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## Arbete med spänning – Ögon-, ansikts-, och huvudskydd mot risker orsakade av ljusbågar – Funktionsfordringar och testmetoder

*Live working –  
Eye, face and head protectors against the effects of electric arc –  
Performance requirements and test methods*

Som svensk standard gäller europastandarden EN IEC 62819:2023. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62819:2023.

### Nationellt förord

Europastandarden EN IEC 62819:2023

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62819, First edition, 2022 - Live working – Eye, face and head protectors against the effects of electric arc – Performance requirements and test methods**

utarbetad inom International Electrotechnical Commission, IEC.

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Postadress: Box 1284, 164 29 KISTA  
Telefon: 08 - 444 14 00.  
E-post: [sek@elstandard.se](mailto:sek@elstandard.se). Internet: [www.elstandard.se](http://www.elstandard.se)

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Box 1284  
164 29 Kista  
Tel 08-444 14 00  
[www.elstandard.se](http://www.elstandard.se)

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English Version

Live working - Eye, face and head protectors against the effects  
of electric arc - Performance requirements and test methods  
(IEC 62819:2022)

Travaux sous tension - Protecteurs des yeux, du visage et  
de la tête contre les effets de l'arc électrique - Exigences de  
performances et méthode d'essai  
(IEC 62819:2022)

Arbeiten unter Spannung - Augen-, Gesichts- und  
Kopfschutz gegen die Auswirkungen eines Störlichtbogens  
- Anforderungen und Testmethoden  
(IEC 62819:2022)

This European Standard was approved by CENELEC on 2022-12-21. CENELEC 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 CENELEC 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 CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

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

## **European foreword**

The text of document 78/1397/FDIS, future edition 1 of IEC 62819, prepared by IEC/TC 78 "Live working" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62819:2023.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-11-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-05-26

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This document has been prepared under a Standardization Request given to CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

## **Endorsement notice**

The text of the International Standard IEC 62819:2022 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60825-1:2014	NOTE Approved as EN 60825-1:2014 (not modified) + A11:2021
IEC 60895	NOTE Approved as EN IEC 60895
ISO 4007:2018	NOTE Approved as EN ISO 4007:2018 (not modified)
ISO 4869-1:2018	NOTE Approved as EN ISO 4869-1:2018 (not modified)
ISO 8980-1:2017	NOTE Approved as EN ISO 8980-1:2017 (not modified)
ISO 8980-2:2017	NOTE Approved as EN ISO 8980-2:2017 (not modified)
ISO/TR 11610:2004	NOTE Approved as CEN ISO/TR 11610:2004 (not modified)
ISO 19011:2018	NOTE Approved as EN ISO 19011:2018 (not modified)
ISO 21987:2017	NOTE Approved as EN ISO 21987:2017 (not modified)
ISO 18526-1:2020	NOTE Approved as EN ISO 18526-1:2020 (not modified)
ISO 18526-4:2020	NOTE Approved as EN ISO 18526-4:2020 (not modified)

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60417	-	Graphical symbols for use on equipment. Index, survey and compilation of the single sheets.	-	-
IEC 61318	2021	Live working - Methods for assessment of defects and verification of performance applicable to tools, devices and equipment	EN IEC 61318	2021
IEC 61477	2009	Live working - Minimum requirements for the utilization of tools, devices and equipment	EN 61477	2009
-	-		+ corrigendum Mar.	2010
IEC 61482-1-1	2019	Live working - Protective clothing against the thermal hazards of an electric arc - Part 1-1: Test methods - Method 1: Determination of the arc rating (ELIM, ATPV and/or EBT) of clothing materials and of protective clothing using an open arc	EN IEC 61482-1-1	2019
IEC 61482-1-2	2014	Live working - Protective clothing against the thermal hazards of an electric arc - Part 1-2: Test methods - Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)	EN 61482-1-2	2014
IEC 61482-2 (mod)	2018	Live working - Protective clothing against the thermal hazards of an electric arc - Part 2: Requirements	EN 61482-2	2020
ISO 3758	2012	Textiles - Care labelling code using symbols	EN ISO 3758	2012
ISO 15025	2016	Protective clothing - Protection against flame - Method of test for limited flame spread	EN ISO 15025	2016

