



SLOVENSKI STANDARD SIST EN ISO 16284:2002

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Ophthalmic optics - Information interchange for ophthalmic optical equipment (ISO 16284:2001)

Augenoptik - Datenaustausch zwischen augenoptischen Maschinensystemen (ISO 16284:2001)

Optique ophtalmique - Echange d'informations pour l'équipement d'optique ophtalmique (ISO 16284:2001)

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ICS:

11.040.70 Oftalmološka oprema Ophthalmic equipment

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 16284

June 2001

ICS 11.040.70

English version

**Ophthalmic optics - Information interchange for ophthalmic
optical equipment (ISO 16284:2001)**

Optique ophtalmique - Echange d'informations pour
l'équipement d'optique ophtalmique (ISO 16284:2001)

Augenoptik - Datenaustausch zwischen augenoptischen
Maschinensystemen (ISO 16284:2001)

This European Standard was approved by CEN on 1 June 2001.

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 Management Centre 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 Management Centre 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

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

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EN ISO 16284:2001

Foreword

The text of the International Standard ISO 16284:2001 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 December 2001, and conflicting national standards shall be withdrawn at the latest by December 2001.

Annex A forms a normative part of EN ISO 16284. Annexes B and C are given for information only.

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.

iTeh STANDARD PREVIEW Endorsement notice (standards.iteh.ai)

The text of the International Standard ISO 16284:2001 has been approved by CEN as a European Standard without any modifications.

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

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 (including amendments).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

Publication	Year	Title	EN	Year
ISO 13666	1998	Ophthalmic optics – Spectacle lenses - Vocabulary	EN ISO 13666	1998

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INTERNATIONAL STANDARD

ISO
16284

First edition
2001-06-01

Ophthalmic optics — Information interchange for ophthalmic optical equipment

*Optique ophtalmique — Échange d'informations pour l'équipement optique
ophtalmique*

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ISO 16284:2001(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 16284 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 7, *Ophthalmic optics and instruments*.

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

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Introduction

This International Standard is the result of a desire shared by manufacturers of optical laboratory equipment and producers of software used in optical laboratories to simplify the interconnection of their products.

The International Standard defined herein provides:

- a method by which machines and computer systems conduct their exchanges of data;
- a method by which computer systems can initialize such parameters on machines as the manufacturers thereof allow;
- a method by which machines can initialize computer systems with information that the systems can use for various purposes;
- a method by which a machine can inform a computer system as to what information it wants to receive, thus allowing machines to define new interfaces dynamically.
- a standard set of records and device types that are used to communicate agreed-upon sets of information.

The last feature listed above requires that this International Standard be amended on a regular basis, as the need for new data elements is inevitable.

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Ophthalmic optics — Information interchange for ophthalmic optical equipment

1 Scope

This International Standard establishes a method by which machines and computer software systems used in the fabrication of ophthalmic lenses can exchange information.

2 Normative reference

The following normative document contains 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 edition of the normative document 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 13666:1998, *Ophthalmic optics — Spectacle lenses — Vocabulary*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 13666 and the following apply.

3.1 General

3.1.1 device

machine or instrument used in the fabrication of ophthalmic lenses that communicates with a computer system to send or receive job information

3.1.2 host

computer system providing information to or receiving information from a device

3.1.3 job

order for prescription ophthalmic lenses or spectacles

3.1.4 download

communication session in which the host system transmits data to the device

3.1.5 upload

communication session in which the device transmits data to the host

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3.2 Special characters

3.2.1

code separator

special character used to delimit codes in a device record

3.2.2

CRC position character

special character marking the location of the end of the data records and the start of the optional CRC record within a packet

3.2.3

end character

special character marking the end of a packet

3.2.4

field separator

special character delimiting the fields in a record

3.2.5

label separator

special character separating the record label from the field(s) within a record

3.2.6

mandatory record flag

special character marking certain records as mandatory

3.2.7

start character

special character marking the beginning of a packet

3.2.8

record separators

special characters which delimit records

3.2.9

reserved characters

set of characters reserved for special functions

3.2.10

unknown data indicator

special character indicating that data required for a particular field is unknown to the host

3.2.11

ACK character

special character indicating successful transmission of a packet

3.2.12

NAK character

special character indicating failed transmission of a packet

3.3 Data types

3.3.1

limited data

text data limited to a maximum length

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3.3.2**literal data**

text data limited to a maximum length and specified in this International Standard

3.3.3**numeric data**

floating-point and integer numbers

3.3.4**text data**

strings of characters that have no pre-defined meaning

3.3.5**integer data**

data represented in whole number form

3.3.6**binary data**

data presented in a form usable by computer software with little or no translation

NOTE It requires special handling to avoid introduction of control characters.

3.4 Messages**3.4.1****message**

structured stream of data transmitted from a host to a device or from a device to a host

3.4.2**confirmation message**

message sent by the receiver of a packet and comprised of a single character indicating that the transmission was successful

3.4.3**positive acknowledgement**

single character message indicating successful reception of a sender's message

3.4.4**negative acknowledgement**

single character message indicating unsuccessful reception of a sender's message

3.4.5**packet**

structured message consisting of a start character and a series of records and terminated by an end character

3.4.5.1**data packet**

packet sent from a device to a host or a host to a device, and containing requested information

3.4.5.2**request packet**

packet sent from a device to a host to initiate a session

3.4.5.3**response packet**

packet containing status information