Hollerith codes and related printing are given in ISO 6586 and ISO 1682. For printed Hollerith code requirements, see annex A.

Annex A
(normative)

Printed Hollerith code

The black rectangles that form the printed Hollerith code shall be printed on the back of the aperture card in the positions for the punched holes specified in ISO 6586. The maximum number of usable characters shall be 57. The number of defined column positions shall be 1 – 53 and 77 – 80. The number of rows shall be 12. The eye-readable interpretation of the printed column codes shall be placed along the top of the face of the aperture card as used for punched cards. It shall be in either the standard 80 position as specified in ISO 1682 or the 60 position printing format.

For some applications, it can be helpful to have an eye-readable interpretation of the machine readable code on the aperture card. This interpretation shall not appear in those areas specified for the machine readable code.