
International Standard



6829

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Flowchart symbols and their use in micrographics

Symboles d'organigramme employés en micrographie

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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 6829 was developed by Technical Committee ISO/TC 171, *Micrographics*, and was circulated to the member bodies in February 1982.

It has been approved by the member bodies of the following countries :

Australia	Germany, F. R.	South Africa, Rep. of
Canada	Ireland	Spain
Denmark	Italy	Sweden
Egypt, Arab Rep. of	Japan	Switzerland
France	Poland	USA

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Austria
Czechoslovakia

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Flowchart symbols and their use in micrographics

0 Introduction

As micrographic systems grow in capability and complexity, increasing interface occurs with other information technologies. For example, computer output microfilm (COM) systems have blended optical, photographic, electronic, and digital technologies. In addition, magnetic image storage media are beginning to be used either separately or in conjunction with microform retrieval systems. Still further, systems are being developed using microforms as input to computers, as well as micro-photo-digital and graphic recording for computer memory systems. Words and symbols used in an information process flow should therefore be easily recognizable between and among the users and manufacturers of all information technologies.

The purpose of this International Standard is to establish symbols, symbolic language, and recommended flowcharting procedures to improve communications between and among users and manufacturers of micrographic technology and all information technologies.

Compatibility with ISO 1028, was of paramount consideration in the preparation of this International Standard. New symbols, their use, and recommendations were introduced only where considered essential for better communications. As a result, as will be evident in the actual flowcharting examples given herein, the ISO 1028 symbols with recommended flowcharting procedures and micrographic flowchart symbols given in this International Standard, complement each other in depicting information systems flow.

Flowchart symbols, terminology, and procedures were designed for use and compatibility with existing International Standards for flowchart information processing. These symbols are defined in ISO 1028.

1 Scope and field of application

This International Standard specifies symbols for microfilm operations and symbolic language for labelling these symbols in order to delineate specific operations, functions, and features.

This International Standard also presents guidelines and recommendations for flowcharting management systems (level 1) and operational systems (level 2).

The annotations covered in this International Standard are those generally required for detailing to the second level of flowcharting. It is not practical to include all possible annotations that may be necessary for flowcharting in greater detail.

2 References

ISO 1028, *Information processing — Flowchart symbols*.

ISO 6196, *Micrographics — Vocabulary*

- *Section 01 : General terms.*
- *Section 02 : Image positions and methods of recording.*
- *Section 03 : Film processing.*¹⁾

3 Definitions

The definitions of technical terms contained in ISO 6196 shall apply.

4 Symbols for representing microfilm operations

4.1 Levels of flowcharting and systems design

In the requirements for flowcharting micrographic systems three distinct levels of detail are generally depicted, namely :

4.1.1 Management systems — level 1

Here the designer is concerned only with a broad picture, one which describes the process flow.

1) At present at the stage of draft.

4.1.2 Operational systems — level 2

The process flow is looked at in greater depth, resulting in a more detailed systems flow than would be required for the management level.

4.1.3 In-depth operational systems flow — level 3

The operational systems flow at the third level goes into great depths of detail and normally would be of interest only to those who specialize in a specific section of the system depicted in an operational systems flowchart.

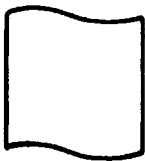
NOTE — Symbolic notations and the sequence of order in which they appear is established through level 2 in this International Standard. Where all options for annotations within each symbol are not utilized, space need not be allocated.

Due to the number of variables inherent in the many sections of a detail systems flow, it is neither practical to establish standard notations nor to include illustrations for all possible conditions within level 3.

