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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 32017-2019

Roller ball pens and refills

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 32017-2015 "Water-based ink ballpoint pen and refill". This standard is compared with GB/T 32017-2015, the main

The technical changes are as follows.

- Revised the requirements for lightfastness (see Table 3, Table 3 of the.2015 edition);
- Removed the requirements and test methods for the elasticity of metal pen holders (Table 4, 7.18 of the.2015 edition);
- Revised the writing angle (see 6.1, 6.1 of the.2015 edition);
- Increased the specification of writing paper (see 6.2, 6.2 of.2015 edition);
- Removed the provisions of the sample (6.3 of the.2015 version);
- Revised environmental conditions (see 6.3, 6.4 of.2015 edition);
- Modified the test method for initial writing performance (see 7.1, 7.1 of.2015 edition);
- Revised the test method for drying (see 7.4, 7.4 of.2015 edition);
- Revised the test method for intermittent writing (see 7.8, 7.8 of.2015 edition);
- Modified the test method for leak resistance (see 7.10, 7.10 of the.2015 edition);
- Modified the test method for the difference between the aperture of the pen head and the outer diameter of the pen tip (see 7.17, 7.17 of the.2015 edition).

This standard uses the redrafting method to modify the use of ISO 14145-1.2017 "Water-based ink ballpoint pen and refills Part 1. General book

Written and ISO 14145-2.1998 "Water-based ink ballpoint pens and refills - Part 2.

Document writing".

Compared with ISO 14145-1.2017 and ISO 14145-2.1998, this standard has more adjustments in structure. Appendix A lists this standard.

A list of changes to the numbering of ISO 14145-1.2017 and ISO 14145-2.1998.

There are technical differences between this standard and ISO 14145-1.2017 and ISO 14145-2.1998. Appendix B gives the corresponding technology.

A list of sexual differences and their causes.

This standard also made the following editorial changes.

--- Integrate ISO 14145-1.2017 and ISO 14145-2.1998 into one standard, change the standard name to "water-based ink ballpoint pen

And refills.

1 Scope

This standard specifies the terms and definitions, classification, requirements, test methods, inspection rules, signs, packaging, and instructions for aqueous ink ballpoint pens and refills.

Transportation, storage.

This standard applies to general writing and document writing water-based ink ballpoint pens (replacement and non-replaceable core) and refills (hereinafter referred to as "water"

Spherical ball pen" and "refill").

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 191 packaging storage and transportation pictorial signs (GB/T 191-2008, ISO 780.1997, MOD)

GB/T 2828.1. Sampling procedures for sampling by sampling - Part 1 . Batch-to-batch sampling plan, searched by AQL

(GB/T 2828.1-2012, ISO 2859-1..1999, IDT)

GB/T 12654-2008 writing paper

GB 21027 General requirements for the safety of student supplies

QB/T 2309-2010 eraser

ISO 12756 Drawing and Writing Instrument Ink Ballpoint Pen and Water-based Ballpoint Pen Vocabulary (Drawing and writing instruments-Ballpoint pens and rollerball pens-Vocabulary)

3 Terms and definitions

The terms and definitions defined by ISO 12756 apply to this document. For ease of use, the following repeats one of ISO 12756

These terms and definitions.

The ISO maintains a terminology database for standardized use at the following URL.

3.1

Water-based ink ballpoint pen rollerball pen

In addition to the neutral ink ballpoint pen, a ballpoint pen with an ink having a dynamic viscosity of less than 20 mPa.s (20 cP) at (23 +/- 2) °C was used.

4.1 Tip classification

The tip of the pen is classified according to the diameter of the ball as shown in Table 1.