
Gospodinski in podobni električni aparati - Postopek preskušanja za ugotavljanje zvočnega hrupa v zraku - 2-4. del: Posebne zahteve za pralne stroje in centrifuge

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

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

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

Ta slovenski standard je istoveten z: EN 60704-2-4:2012

ICS:

17.140.20	Emisija hrupa naprav in opreme	Noise emitted by machines and equipment
97.060	Aparati za nego perila	Laundry appliances

SIST EN 60704-2-4:2012**en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60704-2-4

June 2012

ICS 17.140.20; 97.060

Supersedes EN 60704-2-4:2001

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 60704-2-4:2011, modified)**

Appareils électrodomestiques et
analogues -
Code d'essai pour la détermination du
bruit aérien -
Partie 2-4: Exigences particulières pour
les machines à laver le linge et les
essoreuses centrifuges
(CEI 60704-2-4:2011, modifiée)

Elektrische Geräte für den Hausgebrauch
und ähnliche Zwecke -
Prüfvorschrift für die Bestimmung der
Luftschallemission -
Teil 2-4: Besondere Anforderungen an
Waschmaschinen und Wäscheschleudern
(IEC 60704-2-4:2011, modifiziert)

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This European Standard was approved by CENELEC on 2012-04-13. 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 CEN-CENELEC Management Centre or to any CENELEC member.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 59D/379/CDV, future edition 3 of IEC 60704-2-4, prepared by IEC/SC 59D, "Home laundry appliances", of IEC TC 59, "Performance of household electrical appliances", was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60704-2-4:2012.

A draft amendment, which covers common modifications to IEC 60704-2-4 (59D/379/CDV), was prepared by CLC/TC 59X "Performance of household and similar electrical appliances" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-04-13
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2015-04-13

This document supersedes EN 60704-2-4:2001.

EN 60704-2-4:2012 includes the following significant technical changes with respect to EN 60704-2-4:2001:

- measurement uncertainty and standard deviations are taken into account,
- definitions of standard test load and standard test program are modified,
- test enclosure was replaced by common test enclosure defined in Part 1,
- information to be reported is modified.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

EN 60704-2-4 is intended to be used in conjunction with EN 60704-1:2010, *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements*.

NOTE When "Part 1" is mentioned in this standard, it refers to EN 60704-1.

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

EN 60704-2-4 supplements or modifies the corresponding clauses in EN 60704-1. When a particular subclause of Part 1 is not mentioned in EN 60704-2-4, 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, tables and figures that are additional to those in Part 1 are numbered starting from 101. Additional annexes are lettered AA, BB, etc.

Unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause.

Endorsement notice

The text of the International Standard IEC 60704-2-4:2011 was approved by CENELEC as a European Standard with agreed common modifications.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

Addition to EN 60704-1:2010:

IEC 60704-2-6

NOTE Harmonized as EN 60704-2-6.

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COMMON MODIFICATIONS

6 Operation and location of appliance under test

6.101 Standard test programme for noise measurements

Replace this clause by the following:

The standard test programme for noise measurements is the standard 60 °C cotton programme for normally soiled load provided by the manufacturer in the instruction manual.

If this programme is not available, then the most efficient 60 °C cotton programme for normally soiled load without pre-wash according to the manufacturer's instructions shall be used. Other special options shall be deselected.

Highest available spin speed is to be chosen.

The standard test programme for noise measurements is carried out without detergent.

6.102.1 General

Replace this clause by the following:

The standard test load for noise measurements of washing machines consist of conditioned cotton test load at a weight close to, but in any case not more than, the rated capacity.

To minimize the influence of changes in the characteristics of the cotton test load items with increasing age, the standard test load shall consist of cotton test load items which are well distributed in age to give an average age of the standard test load between 30 and 50 runs of the standard test programme. The number of items or average age shall not be adjusted during a test series.

The average age of the standard test load is calculated as follows:

$$\bar{A} = \frac{1}{\sum n_i} \times \sum n_i \times a_i$$

where

a_i is the age of a single cotton test load item as the number of test runs after pre-treatment as defined in 6.102.2;

n_i is the number of cotton test load items of the same age;

\bar{A} is the average age of the standard test load expressed as the number of test runs.

Cotton test load items shall undergo normalisation as defined in 6.102.3 at least after have been used 10 runs of the standard test programme.

No test load item shall be used for more than 80 runs of the standard test programme, excluding pre-treatment runs prior to initial use and normalisation runs.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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.

Addition to EN 60704-1:2010 :

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60456 (mod) + corr. September	2010 2011	Clothes washing machines for household use - Methods for measuring the performance	EN 60456 + AC	2011 2011

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NORME INTERNATIONALE

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

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

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

This third edition cancels and replaces the second edition (2001). Main changes are:

- measurement uncertainty and standard deviations are taken into account,
- definitions of standard test load and standard test program are modified,
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