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JIS S 6025 : 2002 (TWIMCTA/JSA)

Fountain pens and nibs

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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 the Tokyo Writing Industrial Manufacturers Cooperative Association (TWIMCTA)/the 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 Consequently **JIS S 6025 : 1994** is revised and **JIS S 6616 : 1994** is withdrawn, and both are replaced with this Standard.

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Fountain pens and nibs

Introduction Japanese Industrial Standards for fountain pens and nibs for fountain pen were separately developed in 1949 as **JIS S 6616** *Fountain pen* and in 1961 as **JIS S 6025** *Pen for fountain pen* for the purpose of improving the quality and protecting the users.

The revision on this occasion is to make overall review as to whether the contents of the standards are in compliance with the actual circumstances in consideration of the fact that the fountain pen and the nibs make an inseparable couple and of the user's benefits.

1 Scope This Japanese Industrial Standard specifies the nib to which pen point is deposited (hereafter referred to as "nib") and the fountain pen having such a mechanism that the ink retained in the barrel is transferred to the nib automatically (hereafter referred to as "fountain pen").

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

JIS G 4305 *Cold rolled stainless steel plates, sheets and strip*

JIS H 8617 *Electroplated coatings of nickel and chromium*

JIS K 0050 *General rules for chemical analysis*

JIS K 0116 *General rules for atomic emission spectrometry*

JIS K 0121 *General rules for atomic absorption spectrochemical analysis*

JIS K 8180 *Hydrochloric acid*

JIS M 8115 *Methods for determination of gold and silver in dores*

JIS R 6111 *Artificial abrasives*

JIS Z 8401 *Guide to the rounding of numbers*

JIS Z 8703 *Standard atmospheric conditions for testing*

3 Definitions For the purposes of this Standard the following definitions apply:

- a) **pen point** Alloys containing a platinum group metal such as iridosmine and having abrasion-resistant property that are deposited at the tip of pen.
- b) **slit** The part made by cutting the nib from the end to the middle.
- c) **pen core** The part playing a role to draw out the ink up to the tip of the pen by means of the action of capillary tube and contrarily introduce the air of the same volume as that of drawn-out-ink into the shaft from the outside.
- d) **ball blow hole** Blow hole produced in the pen point.

4 Name of each part The name of each part of fountain pen and nib is as shown in Attached Figs. 1 and 2.

5 Classification

5.1 Fountain pens The fountain pens shall be classified as shown in Table 1 according to the mechanisms for supplying ink.

Table 1 Classification of fountain pens

Classification	Mechanism
Suction type	Type of supplying ink into the tank built in the fountain pen.
Cartridge type	Type of exchanging the ink tank.

5.2 Nibs The nibs shall be classified as shown in Table 2 according to the materials.

Table 2 Classification of nibs

Classification	Materials
Class 1	Gold 14 karats or finer and pen point is deposited on its tip.
Class 2	Acid-resistant alloy of SUS316, SUS316L, SUS316J1 or SUS316J1L specified in JIS G 4305 or those equivalent or superior thereto in performance, or those treated by plating. The pen point is deposited on its tip.

6 Quality

6.1 Appearance The appearance shall be as follows:

- Fountain pen** The appearance of fountain pen shall be free from defects spoiling the appearance such as flaw and bending, when tested in accordance with **9.2.1**.
- Nib** The appearance of nib shall be free from defects spoiling the appearance such as flaw and bending, and the slit shall be approximately uniform, when tested in accordance with **9.2.2**. In addition, the pen point shall be free from such defects as ball blow hole and sharp angle.

6.2 Performance The performance of fountain pen and nib shall conform to the requirements given in Table 3, when tested in accordance with **9**.

Table 3 Performance

Item	Performance	Test subclause
Rust preventive endurance ⁽¹⁾	The substrate shall not appear.	9.3
Rust preventive corrosion resistance ⁽²⁾	There shall be no blue spot expressing the corrosion.	9.4
Amount of ink	0.4 ml min.	9.5
Writing property	There shall be no run out nor poor spread of ink.	9.6
Writing start performance after standing	It shall start writing within a distance of 10 cm.	9.7
Dripping down	There shall be no dripping down.	9.8
Clip elastic force	There shall be no clearance.	9.9
Impact resistance	There shall be no fracture detrimental to practical use. Further, there shall be no run out nor poor spread of ink.	9.10
Engaging force	2.45 N min.	9.11
Aperture of pen point	0.03 mm max.	9.12
Abrasion resistance of nib	1.2 max.	9.13
Retainability of pen point	It shall not easily come off.	9.13
Corrosion resistance of nib ⁽³⁾	Mass loss shall be 0.1 % or under and change of luster caused by corrosion shall not be remarkable.	9.14
Purity of gold used for nib ⁽⁴⁾	Tolerance on the purity corresponding to the quality of gold to be marked shall be within 3/1 000.	9.15

Notes (1) This requirement does not apply to precious metal (e.g. gold and silver) and corrosion resistant alloy (e.g. stainless steel).

(2) This requirement applies only to iron and steel base metal treated by plating and does not apply to those to which rust prevention is given or to the part to which marking process is given.

(3) This requirement applies to those for which the materials, of class 2, other than SUS316, SUS316L, SUS316J1 and SUS316J1L specified in **JIS G 4305** are used.

(4) This requirement applies to class 1.

6.3 Harmful substances The harmful substances included in the paint applied to the body of fountain pen (including the cap) and included in the ink used for the fountain pen shall be, when tested in accordance with **9.16**, not more than the following amount: 60 mg/kg in antimony, 25 mg/kg in arsenic, 1 000 mg/kg in barium, 75 mg/kg in cadmium, 60 mg/kg in chrome, 90 mg/kg in lead, 60 mg/kg in mercury and 500 mg/kg in selenium.

7 Construction The construction shall conform to the following requirements:

a) The nib and pen core shall be retained sufficiently and correctly touch each other.