SLOVENSKI STANDARD
SIST EN 62822-2:2016

01-november-2016

Ocena električne varilske opreme glede na omejitve izpostavljenosti delavcev elektromagnetnim poljem (0Hz . 300 GHz) - 2. del: Osnovni standard za obločno varjenje (IEC 62822-2:2016)

Assessment of electric welding equipment related to resctrictions of human exposure to electromagnetic fields (0Hz . 300 GHz) - Part 2: Basic standard for arc welding equipment (IEC 62822-2:2016)

Ta slovenski standard je istoveten z: **EN 62822-2:2016**

ICS:

13.280	Varstvo pred sevanjem	Radiation protection
25.160.30	Varilna oprema	Welding equipment

SIST EN 62822-2:2016 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62822-2

September 2016

ICS 25.160; 25.160.30

English Version

Electric welding equipment - Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 GHz) - Part 2: Arc welding equipment (IEC 62822-2:2016)

Matériels de soudage électrique - Évaluation des restrictions relatives à l'exposition humaine aux champs électromagnétiques (0 Hz à 300 GHz) - Partie 2: Matériels de soudage à l'arc (IEC 62822-2:2016)

Bewertung Elektrischer Schweisseinrichtungen in Bezug auf Begrenzungen der Exposition von Personen gegenüber Elektromagnetischen Feldern (0 Hz - 300 GHz) - Teil 2: Grundnorm für Lichtbogenschweißeinrichtungen (IEC 62822-2:2016)

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

The text of document 26/584/FDIS, future edition 1 of IEC 62822-2, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62822-2:2016.

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)	2017-03-16
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2019-09-16

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

Endorsement notice

The text of the International Standard IEC 62822-2:2016 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 standards indicated:

IEC 62226-1	NOTE	Harmonized as EN 62226-1.
IEC 62226-2-1:2004	NOTE	Harmonized as EN 62226-2-1:2005 (not modified).
IEC 62311	NOTE	Harmonized as EN 62311.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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

NOTE 1 When 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

Publication	Year	Title	EN/HD	Year
IEC 60050-851	2008	International Electrotechnical Vocabulary - Part 851: Electric welding	-	-
IEC 60974-1	-	Arc welding equipment - Part 1: Welding power sources	EN 60974-1	-
IEC 60974-6	-	Arc welding equipment - Part 6: Limited duty equipment	EN 60974-6	-
IEC 61786-1	-	Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings - Part 1: Requirements for measuring instruments	EN 61786-1	-
IEC 61786-2	-	Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings - Part 2: Basic standard for measurements	EN 61788-2	-
IEC 62822-1	-	Electric welding equipment - Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 GHz) - Part 1: Product family standard	EN 62822-1	-

IEC 62822-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Electric welding equipment – Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 GHz) – Part 2: Arc welding equipment

Matériels de soudage électrique – Évaluation des restrictions relatives à l'exposition humaine aux champs électromagnétiques (0 Hz à 300 GHz) – Partie 2: Matériels de soudage à l'arc

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRIC WELDING EQUIPMENT – ASSESSMENT OF RESTRICTIONS RELATED TO HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS (0 Hz to 300 GHz) –

Part 2: Arc welding equipment

FOREWORD

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International Standard IEC 62822-2 has been prepared by IEC technical committee 26: Electric welding.

The text of this standard is based on the following documents:

FDIS	Report on voting
26/584/FDIS	26/591/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62822 series, published under the general title *Electric welding equipment – Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 GHz)*, can be found on the IEC website.

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

ELECTRIC WELDING EQUIPMENT – ASSESSMENT OF RESTRICTIONS RELATED TO HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS (0 Hz to 300 GHz) –

Part 2: Arc welding equipment

1 Scope

This part of IEC 62822 applies to equipment for arc welding and allied processes designed for occupational use by professionals and for use by laymen.

NOTE 1 Typical allied processes are electric arc cutting and arc spraying.

This standard specifies procedures for the assessment of human exposure to magnetic fields produced by arc welding. It covers non-thermal biological effects in the frequency range from 0 Hz to 10 MHz and defines standardized test scenarios.

NOTE 2 The general term “field” is used throughout this document for “magnetic field”.

NOTE 3 For the assessment of exposure to electric fields and thermal effects, the methods specified in the Generic Standard IEC 62311 apply.

This standard does not define methods for workplace assessment regarding the risks arising from electromagnetic fields (EMF). However, the EMF data that results from the application of this standard can be used to assist in workplace assessment.

Other standards may apply to products covered by this standard. In particular this standard cannot be used to demonstrate electromagnetic compatibility with other equipment. It does not specify any product safety requirements other than those specifically related to human exposure to electromagnetic fields.

2 Normative references

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

IEC 60050-851:2008, *International Electrotechnical Vocabulary – Part 851: Electric welding*

IEC 60974-1, *Arc welding equipment – Part 1: Welding power sources*

IEC 60974-6, *Arc welding equipment – Part 6: Limited duty equipment*

IEC 61786-1, *Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings – Part 1: Requirements for measuring instruments*

IEC 61786-2, *Measurement of DC magnetic, AC magnetic and AC electric fields from 1 Hz to 100 kHz with regard to exposure of human beings – Part 2: Basic standard for measurements*

IEC 62822-1, *Electric welding equipment – Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 GHz) – Part 1: Product family standard*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-851 on electric welding, in IEC 60974-1 and IEC 60974-6, as well as the following, apply.

3.1.1
basic restrictions
exposure limit value
restrictions on exposure to electric, magnetic and electromagnetic fields that are based directly on established health effects and biological considerations

3.1.2
exposure index
EI
result of the evaluation of exposure to (both sinusoidal and non-sinusoidal) EMF, expressed as a fraction or percentage of the permissible values

Note 1 to entry: Fractions higher than 1 (100 %) represent exceeding the permissible values.

3.1.3
general public
individuals of all ages and of varying health conditions

Note 1 to entry: Varying ages and health conditions can increase the individuals susceptibilities to EMF.

3.1.4
general public exposure
the exposure of members of the general public to EMF

Note 1 to entry: In many cases, members of the general public are unaware of their exposure to EMF.

3.1.5
health effects
adverse effects, such as thermal heating or stimulation of nerve and muscle tissue as a result of human exposure to EMF

3.1.6
intracorporeal
situated or occurring within the body

3.1.7
layman
operator who does not weld in the performance of his profession and may have little or no formal instruction in welding

[SOURCE: IEC 60050-851:2008, 851-11-14, modified – "arc welding" was replaced by "welding"]

3.1.8
non-thermal effects
the stimulation of muscles, nerves or sensory organs as a result of human exposure to EMF

3.1.9
occupational exposure
the exposure of workers to EMF at their workplaces, generally under known conditions, and as a result of performing their regular or assigned job activities