SLOVENSKI STANDARD
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Ščitniki za oči in obraz za uporabo pri športu - 2. del: Zahteve za ščitnike za oči za squash in racquetball ter squash 57 (ISO/DIS 18527-2:2018)

Eye and face protectors for sports use - Part 2 - Requirements for eye protectors for squash and eye protectos for racquetball and squash 57 (ISO/DIS 18527-2:2018)

Augen- und Gesichtsschutz für sportlichen Anwendungen - Teil 2: Anforderungen an Augenschutzgeräte für Squash und Augenschutzgeräte für Raquetball und Squash 57 (ISO/DIS 18527-2:2018)

Protection des yeux et du visage à usage sportif - Partie 2: Exigences relatives aux protecteurs oculaires pour le squash et aux protecteurs oculaires pour le racquetball et le squash (ISO/DIS 18527-2:2018)

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97.220.30	Oprema za dvoranske športe	Indoor sports equipment
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Eye and face protection for sports use —

Part 2:
Requirements for eye protectors for squash and eye protectors for racquetball and squash 57

Protection des yeux et du visage à usage sportif —

Partie 2: Exigences relatives aux protecteurs oculaires pour le squash et aux protecteurs oculaires pour le racquetball et le squash

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is ISO/TC 94, *Personal safety - Protective clothing and equipment*, Subcommittee SC 6, *Eye and face protection*,

A list of the parts of ISO 18527 can be found on the ISO website

Introduction

This family of documents was developed in response to the worldwide stakeholder's demand for minimum requirements and test methods for eye and face protectors traded internationally. ISO 4007 gives the terms and definitions for all the various product types. The test methods are in the ISO 18526- series, while the requirements for occupational eye and face protectors are in the ISO 16321- series. Eye protection for specific sports is mostly dealt with by the ISO 18527- series. A guidance document for the selection, use and maintenance of eye and face protectors is in preparation.

Eye and face protection for sports use —

Part 2: Requirements for eye protectors for squash and eye protectors for racquetball and squash 57

1 Scope

This document applies to all eye protectors intended for eye protection against hazards during the sports of Squash, Racquetball and Squash 57 and sports with similar hazards and no greater risks. It applies to eye protectors that incorporate prescription lenses, but not to eye protectors designed for use over spectacles. It deals with materials, construction, optical properties and testing.

Requirements for the labelling and marking of eye protectors and for information to be supplied by the manufacturer are also specified. Information on the selection and use of eye protectors for Squash, Racquetball and Squash 57 is given in Annex A.

This document does not apply to:

a. sports eye protectors designed for use over prescription spectacles;

b. eye protectors for occupational applications;

c. eye protectors without lenses;

d. eye protectors for sports where the hazards are unrelated to the hazards in or involve greater risks than Squash, Racquetball and Squash 57.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4007:2018, *Personal protective equipment – Eye and face protection – Vocabulary*

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

ISO 8980-5:2005, *Ophthalmic optics — Uncut finished spectacle lenses — Part 5: Minimum requirements for spectacle lens surfaces claimed to be abrasion-resistant*

ISO 11664-2, *Colorimetry — Part 2: CIE standard illuminants*

ISO 12312-1:2013, *Eye and face protection — Sunglasses and related eyewear — Part 1: Sunglasses for general use*

ISO 18526-1,[1)] *Eye and face protection – Test methods – Part 1: Geometrical optical properties*

ISO 18526-2,[2)] *Eye and face protection – Test methods – Part 2: Physical optical properties*

1) Under preparation (Stage at the time of publication ISO/DIS 18526-1)

2) Under preparation (Stage at the time of publication ISO/DIS 18526-2)

ISO 18526-3,[3]*Eye and face protection – Test methods – Part 3: Physical and mechanical properties*

ISO 18526-4,[4]*Eye and face protection – Test methods – Part 4: Headforms*

ISO 21987:2009, *Ophthalmic optics — Mounted spectacle lenses*

3 Terms and definitions

For the purposes of this document the terms and the definitions given in ISO 4007 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.prg/

— ISO online browsing platform: available at http://www.iso.org/obp

For the purposes of this document, “eye protector” shall be taken to mean eye protectors for Squash, Racquetball and Squash 57.

