

INTERNATIONAL STANDARD

ISO
4087

Second edition
1991-05-01

Micrographics — Microfilming of newspapers for archival purposes on 35 mm microfilm

*Micrographie — Enregistrement des journaux sur microfilm de 35 mm
pour l'archivage*



Reference number
ISO 4087:1991(E)

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.

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.

International Standard ISO 4087 was prepared by Technical Committee ISO/TC 171, *Micrographics and optical memories for document and image recording, storage and use*.

This second edition cancels and replaces the first edition (ISO 4087:1979), which has been technically revised.

© ISO 1991

All rights reserved. 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 the publisher.

International Organization for Standardization

Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Micrographics — Microfilming of newspapers for archival purposes on 35 mm microfilm

1 Scope

This International Standard establishes general principles for the microfilming of printed newspapers for preservation and distribution in libraries and other documentation services. It includes requirements for targets to ensure proper bibliographic control and to provide verification that the film meets International Standards required for archival microfilming.

It is applicable only to silver microfilms 35 mm wide, in rolls or strips, whether first generation (camera negatives), intermediates, or distribution copies¹⁾.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 9:1986, *Documentation — Transliteration of Slavic Cyrillic characters into Latin characters.*

ISO 233:1984, *Documentation — Transliteration of Arabic characters into Latin characters.*

ISO 259:1984, *Documentation — Transliteration of Hebrew characters into Latin characters.*

ISO 446:1991, *Micrographics — ISO character and ISO test chart No. 1 — Description and use.*

ISO 543:1990, *Photography — Photographic films — Specifications for safety film.*

ISO 3334:1989, *Micrographics — ISO resolution test chart No. 2 — Description and use.*

ISO 3602:1989, *Documentation — Romanization of Japanese (kana script).*

ISO 4331:1986, *Photography — Processed photographic black-and-white film for archival records — Silver-gelatin type on cellulose ester base — Specifications.*

ISO 4332:1986, *Photography — Processed photographic black-and-white film for archival records — Silver-gelatin type on poly(ethylene terephthalate) base — Specifications.*

ISO 5466:1986, *Photography — Processed safety photographic film — Storage practices.*

ISO 6196-1:1980, *Micrographics — Vocabulary — Section 01: General terms.*

ISO 6196-2:1982, *Micrographics — Vocabulary — Section 02: Image positions and methods of recording.*

ISO 6196-3:1983, *Micrographics — Vocabulary — Part 03: Film processing.*

ISO 6196-4:1987, *Micrographics — Vocabulary — Part 04: Materials and packaging.*

ISO 6196-5:1987, *Micrographics — Vocabulary — Part 05: Quality of images, legibility, inspection.*

ISO 6196-6:—²⁾, *Micrographics — Vocabulary — Part 06: Equipment.*

1) Non-silver halide microfilms may be used for intermediate or distribution copies.

2) To be published.

ISO 6199:—²⁾, *Microfilming of documents on 16 mm and 35 mm silver-gelatin type microfilm — Operating procedures.*

ISO 6200:1990, *Micrographics — First generation silver-gelatin microforms of source documents — Density specifications.*

ISO 8601:1988, *Data elements and interchange formats — Information interchange — Representation of dates and times.*

ISO 9878:1990, *Micrographics — Graphical symbols for use in microfilming.*

ISO 10550:—²⁾, *Micrographics — Planetary camera systems — Test target for checking performance.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 6196 and the following definitions apply.

3.1 newspaper: Serial publication that contains news on current events of special or general interest. The individual parts are listed chronologically or numerically and appear usually at least once a week.

NOTE 1 Newspapers usually appear without a cover, with a masthead, and are normally larger than A3 (297 mm × 420 mm) in size.

3.2 principal edition: The edition that, usually for a specific reason, is either identified or recognized as the most important.

3.3 target

(1) Any document or chart containing identification information, coding or test charts.

(2) An aid to technical or bibliographic control that is photographed on the film preceding or following the document.

3.4 roll microfilm: Microfilm that is, or can be, put on a reel.

4 Rawstock microfilm

Safety microfilm stock that complies with ISO 4331, or ISO 4332 and ISO 7830 shall be used.

