INTERNATIONAL STANDARD

ISO 3772

Second edition
1991-05-15

Photography — Film dimensions — Rolls for photocomposition

Photographie — Dimensions des films — Rouleaux pour appareils de photocomposition

Reference number
ISO 3772:1991(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 3772 was prepared by Technical Committee ISO/TC 42, *Photography*.

This second edition cancels and replaces the first edition (ISO 3772:1976), which has been technically revised.

Annexes A, B and C of this International Standard are for information only.

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Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Introduction

The rapid growth of phototypesetting and photolettering technology and the absence of definitive national standards has resulted in a proliferation of equipment and photographic product sizes.

To minimize this proliferation and to encourage a reduction in the total number of film sizes currently in use, this International Standard lists preferred and recognized sizes of film. It is hoped that, with the co-operation of photographic goods and equipment manufacturers, the recognized sizes can be withdrawn and only the preferred sizes be used. However, because this is a dynamic and growing industry, guidelines have been established for calculating the dimensions of new film sizes which may be required as a result of future innovations.

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Photography — Film dimensions — Rolls for photocomposition

1 Scope

This International Standard specifies the nominal and slitting widths with their tolerances, of photographic films in rolls, intended to be used on phototypesetting and photolettering devices.

It also specifies preferred core dimensions, winding orientation and package marking.

Film lengths are not specified, but annex A gives a series of nominal film lengths as a guide for equipment manufacturers.

This International Standard applies to unperforated film. However, since some older equipment still requires perforated material, perforating specifications appear in annex B. Equipment manufacturers are strongly encouraged to design future equipment to accept only unperforated rolls.

The corresponding International Standard for papers is ISO 6408.

In this International Standard, metric units are prime.

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 1:1975, *Standard reference temperature for industrial length measurements.*

ISO 554:1976, *Standard atmospheres for conditioning and/or testing — Specifications.*

ISO 6408:1990, *Photography — Paper dimensions — Rolls for photocomposition.*

3 Conditions for measurement of dimensions

The dimensions and tolerances specified in this International Standard apply at the time of manufacture, measured under atmospheric conditions of (23 ± 2) °C and (50 ± 5) % relative humidity, as specified in ISO 554[1)] (see annex C).

4 Width of rolls

4.1 Preferred widths

Slitting widths for preferred widths, and their tolerances, shall conform to the values given in table 1.

1) All measuring instrument calibrations should be referred to a temperature of 20 °C (as specified in ISO 1) and a relative humidity of 50 %.

Table 1 — Preferred widths for rolls

Dimensions in millimetres

Nominal	Aim	Tolerance
35	34,88	± 0,12
70	69,88	± 0,12
100	99,88	± 0,12
150	149,75	± 0,25
200	199,75	± 0,25
250	249,75	± 0,25
300	299,50	± 0,50
310	309,50	± 0,50
350	349,50	± 0,50
400	399,50	± 0,50
430	429,50	± 0,50
460	459,50	± 0,50

4.2 Recognized widths

Slitting widths for temporarily recognized widths and their tolerances, shall conform to the values given in table 2.

Table 2 — Recognized widths for rolls

Nominal		Aim	Tolerance
mm	in	mm	mm
40		39,88	± 0,12
50,8	2	50,68	± 0,12
76,2	3	76,08	± 0,12
101,6	4	101,48	± 0,12
127	5	126,75	± 0,25
152,4	6	152,15	± 0,25
203,2	8	202,95	± 0,25
254	10	253,75	± 0,25
304,8	12	304,30	± 0,50

Phototypesetting and photolettering equipment manufacturers are, however, strongly encouraged to design their future equipment to accept only the preferred widths given in table 1.

4.3 Slitting and tolerance rules

The slitting and tolerance rules for widths of rolls not given in table 1 and table 2 are given in table 3.

Table 3 — Slitting and tolerance rules for rolls

Dimensions in millimetres

Nominal	Aim	Tolerance
Up to and including 120	Nominal — 0,12	± 0,12
Greater than 120, up to and including 260	Nominal — 0,25	± 0,25
Greater than 260	Nominal — 0,50	± 0,50

5 Length of rolls

The actual usable length of a roll shall not be less than the nominal length.

Nominal film lengths are not specified (see annex A).

6 Splices

There shall be no splices in film rolls for photocomposition.

7 Core

7.1 Core length

The core length shall equal the minimum film width with a tolerance of $^{0}_{-1,0}$ mm.

7.2 Core internal diameter

The preferred internal diameter of the core shall be 50,7 mm ± 0,3 mm. However, two other diameters are recognized:

28,8 mm ± 0,3 mm and 71,9 mm ± 0,5 mm

8 Film in perforated form

Though new equipment is designed for unperforated film, some existing equipment still requires perforated film (see annex B).

