

INTERNATIONAL STANDARD

ISO 5457

Second edition
1999-02-01

Technical product documentation — Sizes and layout of drawing sheets

*Documentation technique de produits — Formats et présentation des
éléments graphiques des feuilles de dessin*



Reference number
ISO 5457:1999(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 5457 was prepared by Technical Committee ISO/TC 10, *Technical drawings, product definition and related documentation*, Subcommittee SC 1, *Basic conventions*.

This second edition cancels and replaces the first edition (ISO 5457:1980), which has been technically revised.

Annex A of this International Standard is for information only.

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Technical product documentation — Sizes and layout of drawing sheets

1 Scope

This International Standard specifies the size and layout of preprinted sheets for technical drawings in any field of engineering, including those produced by computer. This International Standard is also applicable to other technical documents.

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 128-20:1996, *Technical drawings — General principles of presentation — Part 20: Basic conventions for lines.*

ISO 216:1975, *Writing paper and certain classes of printed matter — Trimmed sizes — A and B series.*

ISO 3098-1:1974, *Technical drawings — Lettering — Part 1: Currently used characters.*

ISO 7200:1984, *Technical drawings — Title blocks.*

ISO 9958-1:1992, *Draughting media for technical drawings — Draughting film with polyester base — Part 1: Requirements and marking*

ISO 9961:1992, *Draughting media for technical drawings — Natural tracing paper.*

3 Sizes

3.1 Size of series ISO-A

The original drawing should be made on the smallest sheet permitting the necessary clarity and resolution.

The preferred sizes of the trimmed and untrimmed sheets as well as the drawing space of the main ISO-A series (see ISO 216) are given in table 1.

Table 1 — Sizes of trimmed and untrimmed sheets and the drawing space

Dimensions in millimetres

Designation	Figure	Trimmed sheet (T)		Drawing space		Untrimmed sheet (U)	
		a_1 1)	b_1 1)	a_2 $\pm 0,5$	b_2 $\pm 0,5$	a_3 ± 2	b_3 ± 2
A0	1	841	1 189	821	1 159	880	1 230
A1	1	594	841	574	811	625	880
A2	1	420	594	400	564	450	625
A3	1	297	420	277	390	330	450
A4	2	210	297	180	277	240	330

NOTE — For sizes > A0, see ISO 216.

1) For tolerances, see ISO 216.

