

JAPANESE
INDUSTRIAL
STANDARD

Translated and Published by
Japanese Standards Association

JIS S 6013 : 2009

(JWIMA/JSA)

Mechanical pencils

ICS 97.180

Reference number : JIS S 6013 : 2009 (E)

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S 6013 : 2009

Date of Establishment: 1956-05-25

Date of Revision: 2009-07-20

Date of Public Notice in Official Gazette: 2009-07-21

Investigated by: Japanese Industrial Standards Committee

Standards Board

Technical Committee on Consumer Life Products

JIS S 6013 : 2009, First English edition published in 2010-07

Translated and published by: Japanese Standards Association
4-1-24, Akasaka, Minato-ku, Tokyo, 107-8440 JAPAN

In the event of any doubts arising as to the contents,
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Contents

	Page
Introduction	1
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Classification	2
5 Dimensions	7
5.1 Bore size (mechanical pencils of push-type F and screw-type)	7
5.2 Outer diameter and length of guide pipe for draughting	7
6 Quality	7
6.1 Performance	7
6.2 Harmful substances	8
6.3 Safety requirements for cap	8
7 Material and structure	8
8 Test methods	9
8.1 Test conditions	9
8.2 Rule for rounding off of numerical values	9
8.3 Dimensions	9
8.4 Rust preventive durability	9
8.5 Rust preventive corrosion resistance	10
8.6 Operability	11
8.7 Lead holdability	11
8.8 Lead back	11
8.9 Residual length of lead	11
8.10 Lead tip load	12
8.11 Metal clip elasticity	12
8.12 Shock resistance	12
8.13 Durability	13
8.14 Harmful substances	13
9 Inspection method	14
9.1 General	14
9.2 Type inspection	14
9.3 Delivery inspection	14
10 Marking	14
11 Test report	15

Annex JA (informative)	Comparison table between JIS and corresponding International Standard	16
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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Writing Instruments Manufacturers Association (JWIMA)/ Japanese Standards Association (JSA) with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently, **JIS S 6013:2002** is replaced with this Standard.

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Mechanical pencils

Introduction

This Japanese Industrial Standard has been prepared based on the first edition of **ISO 9177-1** published in 1989 with some modifications of the technical contents to conform to the usage situation in Japan.

The portions given sidelines or dotted underlines are the matters in which the contents of the original International Standard have been modified. A list of modifications with the explanations is given in Annex JA.

1 Scope

This Standard specifies the classification, dimensions, quality and test methods for the hand-held mechanical pencils used for writing and draughting. However, those attached to the machinery instruments such as a plotter are excluded.

NOTE : The International Standard corresponding to this Standard is as follows.

ISO 9177-1 : 1989 *Mechanical pencils — Part 1 : Classification, dimensions, performance requirements and testing* (MOD)

In addition, symbols which denote the degree of correspondence in the contents between the relevant International Standard and **JIS** are IDT (identical), MOD (modified), and NEQ (not equivalent) according to **ISO/IEC Guide 21**.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The most recent editions of the standards (including amendments) indicated below shall be applied.

JIS H 8617	<i>Electroplated coatings of nickel and chromium</i>
JIS K 0050	<i>General rules for chemical analysis</i>
JIS K 0116	<i>General rules for atomic emission spectrometry</i>
JIS K 0121	<i>General rules for atomic absorption spectrometry</i>
JIS K 8180	<i>Hydrochloric acid (Regent)</i>
JIS R 6111	<i>Artificial abrasives</i>
JIS S 6005	<i>Leads for mechanical pencils</i>

NOTE : Corresponding International Standard : **ISO 9177-2** : 1989 *Mechanical pencils — Part 2 : Black leads — Classification and dimensions* and **ISO**

9177-3 : 1994 *Mechanical pencils — Part 3 : Black leads — Bending strengths of HB leads* (Overall evaluation : MOD)

- | | |
|------------|--|
| JIS S 6060 | <i>Caps for writing and marking instruments intended for use by children up to 14 years of age — Safety requirements</i> |
| JIS Z 8401 | <i>Guide to the rounding of numbers</i> |
| JIS Z 8703 | <i>Standard atmospheric conditions for testing</i> |

3 Terms and definitions

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

3.1 mechanical pencil

writing instrument which holds and feeds out a lead for writing and/or draughting

3.2 marking diameter of mechanical pencil

marking diameter specified in JIS S 6005 corresponding to the marking diameter of lead used for the mechanical pencil

3.3 residual length of lead

length of the lead remaining in the metal tip part when coming to a state where writing is impossible as a result of dislocation of the lead from the chuck by pushing

4 Classification

Mechanical pencils shall be classified according to the application, the type of mechanism (see table 1) and the marking diameter (see table 2). The classification, quality, dimensions (diameter and length) and testing methods of the lead for mechanical pencils shall be in accordance with JIS S 6005.

- a) **Type according to application** The types according to application shall be as follows:
- 1) For general use
 - 2) For draughting
- b) **Type according to mechanism** The types according to mechanism shall be in accordance with table 1.

Table 1 Type according to mechanism

Mechanism	Type	Description	Relevant figure
Push-type	F	Mechanical pencil in which the lead housed in a barrel is fed out by a specified length by actuating a push mechanism	Figure 1
	L	Mechanical pencil in which the lead housed in a barrel is fed out by the weight of its own by actuating a push mechanism	Figure 2
Screw-type	S	Mechanical pencil in which the lead housed in a barrel is fed out by actuating a propelling screw mechanism	Figure 3

- c) **Type according to marking diameter** The type according to marking diameter shall be in accordance with table 2.