9 Winding

It is preferred that the film be wound on the core with the sensitized side-in. If a non-standard "sensitized side-out" winding is necessary it shall be clearly identified as such on the package.

It is preferred that the film not be attached to the core. However, for those applications where reverse travel is required, an attachment by means of a

"pressure-sensitive" tape is recognized as acceptable and shall be indicated on the package.

It is preferred that the film be wound on the core so that the recession of the core be symmetrical with respect to the film roll. The core shall never recede on one side and protrude on the other.

The "pratical roll width" which includes any widthwise winding variation shall not exceed the maximum film slitting width by more than 1 mm.

10 Package marking

10.1 Data

Sufficient data shall be given on the package to ensure correct usage of the product.

Packages are marked for the purpose of identifying

a) product name and format;

b) conditions of use (such as safelight);

c) conditions of shipping and storage.

Any given level of packaging fulfils one or more of these functions and shall be identified accordingly using the appropriate entries from the following list[2]:

— product name or trade name[3];

— name or trade mark of the manufacturer;

— manufacturer's catalogue identification number;

— bar code information, if applicable;

— quantity of units contained in the package;

— nominal width and length, in metric units, showing the width first;

— batch number and/or parent roll number;

— expiration date or "develop before" date or inventory control code;

— manufacturer's recommended safelight conditions[4];

— manufacturer's recommended storage conditions[4];

— indication of non-standard winding, if applicable[3] [4];

— indication of attachment of film on core, if applicable[3] [4];

— indication of perforated film, if applicable[3] [4].

10.2 Compliance

If it is desired to indicate compliance of the product with this International Standard, the following wording shall be used:

"COMPLYING WITH ISO 3772"

2) There may be legal requirements in certain countries for other data to be marked on the packages.

3) For unit packages, this item should be legible under recommended safelight conditions (other than total darkness).

4) This may be indicated by wording or by a code.

Annex A
(informative)

Nominal film length

Nominal film lengths have not been specified because the use of different base thicknesses permits the use of different lengths.

However, the following preferred lengths are given as a guide for equipment manufacturers when designing future equipment:

30 m, 45 m, 60 m, 120 m

Annex B
(informative)

Film in perforated form

B.1 Although new equipment is designed for unperforated films, some existing equipment still requires perforated films.

Double-edge perforations are found on the following film widths:

70 mm; 76,2 mm (3 in); 100 mm; 127 mm (5 in); 150 mm; 200 mm; 250 mm; 254 mm (10 in); 310 mm

Single-edge perforations are found on the following film widths:

101,6 mm (4 in); 152,4 mm (6 in); 203,2 mm (8 in); 254 mm (10 in)

B.2 Single-edge perforation can cause a risk of crumpling in the machine because of the fragility of film.

Perforation skewness can cause alignment problems with films perforated on both edges. For rolls wider than 130 mm, the second row of perforations shall be located so as to avoid problems with dimensional changes of film due to ageing and temporary shrinkage.

B.3 Double-edge perforations should be in accordance with the dimensions indicated in figure B.1 and specified in table B.1.

Table B.1 — Perforating dimensions (see figure B.1)

Dimensions in millimetres

Dimension	Size
A	Slitting width (see table 1 and table 2)
B	4,75 ± 0,03
C	2,80 ± 0,03
D	1,98 ± 0,03
E	2,00 ± 0,25
M	See note
L (length of 100 consecutive perforations)	475 ± 0,40
R	0,50 nom.
G for $A < 250$	0,25 max.
for $A \geqslant 250$	0,50 max.

NOTE — The distance between perforations of double-edge perforations M, is not specified in order to avoid double dimensioning and problems associated with the accumulation of tolerances.

If required for design purposes, this dimension and its associated tolerances can be derived from the data contained in table B.1 by the relation:

$$M = A - 2(C + E)$$

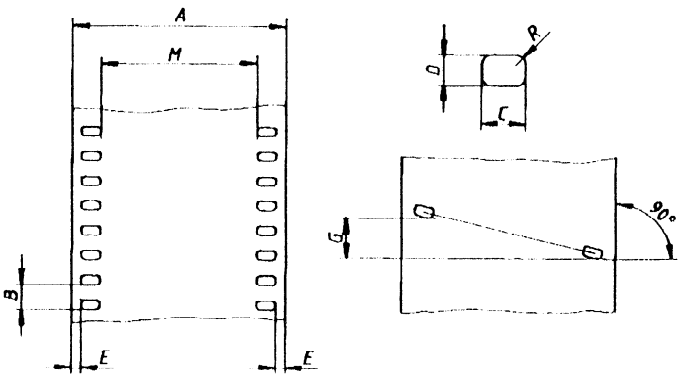

Figure B.1 — Perforating dimensions of films in rolls, used in phototypesetting and photolettering devices