
**Drawing and writing instruments —
Ball point pens and roller ball pens —
Vocabulary**

*Instruments de dessin et d'écriture — Stylos à pointe bille et stylos
rollers — Vocabulaire*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 10, *Technical product documentation*.

This second edition cancels and replaces the first edition (ISO 12756:1998), of which it constitutes a minor revision in [Clause 2](#), Bibliography, [3.1.3](#), [3.1.4](#), [3.1.7](#) and [3.2.2.1](#).

It also incorporates the Amendment ISO 12756:1998/Amd 1:2011.

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Drawing and writing instruments — Ball point pens and roller ball pens — Vocabulary

1 Scope

This document defines terms related to ball point pens and roller ball pens.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 General

3.1.1

pen

writing instrument equipped with a feeding system which deposits a writing fluid on a surface

Note 1 to entry: It is available in a refillable or non-refillable (disposable) form.

3.1.2

ball pen

pen (3.1.1) with a writing fluid feeding system based on a rotatable ball writing tip integrated either within the pen itself or within a *refill* (3.1.6)

3.1.3

ball point pen

ball pen (3.1.2) which deposits a writing fluid with a dynamic viscosity greater than 1 000 mPa·s (1 000 cP) at 23 °C ± 2 °C, except gel ink ball pens

Note 1 to entry: A gel ink ball pen is defined in ISO 27668-1 as a ball pen which deposits a writing fluid whose viscosity decreases markedly with rotation of the ball when writing and increases back to or near to the original viscosity in non-movement, i.e. when not writing.

3.1.4

roller ball pen

ball pen (3.1.2) which deposits a writing fluid with a dynamic viscosity of less than 20 mPa·s (20 cP) at 23 °C ± 2 °C, except gel ink ball pens

3.1.5

cartridge

disposable container for the writing fluid, which is detached when empty and replaced by a (new) full container

Note 1 to entry: See also ISO 9175-1.

3.1.6

refill

identifiable assembly of components, usually removable from a complete *pen* (3.1.1), with which it is possible to write independently of the complete pen, but which lacks either characteristics or components which would make it suitable for use as a pen

3.1.7

write test machine

device for mechanically generating a line with a *pen* (3.1.1) or *refill* (3.1.6) on a writing surface and which can be adjusted for

- a writing angle between 60° and 90°,
- writing load from 0,1 N to 5 N,
- writing speed between 1 m/min and 10 m/min, and
- line pitch between 1 mm and 5 mm,

with a continuous spiral line (100 mm circumference) and a fixed or rotating motion along the longitudinal axis of the pen or refill; the writing surface is to be placed on a polished stainless steel plate

3.2 Test parameters

3.2.1 Resistance to chemical influences including water

3.2.1.1

water resistance

ability of a line written on specified testing paper to remain visible after immersion in distilled or de-ionized water for a specified length of time

3.2.1.2

ethanol resistance

ability of a line written on specified testing paper to remain visible after immersion in a specified ethanol solution for a specified length of time

3.2.1.3

hydrochloric acid resistance

ability of a line written on specified testing paper to remain visible after immersion in a specified hydrochloric acid solution for a specified length of time

3.2.1.4

ammonium hydroxide resistance

ability of a line written on specified testing paper to remain visible after immersion in a specified ammonium hydroxide solution for a specified length of time

3.2.1.5

bleaching resistance

ability of a line written on specified testing paper to remain visible after treatment in a specified bleaching solution for a specified length of time

3.2.2 Resistance to physical influences

3.2.2.1

erasure resistance

ability of a line written on specified testing paper to resist erasure using specified procedures with a specified eraser without altering the surface of the testing paper