



BSI Standards Publication

Eye and face protection for occupational use

Part 2: Additional requirements for protectors used during welding and related techniques

This is a preview of "BS EN ISO 16321-2:20...". Click here to purchase the full version from the ANSI store.

National foreword

This British Standard is the UK implementation of EN ISO 16321-2:2021. It is identical to ISO 16321-2:2021.

The UK participation in its preparation was entrusted to Technical Committee PH/2/2, Industrial eye protectors.

A list of organizations represented on this committee can be obtained on request to its committee manager.

This publication has been prepared under a mandate given to the European Standards Organizations by the European Commission and the European Free Trade Association. It is intended to support requirements of the EU legislation detailed in the European Foreword. A European Annex, usually Annex ZA or ZZ, describes how this publication relates to that EU legislation.

For the Great Britain market (England, Scotland and Wales), if UK Government has designated this publication for conformity with UKCA marking (or similar) legislation, it may contain an additional National Annex. Where such a National Annex exists, it shows the correlation between this publication and the relevant UK legislation. If there is no National Annex of this kind, the relevant Annex ZA or ZZ in the body of the European text will indicate the relationship to UK regulation applicable in Great Britain. References to EU legislation may need to be read in accordance with the UK designation and the applicable UK law. Further information on designated standards can be found at www.bsigroup.com/standardsandregulation.

For the Northern Ireland market, UK law will continue to implement relevant EU law subject to periodic confirmation. Therefore Annex ZA/ZZ in the European text, and references to EU legislation, are still valid for this market.

UK Government is responsible for legislation. For information on legislation and policies relating to that legislation, consult the relevant pages of www.gov.uk.

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Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 October 2021.

Amendments/corrigenda issued since publication

Date	Text affected
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EUROPÄISCHE NORM

September 2021

ICS 13.340.20

English Version

Eye and face protection for occupational use - Part 2: Additional requirements for protectors used during welding and related techniques (ISO 16321-2:2021)

Protection des yeux et du visage à usage
professionnel - Partie 2: Exigences complémentaires
relatives aux protecteurs utilisés pour le soudage
et les techniques connexes (ISO 16321-2:2021)

Augen- und Gesichtsschutz für berufliche
Anwendungen - Teil 2: Zusätzliche
Anforderungen an Schutzgeräte, die während
des Schweißens und verwandten Verfahren
verwendet werden (ISO 16321-2:2021)

This European Standard was approved by CEN on 7 November 2020.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 16321-2:2021) has been prepared by Technical Committee ISO/TC 94 "Personal safety - Personal protective equipment" in collaboration with 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 March 2022, and conflicting national standards shall be withdrawn at the latest by September 2024.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation 2016/425.

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

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN websites.

The following referenced documents are indispensable for the application of this document. For undated references, the latest edition of the referenced document (including any amendments) applies. For dated references, only the edition cited applies. However, for any use of this document 'within the meaning of Annex ZA', the user should always check that any referenced document has not been superseded and that its relevant contents can still be considered the generally acknowledged state-of-art.

When an IEC or ISO standard is referred to in the ISO standard text, this shall be understood as a normative reference to the corresponding EN standard, if available, and otherwise to the dated version of the ISO or IEC standard, as listed below.

NOTE The way in which these referenced documents are cited in normative requirements determines the extent (in whole or in part) to which they apply.

Undated normative references in the ISO standard	Clause(s) of the ISO standard	Equivalent dated standard	
		EN	ISO or IEC
ISO 4007	Clause 2 & 3	EN ISO 4007:2018	ISO 4007:2018
ISO 11664-1	Clause 2 & 4.3.1.1	EN ISO 11664-1:2011	ISO 11664-1:2007
ISO 11664-2	Clause 2 & 4.3.1.1	EN ISO 11664-2:2011	ISO 11664-2:2007
ISO 16321-1	Clause 1, 2, & 4.1	EN ISO 16321-1:2020	ISO 16321-1:2020
ISO 18526-1	Clause 2	EN ISO 18526-1:2020	ISO 18526-1:2020
ISO 18526-2	Clause 2	EN ISO 18526-2:2020	ISO 18526-2:2020
ISO 18526-3	Clause 2	EN ISO 18526-3:2020	ISO 18526-3:2020
ISO 18526-4	Clause 2, 6.3 & 7	EN ISO 18526-4:2020	EN ISO 18526-4:2020

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

Endorsement notice

The text of ISO 16321-2:2021 has been approved by CEN as EN ISO 16321-2:2021 without any modification.

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Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Regulation 2016/425 aimed to be covered

This European Standard has been prepared under a Commission's standardization request [Full reference to the request "M/571"/"C(2015) xxxx final"] to provide one voluntary means of conforming to requirements of Regulation 2016/425.

Once this standard is cited in the Official Journal of the European Union under that Regulation 2016/425 compliance with the normative clauses of this standard given in [Table ZA.1](#) confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding [essential] requirements of that Regulation 2016/425 and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex II of Regulation 2016/425

