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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Withdrawn

Electrostatics –
Part 4-9: Standard test methods for specific applications – Garments

Électrostatique –
Partie 4-9: Méthodes d'essai normalisées pour des applications spécifiques – Vêtements

IEC 61340-4-9:2010

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IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROSTATICS –

Part 4-9: Standard test methods for specific applications – Garments

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International Standard IEC 61340-4-9 has been prepared by IEC technical committee 101: Electrostatics.

The text of this standard is based on ANSI/ESD STM2.1-1997. It was submitted to the National Committees for voting under the Fast Track Procedure.

This bilingual version (2011-04) replaces the English version.

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

FDIS	Report on voting
101/294/FDIS	101/298/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.

The French version of this standard has not been voted upon.

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

A list of all parts in the IEC 61340 series, 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 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- withdrawn,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.

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INTRODUCTION

This part of IEC 61340 provides test methods for evaluating the resistance of garments used in the electronics industry for the control of electrostatic discharge. This part is limited to defining procedures for measuring electrical resistance of garments. It does not address electrical resistance through a person or in combination with a person connected to ground. However, resistance may not fully characterize a garment's performance. Additional parts may cover procedures for evaluating these properties.

A common source of electrostatic charge is clothing made from synthetic fibres resulting in an accumulation of charge on a person's clothing. The effect of this charge can be minimized by evaluating and selecting an appropriate garment. To effectively control electrostatic charges, the garment should be grounded.

This standard may be used in part to cover specific applications. To fully characterize a garment, field attenuation and tribocharging may need to be considered, but these procedures are beyond the scope of this standard.

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ELECTROSTATICS –

Part 4-9: Standard test methods for specific applications – Garments

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1 Scope

This part of IEC 61340 provides specific test methods for evaluating electrical resistance of static control garments.

This part defines the test methods for determining the electrical resistance from sleeve-to-sleeve and point-to-point of static control garments.

The test methods defined in this standard utilize standard instruments to measure the resistance of static control garments. These methods are intended as qualification test procedures. They can also be used as periodic tests to ensure ongoing electrical integrity of the garment under ambient conditions.

The sleeve-to-sleeve method (Figures 1 and 2) is intended to test the integrity of the electrical resistance across the seams of the garment.

The point-to-point test method (Figure 3) is intended to test the electrical resistance between any two points on the garment, which may include the electrical resistance across the seams of the garment.

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.

ESD ADV1.0, *ESD Association glossary of terms*[1]

ANSI/ESD S4.1, *ESD standard for protection of electrostatic discharge susceptible items – ESD protective worksurfaces*

ANSI/ESD STM11.11, *Surface resistance measurement of static dissipative planar materials*

ASTM F-150, *Standard test method for electrical resistance of conductive and static dissipative resilient flooring*[2]

National Fire Protection Association (NFPA) 99:2005, *Standard for health care facilities*

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[1] ESD Association, 7900 Turin Rd, Bldg 3, Ste 2, Rome, NY 13440, 315-339-6937

[2] American Society for Testing and Materials (ASTM) 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, 610-832-9500

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