

MAJAPIDAMIS- JA MUUD TAOLISED ELEKTRISEADMED.
KATSENORMID ÕHUMÜRA MÄÄRAMISEKS. OSA 2-1:
ERINÕUDED TOLMUIMEJATELE

Household and similar electrical appliances - Test code
for the determination of airborne acoustical noise - Part
2-1: Particular requirements for vacuum cleaners

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 60704-2-1:2015 sisaldab Euroopa standardi EN 60704-2-1:2015 ingliskeelset teksti.	This Estonian standard EVS-EN 60704-2-1:2015 consists of the English text of the European standard EN 60704-2-1:2015.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.01.2015.	Date of Availability of the European standard is 09.01.2015.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 17.140.20, 97.080

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:

Aru 10, 10317 Tallinn, Eesti; koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Aru 10, 10317 Tallinn, Estonia; homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Household and similar electrical appliances - Test code for the
determination of airborne acoustical noise - Part 2-1: Particular
requirements for vacuum cleaners
(IEC 60704-2-1:2014)**

Appareils électrodomestiques et analogues - Code d'essai
pour la détermination du bruit aérien - Partie 2-1: Exigences
particulières pour les aspirateurs
(IEC 60704-2-1:2014)

Elektrische Geräte für den Hausgebrauch und ähnliche
Zwecke - Prüfvorschrift für die Bestimmung der
Luftschallemission - Teil 2-1: Besondere Anforderungen an
Staubsauger
(IEC 60704-2-1:2014)

This European Standard was approved by CENELEC on 2014-06-26. 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.



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 59F/255/FDIS, future edition 3 of IEC 60704-2-1, prepared by SC 59F: "Floor treatment appliances" of IEC/TC 59: "Performance of household and similar electrical appliances." was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60704-2-1:2015.

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) 2015-07-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-06-26

This document supersedes EN 60704-2-1:2001.

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.

Endorsement notice

The text of the International Standard IEC 60704-2-1:2014 was approved by CENELEC as a European Standard without any modification.

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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

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 60312-1 (mod)	2010	Vacuum cleaners for household use - Part 1: Dry vacuum cleaners - Methods for measuring the performance	EN 60312-1	2013
			+prA	

Annex ZZ (informative)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission to provide reliable, accurate and reproducible procedures and methods of measuring airborne acoustical noise of household appliances, which take into account the recognised state-of-the-art measurement methods.

This European Standard in conjunction with Part 1 specifies the test code for the determination of airborne acoustical noise emission of vacuum cleaners for household and similar use. It shall be applied implementing:

- Commissions delegated Regulation (EU) No 665/2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of vacuum cleaners;
- Commission Regulation (EU) No 666/2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for vacuum cleaners.

For determining and verifying airborne acoustical noise emission values declared on a printed label as well as in a product fiche and in the technical documentation, see EN 60704-3.

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

CONTENTS

FOREWORD.....	3
1 Scope and object.....	6
1.1 Scope	6
1.1.1 General	6
1.1.2 Types of noise	6
1.1.3 Size of the source.....	6
1.2 Object.....	6
1.3 Measurement uncertainty	7
2 Normative references	8
3 Terms and definitions	8
4 Measurement methods and acoustical environments	9
5 Instrumentation.....	10
5.1 Instrumentation for measuring acoustical data	10
6 Operation and location of appliances under test	10
6.1 Equipping and pre-conditioning of appliances	10
6.2 Supply of electric energy and of water or gas.....	11
7 Measurement of sound pressure levels.....	13
8 Calculation of sound pressure and sound power levels.....	14
9 Information to be recorded.....	14
10 Information to be reported	14
Annexes	17
Annex A (normative) Standard test table	17
Figure 101 – Appliance with cleaning head connected directly	15
Figure 102 – Appliance with the cleaning head connected by hose and connecting tube	16
Table 101 – Standard deviations of sound power levels determined on carpets	7
Table 102 – Standard deviations of sound power levels determined on hard floors	7
Table 103 – Standard deviations for declaration and verification for vacuum cleaners for carpets	7
Table 104 – Standard deviations for declaration and verification hard floors	7
Table 105 – Wilton type carpet specifications	9

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 vacuum cleaners.

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 vacuum cleaners.

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

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

Part 2-1: Particular requirements for vacuum cleaners

1 Scope and object

This clause of Part 1 is applicable except as follows:

1.1 Scope

1.1.1 General

Replacement:

These particular requirements apply to electrical vacuum cleaners (including their accessories and their component parts) for household use in or under conditions similar to those in households.

This part of IEC 60704 applies as it is to electrical vacuum cleaners operating in dry conditions. Some additions and modifications for vacuum cleaners operating in wet conditions are under consideration. How to test robotic vacuum cleaners is under consideration for a future edition.

This part of IEC 60704 does not apply to vacuum cleaners for industrial or professional purposes.

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 electric vacuum cleaners.

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 ISO 3743-1 and ISO 3743-2.

1.2 Object

Addition:

This part of IEC 60704 describes the determination of the noise emission of vacuum cleaners under normal operating conditions on carpet and hard floor according to 4.6 of IEC 60312-1:2010.

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