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## Bedömning av utrustning för elsvetsning med avseende på begränsning av exponering för elektromagnetiska fält (0 Hz - 300 GHz) – Del 3: Utrustning för motståndssvetsning

*Electric welding equipment –*

*Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 Hz) –*

*Part 3: Resistance welding equipment*

Som svensk standard gäller europastandarden EN IEC 62822-3:2018. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 62822-3:2018.

### Nationellt förord

Europastandarden EN IEC 62822-3:2018

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 62822-3, First edition, 2017 - Electric welding equipment - Assessment of restrictions related to human exposure to electromagnetic fields (0 Hz to 300 Hz) - Part 3: Resistance welding equipment**

utarbetad inom International Electrotechnical Commission, IEC.

EN från CENELEC som är identiska med motsvarande IEC-standarder och som görs tillgängliga för nationalkommittéerna efter den 1 januari 2018 får en beteckning som inleds med EN IEC istället för som tidigare bara EN.

Tidigare fastställd svensk standard SS-EN 50505, utgåva 1, 2008, gäller ej fr o m 2021-02-16.

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ICS 25.160.30

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Denna standard är fastställd av SEK Svensk Elstandard, som också kan lämna upplysningar om **sakinnehållet** i standarden.  
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Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

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English Version

**Electric welding equipment - Assessment of restrictions related  
to human exposure to electromagnetic fields (0 Hz to 300 Hz) -  
Part 3: Resistance welding equipment  
(IEC 62822-3:2017)**

Matériels de soudage électrique - Évaluation des  
restrictions relatives à l'exposition humaine aux champs  
électromagnétiques (0 Hz à 300 GHz) - Partie 3: Matériels  
de soudage par résistance  
(IEC 62822-3:2017)

Einrichtungen zum Widerstandsschweißen - Bewertung  
elektrischer Schweißeinrichtungen in Bezug auf  
Begrenzungen der Exposition von Personen gegenüber  
elektromagnetischen Feldern (0 Hz - 300 GHz) - Teil 3:  
Grundnorm für Widerstandsschweißeinrichtungen  
(IEC 62822-3:2017)

This European Standard was approved by CENELEC on 2017-10-20. 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**

## EN IEC 62822-3:2018 (E)

### European foreword

The text of document 26/626A/FDIS, future edition 1 of IEC 62822-3, prepared by IEC/TC 26 "Electric welding" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62822-3:2018.

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) 2018-08-16
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-02-16

This document supersedes EN 50505:2008.

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

### Endorsement notice

The text of the International Standard IEC 62822-3:2017 was approved by CENELEC as a European Standard without any modification.

## 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 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	-	-
IEC 62226-2-1	-	Exposure to electric or magnetic fields in the low and intermediate frequency range - Methods for calculating the current density and internal electric field induced in the human body -- Part 2-1: Exposure to magnetic fields - 2D models	EN 62226-2-1	-
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	-

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 3: Resistance welding equipment**

**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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International Standard IEC 62822-3 has been prepared by IEC technical committee 26: Electric welding.

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

FDIS	Report on voting
26/626A/FDIS	26/630/RVD

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

This document 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 document will remain unchanged until the stability date indicated on the IEC website under "<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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# **ELECTRIC WELDING EQUIPMENT – ASSESSMENT OF RESTRICTIONS RELATED TO HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS (0 Hz TO 300 GHz) –**

## **Part 3: Resistance welding equipment**

### **1 Scope**

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

NOTE 1 Typical allied processes are resistance hard and soft soldering or resistance heating achieved by means comparable to resistance welding equipment.

This document specifies procedures for the assessment of human exposure to magnetic fields produced by resistance welding equipment. 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 or relevant basic standards apply.

This document 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 Basic Standard can be used to assist in workplace assessment.

Other standards can apply to products covered by this document. In particular this document 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.

This document focuses on the use of coupling coefficients to assess the exposure to EMF.

### **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 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 62226-2-1, *Exposure to electric or magnetic fields in the low and intermediate frequency range – Methods for calculating the current density and internal electric field induced in the human body – Part 2-1: Exposure to magnetic fields – 2D models*

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*