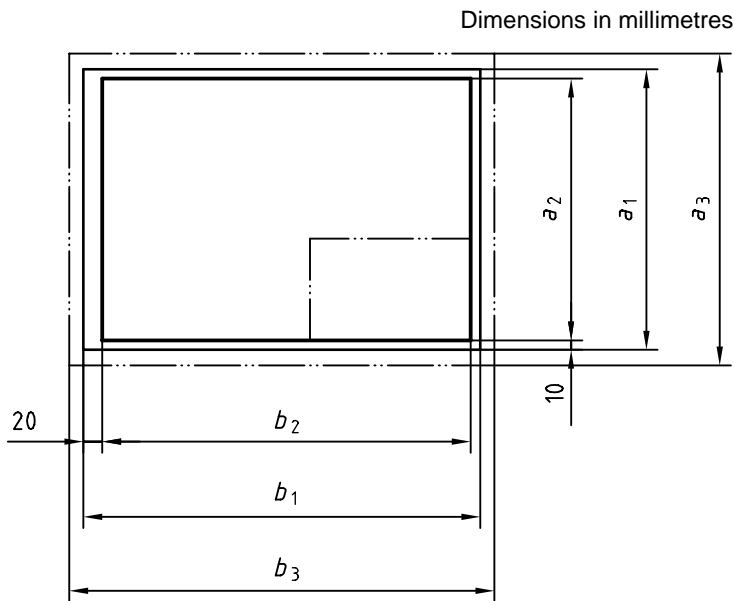


Figure 1 — Size A3 to A0

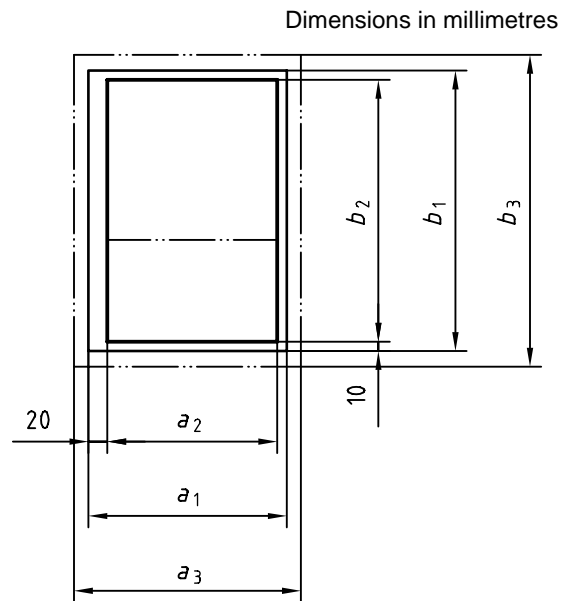


Figure 2 — Size A4

The size designation shall be placed in the bottom border at the right corner (see figure 5).

3.2 Elongated sizes

Elongated sizes should be avoided. Otherwise they are formed by combination of the dimensions of the short side of an A-size (e.g. A3) with the dimensions of the long side of another larger A-size (e.g. A1). The result is a new size, for example with the abbreviation A3.1. The structure of the size system is shown in figure 3.

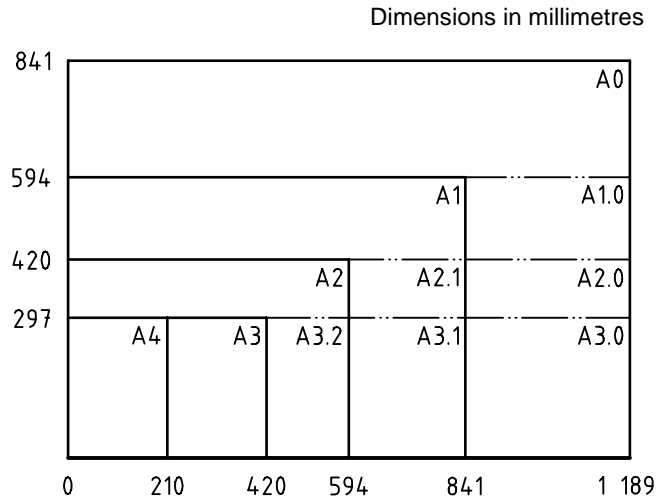


Figure 3 — Size system overview

4 Graphical features

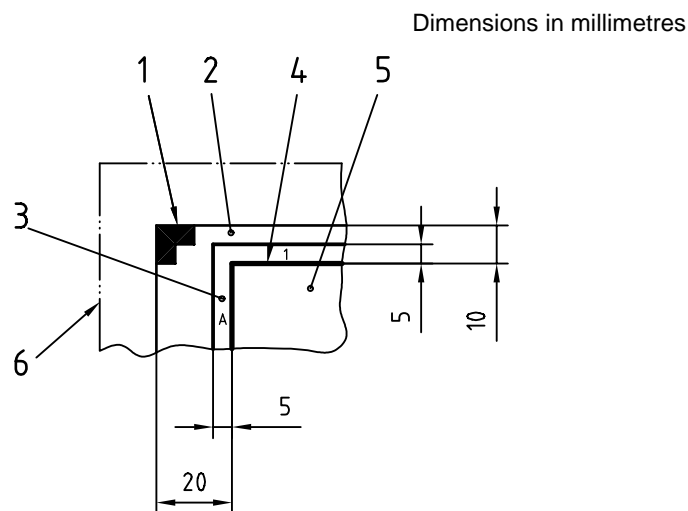
4.1 Title block

For the dimensions and layout of title blocks, see ISO 7200. The location of the title block for the sizes A0 to A3 is situated in the bottom right hand corner of the drawing space. Only sheets positioned horizontally are permitted for these formats (see figure 1). For the size A4, the title block is situated in the shorter (lower) part of the drawing space. Only sheets positioned vertically are allowed for this format (see figure 2). The direction of the reading of the drawings is equal to that of the title block.

