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**Varnost električnih grelnih inštalacij – 3. del: Posebne zahteve za inštalacije za indukcijsko in kondukcijsko segrevanje ter inštalacije za indukcijsko taljenje (IEC 60519-3:2005)**

Safety in electroheat installations – Part 3: Particular requirements for induction and conduction heating and induction melting installations (IEC 60519-3:2005)

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English version

**Safety in electroheat installations**  
**Part 3: Particular requirements for induction and conduction heating**  
**and induction melting installations**  
(IEC 60519-3:2005)

Sécurité dans les installations  
électrothermiques  
Partie 3: Règles particulières pour  
les installations de chauffage  
par induction et par conduction  
et pour les installations de fusion  
par induction  
(CEI 60519-3:2005)

Sicherheit in Elektrowärmeanlagen  
Teil 3: Besondere Anforderungen  
an induktive und konduktive  
Erwärmungsanlagen und an  
Induktionsschmelzanlagen  
(IEC 60519-3:2005)

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This European Standard was approved by CENELEC on 2005-04-12. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

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

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

## Foreword

The text of document 27/446/FDIS, future edition 3 of IEC 60519-3, prepared by IEC TC 27, Industrial electroheating equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60519-3 on 2005-04-12.

This European Standard supersedes EN 60519-3:1995.

Significant technical changes with respect to EN 60519-3:1995 are as follows:

- the latest edition of EN 60519-1 (2003), in particular the extension of the scope to cover also voltage band 3 equipment with rated voltages not exceeding 3 600 V AC or 5 000 V DC, has been taken into account;
- definitions have been brought into line with the second edition of IEC 60050-841.

This part of EN 60519 is to be used in conjunction EN 60519-1:2003. It is intended to modify, replace or make additions to EN 60519-1 for particular requirements for induction and conduction heating and induction melting installations.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2006-01-01
  - latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-04-01
- <https://standards.iteh.ai/catalog/standards/sist/f7c7a079-fd62-4e82-969e-7bcb6f856fe0/sist-en-60519-3-2005>
- Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 60519-3:2005 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

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

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.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-841	2004	International electrotechnical vocabulary Part 841: Industrial electroheat	-	-
IEC 60110-1	1998	Power capacitors for induction heating installations Part 1: General	EN 60110-1	1998
IEC 60143-1	2004	Series capacitors for power systems Part 1: General	EN 60143-1	2004
IEC 60364-4-41	2001	Electrical installations of buildings Part 4-41 Protection for safety - Protection against electric shock	-	-
IEC 60519-1	2003	Safety in electroheat installations Part 1: General requirements	EN 60519-1	2003

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NORME  
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60519-3

Troisième édition  
Third edition  
2005-02

Sécurité dans les installations électrothermiques –

Partie 3:

Règles particulières pour les installations de  
chauffage par induction et par conduction et  
pour les installations de fusion par induction

(standards.iteh.ai)

Safety in electroheat installations –

SIST EN 60519-3:2005

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Part 3:

Particular requirements for induction and  
conduction heating and induction melting  
installations

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Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## SAFETY IN ELECTROHEAT INSTALLATIONS –

Part 3: Particular requirements for induction and conduction heating  
and induction melting installations

## 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 60519-3 has been prepared by IEC technical committee 27: Industrial electroheating equipment.

This third edition cancels and replaces the second edition published in 1988 and constitutes a technical revision.

Significant changes with respect to the previous edition are as follows:

- the latest edition of IEC 60519-1 (2003), in particular the extension of the scope to cover also voltage band 3 equipment with rated voltages not exceeding 3 600 V AC or 5 000 V DC, has been taken into account;
- definitions have been brought into line with the second edition of IEC 60050-841.

This part of IEC 60519 is to be used in conjunction with the latest edition of IEC 60519-1. It is intended to modify, replace or make additions to IEC 60519-1 for particular requirements for induction and conduction heating and induction melting installations.

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

FDIS	Report on voting
27/446/FDIS	27/462/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.

IEC 60519 consists of the following parts, under the general title *Safety in electroheat installations*:

- Part 1: General requirements
- Part 2: Particular requirements for resistance heating equipment
- Part 3: Particular requirements for induction and conduction heating and induction melting installations
- Part 4: Particular requirements for arc furnace installations
- Part 5: Specifications for safety in plasma installations
- Part 6: Specifications for safety in industrial microwave heating equipment
- Part 7: Particular requirements for installations with electron guns
- Part 8: Particular requirements for electroslag remelting furnaces
- Part 9: Particular requirements for high-frequency dielectric heating installations
- Part 10: Particular requirements for electrical resistance trace heating systems for industrial and commercial applications<sup>1</sup>
- Part 11: Particular requirements for installations for electromagnetic stirring, transport or pouring of metal liquids
- Part 21: Particular requirements for resistance heating equipment – Heating and melting glass equipment

NOTE If necessary, additional parts covering particular industrial electroheat equipment may be prepared.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

<sup>1</sup> In preparation.

## SAFETY IN ELECTROHEAT INSTALLATIONS –

### Part 3: Particular requirements for induction and conduction heating and induction melting installations

#### 1 Scope

This part of IEC 60519 is applicable to

- installations for induction and conduction heating of solids, at low, mains, medium and high frequencies (for conduction heating, use of direct current is also included);
- installations for induction melting, holding and superheating liquid metal at low, mains, medium and high frequencies;
- those parts of the conveying or handling equipment of the electroheat installation which are within the influence of the heating section.

Examples of application are:

- installations for induction and conduction heating of slabs, billets, rods, strip, wire, tubes, rivets, etc. for subsequent hot forming and heat treatment;
- installations with induction crucible furnaces or induction channel furnaces.

This standard consists of requirements common to both induction and conduction heating installations and induction melting installations (Clauses 1 to 14) and specific requirements for induction and conduction heating installations (Annex A) and specific requirements for induction melting installations (Annex B).

#### 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.

IEC 60050-841:2004, *International Electrotechnical Vocabulary – Part 841: Industrial electroheat*

IEC 60110-1:1998, *Power capacitors for induction heating installations – Part 1: General*

IEC 60143-1:2004, *Series capacitors for power systems – Part 1: General*

IEC 60364-4-41:2001, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*

IEC 60519-1:2003, *Safety in electroheat installations – Part 1: General requirements*