5 Film thickness

Thickness of the film, including support, sensitive layer, and any protective coating, will form the subject of a future International Standard (ISO 6148), and shall be compatible with the equipment used.

6 Image placement and reduction ratios

Image placement and reduction ratios shall be in accordance with ISO 6199.

NOTE 2 The normal reduction ratio for newspapers is between 1:14 and 1:24.

6.1 Image positions

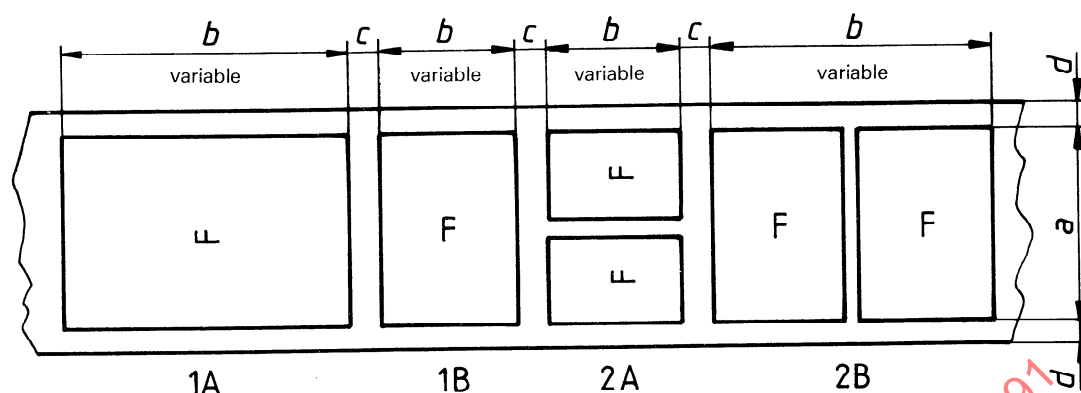
The four usual types of image positions for 35 mm microfilm on reels or in strips are shown in figure 1. Dimension *b* ordinarily shall be limited to the image area required by the material being filmed, taking into account dimension *a*. Dimension *c* shall be at least 2 mm, both for images and for coding information.

6.2 Progression of text

For languages reading from right to left and for other variations from the usual occidental language arrangement, pages shall be positioned to allow for logical reading progression. This is accomplished by positioning the camera head so that the progression of exposed film shall reflect the progression of text.

6.3 Reduction ratios of smaller pages and sectional filming

Pages, such as newspaper inserts and foldouts, that are smaller than the normal spread of the newspaper shall be filmed at a reduction ratio the same as or, if necessary to achieve legibility, lower than the reduction ratio used for other parts of the newspaper. Where inserts or foldouts are too large to be accommodated in position 1A (see figure 1) without using a reduction ratio too high to provide a legible image, the material must be filmed in sections. The sections shall be filmed from left to right and from top to bottom as shown in figure 2 (unless in oriental orientation) and shall provide an overlap with adjacent material of at least 25 mm. The reduction ratio used shall provide the desired number of sections with the proper overlap.



Positions 1A and 1B are single-page exposures.
 Positions 2A and 2B are double-page exposures.
 In positions 1A and 2A the text is perpendicular to the long axis of the film.
 In positions 1B and 2B the text is parallel to the long axis of the film.