4.2 Borders and frame

Borders enclosed by the edges of the trimmed sheet and the frame limiting the drawing space shall be provided with all sizes. The border shall be 20 mm wide on the left edge, including the frame. It can be used as a filing margin. All other borders are 10 mm wide (see figure 4).

The frame for limiting the drawing space shall be executed with continuous lines of 0,7 mm width.



Key

- | | | | |
|---|-----------------------|---|------------------------|
| 1 | Trimming mark | 4 | Frame of drawing space |
| 2 | Trimmed format | 5 | Drawing space |
| 3 | Grid reference border | 6 | Untrimmed format |

Figure 4 — Borders

4.3 Centring marks

In order to facilitate positioning of the drawing when reproduced or microfilmed, four centring marks shall be provided. These marks are placed at the ends of the two axes of symmetry of the trimmed sheet with a symmetry tolerance of 1 mm. The form of the centring marks may be chosen freely. It is recommended to indicate them by continuous lines of 0,7 mm width, starting at the grid reference border and extending 10 mm beyond the drawing frame (see figure 5). Sizes greater than A0 require additional centring marks at the mid-point of each section to be filmed.

4.4 Grid reference system

The sheets shall be divided into fields in order to permit easy location of details, additions, revisions, etc. on the drawing (see figure 5).

The individual fields should be referenced from the top downwards with capital letters (I and O shall not be used) and from left to right with numerals figuring on both sides of the sheet. For the size A4, they are located only at the top and the right side. The size of letters and characters is 3,5 mm. The length of the fields is 50 mm, starting at the axes of symmetry of the trimmed size (centring marks). The number of fields depends on the size (see table 2). The differences resulting from the division are added to the fields at the corners.

The letters and numerals shall be placed in the grid reference border, and are to be written in vertical characters according to ISO 3098-1. The grid reference system lines shall be executed with continuous lines of 0,35 mm width.

