INTERNATIONAL STANDARD

**ISO
9178-1**

ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION
ORGANISATION INTERNATIONALE DE NORMALISATION
МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ

Templates for lettering and symbols —

Part 1 :
General principles and identification markings

Gabarits de dessin pour l'écriture et les symboles —

Partie 1 : Principes généraux et marquages d'identification

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 approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9178-1 was prepared by Technical Committee ISO/TC 10, *Technical drawings.*

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Templates for lettering and symbols —

Part 1:
General principles and identification markings

0 Introduction

ISO 9178 has been drawn up to provide a universal means of communication between the various interests involved in technical drawing.

Requirements in industry vary considerably; in recognition of this fact, ISO 9178 comprises several parts:

Part 1: General principles and identification markings.

Part 2: Slot widths for wood-cased pencils, clutch pencils and fine-lead pencils.

Part 3: Slot widths for technical pens with tubular tips in accordance with ISO 9175-1.

1 Scope and field of application

ISO 9178 deals with lettering and draughting templates used to produce technical drawings.

This part of ISO 9178 specifies the form and structure of these templates independent of the material and manufacturing method so that the appropriate lettering and/or draughting instrument can be guided precisely.

It establishes identification marks, which indicate to the user the correct writing instrument(s) to be used with the template.

This part of ISO 9178 is not applicable in the case of technical drawings prepared by means of plotters.

2 References

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

ISO 9175-1, *Tubular tips for hand-held technical pens using India ink on tracing paper — Part 1: Definitions, dimensions, designation and marking.*

ISO 9178-2, *Templates for lettering and symbols — Part 2: Slot widths for wood-cased pencils, clutch pencils and fine-lead pencils.*

ISO 9178-3, *Templates for lettering and symbols — Part 3: Slot widths for technical pens with tubular tips in accordance with ISO 9175-1.*

3 Definitions

For the purposes of this part of ISO 9178, the following definitions apply.

3.1 template: Instrument designed to enable the direct transfer of set contours onto a surface.

NOTE — In ISO 9178 a template is understood to be a draughting aid. Qualifying terms are used to describe distinguishing features of templates, e.g. "lettering template" and "symbol (draughting) template".

3.1.1 lettering template: Template for the accurate transfer of characters.

3.1.2 symbol (draughting) template: Template for the accurate transfer of geometric figures (e.g. circles, squares) and/or graphical symbols as required for technical drawing.

4 Dimensions

The slot widths, the bevelled or perpendicular edges and the thickness of the template sheet are dependent on which lettering or draughting instruments are to be used.

It should be possible to guide these instruments easily and accurately in the slots without obstruction so that the best possible transfer of, for example, a graphical symbol is guaranteed.

The usual lettering/draughting instruments for technical drawing, i.e.

   a) for pencil drawings: pencils, clutch pencils, fine-lead pencils,

b) for ink drawings: technical drawing pens, drawing ink funnel pens,

make differing demands on the template. The dimensions of the slots of templates for the different writing instruments are specified in ISO 9178-2 and ISO 9178-3.

5 Template marking

Templates shall be marked with the following indication:

a) in the case of templates for lettering, reference to the lettering designation (i.e. type of characters and type of lettering);

b) the symbol of the lettering/draughting instrument to be used;

c) the line thickness or pencil size;

d) in the case of templates for lettering, the nominal size of lettering;

e) in the case of templates for symbols, the nominal size of geometric figure, if required.

5.1 Symbol

The symbol of the lettering/draughting instrument to be used shall be marked on the template as shown in the table.

5.2 Line thickness

The line thickness of the lettering/draughting instrument to be used shall be marked on the template.

5.2.1 Fine-lead mechanical pencils

The nominal dimension of the fine-lead mechanical pencil, as specified in ISO 9178-2, shall be marked on the template.

5.2.2 Technical pens

The line thickness, and the corresponding colour coding, as specified in ISO 9178-3, shall be marked on the template.

Table — Symbol for lettering/draughting instrument

Symbol	Lettering/draughting instrument
	Tubular technical pen with stepped tube tip (see ISO 9175-1)
	Tubular technical pen with tube tip not stepped
	Fine-lead mechanical pencil, tubular guided
	Fine-lead mechanical pencil, lead guided
	Wood-cased pencil, clutch pencil
	Felt-tip/fibre-tip pen, tubular guided
	Felt-tip/fibre-tip pen, fibre-tip guided
	Ball-point pen

5.3 Nominal size

The nominal size shall be marked on templates for lettering and may be marked on templates for symbols.

The nominal size of lettering [lettering height, h (see ISO 3098-1)] is determined by the length of the vertical segment drawn between the outer limits of the top and bottom lines of a capital letter as shown in figure 1.

The nominal size for basic geometric figures (e.g. circles, squares, triangles) refers to a specific measurement, i.e. the distance between the middle points of the lines as shown in figures 2 and 3.

NOTE — The size of the slots in the template is calculated taking into consideration the lettering or draughting instrument to be used.

The nominal sizes of graphical symbols are laid down in other International Standards.
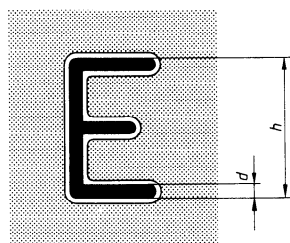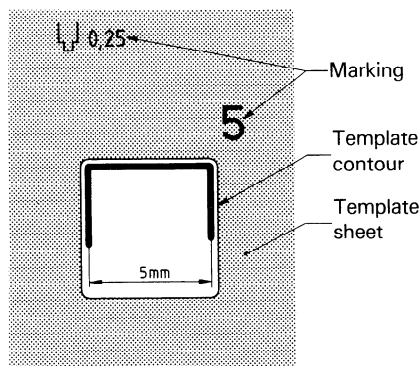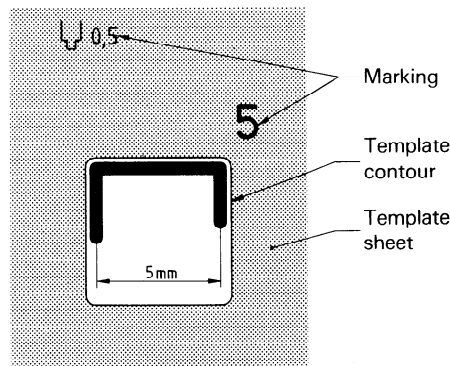

Figure 1

Figure 2

Figure 3

5.4 Examples of template identification markings

5.4.1 Example of an identification mark for a lettering template for lettering in accordance with ISO 3098-1*, type B (designated ''B''), vertical (designated ''v''), for tubular technical pens (see ISO 9175-1) with stepped tube tip, of 0,25 mm line thickness, for a lettering height of 2,5 mm:

ISO 3098-1 Bv ⌐⌐ 0,25 × 2,5

5.4.2 Example of an identification mark for a symbol template for a fine-lead mechanical pencil, tubular guided, of 0,35 mm line thickness:

-⊣⊢ 0,35

6 Materials

The template sheet should be made of suitable transparent plastic (scratch resistant, dimensionally stable, non-brittle, etc.) of the manufacturer's choice.

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*   Lettering in accordance with ISO 3098-2, ISO 3098-3 or ISO 3098-4 shall be indicated in the same way.

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