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Standards

Irish Standard
I.S. EN 61307:2011

Industrial microwave heating installations - Test methods for the determination of power output (IEC 61307:2011 (EQV))

I.S. EN 61307:2011

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61307

July 2011

ICS 25.180.10

Supersedes EN 61307:2006

English version

**Industrial microwave heating installations -
Test methods for the determination of power output
(IEC 61307:2011)**

Installations industrielles de chauffage à
hyperfréquence -
Méthodes d'essai pour la détermination de
la puissance de sortie
(CEI 61307:2011)

Industrielle Mikrowellen-
Erwärmungsanlagen -
Messverfahren für die Bestimmung der
Ausgangsleistung
(IEC 61307:2011)

This European Standard was approved by CENELEC on 2011-06-22. 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

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I.S. EN 61307:2011

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Foreword

The text of document 27/761/CDV, future edition 3 of IEC 61307, prepared by IEC TC 27, Industrial electroheating, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61307 on 2011-06-22.

This European Standard supersedes EN 61307:2006.

EN 61307:2011 includes the following significant technical changes with respect to EN 61307:2006:

- a) it covers how to measure not only the microwave power output of all typical equipment designs, but also the system efficiency, including the standby and hibernation modes;
- b) the handling of the former A and B types of equipment is replaced by measurements of the available microwave power output and microwave workload power, respectively.

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) 2012-03-22
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2014-06-22

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61307:2011 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 60705	NOTE	Harmonized as EN 60705.
IEC 61010-2-010	NOTE	Harmonized as EN 61010-2-010.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-221	1990	International Electrotechnical Vocabulary -	-	-
+ A1	1993	Chapter 221: Magnetic materials and		
+ A2	1999	components		
+ A3	2007			
IEC 60050-726	1982	International Electrotechnical Vocabulary -	-	-
		Chapter 726: Transmission lines and		
		waveguides		
IEC 60050-841	2004	International Electrotechnical Vocabulary -	-	-
		Part 841: Industrial electroheat		
IEC 60519-6	-	Safety in electroheat installations -	EN 60519-6	-
		Part 6: Specifications for safety in industrial		
		microwave heating equipment		

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INDUSTRIAL MICROWAVE HEATING INSTALLATIONS – TEST METHODS FOR THE DETERMINATION OF POWER OUTPUT

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 61307 has been prepared by IEC technical committee 27: Industrial electroheating.

This third edition cancels and replaces the second edition published in 2006. It constitutes a technical revision .

This edition includes the following significant technical changes with respect to the previous edition:-

- a) it covers how to measure not only the microwave power output of all typical equipment designs, but also the system efficiency, including the standby and hibernation modes;
- b) the handling of the former A and B types of equipment is replaced by measurements of the available microwave power output and microwave workload power, respectively.

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

CDV	Report on voting
27/761/CDV	27/782/RVC

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.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

INDUSTRIAL MICROWAVE HEATING INSTALLATIONS – TEST METHODS FOR THE DETERMINATION OF POWER OUTPUT

1 Scope

This International Standard specifies test methods for the determination of the available microwave output power and the efficiency of frequency conversion from the electrical input in industrial microwave heating installations.

This standard also specifies test methods for assessing the microwave power deposition in the microwave workload – the microwave workload power, in microwave-only installations.

This standard is applicable to industrial microwave heating equipment and installations in the frequency range from 300 MHz to 300 GHz.

This standard relates to industrial microwave heating equipment operating under normal load.

This standard 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).

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 60050-221:1990, *International Electrotechnical Vocabulary – Chapter 221: Magnetic materials and components*
Amendment 1(1993)
Amendment 2 (1999)
Amendment 3 (2007)

IEC 60050-841:2004, *International Electrotechnical Vocabulary – Part 841: Industrial electroheat*

IEC 60050-726:1982, *International Electrotechnical Vocabulary – Chapter 726: Transmission lines and waveguides*

IEC 60519-6, *Safety in electroheat installations – Part 6: Specifications for safety in industrial microwave heating equipment*

3 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 60519-6 and IEC 60050-841 as well as the following apply.

3.1

calorimetric power meter

calorimeter power meter

power meter which uses temperature rise in a medium as a means of measuring absorbed power

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