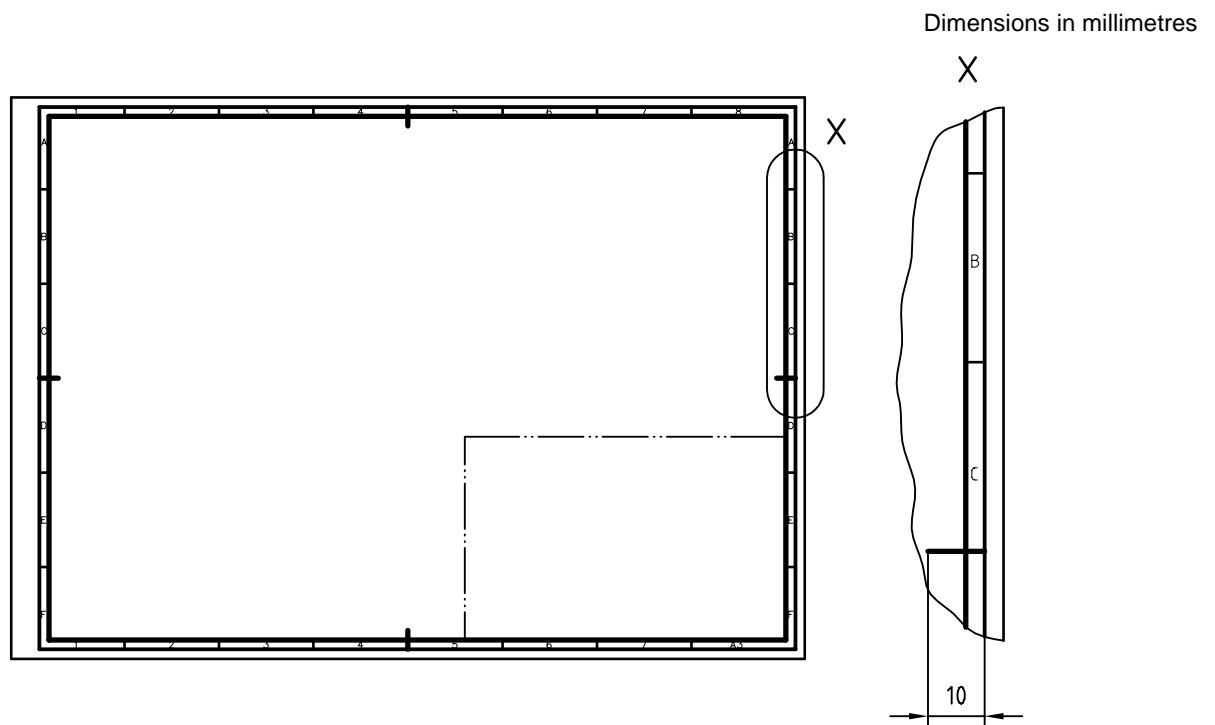


Figure 5 — Grid reference system and centring marks

Table 2 — Number of fields

Designation	A0	A1	A2	A3	A4
Long side	24	16	12	8	6
Short side	16	12	8	6	4

4.5 Trimming marks

In order to facilitate trimming of the sheets either by hand or automatically, trimming marks shall be provided in the borders of the four edges of the trimmed sheet. These marks are in the form of two overlapping rectangles with the dimensions 10 mm × 5 mm (see figure 6).

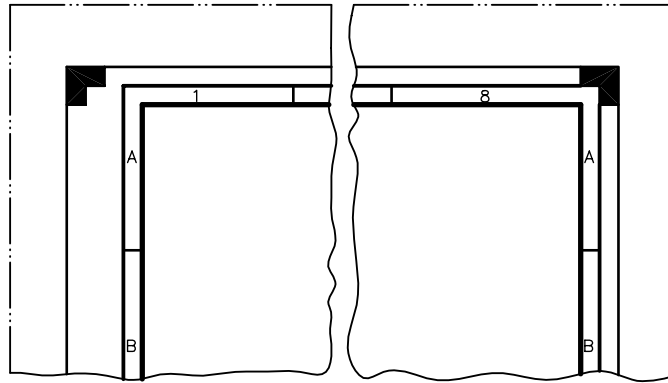


Figure 6 — Trimming marks

5 Designation

The designation of a preprinted drawing sheet shall consist of the following elements in the given order:

- a) the description block (i.e. "Drawing sheet");
- b) the number of this International Standard (i.e. ISO 5457);
- c) the designation of size (A4 to A0) as specified in table 1 or figure 3;
- d) trimmed (T) or untrimmed (U) as specified in table 1;
- e) type of material:
 - tracing paper (TP) 92,5 g/m² or 112,5 g/m², according to ISO 9961,
 - opaque paper (OP) 60 g/m² to 120 g/m²,
 - draughting film with polyester base (PE) of thickness ≥ 50 μm , according to ISO 9958-1,
- f) printed frontside (F) or reverseside (R);
- g) title block according to a pattern (TBL), if applicable.