## EN IEC 62819:2023 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 16321-1	2021	Eye and face protection for occupational use - Part 1: General requirements	EN ISO 16321-1	2022
ISO 16321-2	2021	Eye and face protection for occupational use - Part 2: Additional requirements for protectors used during welding and related techniques	EN ISO 16321-2	2021
ISO 16976	series	Respiratory protective devices - Human factors	-	-
ISO 18526-2	2020	Eye and face protection - Test methods - Part 2: Physical optical properties	EN ISO 18526-2	2020
ISO 18526-3	2020	Eye and face protection - Test methods - Part 3: Physical and mechanical properties	EN ISO 18526-3	2020

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



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**Live working – Eye, face and head protectors against the effects of electric arc –  
Performance requirements and test methods**

**Travaux sous tension – Protecteurs des yeux, du visage et de la tête contre les  
effets de l'arc électrique – Exigences de performances et méthodes d'essai**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# **LIVE WORKING – EYE, FACE AND HEAD PROTECTORS AGAINST THE EFFECTS OF ELECTRIC ARC – PERFORMANCE REQUIREMENTS AND TEST METHODS**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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IEC 62819 has been prepared by IEC technical committee 78: Live working. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
78/1397/FDIS	78/1399/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/standardsdev/publications](http://www.iec.ch/standardsdev/publications).

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The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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## INTRODUCTION

This document has been prepared in accordance with the requirements of IEC 61477 where applicable.

The product covered by this document can have an impact on the environment during some or all stages of its life cycle. These impacts can range from slight to significant, be short-term or long-term, and occur at the global, regional or local level.

This document does not include requirements and test provisions for the manufacturers of the product or recommendations to the users of the product for environmental improvement. However, all parties intervening in its design, manufacture, packaging, distribution, use, maintenance, repair, reuse, recovery and disposal are invited to take account of environmental considerations.

# LIVE WORKING – EYE, FACE AND HEAD PROTECTORS AGAINST THE EFFECTS OF ELECTRIC ARC – PERFORMANCE REQUIREMENTS AND TEST METHODS

## 1 Scope

This document is applicable to eye, face and head *protectors* used in work where there is a risk of exposure to an *electric arc* hazard.

Such *protectors* consist of one or several *devices* (e.g. *hood*, *goggles*, *balaclavas*, *face shields*, *helmets*, etc.), which might need to be combined together in order to give protection to eye, face and head for the intended use.

This document covers the performance requirements for *protectors* and single protective *devices* considering thermal, optical and mechanical hazards of an *electric arc*.

Because of the limitations of test apparatus at very high energy arcs, no *arc rating* above 4 100 kJ/m<sup>2</sup> (100 cal/cm<sup>2</sup>) can be assigned to *protectors*.

This document does not cover protection against electric shock, noise, the consequences of physical and mental shock and the toxic influences caused by an *electric arc*.

This document does not cover *protectors* for work intentionally using an *electric arc*, e.g. arc welding, plasma torch.

This document does not cover face-screens for the reduction of an electric field inside conductive clothing in accordance with IEC 60895.

Any other claims of the manufacturer for protection against other hazards to eye or face (e.g. welding radiation, hazards occurring during fire-fighting) are outside the scope of the document.

Products designed and manufactured in accordance with this document contribute to the safety of the users provided they are used by skilled persons, in accordance with safe methods of work and the instructions for use.

## 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.

IEC 60417, *Graphical symbols for use on equipment* (available at <http://www.graphical-symbols.info/equipment>)

IEC 61318:2021, *Live working – Methods for assessment of defects and verification of performance applicable to tools, devices and equipment*

IEC 61477:2009, *Live working – Minimum requirements for the utilization of tools, devices and equipment*

IEC 61482-1-1:2019, *Live working – Protective clothing against the thermal hazards of an electric arc – Part 1-1: Test methods – Method 1: Determination of the arc rating (ELIM, ATPV and/or EBT) of clothing materials and of protective clothing using an open arc*

IEC 61482-1-2:2014, *Live working – Protective clothing against the thermal hazards of an electric arc – Part 1-2: Test methods – Method 2: Determination of arc protection class of material and clothing by using a constrained and directed arc (box test)*

IEC 61482-2:2018, *Live working – Protective clothing against the thermal hazards of an electric arc – Part 2: Requirements*

ISO 3758:2012, *Textiles – Care labelling code using symbols*

ISO 15025:2016, *Protective clothing – Protection against flame – Method of test for limited flame spread*

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

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

ISO 16976 (all parts), *Respiratory protective devices – Human factors*

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*