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

GB/T 37977.46-2024

**Electrostatics - Part 4-6: Standard test methods for specific
applications - Wrist straps**

静电学 第4-6部分：特定应用中的标准试验方法 腕带

(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 4-6 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 61340-4-6:2015 "Electrostatics Part 4-6. Standard test method wrist strap for specific applications".

This document adds a chapter on "Normative References".

Introduction

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

Simulation methods, anti-static parameter test methods for anti-static materials and products, standard test methods in specific applications, and electrostatic Protection, etc. GB/T 37977 is intended to consist of the following parts.

Part 2-1. Test methods for the electrostatic charge dissipation capability of materials and products. The purpose is to specify test methods for testing insulation and the electrostatic charge dissipation capabilities of static dissipative materials and products.

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

Test the resistance and resistivity of anti-static solid flat materials. The applicable range of the measured resistance is 10⁴ ohm~10¹² ohm.

Part 3-2. Electrostatic discharge test waveform for machine model (MM) simulation method of electrostatic effects.

Basic requirements for electrostatic discharge current waveforms used to simulate 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. The purpose is to specify the test Method for testing the resistance of floor coverings and assembled floors, including resistance to ground, point-to-point resistance and vertical resistance, is the applicable range of resistance

measurement is 104 ohm~1013 ohm.

Part 4-3. Standard test methods for footwear in specific applications. The purpose is to specify test methods for testing anti-static footwear resistance.

Part 4-4. Standard test method for static classification of flexible bulk containers (FIBC) for specific applications. The purpose is to specify 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 characterization of electrostatic protection properties of man/shoe/ground systems in specific applications.

Specifies test methods for evaluating the antistatic performance of man/shoe/floor systems.

Part 4-6. Standard test methods for wrist straps in specific applications. The purpose is to clarify 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 evaluation of electrostatic discharge shielding Test methods for bag properties.

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

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 damage to electronic products caused by electrostatic discharge.

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

Purpose. Conformity verification test method.

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

This document describes test methods for evaluating the electrical and mechanical properties of wrist straps used in static control programs.

grounding to prevent static electricity from building up on the user's body and potentially damaging electrostatic discharge (ESD) sensitive devices and components.

This document provides the test methods and limits used during evaluation, acceptance and functional testing.

Electrostatics Part 4-6. Electrostatics for specific applications Standard test method for wrist straps

1 Scope

This document, as part of the standard test methods for specific applications in the GB/T 37977 series, provides electrical and mechanical test methods for wrist straps.

Methods and performance limit requirements are used for the evaluation, acceptance and periodic inspection of wrist straps.

Note: All dimensions are nominal unless otherwise specified.

This document applies to the testing of wrist straps and wrist strap systems used by personnel who come into contact with electrostatic discharge (ESD) sensitive components and devices.

With system ground.

This document does not address continuous monitoring systems.

2 Normative references

This document has no normative references.

3 Terms and definitions

The following terms and definitions apply to this document.

wrist strap

A device consisting of a wrist loop and grounding wire used to ground a person's skin.

wrist strap system

When a person wears a wrist strap correctly, the electrical path is the human body, the wrist strap, and the ground wire.

Wristband

The part of the wristband that is worn on the wrist.

NOTE: The looped strap worn around the wrist maintains electrical contact with the human skin.

Ground cord

The part of the wristband that provides electrical connection between the wristband and ground and allows for free movement.

evaluation testing

The wrist straps were tested to determine their electrical and mechanical performance.

Note: The laboratory test data shall prevail.