INTERNATIONAL STANDARD

ISO 5655

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Photography — Industrial radiographic films (roll and sheet) and metal intensifying screens — Dimensions

Photographie — Films radiographiques industriels (rouleaux et feuilles) et écrans intensificateurs en métal — Dimensions

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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 5655 was prepared by Technical Committee ISO/TC 42, *Photography*.

This third edition cancels and replaces the second edition (ISO 5655:1993), of which it constitutes a technical revision based upon ANSI/BAPM IT1.15-1994.

Annex A of this International Standard is for information only.

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Photography — Industrial radiographic films (roll and sheet) and metal intensifying screens — Dimensions

1 Scope

This International Standard specifies the preferred and recognized sizes and cutting dimensions of industrial radiographic roll and sheet films and metal intensifying screens. It also specifies package markings.

The shaping of the corners of screens is not specified.

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

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

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.

Dimensions may be altered by a permanent shrinkage due to aging and by a temporary shrinkage or swell due to changes in moisture content or temperature. Normally, dimensionally stable polyester base is used for these film products, and there should be no departure from the specified dimensions by more than 0,05 % greater than the maximum dimension and − 0,08 % less than the minimum dimension at the time of opening the package.

All measuring-instrument calibrations shall be conducted at a temperature of 20 °C, as specified in ISO 1, and a relative humidity of 50 %.

4 Films in rolls

4.1 Width of rolls

4.1.1 Preferred widths

Roll widths of preferred sizes shall conform to the values given in Table 1.

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4.1.2 General slitting and tolerance rules

For rolls not shown in Table 1, the slitting and tolerance rules shall conform to the values given in Table 2.

Table 1 — Widths of films in rolls — Preferred sizes

Nominal mm	Aim mm	Tolerance mm
35	34,5	± 0,5
60	59,5	± 0,5
70	69,5	± 0,5
100	98,5	± 0,5
130	128	± 1,0
180	178	± 1,0
300	298	± 1,0
350	354	± 1,0
400	398	± 1,0

Table 2 — Slitting and tolerance rules for roll widths

Nominal	Aim	Tolerance
Up to and including 12 cm	Nominal minus 1,5 mm	± 0,5 mm
Greater than 12 cm, up to and including 65 cm [a]	Nominal minus 2,0 mm	± 1,0 mm
Greater than 65 cm	Nominal minus 2,5 mm	± 1,5 mm
[a] For 35 cm and 43 cm nominal, the aim values are obtained by using the nominal values of 35,6 cm and 43,2 cm, respectively.		

4.2 Length of rolls

For rolls of width up to and including 100 mm nominal, the preferred nominal lengths shall be 90 m, 100 m, 150 m and 305 m.

For rolls wider than 100 mm nominal, the preferred nominal length, exclusive of leaders and trailers, shall be 60 m.

5 Films in sheets

5.1 Dimensions

5.1.1 Preferred sizes

Dimensions for preferred sizes shall conform to the values given in Table 3.

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5.1.2 Temporarily recognized sizes

The sizes listed in Table 4 are becoming obsolete. Equipment manufacturers are advised to design future cassettes and screens for use with the preferred sizes, so that the recognized sizes will be replaced by the preferred sizes.

5.1.3 Cutting and tolerance rules

For the current sizes of sheets shown in Tables 3 and 4 and for new sizes, the cutting and tolerance rules shall be as follows.

a) For the current sizes shown in Table 3 and for new sizes (metric), the cutting and tolerance rules shall be as indicated in Table 5.

b) For the sizes shown in Table 4, there is no general cutting rule and the tolerances on the cutting dimensions (aim values) shown in Table 4 shall be

— up to and including 11,4 cm nominal: ± 0,4 mm, and

— greater than 11,4 cm nominal: ± 0,8 mm.

Table 3 — Preferred sizes of films in sheets

Nominal cm	Aim mm
6 × 24	58,5 × 238
6 × 48	58,5 × 478
9 × 12	88,5 × 118,5
10 × 24	98,5 × 238
10 × 40	98,5 × 398
10 × 48	98,5 × 478
13 × 18 [a]	128 × 178
15 × 40	148 × 398
18 [a] × 24	178 × 238
18 × 43 [a]	178 × 430
24 × 30	238 × 298
30 × 40	298 × 398
35 × 43 [a]	354 × 430

[a] These nominal sizes are the rounded values commonly used for 17,8 cm, 35,6 cm and 43,2 cm (formerly 7 in, 14 in and 17 in, respectively).

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Table 4 — Temporarily recognized sizes of films in sheets

Nominal cm	Aim mm	Tolerance mm
8,5 × 30,5	84,3 × 303,2	± 0,4
8,9 × 43	88,1 × 430	± 0,4
11,4 × 25,4	113,5 × 252,8	± 0,4
11,4 × 43	113,5 × 430	± 0,4
20,3 × 25,4	201,6 × 252,8	± 0,8
25,4 × 30,5	252,8 × 303,2	± 0,8
27,9 × 35	278,6 × 354	± 0,8

Table 5 — Cutting and tolerance rules for metric sizes of films in sheets

Nominal	Aim [a]	Tolerance
Up to and including 12 cm	Nominal minus 1,5 mm	± 0,5 mm
Greater than 12 cm, up to and including 65 cm [b]	Nominal minus 2,0 mm	± 1,0 mm
Greater than 65 cm	Nominal minus 2,5 mm	± 1,5 mm

[a] These cutting rules are not applicable to the sizes in Table 4.

