

# SVENSK STANDARD

## SS-ISO 12635:2009

Fastställt/Approved: 2009-03-09

Publicerad/Published: 2009-0 -07

Utgåva/Edition: 1

Språk/Language: engelska/English

ICS: 37.100.01; 37.100.10

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### **Grafisk teknik – Plåtar för offsettryck – Dimensioner (ISO 12635:2008, IDT)**

### **Graphic technology – Plates for offset printing – Dimensions (ISO 12635:2008, IDT)**

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The International Standard ISO 12635:2008 has the status of a Swedish Standard. This document contains the official English version of ISO 12635:2008.

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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

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

This second edition cancels and replaces the first edition (ISO 12635:1996). It has been extensively revised in all sections; requirements for perforations and designations have been deleted.

## Introduction

This International Standard stipulates dimensional properties of printing plates for offset printing. While not all present plate dimensions will conform to this International Standard, 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, the requirements for perforations and designations have been deleted. According to recent developments in dimensions of printing plates, especially within the thickness dimension, new thickness categories have been implemented. Due to the increasing adoption of CtP, additional attributes have been introduced to be applied to plates with these new devices.

# Graphic technology — Plates for offset printing — Dimensions

## 1 Scope

This International Standard 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 Terms and definitions

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

### 2.1

#### **cutting burr**

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

### 2.2

#### **plate width**

*W*

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

### 2.3

#### **plate length**

*L*

dimension of a printing plate in the direction perpendicular to the cylinder axis (clamping edge)

### 2.4

#### **plate thickness**

*s*

caliper of a coated plate

### 2.5

#### **edge waviness**

degree to which a plate edge conforms to a measurement plane

### 2.6

#### **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

### 2.7

#### **unprocessed plates**

plates as received from the manufacturer

### 3 Requirements

#### 3.1 Measurement conditions

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

#### 3.2 Plate dimensions

Plates for sheet-fed lithographic use may be of any length, *L*, or width, *W*, but shall be specified in increments 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 increments of 5 mm where the last whole number digit is 0 or 5 and their length specified in increments of 2 mm where the last whole number digit is 0, 2, 4, 6 or 8. These requirements are summarized in Table 1.

The tolerances for length and width shall be as shown in Table 1, the measurement conditions of 3.1 shall apply.

The preferred thicknesses and their tolerances shall be as shown in Table 2.

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

Dimensions in millimetres

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

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**

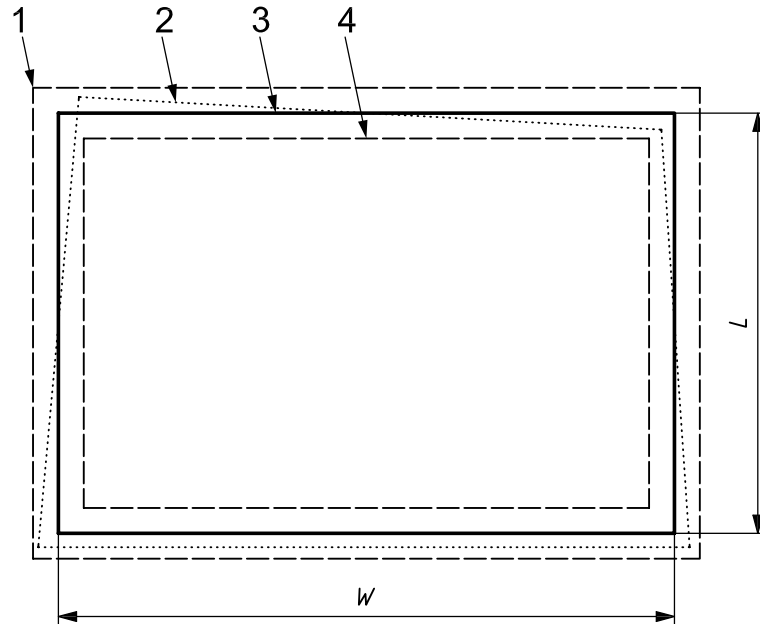
Dimensions in millimetres

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>	± 0,015
0,375	
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".	



### 3.3 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

Figure 1 — Plate contour with tolerance rectangles

### 3.4 Edge waviness for CtP plates

The plate is placed coated side up on a measurement table, e.g. 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 1 Measurement procedures are given in Annex A.

NOTE 2 The edge waviness of non-CTP plates should also meet the requirements of 3.4.

### 3.5 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.

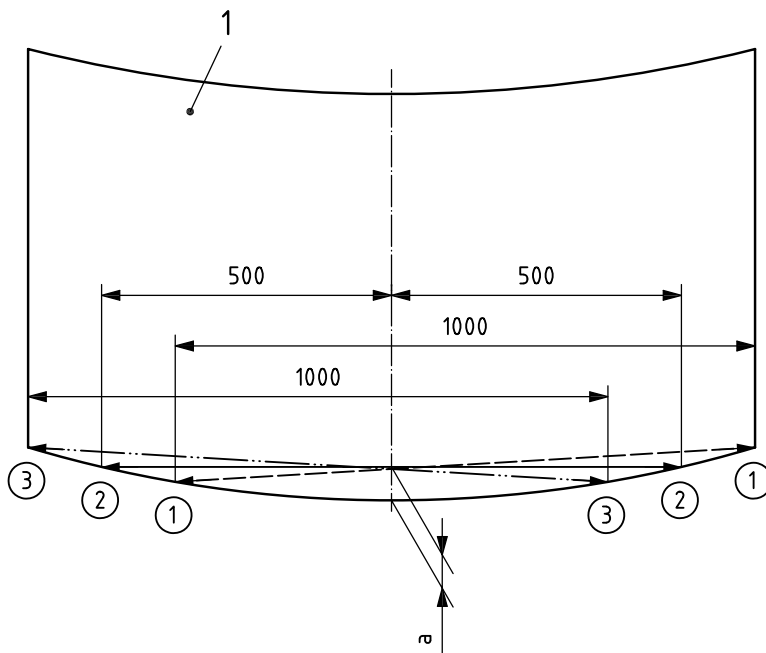
NOTE 1 Measurement procedures are given in Annex B.

NOTE 2 Non-CtP plates should also meet the requirements of 3.5.

### 3.6 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  $\mu\text{m}$  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  $\pm 500$  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  $\mu\text{m}$ .

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.

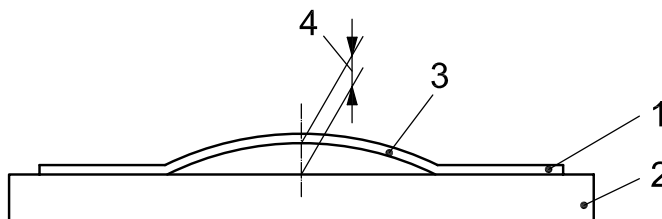
**A.1.2 Taper gauge**, with a thickness range from 0,5 mm to 3,5 mm or height measurement apparatus according to B.1 or B.2.

#### 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