SLOVENSKI STANDARD
SIST EN 60519-6:2003

01-april-2003

Varnost pri električnih grelnih inštalacijah - 6. del: Specifikacije za varnost pri industrijski opremi za mikrovalovno ogrevanje (IEC 60519-6:2002)

Safety in electroheat installations -- Part 6: Specifications for safety in industrial microwave heating equipment

Sicherheit in Elektrowärmeanlagen -- Teil 6: Sicherheitsanforderungen für industrielle Mikrowellen-Erwärmungsanlagen

Sécurité dans les installations électrothermiques -- Partie 6: Spécifications pour les installations de chauffage industriel à hyperfréquences

Ta slovenski standard je istoveten z: **EN 60519-6:2002**

ICS:

25.180.10	Električne peči	Electric furnaces

SIST EN 60519-6:2003 **en**

EUROPEAN STANDARD **EN 60519-6**

NORME EUROPÉENNE

EUROPÄISCHE NORM October 2002

ICS 25.180.10

English version

Safety in electroheat installations Part 6: Specifications for safety in industrial microwave heating equipment

(IEC 60519-6:2002)

Sécurité dans les installations électrothermiques
Partie 6: Spécifications pour les installations de chauffage industriel à hyperfréquences
(CEI 60519-6:2002)

Sicherheit in Elektrowärmeanlagen
Teil 6: Sicherheitsanforderungen für industrielle Mikrowellen-Erwärmungsanlagen
(IEC 60519-6:2002)

This European Standard was approved by CENELEC on 2002-10-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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

Ref. No. EN 60519-6:2002 E

Foreword

The text of document 27/324/FDIS, future edition 2 of IEC 60519-6, prepared by IEC TC 27, Industrial electroheating equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60519-6 on 2002-10-01.

This part of EN 60519 shall be used in conjunction with the latest edition of EN 60519-1. It is intended to modify, replace or make additions to EN 60519-1 for particular requirents concerning industrial microwave heating equipment.

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)	2003-07-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2005-10-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60519-6:2002 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 61000-3-2	NOTE	Harmonized as EN 61000-3-2:2000 (modified).
IEC 61000-3-3	NOTE	Harmonized as EN 61000-3-3:1995 (not modified).
IEC 61000-3-11	NOTE	Harmonized as EN 61000-3-11:2000 (not modified).
IEC 61000-6-2	NOTE	Harmonized as EN 61000-6-2:2001 (modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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

Publication	Year	Title	EN/HD	Year
IEC 60050-841	1983	International Electrotechnical Vocabulary (IEV) Chapter 841: Industrial electroheating	-	-
IEC 60519-1	- [1)]	Safety in electroheat installations Part 1: General requirements	EN 60519-1	1993 [2)]
IEC 61307	- [1)]	Industrial microwave heating installations - Test methods for the determination of power output	EN 61307	1996 [2)]
CISPR 11 (mod)	- [1)]	Industrial, scientific and medical (ISM) radio-frequency equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55011	1998 [2)]
ISO 13849-1	1999	Safety of machinery - Safety-related parts of control systems Part 1: General principles for design	-	-

[1)] Undated reference.

[2)] Valid edition at date of issue.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60519-6

Deuxième édition
Second edition
2002-09

Sécurité dans les installations électrothermiques –

Partie 6: Spécifications pour les installations de chauffage industriel à hyperfréquences

Safety in electroheat installations –

Part 6: Specifications for safety in industrial microwave heating equipment

International Electrotechnical Commission, 3, rue de Varembé, 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

CODE PRIX
PRICE CODE N

Pour prix, voir catalogue en vigueur
For price, see current catalogue

CONTENTS

FOREWORD 5
INTRODUCTION 9

1 Scope 11
2 Normative references 11
3 Definitions 11
4 Marking and identification 15
5 Protection against electric shock 15
6 Protection against microwave leakage 15
6.1 Microwave leakage limit 15
6.2 Measurement of microwave leakage 17
6.3 Measurement condition 17
6.4 Requirements for microwave interlocking devices 19
6.5 Requirements for continuous microwave conveyor belt devices 19
6.6 Operating and service instruction 21
6.7 Other safety devices 21
7 Risk of fire, explosion and ionising radiation 21
7.1 General 21
7.2 Risk of fire 21
7.3 Risk of explosion 23
7.4 Ionising radiation 23
8 Impact of electromagnetic effects 23
8.1 Emission 23
8.2 Immunity 25

Bibliography 27

Figure 1 – Continuous microwave conveyor belt devices 25

INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY IN ELECTROHEAT INSTALLATIONS –

Part 6: Specifications for safety in industrial microwave heating equipment

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60519-6 has been prepared by IEC technical committee 27: Industrial electroheating equipment.

This second edition cancels and replaces the first edition published in 1982 and constitutes a technical revision.

This part of IEC 60519 shall 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 concerning industrial microwave heating equipment.

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

FDIS	Report on voting
27/324/FDIS	27/334/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 3.

The committee has decided that the contents of this publication will remain unchanged until 2007. At this date, the publication will be

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

INTRODUCTION

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 electric surface heating systems for industrial and commercial applications [1]

— 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

This edition of IEC 60519-6 stays as close as possible to IEC 60519-6:1982, which was successfully used over 20 years. It specifies safety requirements for industrial microwave heating equipment and plants specially designed for specific applications, unlike commercial and household microwave heating devices, which are manufactured in series. Such equipment is covered by IEC 60335-2-25 and IEC 60335-2-90.

[1] Under consideration.