Figure 1 — Image positions on the microfilm

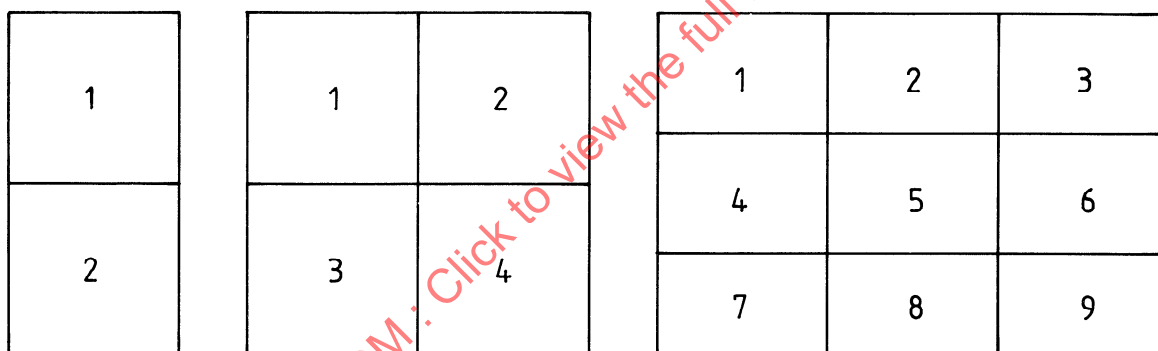


Figure 2 — Sectional sequences

7 Filming procedures

7.1 Show-through

Newspapers shall be photographed in such a way that show-through from the back of the page is minimized.

7.2 Filming coverage

Newspapers shall be placed on the copyboard and illuminated so that all printing on the page is recorded, even when in bound volumes.

7.3 Direction of lines of text

The lines shall be parallel with the long axis of the film in positions 1B and 2B, or perpendicular to the long axis of the film in positions 1A and 2A (see figure 1).

7.4 Targets

Appropriate targets shall be used to denote material filmed out of sequence for bibliographical or practical reasons.

7.5 Graphical symbols

Symbols, in accordance with ISO 9878, shall be used to give information concerning the condition of the original document, the production and use of microforms.

8 Arrangement of the file

8.1 Chronological divisions of filming

Newspapers shall be microfilmed in chronological order. The divisions between rolls shall be systematic and bibliographically acceptable. Normally, the following periods are used: a half or whole month, two, three, four or six months, one year or several years.

Examples of unacceptable roll division:

January 1 — February 15

January 1, 1956 — March 15, 1957 (unless publication ceased on that date).

Examples of acceptable roll division:

March 1 — March 15

January 1 — February 28

January 1, 1956 — December 31, 1957.

8.2 Filming of editions and supplements

Newspapers shall normally be filmed in full including all sections and supplements. Should a newspaper have more than one edition, the principal edition shall be filmed in full including all sections and supplements; otherwise, an edition that is considered typical or representative shall be selected for filming. When other editions are microfilmed they should be filmed immediately following the principal edition each day or in a chronological series of their own. The editions do not need to be filmed in full, but could be represented by those pages which have been changed.

Numbered or lettered sections shall be filmed in numerical or alphabetical order followed by unnumbered sections and supplements. Supplemental pages, printed with the newspaper proper, shall be filmed at their original place.

9 Film targets

9.1 Lettering

Information targets intended to be read without magnification shall comply with the following requirements:

- clear black lettering on a white background, or vice versa;

- upper-case letters are preferred;
- minimum letter height on the film: 2 mm.

9.2 Language

The language of the targets shall be the language of the newspaper to be microfilmed and/or one of the ISO official languages, English, French or Russian.

9.3 Calendar dates

Calendar dates in all-numeric forms shall be written in accordance with ISO 8601.

9.4 Sequence and contents of targets (see figure 3)

9.4.1 "Beginning of roll" symbol

The first target shall contain only the "Beginning of roll" symbol (see ISO 9878).

9.4.2 Identification target(s)

The identification target is intended to provide the reader with essential data concerning the newspaper as a whole and the microfilming. With the exception of items 9.4.2.4 to 9.4.2.7, it shall be legible without magnification and shall contain the following information in the order given:

9.4.2.1 Title of the newspapers. The title(s) shall be given in the same form as the title(s) of the original(s) or, when necessary, shall be converted into the Latin alphabet according to standardized transliteration/transcription tables (see ISO 9, ISO 233, ISO 259 and ISO 3602).

The title on the identification target may be used for bibliographic purposes and it should, therefore, be chosen with care. If the intention is to have the microfilm cited by the title of the original, e.g. *New York Times*, then the title (excluding sub-titles, which will be given on the bibliographic target) on the identification target should exactly match that of the original. Where a newspaper is filmed as part of a collection which has been given a collective title, e.g. *Early English Newspapers*, the collective title should appear on the target.

