

EUROPEAN STANDARD

**EN 60312-1**

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English Version

**Vacuum cleaners for household use - Part 1: Dry vacuum  
cleaners - Methods for measuring the performance  
(IEC 60312-1:2010 , modified + A1:2011 , modified)**

Aspirateurs de poussière à usage domestique - Partie 1:  
Aspirateurs a sec - Méthodes de mesure de l'aptitude à la  
fonction  
(IEC 60312-1:2010 , modifiée + A1:2011 , modifiée)

Staubsauger für den Hausgebrauch - Teil 1: Trockensauger  
- Prüfverfahren zur Bestimmung der  
Gebrauchseigenschaften  
(IEC 60312-1:2010 , modifiziert + A1:2011 , modifiziert)

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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**

## European foreword

This document (EN 60312-1:2017) consists of the text of IEC 60312-1:2010+A1:2011 prepared by SC 59F, "Surface cleaning appliances", of IEC/TC 59, "Performance of household and similar electrical appliances", together with the common modifications prepared by CLC/TC 59X, "Performance of household and similar electrical appliances".

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) 2018-01-02
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2020-01-02

The common modifications of EN 60312-1:2013 still apply. They are partly modified.

Clauses, subclauses, notes, tables and figures which are additional to those in IEC 60312-1:2010 are prefixed "Z".

This European Standard also specifies, as far as necessary, the test methods which shall be applied in accordance with the standardisation mandate M540 related to Council Directive 92/75 of the European Commission.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZA and ZZB, which are integral parts of this document.

### Endorsement notice

The text of the International Standard IEC 60312-1:2010+A1:2011 was approved by CENELEC as a European Standard with agreed common modifications.

**Annex ZZA**  
(informative)

**Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 665/2013 aimed to be covered**

This European standard has been prepared under a Commission’s standardisation request ‘M/540’ / ‘C(2015) 8753 final’ to provide one voluntary means of conforming to the energy labelling requirements of Commission Delegated Regulation (EU) No 665/2013 of 3 May 2013 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of energy labelling of vacuum cleaners [OJEU L192 of 13 July 2013].

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding energy labelling requirements of that Regulation and associated EFTA Regulations.

**Table ZZA.1 – Correspondence between this European Standard and Commission Delegated Regulation (EU) No 665/2013 of [3 May 2013] supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of k vacuum cleaners [OJEU L192 of 13 July 2013] and Commission’s standardisation request ‘M/540’ / ‘C(2015) 8753 final’**

Energy labelling requirements of Regulation No 665/2013 [OJEU L192]	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
annual energy consumption	6.16	
rated input power		see list of harmonised standards (OJEU 2014/C 272/06) EN 60335-2-2:2010/A11:2012 EN 60335-2-2:2010/A1:2013 IEC 60335-2-2:2009/A1:2012
dust pick up on carpet (dpu <sub>c</sub> )	5.3 in conjunction with 6.Z1.2	
dust pick up on hard floor (dpu <sub>hf</sub> )	5.2	
dust re-emission	5.11	
sound power level	6.15	The reference to verification given in Annex ZZ of EN 60704-2-1:2015 shall not apply.

WARNING 1: Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2: Other Union legislation may be applicable to the products falling within the scope of this standard.

**Annex ZZB**  
(informative)

**Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) No 666/2013 aimed to be covered**

This European standard has been prepared under a Commission's standardisation request 'M/540' / 'C(2015) 8753 final' to provide one voluntary means of conforming to the ecodesign requirements of Commission Regulation (EU) No 666/2013 of 8 July 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for vacuum cleaners [OJEU L 192 of 13 July 2013].

Once this standard is cited in the Official Journal of the European Union under that Regulation, compliance with the normative clauses of this standard given in Table ZZB.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding ecodesign requirements of that Regulation and associated EFTA Regulations.

**Table ZZB.1 – Correspondence between this European Standard and Commission Regulation (EU) No 666/2013 of 8 July 2013 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for vacuum cleaners [OJEU L 192 of 13 July 2013] and Commission's standardisation request 'M/540' / 'C(2015) 8753 final'**

Ecodesign requirements of Regulation No 666/2013 [OJEU L 192]	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
annual energy consumption	6.16	
rated input power		see list of harmonised standards (OJEU 2014/C 272/06) EN 60335-2-2:2010/A11:2012 EN 60335-2-2:2010/A1:2013 IEC 60335-2-2:2009/A1:2012
dust pick up on carpet (dpu <sub>c</sub> )	5.3 in conjunction with 6.Z1.2	
dust pick up on hard floor (dpu <sub>hf</sub> )	5.2	
dust re-emission	5.11	
sound power level	6.15	The reference to verification given in Annex ZZ of EN 60704-2-1:2015 shall not apply.
durability of hose	6.9	
operational motor lifetime	6.Z17	

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WARNING 2: Other Union legislation may be applicable to the products falling within the scope of this standard.

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# INTERNATIONAL ELECTROTECHNICAL COMMISSION

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## VACUUM CLEANERS FOR HOUSEHOLD USE –

### Part 1: Dry vacuum cleaners – Methods for measuring the performance

#### FOREWORD

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**This consolidated version of IEC 60312-1 consists of the first edition (2010) [documents 59F/195/FDIS and 59F/199/RVD] and its amendment 1 (2011) [documents 59F/206/CDV and 59F/207/RVC]. It bears the edition number 1.1.**

**The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience. A vertical line in the margin shows where the base publication has been modified by amendment 1. Additions and deletions are displayed in red, with deletions being struck through.**

International Standard IEC 60312-1 has been prepared by subcommittee 59F: Floor treatment appliances, of IEC technical committee 59: Performance of household and similar electrical appliances.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all the parts in the IEC 60312 series, under the general title *Vacuum cleaners for household use*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendments 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.

A bilingual version of this publication may be issued at a later date.

**IMPORTANT – The “colour inside” logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.**



## **A1** INTRODUCTION (to amendment 1)

The following changes to IEC 60312-1 concern Subclauses 5.5 and 5.9 and the related specifications in Subclauses 7.2.2 and 7.2.6.

The reason for this is due to the tightening of the specification to the cotton linters used in the test dust. In order to reproduce the airflow restricting conditions expected during the development of this test it is necessary to use more test dust when Condition 3 is used as a stopping point. Further, it provides a specification for the cellulose dust.

In addition to this an updated specification of the cushion slip material is available. **A1**

## VACUUM CLEANERS FOR HOUSEHOLD USE –

### Part 1: Dry vacuum cleaners – Methods for measuring the performance

#### 1 Scope

This International Standard is applicable for measurements of the performance of dry vacuum cleaners for household use in or under conditions similar to those in households.

The purpose of this standard is to specify essential performance characteristics of dry vacuum cleaners being of interest to the users and to describe methods for measuring these characteristics.

NOTE 1 Due to influence of environmental conditions, variations in time, origin of test materials and proficiency of the operator, most of the described test methods will give more reliable results when applied for comparative testing of a number of appliances at the same time, in the same laboratory and by the same operator.

NOTE 2 This standard is not intended for battery-operated vacuum cleaners.

For safety requirements, reference is made to IEC 60335-1 and IEC 60335-2-2.

#### 2 Normative references

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.

IEC 60688, *Electrical measuring transducers for converting a.c. electrical quantities to analogue or digital signals*

IEC 60704-1, *Household and similar electrical appliances – Test code for the determination of airborne acoustical noise – Part 1: General requirements*

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

ISO 554, *Standard atmospheres for conditioning and/or testing – Specifications*

ISO 679, *Methods of testing cements – Determination of strength*

ISO 1763, *Carpets – Determination of number of tufts and/or loops per unit length and per unit area*

ISO 1765, *Machine-made textile floor coverings – Determination of thickness*

ISO 1766, *Textile floor coverings – Determination of thickness of pile above the substrate*

ISO 2424, *Textile floor coverings – Vocabulary*

ISO 2439, *Flexible cellular polymeric materials – Determination of hardness (indentation technique)*

ISO 3386-1, *Polymeric materials, cellular flexible – Determination of stress-strain characteristics in compression – Part 1: Low-density materials*