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Graphic technology — Plates for offset printing — Dimensions

Technologie graphique — Plaques pour impression offset — 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.

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 12635 was prepared by Technical Committee ISO/TC 130, *Graphic technology*.

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Introduction

This International Standard is a first step towards stipulating the properties of printing plates for offset printing. While not all existing plate sizes are covered by this International Standard, the stipulations on dimensions and the recommendation of only three types of perforation are aimed at limiting the existing wide range, and simplifying manufacture and communications between plate manufacturers, press manufacturers and printing houses.

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Graphic technology — Plates for offset printing — Dimensions

1 Scope

This International Standard specifies the width, length, thickness, perforation, designation and labelling (marking) of printing plates (referred to hereafter as "plates") for offset printing. It is intended to facilitate better communication between plate manufacturers, press manufacturers and printing houses.

The specifications given in this International Standard are intended primarily for metal plates. However, this International Standard may apply to other materials if they meet the requirements of clause 4. It is not intended for material supplied in rolled form.

2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the edition indicated was 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 edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1 plate width (w): Dimension of a printing plate parallel to the cylinder axis (clamping edge).

3.2 plate length (l): Dimension perpendicular to the plate width (edge on the cylinder circumference).

3.3 plate thickness (s): Nominal caliper of a coated plate.

4 Requirements

4.1 Measurement conditions

Measurements shall be conducted under standard atmosphere for conditioning as specified in ISO 554.

4.2 Dimensions

4.2.1 Plate dimensions

The nominal plate width, plate length and plate thickness shall be as specified in tables 1 and 2 when measured under the conditions specified in 4.1.

The length and width tolerances shown in table 1 are based on a perfectly rectangular plate. Figure 1 shows the nominal dimensions of a plate (solid line) together with rectangles corresponding to plus and minus tolerances (dashed lines). The actual contour of the plate including deviations from rectangularity shall cover the smaller rectangle at all points but shall not extend beyond the larger rectangle of figure 1.

4.2.2 Perforation (see figures 2 and 3)

For general application, plates shall not be perforated. This subclause applies only to small offset plates of thicknesses up to 0,15 mm. Dimensions and perforations shall be as specified in figures 2 and 3. Figure 3 shows three alternative configurations.

The center of any individual hole shall be no more than 0,50 mm from its specified place. This shall encompass

- the parallelism of the two rows of punched holes so that the rows of holes are both parallel to each other and to the lead or trail edge of the plate, and

- alignment of the individual holes within the rows so that each hole in a row is in line with the corresponding hole in the other row within $\pm 0,50$ mm (see figure 4). The distance between the edge of the plate perpendicular to the cylinder axis and the edge of the hole shall be in accordance with the manufacturer's specification with a general tolerance of $\pm 0,50$ mm. The end hole of one row shall meet this specification and the corresponding hole in the other row shall be within the alignment specification.

Table 1 — Specifications of plate width and plate length

Dimensions in millimetres

	Width <i>w</i>	Tolerance	Length <i>l</i>	Tolerance
Sheet-fed, offset	Steps of 5 mm last digit 0 or 5	$< 1\,000 \pm 1,0$ $1\,000 \text{ to } 1\,500 \pm 1,5$ $> 1\,500 \pm 2,0$	Steps of 5 mm, last digit 0 or 5	$\pm 1,0$
Web, offset	Steps of 5 mm last digit 0 or 5	$\pm 0,8$	Steps of 2 mm, last digit 0 or 2	$\pm 0,8$



Figure 1 — Nominal plate contour with tolerance rectangles

Table 2 — Plate thickness

Dimensions in millimetres

Preferred thickness	<i>s</i>	Tolerance
0,10 0,12 0,15 0,20	0,00 to 0,20:	+ 0,010 – 0,015
0,25 (0,24) ¹⁾ 0,30	> 0,20 to 0,30	+ 0,010 – 0,030
0,40	> 0,30 to 0,50	+ 0,010 – 0,040

1) A plate thickness of either 0,25 mm or 0,24 mm can be designated and both fall within the tolerance.