9.4.2.2 Language of the newspaper (optional).

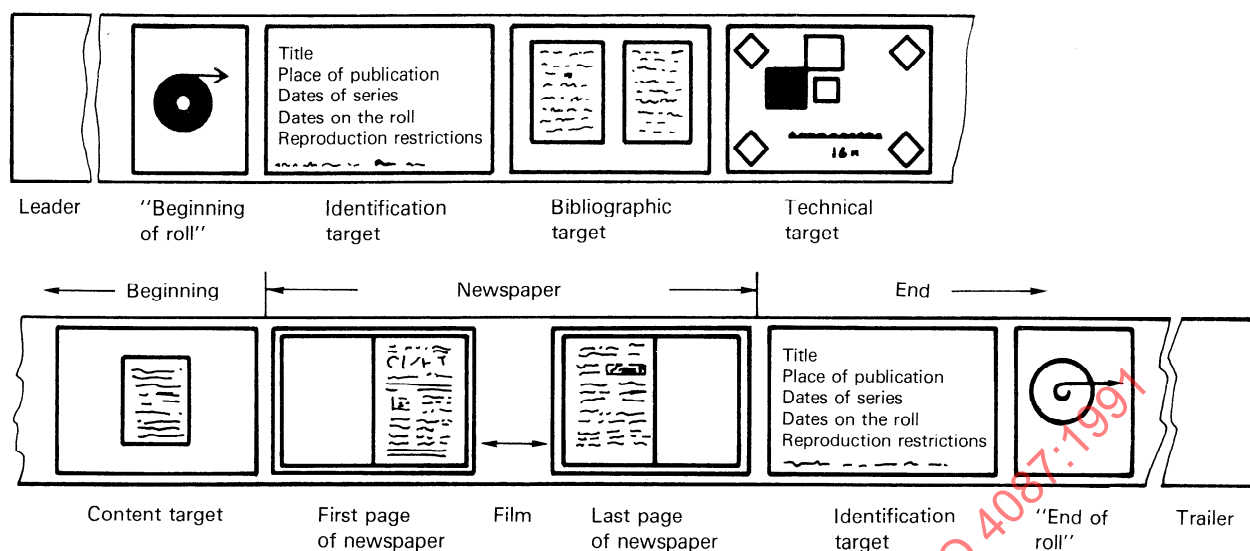


Figure 3 — Sequence of the targets

9.4.2.3 Country and place of publication, converted, if necessary, into the Latin alphabet according to the standardized transliteration/transcription tables (see ISO 9, ISO 233, ISO 259 and ISO 3602).

9.4.2.4 Date of the first issue (and last issue if publication has ceased), expressed according to ISO 8601.

9.4.2.5 If publication has ceased and the series consists of more than one roll, the number of rolls shall be indicated on the final roll; if only one roll, state: "one roll only".

9.4.2.6 Name of the organization responsible for microfilming.

9.4.2.7 Year of filming.

9.4.2.8 Dates of issues microfilmed on the roll; any gaps in the sequence should be noted.

9.4.2.9 Reproduction of the masthead of the document (optional).

9.4.2.10 Where applicable, state copyright or other restrictions on the further reproduction or use of the film.

9.4.3 Bibliographic target (not readable without magnification)

The purpose of the bibliographic target is to ensure that all bibliographic data necessary for the complete verification of the contents of the film have been recorded.

It shall contain the following information:

9.4.3.1 To facilitate bibliographic verification and description of the microfilm, the target may contain the following information, or part of it:

a) Identification

- identification title, including the year or date of first issue
- place of publication
- described period

b) Bibliographical description

- complete title
- title variations (with indication of period)
- complete edition titles
- recording of the imprint

c) Publishing pattern

- period of publication
- frequency
- pattern of editions
- periodical supplements
- placards
- closely related newspapers

d) Annotations

- publisher and place of publication
- composing office (in case it differs from the printing office)
- printing office
- editors
- main editorial office (in case it differs from the place of publication)
- political tendency
- circulation
- type area in print
- type face
- colour (black and number of colours)
- assimilations
- predecessors and successors
- literature

e) The microfilming

- division in series and contents of the series
- original (newspaper copies used for the filming)
- notes concerning the microfilming
- owner of the first generation microfilm (camera negative) (if other than the microfilm publisher)

Further information can be added if needed.

9.4.3.2 In the case of a completed series, a complete listing of the dates of issues appearing on the rolls should be given. Missing pages or issues shall also be noted.

