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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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

This third edition cancels and replaces the second edition (ISO 12635:2008), which has been technically revised.

The main changes compared to the previous edition are as follows:

- referred plate sizes have been introduced.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document stipulates dimensional properties of printing plates for offset printing. While not all present plate dimensions will conform to this document, the specifications for dimensions serve as an effort to reduce the multitude of possible formats to a reasonable level that simplifies manufacture and communications between plate, platesetter and press manufacturers, and the printer.

In this revision, preferred plate sizes are introduced. These represent the most widely used plate sizes and should be selected where possible. It is recognised that for some printing work, other sizes are required.

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# Graphic technology — Plates for offset printing — Dimensions

## 1 Scope

This document specifies the width, length and thickness of metal lithographic printing plates (referred to hereafter as “plates”). For plates to be used in computer to plate (CtP) applications, flatness, edge straightness and burr requirements are also included. These requirements are applicable to unprocessed plates.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### **cutting burr**

ridge along the edge of a plate produced by cutting, especially with a blunt knife

### 3.2

#### **plate width**

*W*

dimension of a printing plate parallel to the cylinder axis (clamping edge)

### 3.3

#### **plate thickness**

*s*

caliper of a coated plate

### 3.4

#### **edge waviness**

degree to which a plate edge conforms to a measurement plane

### 3.5

#### **plate edge straightness**

maximum deviation of the plate edge parallel to the cylinder axis (clamping edge) from a straight line, drawn from the corners of the plate

### 3.6

#### **unprocessed plates**

plates as received from the manufacturer

## 4 Requirements

### 4.1 Measurement conditions

Measurements shall be conducted when both measurement equipment and plates have reached a stabilized temperature of 21 °C ± 1 °C.

### 4.2 Plate dimensions

Commonly used plate widths and heights identified by plate and press manufacturers are specified in [Annex D](#). When selecting plate width and height, these preferred plate sizes should be used.

Where these plate sizes cannot be used, plates for sheet-fed lithographic use may be of any length, *L*, or width, *W*, but shall be specified in multiples of 5 mm where the last whole number digit is 0 or 5. Plates for web lithographic use may be of any length or width but shall have their width specified in multiples of 5 mm where the last whole number digit is 0 or 5 and their length specified in multiples of 2 mm where the last whole number digit is 0, 2, 4, 6 or 8. These requirements are summarized in [Table 1](#).

Except where preferred plate sizes are being used, the tolerances for length and width shall be as shown in [Table 1](#), the measurement conditions of [4.1](#) shall apply.

The preferred thicknesses and their tolerances shall be as shown in [Table 2](#).

**Table 1 — Plate widths, lengths and their tolerances**

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Dimensions in millimetres

Process	Width <i>W</i>	Width tolerance	Length <i>L</i>	Length tolerance
Sheet-fed lithographic offset	Last digit 0 or 5	$W < 1\,500$ : ±1,0	Last digit 0 or 5	$L < 1\,500$ : ±1,0
		$W \geq 1\,500$ : ±1,5		$L \geq 1\,500$ : ±1,5
Web lithographic offset	Last digit 0 or 5	$W < 1\,500$ : ±0,8	Last digit 0, 2, 4, 6, or 8	$L < 1\,500$ : ±0,8
		$W \geq 1\,500$ : ±1,5		$L \geq 1\,500$ : ±1,5

NOTE Except where otherwise specified by the plate manufacturer, plates for web offset printing have the machine direction parallel to the length.

**Table 2 — Plate thickness**

Dimensions in millimetres

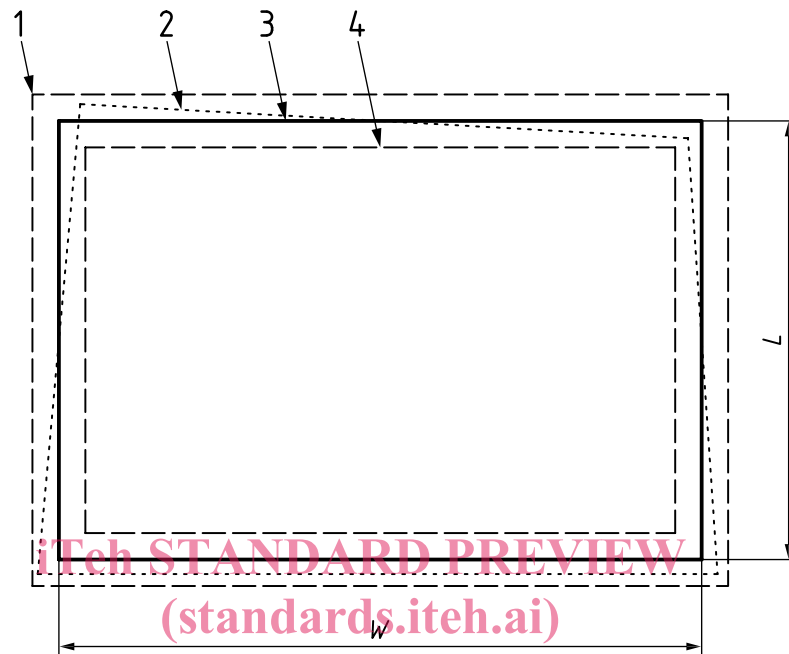
Preferred thickness	Tolerance
0,100	±0,010
0,120	
0,145	
0,190	
0,230 <sup>a</sup>	
0,270 <sup>b</sup>	
0,280 <sup>c</sup>	
0,375	±0,015
0,480	

<sup>a</sup> Plates of this thickness are commonly referred to as “class 0,24 mm plates” in Japan.  
<sup>b</sup> Plates of this thickness are commonly used in China.  
<sup>c</sup> Plates of this thickness are commonly referred to as “class 0,3 mm plates”.