[b] For 35 cm and 43 cm nominal, the aim values are obtained by using the nominal values of 35,6 cm and 43,2 cm respectively.

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5.2 Squareness and edge straightness

Squareness, edge straightness, shape and compliance with the dimensions specified in this International Standard shall be checked at the same time by comparison of any given sheet with two perfect rectangles, independently located, one made to the minimum dimensional tolerance specified in this International Standard and the other to the maximum tolerance. No point on the perimeter of the sheet shall fall within the smaller rectangle, nor shall any point fall outside the larger rectangle.

5.3 Corner rounding

If the four corners of the film are rounded, the actual edge of the corner shall be inside the hatched area shown in Figure 1. The corners shall have no steps or sharp features. The areas removed by corner rounding are not judged to be in violation of 5.2.

6 Package marking

6.1 Data

Sufficient data shall be provided on a product's packaging to inform the user of proper use and handling.

Packaging shall be marked so as to indicate

a) product name and size,

b) conditions of use (such as safelight), and

c) conditions for shipping and storage.

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To accomplish this, each of the packages which constitute the product's packaging should be marked so as to indicate one or more of the following[1]:

— product name or trade name for unit packages; this item shall be legible under recommended safelight conditions (other than total darkness);

— name or trade mark of the manufacturer;

— manufacturer's reference number;

— information to assist recycling of waste packaging;

— quantity of units contained in the package;

— product name or trade name of sensitized material;

— nominal product dimensions, in metric units, with the smaller dimension first;

— batch or lot number and/or parent roll number;

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

— manufacturer's recommended safelight conditions[2].

6.2 Compliance

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

"COMPLYING WITH ISO 5655"

7 Dimensions of intensifying screens

7.1 Preferred sizes of screens

For preferred sizes of screens, aim and tolerance dimensions shall conform to the values given in Table 6.

7.2 Recognized sizes of screens

For temporarily recognized sizes of screens, aim and tolerance dimensions shall conform to the values given in Table 7.

7.3 New sizes of screens

For new screen sizes not listed in Tables 6 and 7, aim and tolerance dimensions shall conform to the rules given in Table 8.

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1) There can be legal requirements in certain countries for other data to be marked on the package.

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

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7.4 Squareness and edge straightness

Squareness, edge straightness, shape and compliance with the dimensions specified in this International Standard shall be checked at the same time by comparison of any given sheet with two perfect rectangles, independently located, one made to the minimum dimensional tolerance specified in this International Standard and the other to the maximum tolerance. No point on the perimeter of the sheet shall fall within the smaller rectangle, nor shall any point fall outside the larger rectangle.

Table 6 — Screen dimensions — Preferred sizes

Nominal size of film	Screen size		
	Minimum	Aim	Maximum
cm	mm	mm	mm
6 × 24	60 × 239	60,5 × 240	61 × 241
6 × 48	60 × 479	60,5 × 480	61 × 481
9 × 12	90 × 120	90,5 × 120,5	91 × 121
10 × 24	100 × 239	100,5 × 240	101 × 241
10 × 40	100 × 399	100,5 × 400	101 × 401
10 × 48	100 × 479	100,5 × 480	101 × 481
13 × 18 [a]	130 × 179	130,5 × 180	131 × 181
15 × 40	149 × 399	150 × 400	151 × 401
18 [a] × 24	179 × 239	180 × 240	181 × 241
18 × 43 [a]	176,8 × 430,8	177,8 × 431,8	178,8 × 432,8
24 × 30	239 × 299	240 × 300	241 × 301
30 × 40	299 × 399	300 × 400	301 × 401
35 × 43 [a]	354,6 × 430,8	355,6 × 431,8	356,6 × 432,8

[a] These nominal sizes are the rounded values commonly used for 17,8 cm, 35,6 cm, and 43,2 cm, (formerly 7 in, 14 in, and 17 in, respectively).

Table 7 — Screen dimensions — Recognized sizes

Nominal size of film	Screen size		
	Minimum	Aim	Maximum
cm	mm	mm	mm
8,5 × 30,5	85 × 304	85,5 × 305	86 × 306
8,9 × 43	89 × 429	89,5 × 430	90 × 431
11,4 × 25,4	114 × 253	114,5 × 254	115 × 255
11,4 × 43	114 × 429	114,5 × 430	115 × 431
20,3 × 25,4	202,2 × 253	203,2 × 254	204,2 × 255
25,4 × 30,5	253 × 303,8	254 × 304,8	255 × 305,8
27,9 × 35	278,4 × 354,6	279,4 × 355,6	208,4 × 356,6

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7.5 Dimensions for new screen sizes

For new screen sizes not listed in Tables 5 and 6, dimensions shall conform to the conditions given in Table 8.

Table 8 — Rules for dimensioning new screen sizes (not shown in Tables 6 and 7)

Nominal	Minimum	Aim	Maximum
Less than 130 mm	Nominal width minus 2,0 mm	Nominal width minus 1,5 mm	Nominal width minus 1,0 mm
130 mm and greater	Nominal width minus 3,0 mm	Nominal width minus 2,0 mm	Nominal width minus 1,0 mm

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