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Mechanical pencils - Part 1: Classification, dimensions, performance requirements and testing

Porte-mine - Partie 1: Classification, dimensions, caractéristiques de fonctionnement et essais

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INTERNATIONAL STANDARD

ISO 9177-1

Second edition
2011-11-15

Mechanical pencils —

Part 1: Classification, dimensions, performance requirements and testing

Porte-mine — Partie 1: Classification, dimensions, caractéristiques de fonctionnement et essais

Reference number
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Foreword

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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 9177-1 was prepared by Technical Committee ISO/TC 10, *Technical product documentation*.

This second edition cancels and replaces the first edition (ISO 9177-1:1989), of which it constitutes a minor revision.

ISO 9177 consists of the following parts, under the general title *Mechanical pencils*:

— *Part 1: Classification, dimensions, performance requirements and testing*

— *Part 2: Black leads — Classification and dimensions*

— *Part 3: Black leads — Bending strengths of HB leads*

Mechanical pencils —

Part 1: Classification, dimensions, performance requirements and testing

1 Scope

This part of ISO 9177 provides a classification for hand-held mechanical pencils used for technical drawings. It specifies dimensions, performance requirements and testing requirements.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 128-20, *Technical drawings — General principles of presentation — Part 20: Basic conventions for lines*

ISO 9177-2, *Mechanical pencils — Part 2: Black leads — Classification and dimensions*

3 Terms and definitions

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

3.1
mechanical pencil
hand-held line-producing tool which holds and feeds out a lead, for technical drawings

4 Classification

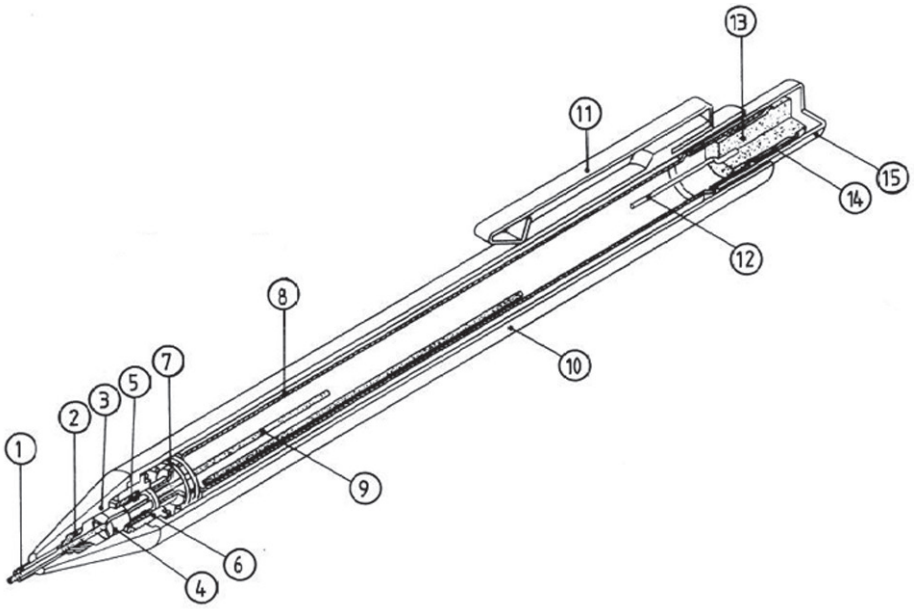
Mechanical pencils shall be classified according to the type of mechanism (see Table 1) and to the nominal diameter (see Table 2). For the classification and dimensions of the leads (diameter and length), see ISO 9177-2.

Table 1 — Classification according to type of mechanism

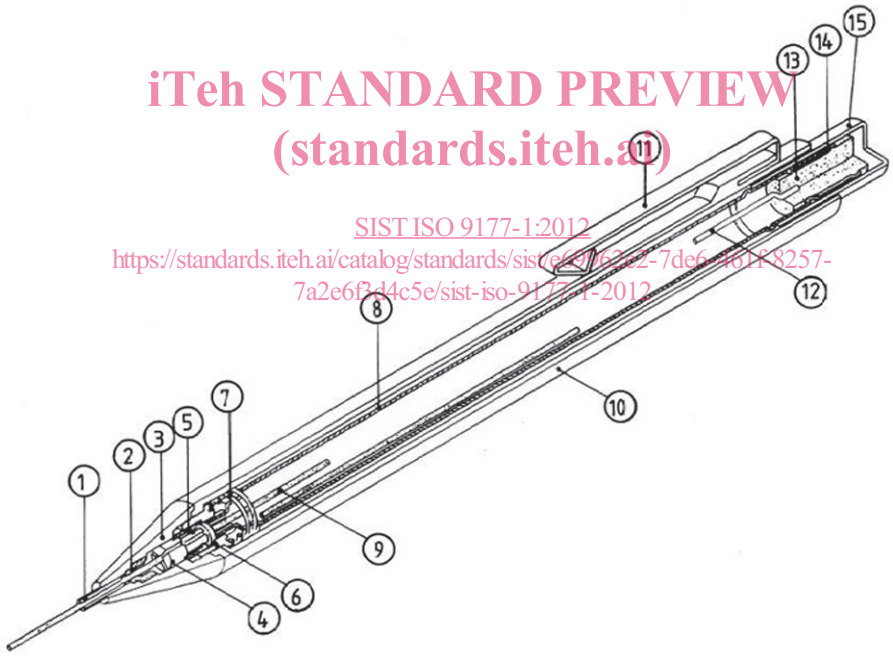
Mechanism	Type classification letter	Description	Relevant figure
Push-type	F[a]	Mechanical pencil in which the lead, housed in a barrel, is fed out by actuating a push mechanism	1
	L[b]		2
Screw-type	S	Mechanical pencil in which the lead, housed in a barrel, is fed out by actuating a propelling screw mechanism	3

[a] Mainly polymer leads having a nominal diameter of 0,35 mm to 1 mm.

