



SLOVENSKI STANDARD

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Personal eye protection - Mesh eye and face protectors

Persönlicher Augenschutz - Augen- und Gesichtsschutzgeräte aus Gewebe

Protection individuelle de l'oil — Protecteurs de l'oil et du visage de type grillagé

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ICS:

13.340.20 Varovalna oprema za glavo Head protective equipment

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EUROPEAN STANDARD
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Personal eye protection - Mesh eye and face protectors

Protection individuelle de l'œil - Protecteurs de l'œil et du visage de type grillagé

Persönlicher Augenschutz - Augen- und Gesichtsschutzgeräte aus Gewebe

This European Standard was approved by CEN on 13 October 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.

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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

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Requirements	5
4.1 Materials	5
4.2 Design and manufacture	6
4.3 Performance	7
4.4 Protection against high speed particles (optional)	8
5 Test methods.....	8
5.1 Resistance to corrosion of metal parts	8
5.2 Resistance to ignition	8
5.3 Luminous transmittance	8
5.4 Robustness	8
5.5 Protection against high speed particles (optional)	9
5.6 Allocation of test requirements and examination test schedule for mesh eye and face protectors	9
5.7 Visual inspection	9
5.8 Test for comfort and security of fit	9
6 Designation of the field of use of mesh eye and face protectors	11
7 Marking	11
8 Information supplied by the manufacturer	12
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 89/686/EEC Personal Protective Equipment	13
Bibliography	15

Foreword

This document (EN 1731:2006) has been prepared by Technical Committee CEN/TC 85 “Eye-protective equipment”, the secretariat of which is held by AFNOR.

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 May 2007, and conflicting national standards shall be withdrawn at the latest by May 2007.

This document supersedes EN 1731:1997.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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.

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Introduction

Mesh eye and face protectors alone do not provide significant protection against radiation. For protection against infrared and/or ultraviolet radiation suitable additional or alternative oculars will be needed complying with EN 170:2002 and/or EN 171:2002 respectively.

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1 Scope

This European Standard specifies materials, design, performance requirements, test methods and marking requirements for mesh eye and face protectors.

This standard is not applicable to eye and face protectors for use against liquid splash (including molten metal), hot solid risks, electrical hazards, infrared and ultra violet radiation.

Mesh eye and face protectors for use in sports such as ice hockey and fencing are excluded.

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.

EN 165:2005, *Personal eye-protection – Vocabulary*

EN 166:2001, *Personal eye-protection – Specifications*

EN 167:2001, *Personal eye-protection - Optical test methods*

EN 168:2001, *Personal eye-protection - Non-optical test methods*

EN 1811, *Reference test method for release of nickel from products intended to come into direct and prolonged contact with the skin*

EN 12472, *Method for the simulation of wear and corrosion for the detection of nickel release from coated items*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 165:2005 apply.

4 Requirements

4.1 Materials

4.1.1 Resistance to corrosion

No metal parts of a mesh eye and face protector, including the mesh if made from metal, shall show a significant sign of corrosion when examined by a trained observer after having undergone the test for resistance to corrosion specified in 5.1.

4.1.2 Resistance to ignition

When tested according to 5.2 no part of a mesh eye and face protector shall ignite or continue to glow after removal of the heated rod.

EN 1731:2006 (E)**4.1.3 Cleaning and disinfection**

All parts of a mesh eye and face protector shall withstand cleaning and disinfection in accordance with the agents and procedures recommended by the manufacturer.

All the tests shall be carried out after subjecting the product to the cleaning and/or disinfection procedures recommended by the manufacturer.

4.1.4 Innocuousness of materials

Materials that come into contact with the wearer's skin shall not be known to be likely to cause irritation or any other adverse effect to health.

Testing shall be done in accordance with 5.7.

Those metal parts of mesh eye protectors and frames that come into direct and prolonged contact with the skin of the wearer shall have a nickel release of less than $0,5 \mu\text{g}/\text{cm}^2/\text{week}$ when tested according to EN 1811.

Coated items shall first be conditioned according to EN 12472.

4.1.5 Number of apertures in a mesh

The minimum number of apertures in the mesh shall be 15 per cm^2 .

Testing shall be done in accordance with 5.7.

4.2 Design and manufacture**4.2.1 General construction**

Mesh eye and face protectors shall be free from projections, sharp edges or other defects which are likely to cause discomfort or injury to the wearer during use.

Testing shall be done in accordance with 5.7.

4.2.2 Headbands

Headbands used as the principal means of retention shall be at least 10 mm wide over any portion which may come into contact with the wearer's head, and shall be adjustable or self-adjusting.

Testing shall be done in accordance with 5.7.

4.2.3 Adjustability and/or replacement of components

Adjustable parts or components incorporated in mesh eye and face protectors shall be easily adjustable and where intended to shall be easily replaceable without the use of special tools.

Testing shall be done in accordance with 5.7.

4.2.4 Minimum area of coverage and field of vision of a mesh face screen

In the in-use position, the mesh face screen shall cover at least the facial region rectangle EFGH of the appropriate head form, defined in Figure 11 of EN 168:2001, when assessed in accordance with EN 168:2001, 10.2.

Field of vision requirements of EN 166:2001, 7.1.1 shall be met when the mesh face screen is tested according to EN 168:2001, Clause 18.

4.2.5 Minimum area of coverage and field of vision of a mesh eye protector

In the in-use position, the mesh eye protector shall cover at least the facial region rectangle ABCD of the appropriate head form, defined in Figure 11 of EN 168:2001, when assessed in accordance with EN 168:2001, 10.2.

Field of vision requirements shall be met when the mesh eye protector is tested according to EN 168:2001, Clause 18.

The minimum dimension of ocular area(s) shall be in accordance with 7.1.1 of EN 166:2001.

4.2.6 Comfort and retention in use

When subjected to the test procedure in 5.8, the mesh eye/face protector shall remain in its in-use position and shall not cause significant discomfort.

4.2.7 Contact with metal parts

When subjected to the test procedure in 5.8, metal parts of the mesh eye protector shall not come into direct contact with the head/face of the wearer.

4.3 Performance iTeh STANDARD PREVIEW (standards.iteh.ai)

4.3.1 Luminous transmittance

The luminous transmittance of the mesh ocular area shall be greater than 20,0 % when measured in accordance with 5.3. <https://standards.iteh.ai/catalog/standards/sist/b7c51e4e-fd48-45af-9c48-ccca515362b2/sist-en-1731-2007>

4.3.2 Variations in luminous transmittance

The variations in luminous transmittance shall be in accordance with 7.1.2.2.3 of EN 166:2001.

4.3.3 Additional or alternative oculars

Additional or alternative oculars fitted to a mesh eye and face protector shall comply with 7.1 of EN 166:2001. The additional or alternative ocular shall meet or exceed the robustness or resistance to high speed particles requirements appropriate to the mesh eye protector to which it is fitted.

4.3.4 Robustness

The complete mesh eye and face protector shall be submitted to the impact of a steel ball striking the ocular area and the lateral protection at a specified speed. If the use of any cover and/or backing lens is recommended by the manufacturer the test shall be performed with a mesh face screen conforming to this recommendation.

Testing shall be done in accordance with 5.4.