



**SLOVENSKI STANDARD**  
**SIST EN ISO 9914:2000**

**01-januar-2000**

---

**Optika in optični instrumenti - Kontaktilinice - Določitev lomnega količnika optičnih materialov za kontaktilinice (ISO 9914:1995)**

Optics and optical instruments - Contact lenses - Determination of refractive index of contact lens materials (ISO 9914:1995)

Optik und optische Instrumente - Kontaktlinien - Bestimmung der Brechzahl von Kontaktlinienmaterialien (ISO 9914:1995)

Optique et instruments d'optique - Lentilles de contact - Détermination de l'indice de réfraction des matériaux des lentilles de contact (ISO 9914:1995)

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acc5e53e245/sist-en-iso-9914-2000>

**Ta slovenski standard je istoveten z: EN ISO 9914:1996**

---

**ICS:**

11.040.70      Oftalmološka oprema      Ophthalmic equipment

**SIST EN ISO 9914:2000**      en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 9914:2000](#)

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acc5e53e245/sist-en-iso-9914-2000>

EUROPEAN STANDARD

EN ISO 9914

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 1996

ICS 11.040.00

Descriptors: see ISO document

English version

Optics and optical instruments - Contact lenses -  
Determination of refractive index of contact lens  
materials (ISO 9914:1995)

Optique et instruments d'optique - Lentilles de  
contact - Détermination de l'indice de  
réfraction des matériaux des lentilles de  
contact (ISO 9914:1995)

Optik und optische Instrumente - Kontaktlinsen  
- Bestimmung der Brechzahl von  
Kontaktlinsenmaterialien (ISO 9914:1995)

(standards.iteh.ai)

SIST EN ISO 9914:2000

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acca5e53e245/sist-en-iso-9914-2000>

This European Standard was approved by CEN on 1996-10-19. 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.

The European Standards exist 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## CEN

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 from ISO/TC 172 „Optics and optical instruments“ of the International Organization for Standardization (ISO) has been taken over as a European Standard by the 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 April 1997, and conflicting national standards shall be withdrawn at the latest by April 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 9914:1995 was approved by CEN as a European Standard without any modification.

Note - Normative references to International Standards are listed in Annex ZA (normative).

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 9914:2000

[https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4d5-811a-](https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4d5-811a-accas5e245/sist-en-iso-9914-2000)

[accas5e245/sist-en-iso-9914-2000](https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4d5-811a-accas5e245/sist-en-iso-9914-2000)

.....  
.....  
.....

.....  
.....

ROK 117



## 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 7944	1984	Optics and optical instruments - Reference wavelengths	prEN ISO 7944	1996

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN ISO 9914:2000](https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4d5-811a-acca5e53e245/sist-en-iso-9914-2000)

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4d5-811a-acca5e53e245/sist-en-iso-9914-2000>

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

SIST EN ISO 9914:2000

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acc5e53e245/sist-en-iso-9914-2000>

# INTERNATIONAL STANDARD

**ISO**  
**9914**

First edition  
1995-12-01

---

---

## **Optics and optical instruments — Contact lenses — Determination of refractive index of contact lens materials**

**iTeh STANDARD PREVIEW**

**(standards.iteh.ai)**

*Optique et instruments d'optique — Lentilles de contact — Détermination de l'indice de réfraction des matériaux des lentilles de contact*

[SIST EN ISO 9914:2000](https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acca5e53e245/sist-en-iso-9914-2000)

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acca5e53e245/sist-en-iso-9914-2000>



Reference number  
ISO 9914:1995(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.

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 9914 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

[SIST EN ISO 9914:2000](https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acc5e53e245/sist-en-iso-9914-2000)

<https://standards.iteh.ai/catalog/standards/sist/2e8b44c8-e2fc-4df5-811a-acc5e53e245/sist-en-iso-9914-2000>

© ISO 1995

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization  
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland



# Optics and optical instruments — Contact lenses — Determination of refractive index of contact lens materials

## 1 Scope

This International Standard specifies a test method for determining the refractive index of contact lens materials. The test method described is given as a reference method. Alternative methods may be used provided that repeatability and accuracy are at least equal to those specified herein for the refractive index of the specimen under test according to ISO 5725<sup>1)</sup>.

## 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.

ISO 7944:1984, *Optics and optical instruments — Reference wavelengths*.

ISO 8320:1986, *Optics and optical instruments — Contact lenses — Vocabulary and symbols*.

ISO 10344:—<sup>2)</sup>, *Optics and optical instruments — Contact lenses — Saline solution for contact lens testing*.

1) ISO 5725:1994, *Accuracy (trueness and precision) of measurement methods and results*.

2) To be published.

## 3 Definitions

For the purposes of this International Standard the definitions given in ISO 8320 and the following definition apply.

**3.1 refractive index** (of a contact lens material): Ratio of the sine of the angle of incidence to the sine of the angle of refraction when a ray of light of defined wavelength passes from air into the contact lens material maintained at a constant temperature.

## 4 Principle

The refractive index is determined by measuring the angle at which total internal reflection occurs when light passes from the prism surface of the refractometer into the contact lens material. It is necessary to use a contacting fluid between the contact lens material and the refractometer prism for all materials except hydrogels.

## 5 Apparatus

**5.1 Abbe refractometer**, or refractometer of similar design, calibrated using one of the reference wavelengths specified in ISO 7944 and having a precision of at least  $\pm 0,000\ 5$ .

A refractometer calibrated for a wavelength other than the reference wavelength may be used only if an accurate conversion to the desired wavelength is available.

Refractometers designed to measure the solids content of sugar solutions may be used only if an accu-