

Svenska Elektriska Kommissionen, SEK

Fastställt	Utgåva	Sida	Ingår i
2003-02-28	1	1 (1+13)	SEK Område 27

© Copyright SEK. Reproduction in any form without permission is prohibited.

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 60519-6:2002. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60519-6:2002.

Nationellt förord

Europastandarden EN 60519-6:2002

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60519-6, Second edition, 2002 - Safety in electroheat installations - Part 6: Specifications for safety in industrial microwave heating equipment**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden skall användas tillsammans med tidigare utgiven svensk standard SS-EN 60519-1.

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

Svenska Elektriska Kommissionen, SEK, 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.

SEK

Box 1284
164 29 Kista
Tel 08-444 14 00
www.sekom.se

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

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 requirements 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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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.

CONTENTS

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

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.

This part does not apply to appliances for household and similar purposes (covered by IEC 60335-2-25 and IEC 60335-2-90).

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):1983, *International Electrotechnical Vocabulary (IEV) – Chapter 841: Industrial electroheating*

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

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

CISPR 11, *Industrial, scientific and medical (ISM) radio-frequency equipment – Electro-magnetic disturbance characteristics – Limits and methods of measurement*

ISO 13849-1:1999, *Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design*

■ [REDACTED]

[REDACTED]

[REDACTED]