Essential Requirements of Regulation 2016/425	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
		Most Essential Requirements of Regulation 2016/425 are wholly or partially covered by reference to EN ISO 16321-1:2020 as described in Clause 4.1 of this standard.
1.1.1 Ergonomics	4.1; 4.2; 4.3	By reference to EN ISO 16321-1:2020
1.1.2 Level and classes of protection	4; 5	By reference to EN ISO 16321-1: 2020
1.2.1 Absence of risks and other 'inherent' nuisance factors	4.1	By reference to EN ISO 16321-1: 2020
1.2.1.1 Suitable constituent materials	4.1	By reference to EN ISO 16321-1: 2020
1.2.1.2 Satisfactory surface condition of all PPE parts in contact with the user	4.1	By reference to EN ISO 16321-1: 2020
1.2.1.3 Maximum permissible user impediment	4.3; 4.4	By reference to EN ISO 16321-1: 2020
1.3.1 Adaptation of PPE to user morphology	4.1	By reference to EN ISO 16321-1: 2020
1.3.2 Lightness and design strength	5.2	By reference to EN ISO 16321-1: 2020
1.4 Manufacturer's instructions and information	7	
2.1 PPE incorporating adjustment systems	4.1	By reference to EN ISO 16321-1: 2020
2.3 PPE for the face, eyes and respiratory system	4.2; 4.3.2; 4.4.3; 4.4.4; 4.4.5; 5.2.2	By reference to EN ISO 16321-1: 2020
2.9 PPE incorporating components which can be adjusted or removed by the use	4.1	By reference to EN ISO 16321-1: 2020

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Essential Requirements of Regulation 2016/425	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
2.12 PPE bearing one or more identification markings or indicators directly or indirectly relating to health and safety	6	
3.1.1 Impact caused by falling or ejected objects and collision of parts of the body with obstacle	4.1	By reference to EN ISO 16321-1: 2020
3.6.1 PPE constituent materials and other components	4.3.1; 5.2.5	By reference to EN ISO 16321-1: 2020
3.6.2 Complete PPE ready for use	4.3.1; 5.2.5; 7	By reference to EN ISO 16321-1: 2020
3.9.1 Non-ionising radiation	4.3.1; 4.4; 5.1	

WARNING 1 Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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Contents

	Page
Foreword	vi
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Requirements	1
4.1 General.....	1
4.2 Field of view.....	2
4.3 Requirements for welding filters.....	2
4.3.1 Transmittance requirements and scale numbers.....	2
4.3.2 Narrow angle scatter (reduced luminance coefficient).....	4
4.3.3 Minimum robustness for unmounted welding filters (Static Load Test).....	4
4.3.4 Resistance to UV radiation.....	5
4.4 Automatic welding filters.....	5
4.4.1 General.....	5
4.4.2 Transmittance requirements.....	5
4.4.3 Luminous transmittance variation over time for automatic welding filters.....	7
4.4.4 Variation in luminous transmittance for automatic welding filters.....	7
4.4.5 Switching time and holding time of automatic welding filters.....	8
4.4.6 Manual control of dark shade number.....	9
4.4.7 Resistance to thermal exposure of automatic welding filters.....	9
4.4.8 Optical sensitivity of welding arc detection by automatic welding filters (Optional requirement).....	10
4.4.9 Resistance to surface damage due to fine flying particles (Optional requirement).....	10
5 Requirements for welding helmets, welding hand shields, welding frames and welding mountings	10
5.1 Optical requirements.....	10
5.1.1 Non-filter area transmittance.....	10
5.1.2 Luminous reflectance of welding helmets and welding hand shields.....	10
5.2 Physical and mechanical requirements.....	11
5.2.1 Area to be protected for welding helmets.....	11
5.2.2 Light tightness of welding protectors.....	11
5.2.3 Drop robustness for welding protectors.....	11
5.2.4 Electrical insulation of welding helmets and welding hand shields.....	11
5.2.5 Resistance to penetration by hot solids of welding helmets and welding hand shields.....	11
5.2.6 Dimensions and mass of welding hand shields.....	11
6 Marking of welding protectors	12
6.1 General.....	12
6.2 Mandatory markings on welding filters.....	12
6.3 Mandatory markings on welding protectors except for welding filters.....	12
6.4 Optional markings on welding filters.....	13
6.5 Optional markings on welding protectors except for welding filters.....	13
6.6 Examples of markings.....	13
7 Information to be supplied by the manufacturer	14
Bibliography	15

This is a preview of "BS EN ISO 16321-2:20...". Click here to purchase the full version from the ANSI store.

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.

This document was prepared by ISO/TC 94, *Personal safety — Personal protective equipment*, Subcommittee SC 6, *Eye and face protection*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 85, *Eye protective equipment*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 16321-2 cancels and replaces ISO 4850:1979.

A list of all parts in the ISO 16321 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

The family of documents comprised of the ISO 16321 series, the ISO 18526 series and the ISO 18527 series was developed in response to the worldwide stakeholders' 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 given in the ISO 18526 series, while the requirements for occupational eye and face protectors are given in the ISO 16321 series. Eye protectors for specific sports are mostly dealt with by the ISO 18527 series. A guidance document, ISO 19734, for the selection, use and maintenance of eye and face protectors is under preparation.

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Eye and face protection for occupational use —

Part 2:

Additional requirements for protectors used during welding and related techniques

1 Scope

This document specifies additional material, design, performance and marking requirements for eye and face protectors designed to provide protection for the eyes and faces of persons against occupational hazards, such as optical radiation, impacts from flying particles and fragments, and hot solids during welding and related techniques. The other applicable requirements for welding protectors are given in ISO 16321-1.

This document also applies to welding protectors used in educational establishments.

This document also applies to those eye and face protectors used for occupational-type tasks that are performed similarly to an occupation, e.g. "do-it-yourself".

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 4007, *Personal protective equipment — Eye and face protection — Vocabulary*

ISO 16321-1:2021, *Eye and face protection for occupational use — Part 1: General requirements*

ISO 18526-2:2020, *Eye and face protection — Test methods — Part 2: Physical optical properties*

ISO 18526-3:2020, *Eye and face protection — Test methods — Part 3: Physical and mechanical properties*

ISO 18526-4, *Eye and face protection — Test methods — Part 4: Headforms*

3 Terms and definitions

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

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

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

4 Requirements

4.1 General

Only those requirements that are different from or supplement the ISO 16321-1 specifications are given in this document.