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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 37977.43-2024

**Electrostatics - Part 4-3: Standard test methods for specific
applications - Footwear
(English Translation)**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document is part 4-3 of GB/T 37977 "Electrostatics". GB/T 37977 has published the following parts.

Part 2-1.Test methods for electrostatic charge dissipation capability of materials and products;

Part 2-3.Test methods for resistance and resistivity of antistatic solid planar materials;

Part 3-2.Simulation methods for electrostatic effects Electrostatic discharge test waveforms

for machine models (MM);

Part 4-1. Standard test method for electrical resistance of floor coverings and assembled floors in specific applications;

Part 4-3. Standard test methods for specific applications Footwear; -Part 4-5. Standard test methods for characterization of electrostatic protection properties of man/shoe/ground systems in specific applications;

Part 4-6. Standard test methods for wrist straps for specific applications;

Part 4-8. Standard test methods for electrostatic discharge shielding bags for specific applications;

Part 4-9. Standard test methods for clothing for specific applications; -Part 5-1. General requirements for electrostatic protection of electronic devices. -this document is equivalent to IEC 61340-4-3:2017 "Electrostatics Part 4-3. Standard test method for footwear for specific applications".

Introduction

GB/T 37977 "Electrostatics" is the basic standard of electrostatics. It adopts the IEC 61340 series of standards and aims to define the model of electrostatic effects.

Simulation method, anti-static parameter test method for anti-static materials and products, standard test method in specific applications, electrostatic protection of electronic devices Etc. GB/T 37977 is intended to consist of the following parts.

Part 2-1. Test methods Electrostatic charge dissipation capability of materials and products. The purpose is to specify test methods for testing insulation and Static dissipative materials and products' ability to dissipate static charge.

Part 2-3. Test methods for resistance and resistivity of antistatic solid planar materials. The purpose is to specify test methods for measuring Test the resistance and resistivity of anti-static solid flat materials. The applicable range of the measured resistance is 104ohm~1012ohm.

Part 3-2. Simulation methods for electrostatic effects Electrostatic discharge test waveforms for machine models (MM). The purpose is to specify Basic requirements for simulating electrostatic discharge current waveforms for MM and the equipment used to generate and verify these waveforms.

Part 4-1. Standard test methods for electrical resistance of floor coverings and assembled floors in specific applications.

Method for testing the resistance of floor coverings and assembled floors, including resistance to ground, point-to-point resistance and vertical resistance.

The applicable range of resistance is 104ohm~1013ohm.

Part 4-3. Standard test methods for specific applications - Footwear. The purpose is to specify test methods for testing the performance of anti-static footwear.

resistance.

Part 4-4. Standard test methods for specific applications - Classification of flexible bulk containers (FIBC) for static electricity.

Requirements for flexible bulk containers (FIBC) with a volume of 0.25 m3 to 3 m3 used in hazardous explosive atmospheres.

Part 4-5. Standard test methods for specific applications Characterization of electrostatic protection properties of man/shoe/ground systems.

Establish test methods to evaluate the anti-static performance of human/shoe/floor systems.

Part 4-6. Standard test methods for specific applications Wrist straps. The purpose is to specify the electrical and mechanical performance requirements of wrist straps.

and test methods for testing these properties.

Part 4-8. Standard test methods for electrostatic discharge shielding bags in specific applications. The purpose is to provide a method for evaluating electrostatic discharge shielding bags.

Performance test methods.

Part 4-9. Standard test methods for specific applications - Clothing. The purpose is to specify test methods for testing antistatic clothing.

resistance.

Part 5-1. General requirements for electrostatic protection of electronic devices. The purpose is to establish anti-static management and technical requirements to avoid or reduce Low electronics damage due to electrostatic discharge.

Part 5-4. Electrostatic protection of electronic devices Compliance verification; the purpose is to propose technical items involved in the electrostatic control program Compliance verification test methods.

Part 6-1. General requirements for electrostatic control facilities in medical facilities. The purpose is to specify the equipment, materials and procedures for electrostatic control in medical facilities.

Material and product requirements.

Footwear has become an important static control product in all fields, especially in the field

of electronic manufacturing.

Controlling electrostatic charge is particularly important when working around objects. In many cases, items such as wrist straps are used to achieve. There are many situations in industry where wrist straps or other wired items are unsafe or inconvenient to use, but still need to be used by humans.

Providing a ground connection for personnel through shoes is one way to provide a ground connection for personnel when they stand or walk on a specified static control surface.

Convenient method.

The measurement methods described in this document are suitable for testing the electrical performance of shoes during the shoe manufacturing process, before selection by the end user, or during use.

The measurement methods in this document refer to a specific set of test equipment and instruments; other equipment and instruments can be used to measure the specified parameters, but in case of dispute, the equipment, instruments and measurement methods specified in this document shall be used.

Electrostatics Part 4-3. Electrostatics for specific applications Standard test methods for footwear

1 Scope

This document is part of the standard test method for specific applications of the GB/T 37977 series of standards, targeting footwear that controls the electrostatic potential of the human body.

(shoes, slippers or boots), a method for measuring resistance is provided. This measurement method is applicable to manufacturers or users. This method is applicable to new shoes Acceptance test, also applicable to the periodic inspection of footwear in use.

Although this document does not include personal safety requirements, all footwear used in workplaces within the scope of this document has a health and safety impact on personnel.

All must comply with relevant laws and regulations.

Although the test methods specified in this document are applicable to the measurement of the resistance of insulating footwear, insulating footwear is outside the scope of this document.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.