Ohutus elekterkuumutuspaigaldistes. Osa 6: Ohutusnõuded tööstuslikes mikrolainekuumutuspaigaldistes

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

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60519-6:2011 sisaldab Euroopa standardi EN 60519-6:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 60519-6:2011 consists of the English text of the European standard EN 60519-6:2011.
Standard on kinnitatud Eesti Standardikeskuse 31.05.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 31.05.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 22.04.2011.	Date of Availability of the European standard text 22.04.2011.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 25.180.10

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EUROPEAN STANDARD

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English version

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

(IEC 60519-6:2011)

Sécurité dans les installations électrothermiques - Partie 6: Spécifications pour les installations de chauffage industriel à hyperfréquences (CEI 60519-6:2011)

Lichtbogenschweißeinrichtungen - Teil 6: Schweißstromquellen mit begrenzter Einschaltdauer (IEC 60519-6:2011)

This European Standard was approved by CENELEC on 2011-03-03. 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60519-6:2011 E

Foreword

The text of document 27/704/CDV, future edition 3 of IEC 60519-6, prepared by IEC TC 27, Industrial electroheating, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60519-6 on 2011-03-03.

This European Standard supersedes EN 60519-6:2002.

The significant changes with respect to EN 60519-6:2002 are as follows:

– the third edition of EN 60519-1:2003 has been taken into account (the structure of clauses was adapted to it as far as practicable);

– some definitions are modified or brought into line with IEC 60050-841:2004;

– clauses on abnormal operation, access openings, microwave enclosure and barriers are added;

– the microwave leakage measurements are in a normative Annex A;

– an informative Annex B on the rationales for microwave exposure and leakage limits is added;

– Bibliography is added.

This part of EN 60519 is to be used in conjunction with EN 60519-1:2003. It is intended to specify particular requirements for industrial microwave heating equipment. This Part 6 supplements or modifies the corresponding clauses of EN 60519-1, so as to convert it into an EN standard. Where a particular sub-clause of Part 1 is not mentioned in this Part 6, that sub-clause applies as far as is reasonable. Where this standard states "addition", modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

NOTE Sub-clauses and notes which are additional to those in Part 2 are numbered starting from 101, additional items and annexes are lettered aa, bb or AA, BB, etc.

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

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)	2011-12-03
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-03-03

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60519-6:2011 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 60335-2-25	NOTE Harmonized as EN 60335-2-25.
IEC 60335-2-90	NOTE Harmonized as EN 60335-2-90.
IEC 61010-2-010	NOTE Harmonized as EN 61010-2-010.
IEC 62311:2007	NOTE Harmonized as EN 62311:2008 (modified)

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 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	2004	International Electrotechnical Vocabulary (IEV) - Part 841: Industrial electroheat	-	-
IEC 60519-1	2003	Safety in electroheat installations - Part 1: General requirements	EN 60519-1[1)]	2003
IEC 61307	-	Industrial microwave heating installations - Test methods for the determination of power output	EN 61307	-
IEC 60417-DB	-	Graphical symbols for use on equipment	-	-

[1)] EN 60519-1 is superseded by EN 60519-1:2011, which is based on IEC 60519-1:2010.

CONTENTS

INTRODUCTION

This edition of IEC 60519-6 contains updates and revisions of IEC 60519-6:2002, which was used over several years. It specifies safety requirements for industrial microwave heating equipment and installations specially designed for specific applications, unlike household, commercial and laboratory microwave appliances. Criteria for discrimination between these categories are dealt with in the scope.

SAFETY IN ELECTROHEAT INSTALLATIONS –

Part 6: Specifications for safety in industrial microwave heating equipment

1 Scope

This part of IEC 60519 is applicable to equipment using microwave energy alone or in combination with other kinds of energy for industrial heating of materials.

This part is applicable to industrial microwave heating equipment operating in the frequency range 300 MHz to 300 GHz.

NOTE 1 Since the wavelength of the high end of the microwave band at 300 GHz is very short and particular leakage measurement instrumentation is needed in the low end of the band, the microwave leakage specification in Annex A applies only for the ISM frequencies between 800 MHz and 6 GHz. The centre frequencies of these are 2,45 GHz and 5,8 GHz universally, and between 896 MHz and 918 MHz in some regions. For such microwave equipment IEC 62311 applies. For other microwave frequencies, the basic restriction as addressed in informative Annex B or the ICNIRP Guidelines (see Bibliography) may be used.

This part does not apply to appliances for household and similar use (covered by IEC 60335-2-25), commercial use (covered by IEC 60335-2-90) or laboratory use (covered by IEC 61010-2-010).

NOTE 2 Since microwave tunnel ovens and also some other types of microwave equipment may be either for commercial, laboratory or industrial use, the following criteria are suitable for determination of the classification as industrial equipment:

– commercial equipment is typically designed and planned for series production of many identical units, whereas industrial equipment is typically produced in small series or even as single units. The processed goods are consumed or ready for final use at the end of the heating process.

– laboratory heating equipment is for preparing material in a laboratory environment, and the processed material is immediately available for investigations or further processing. Regular production of large quantities of material is not foreseen.

– with industrial equipment, the processed goods are not immediately accessible to the end user, and the goods may additionally not be in a final state from the perspective of the end user.

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 60417, *Graphical symbols for use on equipment*

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

IEC 61307, *Industrial microwave heating installations – Test methods for the determination of power output*