SVENSK STANDARD SS-EN 60519-6

Fastställd	Utgåva	Sida	Ansvarig kommitté
2011-06-08	2	1 (1+28)	SEK TK 27

Industriella elvärmeanläggningar – Del 6: Särskilda fordringar på mikrovågsanläggningar för uppvärmning

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

Som svensk standard gäller europastandarden EN 60519-6:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60519-6:2011.

Nationellt förord

Europastandarden EN 60519-6:2011

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 60519-6, Third edition, 2011 - Safety in electroheat installations - Part 6: Specifications for safety in industrial microwave heating equipment**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60519-1, utgåva 2, 2003.

Tidigare fastställd svensk standard SS-EN 60519-6, utgåva 1, 2003, gäller ej fr o m 2014-03-03.

ICS 25.180.10

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

SEK Svensk Elstandard svarar för standardiseringen inom elområdet i Sverige och samordnar svensk medverkan i internationell och europeisk standardisering. SEK är en ideell organisation med frivilligt deltagande från svenska myndigheter, företag och organisationer som vill medverka till och påverka utformningen av tekniska regler inom elektrotekniken.

SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60519-6

April 2011

ICS 25.180.10

Supersedes EN 60519-6:2002

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)

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

SEK Svensk Elstandard

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*