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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/16

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EN 61340-2-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2015

ICS 17.220.99; 29.020

Supersedes EN 61340-2-1:2002

English Version

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

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

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

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Europäisches Komitee für Elektrotechnische Normung

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European foreword

The text of document 101/446/CDV, future edition 2 of IEC 61340-2-1, prepared by IEC/TC 101 "Electrostatics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61340-2-1:2015.

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) 2016-07-02
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IEC 61340-5-1 NOTE Harmonized as EN 61340-5-1.

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61340-4-6	-	Electrostatics - Part 4-6: Standard test methods for specific applications - Wrist straps	EN 61340-4-6	-
IEC 61340-4-7	-	Electrostatics - Part 4-7: Standard test methods for specific applications - Ionization	-	-



INTERNATIONAL STANDARD

NORME INTERNATIONALE

HORIZONTAL STANDARD
NORME HORIZONTALE

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

**Électrostatique –
Partie 2-1: Méthodes de mesure – Capacité des matériaux et des produits à
dissiper des charges électrostatiques**





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INTERNATIONAL STANDARD

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

**Électrostatique –
Partie 2-1: Méthodes de mesure – Capacité des matériaux et des produits à
dissiper des charges électrostatiques**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROSTATICS –

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

FOREWORD

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International Standard IEC 61340-2-1 has been prepared by IEC technical committee 101: Electrostatics.

This second edition cancels and replaces the first edition published in 2002. This edition constitutes a technical revision.

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

- a) the first edition supported requirements in IEC TR 61340-5-1, but with the revision of IEC TR 61340-5-1 into an International Standard, this support is no longer required; references to IEC 61340-5-1[1]¹ have been removed;
- b) the introduction gives additional information on when charge decay time measurements are appropriate, and the applications for which each of the two test methods are best suited;
- c) procedures for performance verification of measuring instruments for the corona charging method have been added.

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

CDV	Report on voting
101/446/CDV	101/462/RVC

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.

It has the status of a horizontal standard in accordance with IEC Guide 108[3].

A list of all the parts in the IEC 61340 series, published under the general title *Electrostatics*, 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 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.

¹ Numbers in square brackets refer to the Bibliography.

INTRODUCTION

Measurements of the rate of dissipation of static charge belong to the essential measurement techniques in the field of electrostatics.

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, resistance measurements may not be reliable or may not give enough information. Resistance measurements may also not be reliable when evaluating materials in the dissipative or insulative range and especially for high ohmic materials including conductive fibres (e.g. textiles with a metallic grid). In such cases, the rate of dissipation of static charge should be measured directly.

ELECTROSTATICS –

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

1 Scope

This part of IEC 61340 describes test methods for measuring the rate of dissipation of static charge of insulating and static dissipative materials and products.

It includes a generic description of test methods and detailed test procedures for specific applications.

The two test methods for measuring charge decay time, one using corona charging and one using a charged metal plate are different and may 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, e.g. textiles, packaging, etc., 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, etc. to dissipate charge from conductive objects placed on or in contact with them. The charged plate method may not be suitable for evaluating the ability of materials to dissipate charge from their own surfaces.

In addition to its general application, this horizontal standard is also intended for use by technical committees in the preparation of standards in accordance with the principles laid down in IEC Guide 108.

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2 Normative references

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IEC 61340-4-6, *Electrostatics – Part 4-6: Standard test methods for specific applications – Wrist straps*

IEC 61340-4-7, *Electrostatics – Part 4-7: Standard test methods for specific applications – Ionization*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN