

INTERNATIONAL STANDARD

REDLINE VERSION

**Industrial microwave heating installations - Test methods for the determination
of power output**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Industrial microwave heating installations -
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FOREWORD

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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 61307:2011. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

IEC 61307 has been prepared by IEC technical committee 27: Industrial electroheating and electromagnetic processing. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2011. This edition constitutes a technical revision.

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

- a) it covers not only the standby and hibernation modes, but also start-up, standby and holding power consumption, as well as other aspects of operation flexibility;
- b) more detailed descriptions of the aspects of microwave power, and handling of the A and B types of equipment.

The text of this International Standard is based on the following documents:

Draft	Report on voting
27/1243/FDIS	27/1247/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

1 Scope

This document specifies test methods for the determination of ~~the available microwave output power and~~ the efficiency of frequency conversion from the electrical input, and of the available and workload microwave output power in industrial microwave heating installations, as well as operational flexibility.

~~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 document is in principle applicable to industrial microwave heating equipment and installations in the frequency range from 300 MHz to 300 GHz but focussed on the microwave ISM frequencies below 6 GHz.

This document relates to industrial microwave heating equipment operating ~~under normal load~~ as intended by the manufacturer's specifications for normal operation.

This document does not apply to appliances for household and similar use (covered by IEC 60335-2-25 [1]¹), commercial use (covered by IEC 60335-2-90 [2] and IEC 60335-2-110 [3]) or laboratory use (covered by IEC 61010-2-010 [4]).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 (IEV) - Part 841: Industrial electroheat*

~~IEC 60050-726:1982, International Electrotechnical Vocabulary — Chapter 726: Transmission lines and waveguides~~

IEC 60519-6, *Safety in ~~electroheat~~ installations for electroheating and electromagnetic processing - Part 6: ~~Specifications for safety in industrial microwave heating equipment~~ Particular requirements for high frequency dielectric and microwave heating and processing equipment*

¹ Numbers in square brackets refer to the Bibliography.

Bibliography

- [1] IEC 60335-2-25, *Household and similar electrical appliances - Safety - Part 2-25: Particular requirements for microwave ovens, including combination microwave ovens*
 - [2] IEC 60335-2-90, *Household and similar electrical appliances - Safety - Part 2-90: Particular requirements for commercial microwave ovens*
 - [3] IEC 60335-2-110, *Household and similar electrical appliances - Safety - Part 2-110: Particular requirements for commercial microwave appliances with insertion or contacting applicators*
 - [4] IEC 61010-2-010, *Safety requirements for electrical equipment for measurement, control and laboratory use - Part 2-010: Particular requirements for laboratory equipment for the heating of materials*
 - [5] IEC 60705, *Household microwave ovens - Methods for measuring performance*
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