

Ophthalmic optics - Uncut finished spectacle lenses - Part 4: Specifications and test methods for anti-reflective coatings

Ophthalmic optics - Uncut finished spectacle lenses
- Part 4: Specifications and test methods for anti-reflective coatings

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 8980-4:2006 sisaldab Euroopa standardi EN ISO 8980-4:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 20.09.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 8980-4:2006 consists of the English text of the European standard EN ISO 8980-4:2006.</p> <p>This document is endorsed on 20.09.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

<p>Käsitlusala:</p> <p>This part of ISO 8980 specifies optical and non optical requirements, including durability, and test methods for anti-reflective coatings on spectacle lenses. This part of ISO 8980 does not deal with the following topics: - transmittance and absorptance; - the colour of the reflected light.</p>	<p>Scope:</p> <p>This part of ISO 8980 specifies optical and non optical requirements, including durability, and test methods for anti-reflective coatings on spectacle lenses. This part of ISO 8980 does not deal with the following topics: - transmittance and absorptance; - the colour of the reflected light.</p>
---	---

ICS 11.040.70

Võtmesõnad:

English Version

**Ophthalmic optics - Uncut finished spectacle lenses - Part 4:
Specifications and test methods for anti-reflective coatings (ISO
8980-4:2006)**

Optique ophtalmique - Verres de lunettes finis non détournés
- Partie 4: Spécifications et méthodes d'essai relatives aux
traitements antireflet (ISO 8980-4:2006)

Augenoptik - Rohkantige fertige Brillengläser - Teil 4:
Anforderungen und Prüfverfahren für reflexmindernde
Vergütungen (ISO 8980-4:2006)

This European Standard was approved by CEN on 7 August 2006.

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 8980-4:2006) 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 February 2007, and conflicting national standards shall be withdrawn at the latest by February 2007.

This document supersedes EN ISO 8980-4:2000.

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

Endorsement notice

The text of ISO 8980-4:2006 has been approved by CEN as EN ISO 8980-4:2006 without any modifications.

**Ophthalmic optics — Uncut finished
spectacle lenses —**

**Part 4:
Specifications and test methods for
anti-reflective coatings**

Optique ophtalmique — Verres de lunettes finis non détournés —

*Partie 4: Spécifications et méthodes d'essai relatives aux traitements
antireflet*



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2006

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 either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Requirements	2
4.1 General requirements.....	2
4.2 Luminous and mean reflectances.....	2
4.3 Usable diameter of coated area.....	2
4.4 Durability.....	2
5 Testing	3
5.1 General.....	3
5.2 Method of determination of reflectance.....	3
5.3 Determination of spectral reflectance values.....	3
5.4 Determination of luminous reflectance.....	4
5.5 Determination of mean reflectance.....	4
5.6 Determination of durability.....	4
6 Information to be made available on request	5
7 Reference to this part of ISO 8980	5
Annex A (informative) Significance of ρ_V and ρ_M in the description of anti-reflective coated lenses	6
Annex B (normative) Environmental sequence	7
Annex C (normative) Rubbing sequence procedure	9
Annex D (normative) Evaluation conditions	11
Annex E (informative) Examples of lenses passing and failing the visual evaluation	13
Annex F (informative) Examples of environmental sequence	14
Annex G (informative) Example of a rubbing tool and components	16
Bibliography	18

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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8980-4 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

This second edition cancels and replaces the first edition (ISO 8980-4:2000), which has been revised to include non-optical specifications.

ISO 8980 consists of the following parts, under the general title *Ophthalmic optics — Uncut finished spectacle lenses*:

- *Part 1: Specifications for single-vision and multifocal lenses*
- *Part 2: Specifications for progressive power lenses*
- *Part 3: Transmittance specifications and test methods*
- *Part 4: Specifications and test methods for anti-reflective coatings*
- *Part 5: Minimum requirements for spectacle lens surfaces claimed to be abrasion-resistant*

Ophthalmic optics — Uncut finished spectacle lenses —

Part 4: Specifications and test methods for anti-reflective coatings

1 Scope

This part of ISO 8980 specifies optical and non optical requirements, including durability, and test methods for anti-reflective coatings on spectacle lenses.

This part of ISO 8980 does not deal with the following topics:

- transmittance and absorptance;
- the colour of the reflected light.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 48, *Rubber, vulcanized or thermoplastic — Determination of hardness (hardness between 10 IRHD and 100 IRHD)*

ISO 8980-1, *Ophthalmic optics — Uncut finished spectacle lenses — Part 1: Specifications for single-vision and multifocal lenses*

ISO 8980-2, *Ophthalmic optics — Uncut finished spectacle lenses — Part 2: Specifications for progressive power lenses*

ISO 8980-3, *Ophthalmic optics — Uncut finished spectacle lenses — Part 3: Transmittance specifications and test methods*

ISO 13666, *Ophthalmic optics — Spectacle lenses — Vocabulary*

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