4 General requirements for eye protectors

4.1 Headforms for testing

Unless the manufacturer defines the applicable headforms according to ISO 18526-4 to be compatible with the eye protector, the test methods where headforms are required shall use the headform 1-M according to ISO 18526-4 as the default.

4.2 Construction

Areas of the eye protectors that may, during intended use, come into contact with the wearer shall be smooth, without sharp protuberances that may cause discomfort or injury to the wearer. This shall be tested by physical inspection in accordance with ISO 18526-3, 6.1.

4.3 Lens material and surface quality

In an area 30 mm diameter centred on the reference point, but excluding a marginal area 5 mm wide around the edge of the lens if this overlaps with the circular area, lenses shall have no material or machining defects that may impair vision, e.g. bubbles, scratches, inclusions, dull spots, pitting, mould marks, notches, reinforced areas, specks, beads, water specks, pocking, gas inclusions, splintering, cracks, polishing defects or undulations. Outside this zone, small isolated material and/or surface defects may be acceptable. This shall be tested by visual assessment in accordance with ISO 18526-3, 6.6.

4.4 Physiological compatibility

Eye protectors shall be designed and manufactured in such a way that when used under the conditions and for the purposes intended, they will not compromise the health or safety of the wearer. The risks posed by substances leaking or evaporating from the eye protector that can come into prolonged contact with the wearer shall be reduced by the manufacturer to within the limits of any existing regulatory limit. Special attention shall be given to substances that are allergenic, carcinogenic, mutagenic or toxic to reproduction.

NOTE 1 Excessive pressure due to a poor fit on the face, chemical irritation or allergy is known to produce reactions. Rare or idiosyncratic reactions to any material are known to occur and the individual wearer is well advised to avoid those types of frame materials.

3) Under preparation (Stage at the time of publication ISO/DIS 18526-3)

4) Under preparation (Stage at the time of publication ISO/DIS 18526-4)

NOTE 2 Specific national regulations with regard to restriction of certain chemical substances should be observed, for example release of nickel in Europe.

4.5 Retention by headband and harnesses (Sit and fit)

Eye protectors shall sit in the intended position during normal use and shall adapt to the contours of the face. The surfaces in contact with the face shall be made of soft flexible material. Any head strap shall be designed to be flexible or adjustable and sit securely on the back of the head. Any head strap assembly shall not cause any discomfort nor exhibit any insecurity when tested in accordance with ISO 18526-3, 6.5.

5 Transmittance

5.1 Test methods

Transmittance values shall be determined in accordance with ISO 18526-2, Clause 6 to 11 as appropriate. Luminous transmittance shall be calculated using CIE Standard Illuminant D65 (ISO 4007:2018, 3.9.1.31).

5.2 Transmittance categories

Depending upon their luminous transmittance at their reference point and at (23 ± 1) °C in the case of temperature sensitive transmittance, lenses for Squash, Racquetball and Squash 57 use shall be attributed to one of the five tint categories in Table 1.

The range of the luminous transmittance of these five categories is given by the values in Table 1. An overlap of the transmittance values shall be not more than ±2 % (absolute) between the categories 0, 1, 2 and 3. There is no overlap in transmittance values between categories 3 and 4.

If the supplier declares a luminous transmittance value, the maximum deviation for this value shall be ±3 % absolute for the transmittance values falling in categories 0 to 3 and ±30 % relative to the stated value for the transmittance values falling in category 4.

When describing the transmittance properties of lenses with changeable tint, e.g. photochromic, two categories for transmittance values are generally used. These two values correspond to the highest transmittance state and to the lowest transmittance state of the lens.

Table 1 specifies also the UV requirements for Squash, Racquetball and Squash 57 eye protectors.