[b] Mainly ceramic leads having a nominal diameter of 2 mm (see ISO 9177-2).



a) Lead in working position

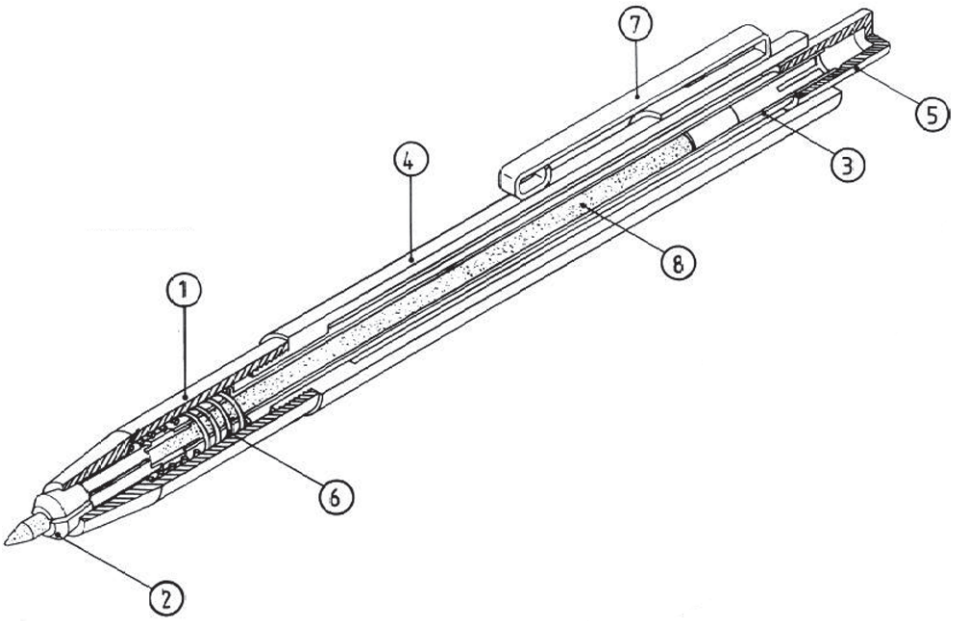


b) Lead in feeding position

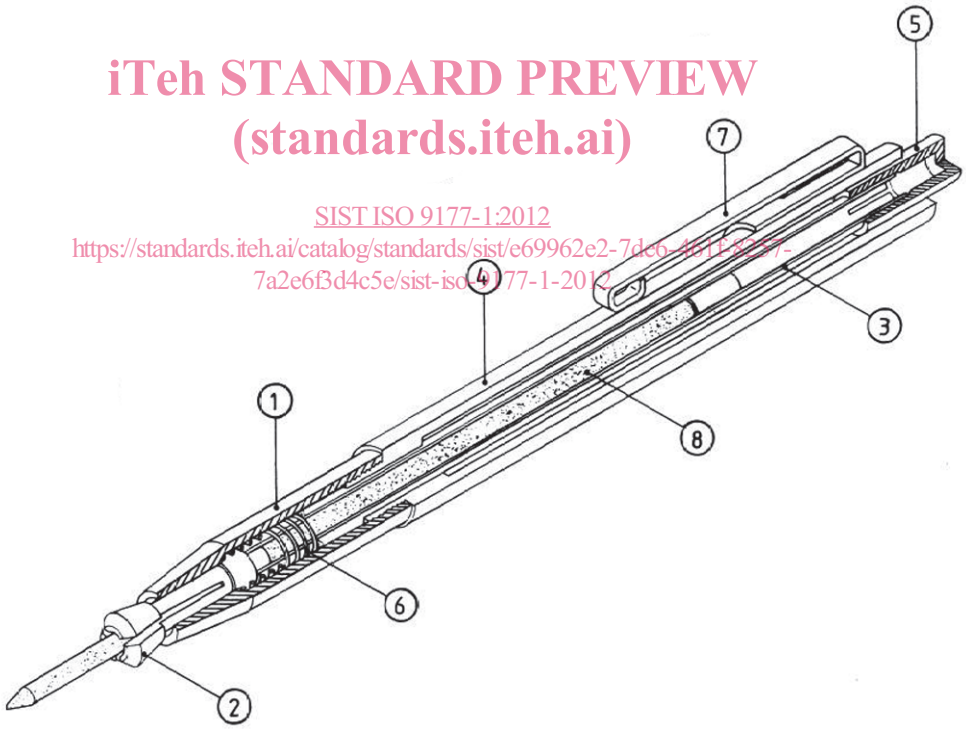
Key

1 guide pipe	6 nipple	11 clip
2 lead retainer	7 spring	12 cleaning pin
3 metal tip	8 lead tube	13 eraser
4 chuck	9 lead	14 eraser ferrule
5 chuck ring	10 barrel	15 push button

Figure 1 — Mechanical pencil of push-type F



a) Lead in working position



b) Lead in feeding position

Key

1 metal tip
2 chuck
3 lead tube
4 barrel
5 push button
6 spring
7 clip
8 lead

Figure 2 — Mechanical pencil of push-type L