

BS EN 61307:2011



BSI Standards Publication

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

bsi.

...making excellence a habit.
AVA Documents
Document Sharing Hub

National foreword

This British Standard is the UK implementation of EN 61307:2011. It is identical to IEC 61307:2011. It supersedes BS EN 61307:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/27, Electroheating.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© BSI 2011

ISBN 978 0 580 70047 7

ICS 25.180.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 August 2011.

Amendments issued since publication

Date	Text affected
------	---------------

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

© 2011 CENELEC - All rights of exploitation in any form and by any means reserved worldwide for CENELEC members.

Ref. No. EN 61307:2011 E



Documents
Document Sharing Hub

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		

CONTENTS

1	FOREWORD	3
1	Scope	5
2	Normative references	5
3	Terms and definitions	5
4	Methods of microwave power measurements	8
4.1	General	8
4.2	Available microwave power output	8
4.3	Microwave workload power	8
4.4	Effective microwave power and efficiency	9
5	Calorimetric power measurements	9
5.1	General	9
5.2	Direct water power measurements	9
5.3	Dummy load power measurements	10
6	Determination of microwave workload power	10
7	Determination of effective microwave power	11
7.1	General	11
7.2	The open container water test	11
7.3	Tests using other liquids	12
8	Electrical efficiency	12
8.1	Available microwave power output	12
8.2	Electric input	13
9	Standby power consumption	13
	Bibliography	14