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## Templates for lettering and symbols —

### Part 2 :

Slot widths for wood-cased pencils, clutch pencils and  
fine-lead pencils

STANDARD PREVIEW

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*Gabarits de dessin pour l'écriture et les symboles —*

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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 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 9178-2 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.

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# Templates for lettering and symbols —

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

### 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

This part of ISO 9178 specifies slot widths for templates so that pencils can be guided correctly. It applies to lettering and draughting templates used to produce drawings by pencil.

### 2 References

ISO 9177-1, *Mechanical pencils — Part 1: Classification, dimensions, performance requirements and testing.*

ISO 9178-1, *Templates for lettering and symbols — Part 1: General principles and identification markings.*

### 3 Definitions

For the purposes of this part of ISO 9178, the definitions given in ISO 9178-1 apply.

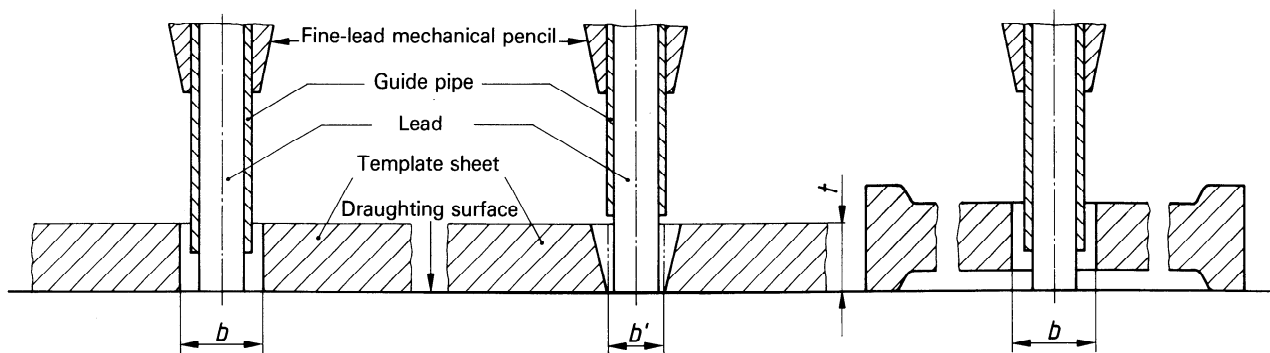
### 4 General

As a rule in pencil drawing with templates, either the template lies flat on the draughting surface [see figures a) and b)] or there may be a gap between the draughting surface and the template sheet [see figure c)].

The template sheet thickness,  $t$ , should be chosen to suit the pencils to be used and to provide adequate rigidity during use.

The angle of the template edge is optional; it may be either perpendicular or slightly bevelled.

NOTE — For reasons of simplification, the figure shows only one shape in each case. It should be understood, however, that a template may be shaped slightly bevelled or perpendicular (cylindrical) without prejudice.



a) Version A: Pipe-guided

b) Version B: Lead-guided

c) Version C: Pipe-guided with gap between draughting surface and template sheet

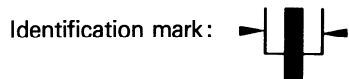
Figure

### 5 Slot widths

According to the type of pencil used, slot widths shall be as specified in the table.

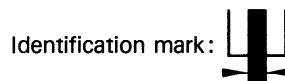
#### 5.1 Guide pipe slots (versions A and C)

Guide pipe slot widths *b* for fine-lead pencils shall be checked with respect to the outer diameter of the guide pipe (see ISO 9177-1).



#### 5.2 Lead-guide slots (version B)

Lead-guide slot widths *b'* for fine-lead pencils in accordance with ISO 9177-1 shall be matched to the diameter of the fine lead.



### 6 Marking

For the identification of templates, see ISO 9178-1.

Table — Slot widths

Dimensions in millimetres

Type of pencil	Diameter of applicable mechanical pencil		Slot widths	
	Lead	Tube	<i>b'</i>	<i>b</i>
			(version B)	(versions A and C)
			Bevelled or perpendicular	Bevelled or perpendicular
Wood-cased pencil	—	—	1 <sup>+0,5</sup> <sub>0</sub>	—
Clutch pencil	—	—	0,7 <sup>+0,2</sup> <sub>0</sub>	—
Fine-lead mechanical pencil 0,35	0,35 <sup>+0,04</sup> <sub>+0,02</sub>	0,84 <sup>0</sup> <sub>0,03</sub>	0,44 <sup>+0,15</sup> <sub>0</sub>	0,89 <sup>+0,15</sup> <sub>0</sub>
Fine-lead mechanical pencil 0,5	0,5 <sup>+0,08</sup> <sub>+0,05</sub>	0,95 <sup>0</sup> <sub>0,03</sub>	0,63 <sup>+0,13</sup> <sub>0</sub>	1 <sup>+0,15</sup> <sub>0</sub>
Fine-lead mechanical pencil 0,7	0,7 <sup>+0,03</sup> <sub>-0,01</sub>	1,12 <sup>0</sup> <sub>-0,04</sub>	0,78 <sup>+0,15</sup> <sub>0</sub>	1,17 <sup>+0,15</sup> <sub>0</sub>
Fine-lead mechanical pencil 1	1 <sup>-0,08</sup> <sub>-0,12</sub>	1,3 <sup>0</sup> <sub>-0,04</sub>	0,97 <sup>+0,15</sup> <sub>0</sub>	1,35 <sup>+0,15</sup> <sub>0</sub>

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Descriptors : drawing equipment, letters (symbols), graphic symbols, patterns, dimensions.

Price based on 2 pages