SLOVENSKI STANDARD
SIST EN 61340-2-1:2016/A1:2022

01-oktober-2022

Elektrostatika - 2-1. del: Merilne metode - Sposobnost materialov in izdelkov za odvajanje elektrostatičnega naboja - Dopolnilo A1 (IEC 61340-2-1:2015/AMD1:2022)

Electrostatics - Part 2-1: Measurement methods - Ability of materials and products to dissipate static electric charge (IEC 61340-2-1:2015/AMD1:2022)

Elektrostatik - Teil 2-1: Messverfahren - Fähigkeit von Materialien und Erzeugnissen, elektrostatische Ladungen abzuleiten (IEC 61340-2-1:2015/AMD1:2022)

Electrostatique - Partie 2-1: Méthodes de mesure - Capacité des matériaux et des produits à dissiper des charges électrostatiques (IEC 61340-2-1:2015/AMD1:2022)

Ta slovenski standard je istoveten z: **EN 61340-2-1:2015/A1:2022**

ICS:

17.220.99	Drugi standardi v zvezi z elektriko in magnetizmom	Other standards related to electricity and magnetism

SIST EN 61340-2-1:2016/A1:2022 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 61340-2-1:2015/A1

August 2022

ICS 17.220.99; 29.020

English Version

Electrostatics - Part 2-1: Measurement methods - Ability of materials and products to dissipate static electric charge (IEC 61340-2-1:2015/AMD1:2022)

Electrostatique - Partie 2-1: Méthodes de mesure - Capacité des matériaux et des produits à dissiper des charges électrostatiques (IEC 61340-2-1:2015/AMD1:2022)

Elektrostatik - Teil 2-1: Messverfahren - Fähigkeit von Materialien und Erzeugnissen, elektrostatische Ladungen abzuleiten (IEC 61340-2-1:2015/AMD1:2022)

This amendment A1 modifies the European Standard EN 61340-2-1:2015; it was approved by CENELEC on 2022-07-27. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

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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

Ref. No. EN 61340-2-1:2015/A1:2022 E

European foreword

The text of document 101/639/CDV, future IEC 61340-2-1/AMD1, prepared by IEC/TC 101 "Electrostatics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61340-2-1:2015/A1:2022.

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) 2023-04-27
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-07-27

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.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 61340-2-1:2015/AMD1:2022 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 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.

NOTE 1 Where 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.

Publication	Year	Title	EN/HD	Year
IEC 61010-1	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements	EN 61010-1	-
IEC 61010-2-030	-	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-030: Particular requirements for equipment having testing or measuring circuits	EN IEC 61010-2-030	-

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INTERNATIONAL STANDARD

HORIZONTAL PUBLICATION

AMENDMENT 1

Electrostatics –
Part 2-1: Measurement methods – Ability of materials and products to dissipate static electric charge

INTERNATIONAL
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ELECTROSTATICS –

Part 2-1: Measurement methods – Ability of materials and products to dissipate static electric charge

AMENDMENT 1

FOREWORD

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Amendment 1 to IEC 61340-2-1:2015 has been prepared by IEC technical committee 101: Electrostatics.

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

Draft	Report on voting
101/639/CDV	101/651/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications/.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

Replace the second paragraph of the Introduction with the following new text:

For homogeneous conductive materials, this property can be evaluated indirectly by measuring resistance or resistivity parameters. Care should be exercised when determining the homogeneity of materials, as some materials that appear homogenous do exhibit non−homogeneous electrical characteristics. If the homogeneity of materials is not known and cannot be otherwise verified, it is possible that resistance measurements will not be reliable or will not give enough information. It is also possible that resistance measurements will not be reliable when evaluating materials in the dissipative or insulative range and especially for high ohmic materials that include conductive fibres (e.g. textiles with a metallic grid). In such cases, the rate of dissipation of static charge should be measured directly.

1 Scope

Replace the third paragraph of Clause 1 with the following new text:

The two test methods for measuring charge decay time, one using corona charging and one using a charged metal plate are different and it is possible that they will not give equivalent results. Nevertheless, each method has a range of applications for which it is best suited. The corona charging method is suitable for evaluating the ability of materials, for example textiles, packaging, to dissipate charge from their own surfaces. The charged metal plate method is suitable for evaluating the ability of materials and objects such as gloves, finger cots, hand tools, to dissipate charge from conductive objects placed on or in contact with them. It is possible that the charged plate method will not be suitable for evaluating the ability of materials to dissipate charge from their own surfaces.

2 Normative references

Add the following normative references:

IEC 61010-1, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements*

IEC 61010-2-030, *Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 2-030: Particular requirements for equipment having testing or measuring circuits*

3 Terms and definitions

3.2
charge decay time

Replace Note 1 to entry in 3.2 with the following new Note 1 to entry:

Note 1 to entry: 1/e and 10 % are appropriate fractions (e is the base of natural logarithms, equal to 2,718). If the initial voltage is low, the accuracy of decay time measurements to a small fraction of the initial voltage can be susceptible to the noise level of the fieldmeter.

3.5
static dissipative material

Replace Note 1 to entry in 3.5 with the following new Note 1 to entry:

Note 1 to entry: Materials that are considered conductive in other contexts are included within this definition for the purposes of this part of IEC 61340.

4.1 Principles

Replace the Caution statement of 4.1 with the following new Warning statement:

WARNING – The test methods specified in this document involve the use of high-voltage power supplies that can present hazards if handled incorrectly, particularly by unqualified or inexperienced personnel. Users of this document are encouraged to carry out proper risk assessments and pay due regard to local regulations before undertaking any of the test procedures. Electrical equipment for measurements shall comply with the safety requirements specified in IEC 61010-1 and IEC 61010-2-030.

4.3.3 Corona charge deposition

Replace the second paragraph of 4.3.3 with the following new text:

The corona duration shall be no more than 50 ms, and 10 ms or 20 ms is usually appropriate in order to achieve an adequate initial peak voltage for measurements. Excessively long deposition times (more than some seconds) can damage the material.

4.3.4 Fieldmeter

Replace the third paragraph of 4.3.4 with the following new text:

Any residual ionization shall contribute less than 20 V to the measurement of the surface voltage. Excess ionization shall be removed, for example, by using an air dam. This can be tested by measurements on a fully conducting test surface.