
Household and similar electrical appliances - Test code for the determination of airborne acoustical noise - Part 2-4: Particular requirements for washing machines and spin extractors

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EUROPEAN STANDARD

EN 60704-2-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2001

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Supersedes EN 60704-2-4:1994

English version

**Household and similar electrical appliances -
Test code for the determination of airborne acoustical noise
Part 2-4: Particular requirements for washing machines
and spin extractors
(IEC 60704-2-4:2001)**

Appareils électrodomestiques et
analogues -
Code d'essai pour la détermination du
bruit aérien
Partie 2-4: Règles particulières
pour les machines à laver et
pour lesessoreuses centrifuges
(CEI 60704-2-4:2001)

Elektrische Geräte für den Hausgebrauch
und ähnliche Zwecke -
Prüfvorschrift für die Bestimmung
der Luftschallemission
Teil 2-4: Besondere Anforderungen an
Waschmaschinen und Wäscheschleudern
(IEC 60704-2-4:2001)

SIST EN 60704-2-4:2002

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This European Standard was approved by CENELEC on 2001-07-01. 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 59D/185/FDIS, future edition 2 of IEC 60704-2-4, prepared by SC 59D, Home laundry appliances, of IEC TC 59, Performance of household electrical appliances, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60704-2-4 on 2001-07-01.

This European Standard supersedes EN 60704-2-4:1994.

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) 2002-04-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2004-07-01

This part 2-4 is to be used in conjunction with EN 60704-1:1997.

This part 2-4 supplements or modifies the corresponding clauses of EN 60704-1. When a particular subclause of part 1 is not mentioned in this part 2-4, that subclause applies as far as is reasonable. Where this part 2-4 states "addition", "modification" or "replacement", the relevant text of part 1 is to be adapted accordingly.

Subclauses or figures which are additional to those in part 1 are numbered starting from 101.

Annexes designated "normative" are part of the body of the standard.

In this standard, annexes A and ZA are normative.

Annex ZA has been added by CENELEC. [SIST EN 60704-2-4:2002
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Endorsement notice

The text of the International Standard IEC 60704-2-4:2001 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

Addition to annex ZA of EN 60704-1:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60456 (mod)	1998	Clothes washing machines for household use - Methods for measuring the performance	EN 60456 +A11 +A12	1999 2001 2001

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60704-2-4

Deuxième édition
Second edition
2001-07

**Appareils électrodomestiques et analogues –
Code d'essai pour la détermination
du bruit aérien –**

Partie 2-4:

**Règles particulières pour les machines à laver
le linge et les essoreuses centrifuges**
(standards.iteh.ai)

**Household and similar electrical appliances –
Test code for the determination of airborne
acoustical noise –**

Part 2-4:

**Particular requirements for washing machines
and spin extractors**

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International Electrotechnical Commission
Telefax: +41 22 919 0300

3, rue de Varembe Geneva, Switzerland
e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –
TEST CODE FOR THE DETERMINATION OF AIRBORNE ACOUSTICAL NOISE –****Part 2-4: Particular requirements for washing machines
and spin extractors**

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60704-2-4 has been prepared by subcommittee 59D: Home laundry appliances, of IEC technical committee 59: Performance of household electrical appliances.

This second edition cancels and replaces the first edition published in 1989 and constitutes a technical revision.

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

FDIS	Report on voting
59D/185/FDIS	59D/191/RVD

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 3.

This Part 2-4 is intended to be used in conjunction with IEC 60704-1, 2nd edition 1997: *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements.*

The relevant text of Part 1 as amended by this publication, establishes the test code for washing machines and spin extractors.

This Part 2-4 supplements or modifies the corresponding clauses in IEC 60704-1. When a particular subclause of Part 1 is not mentioned in this Part 2-4, that subclause is applicable as far as reasonable. Where this standard states "addition", "modification" or "replacement", the relevant requirements, test specifications or explanatory matter in Part 1 should be adapted accordingly.

Subclauses or figures which are additional to those in Part 1 are numbered starting from 101. Additional annexes are lettered AA, BB, etc.

Annex A forms an integral part of this standard.

The committee has decided that this publication remains valid until 2004. At this date, in accordance with the committee's decision, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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INTRODUCTION

The measuring conditions specified in this part of IEC 60704 provide for sufficient accuracy in determining the levels of noise emitted and comparing the results of measurements taken by different laboratories, whilst simulating as far as possible the practical use of washing machines and spin extractors.

The textile load is standardized on the basis of those used for measuring performance.

To avoid unsteadiness caused by foaming, the tests are carried out with unsoiled loads and without detergents or rinsing aids.

It is recommended to consider the determination of noise levels as part of a comprehensive testing procedure covering many aspects of properties and performance of washing machines and spin extractors.

Compared to the first edition (1989) of this Part 2-4, the second edition additionally considers the noise of water supply, drainage, prewash and intermediate rinse. Therefore the operating conditions during these operations need careful attention.

NOTE As stated in the introduction to IEC 60704-1, this test code concerns airborne noise only.

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