EXAMPLE

A preprinted drawing sheet according to ISO 5457, of size A1, trimmed on tracing paper, with a mass per unit area of 112,5 g/m², printed on the reverse side and with a title block according to a pattern is designated as follows:

Drawing sheet ISO 5457 - A1T - TP112,5 - R - TBL

Annex A (informative)

Example of a drawing sheet

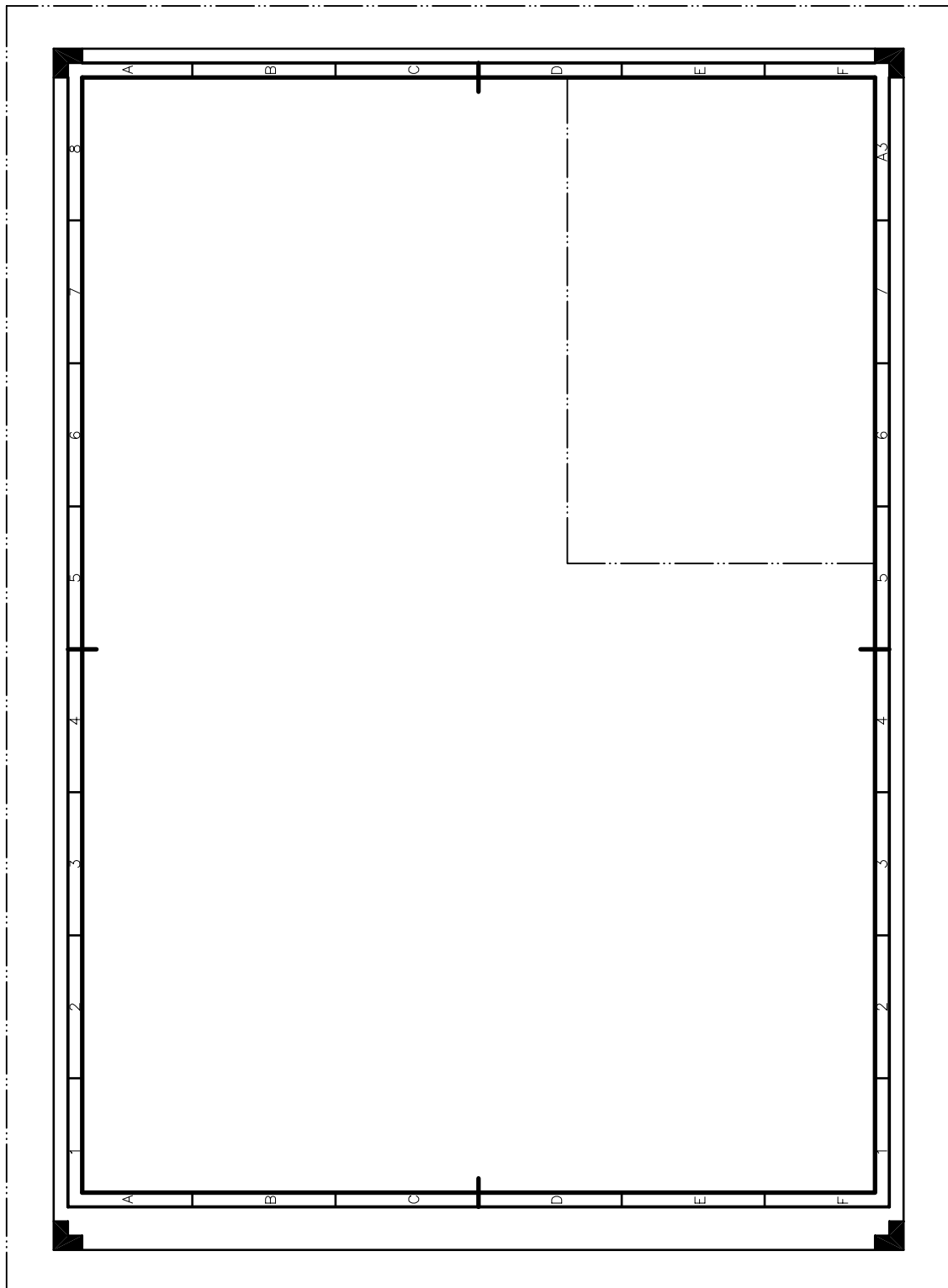


Figure A.1 — Example of a format A3 drawing sheet