EXAMPLE:

Roll 1: Date to date (Missing issues between (date) and (date); the latter in addition to general notes such as "Volumes (1890) (1821) Incomplete, etc." see below).

9.4.3.3 A general description of the condition of the newspaper may be included as a footnote. It might contain a list of missing pages, or concise indicative statements such as: "Certain numbers missing"; "Original partly damaged"; "Some originals faded"; or "Unique, very incomplete set".

Material noted as missing at the time of filming, if located and filmed at a later date, may be placed at the end of appropriate roll or on one or more supplementary rolls.

9.4.4 Historical target (optional)

A short, historical target, providing the historical background of the newspaper, is recommended. This target shall consist of one frame only, and should contain the following details:

- Important dates in the history of the newspaper;
- The names of the editors;
- Names of outstanding correspondents, feature writers, cartoonists, scientists, etc.

9.4.5 Technical target

The technical target which is used to ensure that correct standards are maintained, and ISO specifications that are used for this purpose shall include in accordance with ISO 10550

- reflectance targets;
- the reduction ratio used;
- a metric reference graduation;
- ISO test chart No. 1 or No. 2;
- whether the original document was in colour or black and white shall be indicated by means of the appropriate symbol.

9.4.6 List of symbols and their meaning (optional)

9.4.7 Content target for each roll

A target indicating the contents of the specific roll shall precede the text on each roll. It shall contain the following information in the order given:

9.4.7.1 Title of newspaper (legible without magnification).

9.4.7.2 Inclusive period contained in specific roll (legible without magnification).

9.4.7.3 Note stating that the material filmed was incomplete, where appropriate.

9.4.7.4 Where applicable, note of change of title together with date.

9.4.7.5 Note of specific number of roll (legible without magnification). If publication has ceased and the series consists of more than one roll, the number of rolls shall be indicated on the final roll. If there is only one roll, the words "one roll only" are used.

9.4.8 Repetition of identification target

The identification target shall be repeated at the end of the film.

9.4.9 Symbol "End of roll"

The last target shall contain only the "End of roll" symbol (see ISO 9878).

9.5 Additional targets

9.5.1 Dividing targets

A target can be used to subdivide clearly the contents, for example: weekly, monthly or annual divisions. It shall contain, in clear lettering readable without magnification, the date used for the subdivision, for example:

— 1 January, 1968

— 1 January, 1969

9.5.2 Missing sections

Missing sections from the original shall be indicated by means of a symbol as given in the list of symbols. However, the possibility exists that the film is com-

pleted at a later stage. One frame can be used whenever a part is missing. This frame shall include the ISO symbol for "missing pages and/or issues" (see ISO 9878).

10 Processing the exposed film

The film shall be processed in accordance with ISO 4331 and ISO 4332.

11 Quality

11.1 Legibility

To determine the quality of the microimages, the technical target on the microfilm shall be examined as described in ISO 446 or ISO 3334. The minimum quality requirements for the first and second generations and the distribution copy shall comply with the values given in table 1.

11.2 Visual density

The microimages shall have a background density in accordance with ISO 6200.

12 Correcting the processed first generation microfilm (camera microfilm)

12.1 Refilming

Pages improperly filmed shall be refilmed, along with enough pages before and after each instance to allow space for splices to eliminate the possibility of defacing the images. The remade film shall be inspected and then spliced into the negative, thus replacing the faulty film.

Table 1 — Minimum quality requirements

Nominal reduction	Reduction range		ISO No. 1 test chart Character size			ISO No. 2 test chart Pattern number		
	From	To less than	Generations			Generations		
			1st	2nd	Distribution copy	1st	2nd	Distribution copy
1:10	1:9	1:11	45	50	56	9,0	8,0	7,1
1:12	1:11	1:14	50	56	63	8,0	7,1	6,3
1:16	1:14	1:17	56	63	71	7,1	6,3	5,6
1:18	1:17	1:20	63	71	80	6,3	5,6	5,0
1:22	1:20	1:23	71	80	90	5,6	5,0	4,5
1:24	1:23	1:28	80	90	100	5,0	4,5	4,0
1:30	1:28	1:33	90	100	112	4,5	4,0	3,6