



NSAI
Standards

Irish Standard
I.S. EN 60704-2-6:2012

Household and similar electrical
appliances - Test code for the
determination of airborne acoustical
noise -- Part 2-6: Particular
requirements for tumble dryers (IEC
60704-2-6:2012 (EQV))

I.S. EN 60704-2-6:2012

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.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

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

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EUROPEAN STANDARD
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EN 60704-2-6

October 2012

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Supersedes EN 60704-2-6:2004

English version

**Household and similar electrical appliances -
Test code for the determination of airborne acoustical noise -
Part 2-6: Particular requirements for tumble dryers
(IEC 60704-2-6:2012)**

Appareils électrodomestiques
et analogues - Code d'essai
pour la détermination du bruit aérien -
Partie 2-6: Règles particulières
pour les sèche-linge à tambour
(CEI 60704-2-6:2012)

Elektrische Geräte für den Hausgebrauch
und ähnliche Zwecke -
Prüfvorschrift für die Bestimmung
der Luftschallemission -
Teil 2-6: Besondere Anforderungen
für Wäschetrockner
(IEC 60704-2-6:2012)

This European Standard was approved by CENELEC on 2012-05-01. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey 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

Foreword

The text of document 59D/394/FDIS, future edition 3 of IEC 60704-2-6, 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 approved by CENELEC as EN 60704-2-6:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-04-19
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-05-01

This document supersedes EN 60704-2-6:2004.

EN 60704-2-6:2012 includes the following significant technical changes with respect to EN 60704-2-6:2004:

- it does not contain the description of an appropriate test enclosure which has been incorporated in Part 1;
- it clarifies that the only appliances designed for front loading and specified by the manufacturer for building-in, under a counter or placing under a worktop between cabinets (under-counter types) shall be placed in a test enclosure.

This standard is to be used in conjunction with EN 60704-1:2010.

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

This Part 2-6 supplements or modifies the corresponding clauses in EN 60704-1, so as to establish the test code for tumble dryers. When a particular subclause of Part 1 is not mentioned in this Part 2-6, 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 numbered starting from 101 are additional to those in Part 1. 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.

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.

For the relationship with Commission Regulation (EC) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 60704-2-6:2012 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 60704-1:2010.

<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 2011
IEC 61121	-	Tumble dryers for household use - Methods for measuring the performance	EN 61121	-
ISO 7235	-	Acoustics - Laboratory measurement procedures for ducted silencers and air- terminal units - Insertion loss, flow noise and total pressure loss	EN ISO 7235	-

Annex ZZ (informative)

Coverage of Requirements of Commission Delegated Regulation (EC) No 392/2012 supplementing Directive 2010/30/EU

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers only requirements concerning airborne acoustical noise emissions out of those requirements given in Commission Regulation (EC) No 392/ 2012.

Compliance with this standard provides one means of conformity with the specified requirements of the Commission Regulation(s) concerned.

WARNING: Other requirements and other EC Directives or Commission Regulations may be applicable to the products falling within the scope of this standard.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – TEST CODE FOR THE DETERMINATION OF AIRBORNE ACOUSTICAL NOISE –

Part 2-6: Particular requirements for tumble dryers

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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- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60704-2-6 has been prepared by subcommittee 59D: Home laundry appliances, of IEC technical committee 59: Performance of household electrical appliances.

This third edition cancels and replaces the second edition published in 2003. This edition constitutes a technical revision.

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

- a) it does not contain the description of an appropriate test enclosure which has been incorporated in Part 1;
- b) it clarifies that only appliances designed for front loading and specified by the manufacturer for building-in, under a counter or placing under a worktop between cabinets (under-counter types) shall be placed in a test enclosure.

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

FDIS	Report on voting
59D/394/FDIS	59D/397/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 2.

This Part 2-6 is intended to be used in conjunction with the third edition (2010) of IEC 60704-1, *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 IEC 60704-1.

This Part 2-6 supplements or modifies the corresponding clauses in IEC 60704-1, so as to establish the test code for tumble dryers. When a particular subclause of Part 1 is not mentioned in this Part 2-6, 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 numbered starting from 101 are additional to those in Part 1. 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.

A list of all the parts in the IEC 60704 series, published under the general title *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise*, can be found on the IEC website.

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.

INTRODUCTION

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

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 household tumble dryers.

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

HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES – TEST CODE FOR THE DETERMINATION OF AIRBORNE ACOUSTICAL NOISE –

Part 2-6: Particular requirements for tumble dryers

1 Scope and object

This clause of Part 1 is applicable except as follows.

1.1 Scope

1.1.1 General

Addition:

These particular requirements apply to single unit electric tumble dryers for household and similar use intended for placing on the floor against a wall, for building-in or placing under a counter, a kitchen worktop or under a sink, for wall-mounting or on a counter. For the purpose of this standard, washer-dryer combinations, when operated as a dryer, are considered as a tumble dryer.

NOTE 101 For washing function, see IEC 60704-2-4.

This standard is also applicable for gas-fired electric tumble dryers.

1.1.2 Types of noise

Replacement:

The methods specified in ISO 3743-1, ISO 3743-2 and ISO 3744 can be used for measuring noise emitted by tumble dryers.

1.1.3 Size of the source

Replacement:

The method specified in ISO 3744 is applicable to noise sources of any size. When applying ISO 3743-1 and ISO 3743-2, care should be taken that the maximum size of the appliance under test fulfils the requirements specified in 1.3 of ISO 3743-1 and ISO 3743-2.

1.2 Object

Addition:

Requirements for the declaration of noise emission values are not within the scope of this standard.

NOTE 101 For determining and verifying noise emission values declared in product specifications, see IEC 60704-3.

1.3 Measurement uncertainty

Replacement:

The estimated values of standard deviations of sound power levels, determined according to this standard, are:

Table 101 – Standard deviations of sound power levels

Standard deviation dB	
σ_r (repeatability)	σ_R (reproducibility)
0,4	0,8

Addition:

1.101 Standard deviation for declaration and verification

For the purpose of determining and verifying declared noise emission values according to IEC 60704-3, the values indicated in Table 102 apply:

Table 102 – Standard deviations for declaration and verification

Standard deviation dB		
σ_P (production)	σ_t (total)	σ_M (reference)
0,7 to 1,0	1,1 to 1,3	1,5

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

IEC 61121: —¹, *Tumble dryers for household use – Methods for measuring the performance*

IEC 60456:2010, *Clothes washing machines for household use – Methods for measuring the performance*

ISO 7235, *Acoustics – Laboratory measurement procedures for ducted silencers and air-terminal units – Insertion loss, flow noise and total pressure loss*

3 Terms and definitions

This clause of Part 1 is applicable except as follows.

Addition:

3.101

tumble dryer

appliance in which textile material is dried by tumbling in a rotating drum, through which heated air is passed

¹ To be published.

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