4.2 Basic microform symbols

The four new microform symbols (see figures 1 to 4), when used in conjunction with ISO 1028 symbols, are sufficient to depict the flow for a microfilm-oriented system. Details, form and dimensional ratios, of the four new symbols together with the ISO 1028 storage and retrieval symbols (see figure 5), frequently used within the flowcharting of micrographic systems, are given below :

4.2.1 All microforms

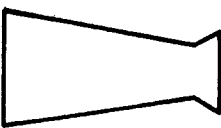


Dimensional ratio

$$\frac{\text{width}}{\text{height}} = \frac{1}{1}$$

Figure 1

4.2.2 Microform recording

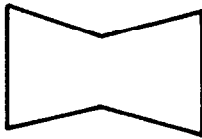


Dimensional ratio

$$\frac{\text{width}}{\text{height}} = \frac{1}{0,5}$$

Figure 2

4.2.3 Processing

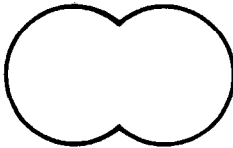


Dimensional ratio

$$\frac{\text{width}}{\text{height}} = \frac{1}{0,5}$$

Figure 3

4.2.4 Duplicating



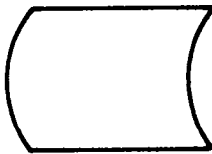
Dimensional ratio

$$\frac{\text{width}}{\text{height}} = \frac{1}{0,6}$$

Figure 4

4.2.5 Storage/retrieval (ISO 1028 symbols)

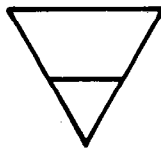
On-line



Dimensional ratio

$$\frac{\text{width}}{\text{height}} = \frac{1}{0,67}$$

Off-line



Dimensional ratio

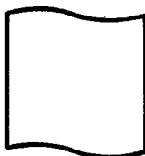
$$\frac{\text{width}}{\text{height}} = \frac{1}{0,87}$$

Figure 5

5 Methods for labelling symbols to define specific operations, functions, and features

This clause contains the general information normally required to identify microfilm operational symbols. Additional information required by users to identify in greater detail may be included as required.

5.1 Microform symbol



This symbol (see figure 1) represents any microform used in a micrographic systems flow. Symbolic notations within the symbol itself designate what specifically it represents.

5.1.1 Microform — Notations and sequence

Identifying notations within the symbol and the sequence in which they appear are as follows :

Film size	(millimetres)
Generation	(1, 2, etc.)
Polarity	(Negative, positive)
Medium	(Silver, diazo, etc.)
Form	(Roll, microfiche, etc.)

5.1.2 Microform — Symbolic notations and abbreviations

NOTE — The text appearing under each clause title "symbolic notations and abbreviations" when read horizontally across each line in no way implies a relationship, nor does one necessarily exist, between one notation and others on the same line.

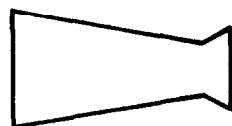
Film size	Generation	Polarity (abbreviation)	Medium (abbreviation)	Form/ Container (abbreviation)
16 mm	1	Negative (N)	Silver (S)	Roll (Roll)
35 mm		Positive (P)	Diazo (D)	Microfiche (Fiche)
105 mm	2		Vesicular (V)	Aperture card (ApCd)
			Photo-chromic (Phc)	Jacket (Jckt)
	5			Strip (Strp)
				Chip (Chip)

5.1.3 Example of labelled "microform" symbol with notation in proper sequence



Figure 6

5.2 Microform recording



This symbol (see figure 2) represents the recording function of transferring information to an original microform master.

5.2.1 Microform recording — Notations and sequence

Identifying notations within the symbol and the sequence in which they appear are as follows :

Method (Rotary, planetary, etc.)
Reduction (1/12, 1/24, etc.)

5.2.2 Microform recording — Symbolic notations and abbreviations

Method	(Abbreviation)	Reduction
Rotary	(Ro)	1/12
Planetary	(PI)	—
Step/Repeat	(S/R)	—
Computer Output Microfilmer	(COM)	1/24
Scanner	(Scan)	—
Updatable	(Updt)	—