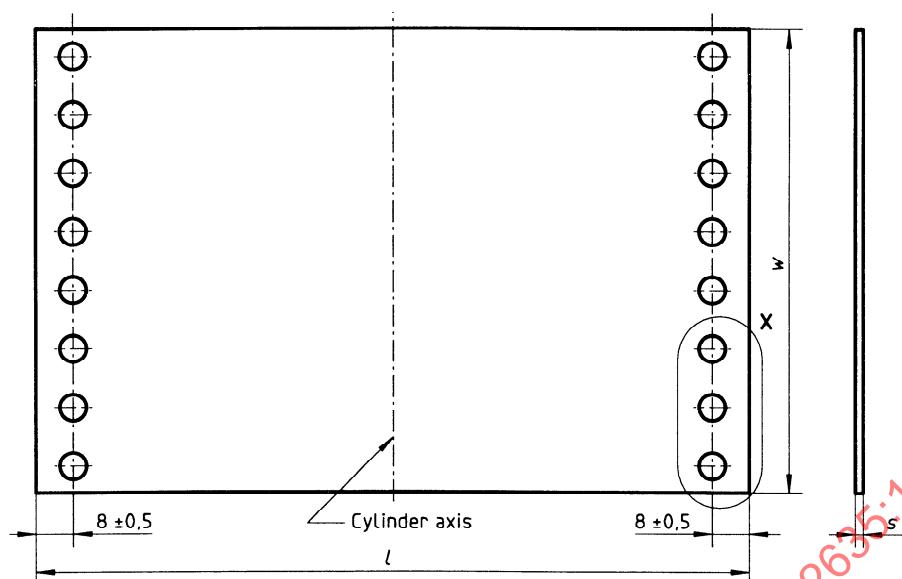


Figure 2 — General layout of a perforated plate (example of dimensions and perforation with circular holes of 4,5 mm)

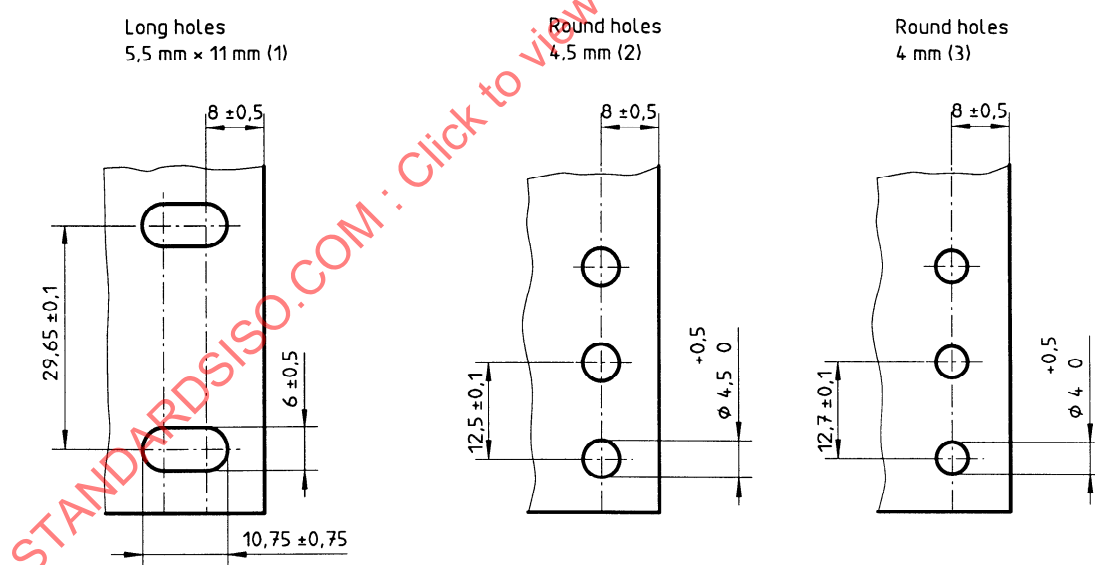


Figure 3 — Position and type of perforation (enlargement of area x in figure 2)

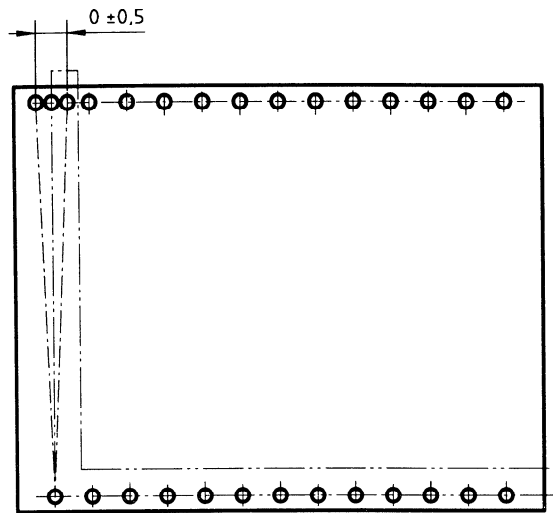


Figure 4 — Hole alignment specification

5 Designation

Example of a designation for a plate of width $w = 225$ mm, length $l = 370$ mm, thickness $s = 0,30$ mm (30), without perforation (0) for web offset printing (wb):

Plate ISO 12635-225 × 370-30-0-wb

NOTE — The designation for thickness is expressed in hundredths of a millimetre (e.g. 0,040 = 40).

6 Labelling (marking)

The following details shall be given on the packaging:

- number of plates;
- whether the plate is positive or negative working;
- designation;
- optionally, additional information of the manufacturer's choice may be given, e.g. around-the-cylinder direction, grain type, etc.

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