Table 2 Type according to marking diameter

Unit : mm

Marking diameter of mechanical pencil	Lead diameter according to JIS S 6005 (informative)			Line thickness according to ISO 128-20 (informative)
	Marking diameter	Nominal diameter	Actual dimension	
—	—	—	—	0.25 ^{a)}
0.3	0.3	0.35	0.37 to 0.39	0.35
0.5	0.5	0.5	0.55 to 0.58	0.5
0.7	0.7	0.7	0.69 to 0.73	0.7
0.9	0.9	1	0.88 to 0.92	1
—	—	—	—	1.4 ^{a)}
2	2	2	1.95 to 2.05	2
Note ^{a)} At present, the corresponding leads are not available.				

- | | |
|-----------------|-------------------------------------|
| ① Guide pipe | ⑨ Lead |
| ② Lead retainer | ⑩ Barrel |
| ③ Metal tip | ⑪ Clip |
| ④ Chuck | ⑫ Cleaning pin |
| ⑤ Chuck ring | ⑬ Rubber or plastics eraser |
| ⑥ Nipple | ⑭ Rubber or plastics eraser ferrule |
| ⑦ Spring | ⑮ Push button |
| ⑧ Lead tube | |

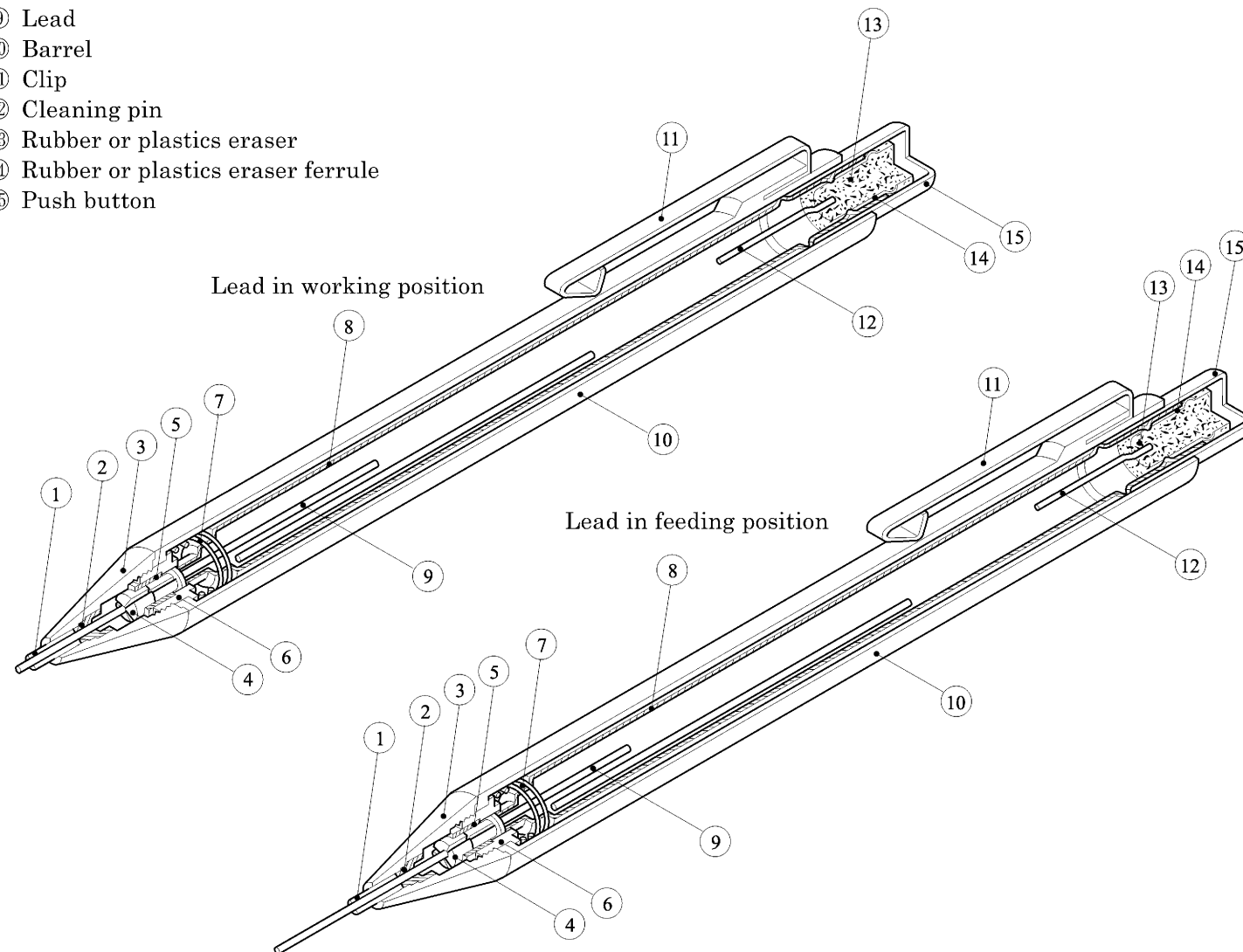


Figure 1 Mechanical pencil of push-type F