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Ophthalmic instruments - Slit-lamp microscopes (ISO 10939:1998)

Ophthalmische Instrumente - Spaltleuchten (ISO 10939:1998)

Instruments ophtalmiques - Microscopes avec lampe a fente (ISO 10939:1998)

Ta slovenski standard je istoveten z: EN ISO 10939:1998

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ICS:

11.040.70 Oftalmološka oprema Ophthalmic equipment

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en

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ICS 11.040.70

Descriptors: see ISO document

English version

Ophthalmic instruments - Slit-lamp microscopes (ISO
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fente (ISO 10939:1998)

Ophthalmische Instrumente - Spaltleuchten (ISO
10939:1998)

This European Standard was approved by CEN on 9 March 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 10939:1998 has been prepared by Technical Committee ISO/TC 172 "Optics and optical instruments" in collaboration with Technical Committee CEN/TC 170 "Ophthalmic optics", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 10939:1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in Annex ZA (normative). A-deviations are given in Annex ZB (informative).

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ANNEX ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 7944	1998	Optics and optical instruments - Reference wavelengths	EN ISO 7944	1998
ISO 15004	1997	Ophthalmic instruments - Fundamental requirements and test methods	EN ISO 15004	1997

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ANNEX ZB (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/CENELEC member.

This European Standard does not fall under any Directive of the EC. In the relevant CEN/CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

The legislative situation in Germany requires the unit "dioptré" be designated by the symbol "dpt" instead of "D".

This is to avoid conflict with the rules of ISO 1000 being the basic International Standard on symbols and units and with the respective basic resolution of the CGPM (International Conference on Weights and Measures).

Identification of the regulation:

Gesetz über die Einheiten im Meßwesen vom 02.07.1969 in der Fassung der Bekanntmachung vom 22.04.1985; and

Ausführungsverordnung zum Gesetz über Einheiten im Meßwesen (Einheitenverordnung - EinhV) vom 13.12.1985, § 1 und Anlage 1, Nr. 9

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**Ophthalmic instruments — Slit-lamp
microscopes**

Instruments ophtalmiques — Microscopes avec lampe à fente

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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.

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.

International Standard ISO 10939 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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Printed in Switzerland

Ophthalmic instruments — Slit-lamp microscopes

1 Scope

This International Standard, together with ISO 15004, specifies requirements and test methods for slit-lamp microscopes to provide slit illumination and observation under magnification of the eye and its adnexa.

This International Standard is not applicable to microscope accessories, e.g. photographic equipment and lasers.

This International Standard takes precedence over ISO 15004, if differences exist.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards. (standards.iteh.ai)

ISO 7944:1998, *Optics and optical instruments — Reference wavelengths*.

ISO 15004:1997, *Ophthalmic instruments — Fundamental requirements and test methods*.

IEC 60601-1:1988, *Medical electrical equipment — Part 1: General requirements for safety*.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1

slit-lamp microscope

instrument consisting of a microscope and a swivelling illumination system providing a slit image

3.2

magnification

ratio of the viewing angle of an object when observed through a magnifying system with the image at infinity to that of the object when observed by the naked eye at a reference viewing distance of 250 mm

NOTE 1 The magnification, Γ , can be calculated using the following equation:

$$\Gamma = \frac{\tan \sigma'}{\tan \sigma}$$

where

σ' is the angle at which an object is seen through the microscope;

σ is the angle at which the same object is seen without any instrument at a viewing distance of 250 mm.

NOTE 2 The magnification of the microscope comprises the magnifications of the complete system.