



SLOVENSKI STANDARD
SIST EN ISO 15253:2001

01-november-2001

Očesna optika in instrumenti - Optične naprave za izboljšanje slabovidnosti (ISO 15253:2000)

Ophthalmic optics and instruments - Optical devices for enhancing low vision (ISO 15253:2000)

Augenoptik und ophthalmische Instrumente - Vergrößernde Sehhilfen für Sehbehinderte (ISO 15253:2000)

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Optique et instruments ophtalmiques - Dispositifs optiques pour malvoyants (ISO 15253:2000)

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Ta slovenski standard je istoveten z: EN ISO 15253:2000

ICS:

11.040.70 Oftalmološka oprema Ophthalmic equipment

SIST EN ISO 15253:2001

en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 15253

September 2000

ICS 01.004.70

English version

Ophthalmic optics and instruments - Optical devices for enhancing low vision (ISO 15253:2000)

Optique et instruments ophtalmiques - Dispositifs optiques pour malvoyants (ISO 15353:2000)

Augenoptik und ophthalmische Instrumente - Vergrößernde Sehhilfen für Sehbehinderte (ISO 15253:2000)

This European Standard was approved by CEN on 15 September 2000.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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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 15253:2000 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 March 2001, and conflicting national standards shall be withdrawn at the latest by March 2001.

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 15253:2000 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in annex ZA (normative).

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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.

Publication	Year	Title	EN	Year
ISO 12870	1997	Ophthalmic optics - Spectacle frames - General requirements and test methods	EN ISO 12870	1997
ISO 14889	1997	Ophthalmic optics - Spectacle lenses - Fundamental requirements for uncut finished lenses	EN ISO 14889	1997
ISO 15004	1997	Ophthalmic instruments - Fundamental requirements and test methods	EN ISO 15004	1997

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INTERNATIONAL
STANDARD

ISO
15253

First edition
2000-09-15

**Ophthalmic optics and instruments —
Optical devices for enhancing low vision**

*Optique et instruments ophtalmiques — Dispositifs optiques pour
malvoyants*

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Reference number
ISO 15253:2000(E)

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Printed in Switzerland

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ISO 15253:2000(E)**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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15253 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

Annexes A and B of this International Standard are for information only.

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Ophthalmic optics and instruments — Optical devices for enhancing low vision

1 Scope

This International Standard applies to optical devices specified by the manufacturer for use by visually impaired persons as optical low-vision aids. It specifies the optical and mechanical requirements and test methods for such devices, including optical devices with electrical components such as illuminators.

It does not apply to electro-optical devices for enhancing low vision.

NOTE Requirements and test methods for electro-optical devices for enhancing low vision are specified in ISO 15254, *Ophthalmic optics and instruments — Electro-optical devices for low vision*.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 12870, *Ophthalmic optics — Spectacle frames — General requirements and test methods*.

ISO 14889, *Ophthalmic optics — Spectacle lenses — Fundamental requirements for uncut finished lenses*.

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

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply. The symbols for certain of these terms are language-dependent. Equivalent terms in other languages, and the corresponding symbols used in those languages as well as in English, are given in annex B.

3.1

astronomical telescope

Keplerian telescope

compound optical system, afocal in normal adjustment, consisting of a positive objective element or group and a positive ocular element or group forming a magnified, inverted image

3.2

binocular aid

optical device, usually consisting of two separate optical systems mounted in alignment, intended to be used with both eyes simultaneously

3.3

biocular aid

optical device in which both eyes view through a single optical system

ISO 15253:2000(E)**3.4****distance cap**

negative lens placed in front of a near-vision telescope/telemicroscope objective to adapt the device for viewing a distant object

3.5**equivalent power**

reciprocal of the equivalent focal length in air measured in metres

NOTE Equivalent power is expressed in dioptres, or reciprocal metres.

3.6**eyepiece****ocular**

optical element or group nearest to the eye in an optical imaging system, used for viewing the image formed by the objective

3.7**focal length**

linear distance separating the principal focal point (or focus) of an optical system from a point of reference

See Figure 1.

NOTE The distance needs to be further specified in accordance with the point of reference chosen, e.g. vertex, principal point. See definitions 3.7.1 to 3.7.3.

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3.7.1**back vertex focal length**

distance in an optical system from the back surface to the back focal point, measured along the optical axis (axis of symmetry)

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See Figure 1.

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3.7.2**front vertex focal length**

distance in an optical system from the front surface to the front focal point, measured along the optical axis (axis of symmetry)

See Figure 1.

3.7.3**equivalent focal length**

distance in an optical system from a focal point to the corresponding principal point, measured along the optical axis (axis of symmetry)

See Figure 1.

NOTE See **equivalent power** (3.5).

3.8**focusing telescopic device**

device intended to be adjusted by the user for a range of object distances

3.9**free working distance**

(optical low vision aid) distance between the most anterior portion of a near-vision telescope/telemicroscope and the object