
**Varnost pri električnih grelnih inštalacijah – 10. del: Posebne zahteve za
industrijske in komercialne sisteme za uporovno gretje (IEC 60519-10:2005)**

Safety in electroheat installations – Part 10: Particular requirements for electrical
resistance trace heating systems for industrial and commercial applications (IEC
60519-10:2005)

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EUROPEAN STANDARD

EN 60519-10

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2005

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English version

Safety in electroheat installations
Part 10: Particular requirements for electrical resistance trace heating systems for industrial and commercial applications
(IEC 60519-10:2005)

Sécurité dans les installations
électrothermiques
Partie 10: Règles particulières pour
les systèmes de chauffage par traçage
à résistance électrique pour applications
industrielles et commerciales
(CEI 60519-10:2005)

Sicherheit in Elektrowärmeanlagen
Teil 10: Besondere Anforderungen an
elektrische Trace-Widerstandsheizungen
für industrielle und gewerbliche Zwecke
(IEC 60519-10:2005)

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This European Standard was approved by CENELEC on 2005-08-01. 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 27/468/FDIS, future edition 1 of IEC 60519-10, prepared by IEC TC 27, Industrial electroheating equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60519-10 on 2005-08-01.

This part of EN 60519 shall be used in conjunction with EN 60519-1:2003.

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) 2006-05-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2008-08-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60519-10:2005 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	- ¹⁾	International electrotechnical vocabulary Part 841: Industrial electroheat	-	-
IEC 60364-1	- ¹⁾	Electrical installations of buildings Part 1: Fundamental principles, assessment of general characteristics, definitions	-	-
IEC 60364-5-51	- ¹⁾	Part 5-51: Selection and erection of electrical equipment - Common rules	-	-
IEC 60446	- ¹⁾	Basic and safety principles for man- machine interface, marking and identification - Identification of conductors by colours or numerals	EN 60446	1999 ²⁾
IEC 60519-1	2003	Safety in electroheat installations Part 1: General requirements	EN 60519-1	2003

1) Undated reference.

2) Valid edition at date of issue.

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NORME
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60519-10

Première édition
First edition
2005-07

**Sécurité dans les installations
électrothermiques –**

**Partie 10:
Règles particulières pour les systèmes
de chauffage par traçage à résistance électrique
pour applications industrielles et commerciales**

Safety in electroheat installations –

**Part 10:
Particular requirements for electrical resistance
trace heating systems for industrial and
commercial applications**

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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY IN ELECTROHEAT INSTALLATIONS –

Part 10: Particular requirements for electrical resistance trace heating systems for industrial and commercial applications

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 60519-10 has been prepared by IEC technical committee 27: Industrial electroheating equipment.

This part of IEC 60519 shall be used in conjunction with the third edition of IEC 60519-1.

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

FDIS	Report on voting
27/468/FDIS	27/487/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
- 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 considered.

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.

INTRODUCTION

This part of IEC 60519 provides safety requirements for electrical resistance trace heating systems used in industrial and commercial applications for piping, vessels, roofs, concrete slab heating and other similar applications.

It is the objective of this standard that, when in accordance with the standard, electrical trace heating systems shall operate safely under their normal defined conditions of use, by

- a) employing heaters of the appropriate construction and meeting the test criteria detailed in a separate document that is under consideration (future IEC 62395-1);
- b) operating at safe temperatures when designed, installed, and maintained in accordance with a separate document that is under consideration (future IEC 62395-2);
- c) having at least the minimum levels of overcurrent and ground-fault protection, and an evenly distributed electrically conductive metallic braid, sheath or other equivalent electrically conductive material, as specified in these documents.

NOTE Projects under consideration by TC 27/WG 17:

- IEC 62395-1, *Electrical resistance trace heating systems for industrial and commercial applications – Part 1: General and testing requirements*
- IEC/TS 62395-2, *Electrical resistance trace heating systems for industrial and commercial applications – Part 2: Recommendations for system design, installation and maintenance*

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