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Vacuum cleaners and dust extractors providing equipment protection level Dc for the collection of combustible dusts - Particular requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 62784:2018 sisaldab Euroopa standardi EN 62784:2018 ingliskeelset teksti.	This Estonian standard EVS-EN 62784:2018 consists of the English text of the European standard EN 62784:2018.
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 14.12.2018.	Date of Availability of the European standard is 14.12.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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ICS 17.080

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ICS 17.080

English Version

Vacuum cleaners and dust extractors providing equipment
protection level Dc for the collection of combustible dusts -
Particular requirements
(IEC 62784:2017)

Aspirateurs et extracteurs de poussières procurant un
niveau de protection du matériel Dc, pour la collecte des
poussières combustibles - Exigences particulières
(IEC 62784:2017)

Besondere Anforderungen für Staubsauger und Entstauber
mit dem Geräteschutzniveau Dc für die Aufnahme von
brennbaren Stäuben
(IEC 62784:2017)

This European Standard was approved by CENELEC on 2017-06-26. 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 61J/660/FDIS, future edition 1 of IEC 62784, prepared by SC 61J "Electrical motoroperated cleaning appliances for commercial use" of IEC/TC 61 "Safety of household and similar electrical appliances" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62784:2018.

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) 2019-06-14
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-12-14

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

Endorsement notice

The text of the International Standard IEC 62784:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60335-2-2	NOTE	Harmonized as EN 60335-2-2.
IEC 60335-2-67	NOTE	Harmonized as EN 60335-2-67.
IEC 60335-2-68	NOTE	Harmonized as EN 60335-2-68.
IEC 60335-2-72	NOTE	Harmonized as EN 60335-2-72.
IEC 60335-2-100	NOTE	Harmonized as EN 50636-2-100.
IEC 60364 (series)	NOTE	Harmonized as HD 60364 (series).
IEC 60601-1 (series)	NOTE	Harmonized as EN 60601-1 (series).
IEC 62841 (series)	NOTE	Harmonized as EN 62841 (series).

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

VACUUM CLEANERS AND DUST EXTRACTORS PROVIDING EQUIPMENT PROTECTION LEVEL Dc FOR THE COLLECTION OF COMBUSTIBLE DUSTS – PARTICULAR REQUIREMENTS

FOREWORD

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International standard IEC 62784 has been prepared by subcommittee 61J: Electrical motor-operated cleaning appliances for commercial use, of IEC technical committee 61: Safety of household and similar electrical appliances.

This standard cancels and replaces Annex CC of IEC 60335-2-69, on which this standard is based.

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

FDIS	Report on voting
61J/660/FDIS	61J/667/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.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.

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INTRODUCTION

This document recognizes the internationally accepted level of protection against hazards such as electrical, mechanical, thermal, fire and radiation of appliances when operated as in normal use taking into account the manufacturer's instructions. It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

This document takes into account the requirements of IEC 60364 as far as possible so that there is compatibility with the wiring rules when the appliance is connected to the supply mains. However, national wiring rules may differ.

An appliance employing materials or having forms of construction differing from those detailed in the requirements of this standard may be examined and tested according to the intent of the requirements and, if found to be substantially equivalent, may be considered to comply with the standard.

IEC 62784 contains the result of the work of IEC SC61J JWG1. The joint working group was established in April 2009 to prepare, or ensure the coordination of (within SC61J) international standards and specifications for vacuum cleaners and dust extractors in collaboration with TC31, intended for the collection of dusts which present an explosion risk.

This document for "vacuum cleaners and dust extractors providing equipment protection level Dc for the collection of combustible dusts" reflects the final agreement of JWG1.

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VACUUM CLEANERS AND DUST EXTRACTORS PROVIDING EQUIPMENT PROTECTION LEVEL Dc FOR THE COLLECTION OF COMBUSTIBLE DUSTS – PARTICULAR REQUIREMENTS

1 Scope

This International Standard covers electrical mobile motor-operated vacuum cleaners Equipment Protection Level (EPL) Dc.

This includes dust extractors, for wet suction or dry suction, intended for commercial indoor use with or without attachments, to collect combustible dust in an explosive dust atmosphere.

The requirements for the construction and testing covered by this document are applied in addition to the requirements for commercial and industrial vacuum cleaners in IEC 60335-2-69.

This document supplements and modifies the requirements of IEC 60079-0. Whenever a requirement of this standard is in conflict with a requirement of IEC 60079-0 the requirement of this standard will take precedence.

The following power systems are covered:

- mains powered motors up to a rated voltage of 250 V for single-phase appliances and 480 V for other appliances.

This document does not cover specific hazards associated with extreme ambient temperatures (less than -20 °C or higher than 40 °C) unless otherwise marked by the manufacturer as given in IEC 60079-0. The temperatures shall not exceed the temperature range of -20 °C to $+60\text{ °C}$.

This document does not cover motorized cleaning heads for which additional requirements are under consideration.

This document does not apply to

- back-pack vacuum cleaners;
- vacuum cleaners with a traction drive;
- vacuum cleaners and water-suction cleaning appliances for household use (IEC 60335-2-2);
- floor treatment machines for commercial use (IEC 60335-2-67, IEC 60335-2-72);
- spray extraction machines for commercial use (IEC 60335-2-68);
- hand-held mains-operated electrical garden blowers, vacuums and blower vacuums (IEC 60335-2-100);
- hand-held and transportable motor-operated electric tools (IEC 62841 series);
- appliances for medical purposes (IEC 60601-1);
- machines designed for use in corrosive environments;
- machines designed for picking up flammable liquids;
- machines designed for use in explosive environments due to the presence of explosive substances or pyrotechnical products, or unstable chemical substances.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60079-0:2011, *Explosive atmospheres – Part 0: Equipment – General requirements*

IEC 60079-31, *Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"*

IEC 60335-2-69, *Household and similar electrical appliances – Safety – Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush, for commercial use*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60079-0, IEC 60079-31, IEC 60335-2-69 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

combustible dust

finely divided solid particles, 500 µm or less in nominal size, which may form explosive mixtures with air at standard atmospheric pressure and temperatures

Note 1 to entry: This includes dust and grit as defined in ISO 4225.

Note 2 to entry: The term solid particles is intended to address particles in the solid phase and not the gaseous or liquid phase, but does not preclude a hollow particle.

3.2

explosive dust atmosphere

mixture with air, under atmospheric conditions, of flammable substances in the form of dust, fibres or flyings which, after ignition, permits self-sustaining propagation

Note 1 to entry: Minimum ignition energy values for common dusts can be found in IEC 60335-2-69.

[SOURCE: IEC 60050-426:2008, 426-01-08, modified – The note to entry has been added]

3.3

mobile machine

transportable equipment

machine that is capable of being moved from one location to another

Note 1 to entry: This includes portable and hand-held appliances, and excludes fixed and stationary appliances.

[SOURCE: IEC 60050-151:2001, 151-16-45, modified – "Machine" has been added and "generally by using vehicles" has been deleted. The note to entry has been added]

3.4

electrostatic earthing

connection to earth with a maximum resistance of 1 MΩ