### 4.3 Rectangularity

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 the maximum and minimum allowed size (dashed lines) based on the tolerances of [Table 1](#). 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](#).



#### Key

- 1 outer tolerance contour, dashed
- 2 actual plate contour, dotted
- 3 nominal plate contour, solid
- 4 inner tolerance contour, dashed
- $L$  length
- $W$  width

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**Figure 1 — Plate contour with tolerance rectangles**

### 4.4 Edge waviness for CtP plates

The plate is placed coated side up on a measurement table, such as a polished stone plate, whose upper surface conforms to a horizontal plane to within  $\pm 0,5$  mm. Plate edges with a length of less than 1 200 mm shall have a maximum wave height of 3,0 mm and should have a maximum wave height of 1,5 mm and plate edges with a length of more than 1 200 mm shall have a maximum wave height of 3,0 mm and should have a maximum wave height of 2,5 mm.

NOTE Measurement procedures are given in [Annex A](#).

The edge waviness of non-CTP plates should also meet the requirements of [4.4](#).

### 4.5 Cutting burrs for CtP plates

Cutting burrs shall not protrude more than 45  $\mu\text{m}$  and should not protrude more than 30  $\mu\text{m}$  on each side. Burrs shall be measured on each side and edge of the plate.

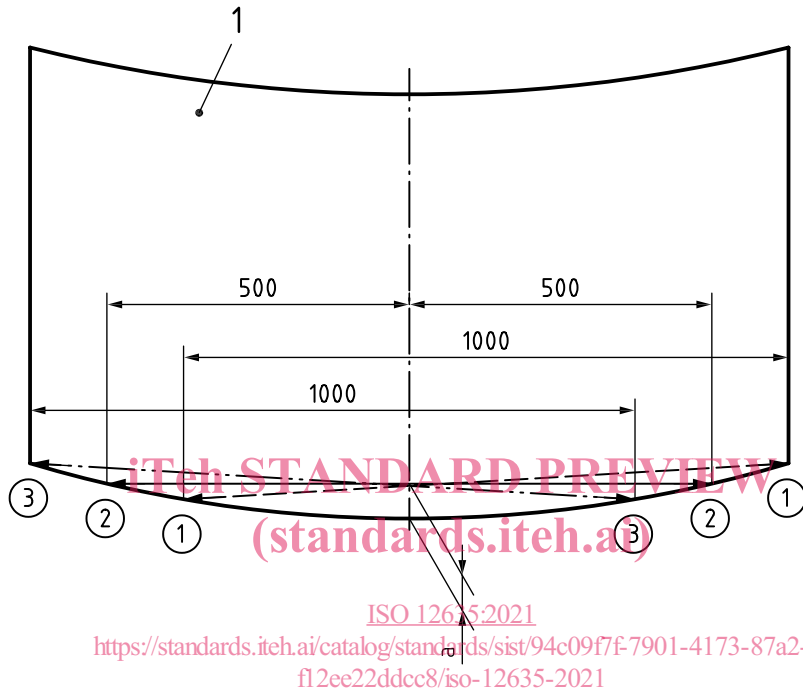
NOTE Measurement procedures are given in [Annex B](#).

Non-CtP plates should also meet the requirements of 4.5.

### 4.6 Plate edge straightness for CtP plates

The plate edge parallel to the cylinder axis (clamping edge) should not deviate from a straight line by more than 200 µm in an interval of 1 000 mm. Three measurements are taken, one from the left corner of the plate, one from the right corner and one ±500 mm around the centre of the edge. In case of plate widths of less than 1 000 mm, only one measurement is taken between the plate corners.

Dimensions in millimetres



**Key**

- 1 plate
- <sup>a</sup> Maximum deviation of 200 µm.

**Figure 2 — Plate edge straightness**

The plate edge shall not be damaged in any way.

NOTE Measurement procedures are given in Annex C.

## Annex A (informative)

### Test method for edge waviness

#### A.1 Apparatus

**A.1.1 Rectangular metal or stone table**, with less than 0,5 mm planarity deviation of size that exceeds that of the largest plate to be evaluated.

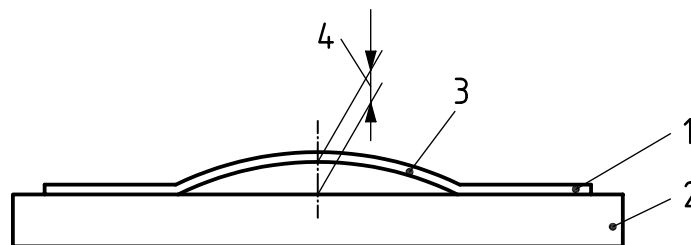
**A.1.2 Taper gauge**, with a thickness range from 0,5 mm to 3,5 mm or height measurement apparatus according to [B.1](#) or [B.2](#).

#### A.2 Procedure

**A.2.1** Place the entire plate on the table ([A.1.1](#)), coated side up.

**A.2.2** Determine the height of the lowest parts of the plate surface above the table surface at points where the plate is in close contact with the table surface.

**A.2.3** Determine the difference of the heights of the most prominent bulges or waves (see [Figure A.1](#)) and the height determined in [A.2.2](#). Alternatively, for the most prominent bulges or waves, use a taper gauge ([A.1.2](#)) to determine the width of the gap between the table and the lower plate surfaces, see [Figure A.2](#).



#### Key

- 1 plate
- 2 measurement table
- 3 bulge or wave
- 4 height of bulge or wave

**Figure A.1 — Illustration of a bulge or wave**