

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

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

**Électrostatique –  
Partie 4-6: Méthodes d'essai normalisées pour des applications spécifiques –  
Bracelets de conduction dissipative**



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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Terms and definitions .....	7
3 Testing levels and performance limits .....	8
4 Test methods.....	9
4.1 Test method applications .....	9
4.2 Wrist strap continuity and resistance test .....	10
4.2.1 Purpose of test .....	10
4.2.2 Equipment .....	10
4.2.3 Procedure.....	11
4.2.4 Reporting.....	11
4.3 Band resistance test .....	11
4.3.1 Purpose of test .....	11
4.3.2 Equipment .....	11
4.3.3 Procedure (interior resistance).....	12
4.3.4 Procedure (exterior resistance).....	12
4.3.5 Reporting.....	12
4.4 Band size requirements .....	12
4.4.1 Purpose of test .....	12
4.4.2 Equipment .....	12
4.4.3 Self-adjusting bands .....	12
4.4.4 “One-size-fits-all” bands .....	13
4.5 Breakaway force .....	13
4.5.1 Purpose of test .....	13
4.5.2 Breakaway force measurement.....	13
4.6 Connection integrity .....	13
4.6.1 Purpose of test .....	13
4.6.2 Equipment .....	13
4.6.3 Procedure.....	13
4.6.4 Reporting.....	14
4.7 Ground cord extendibility .....	14
4.7.1 Purpose of test .....	14
4.7.2 Ground cord extendibility procedure .....	14
4.8 Bending life test.....	14
4.8.1 Purpose of test .....	14
4.8.2 Equipment .....	14
4.8.3 Procedure.....	15
4.8.4 Reporting.....	16
4.9 Manufacturer’s identification .....	16
4.10 Identification of non-standard resistance value .....	16
4.11 Wrist strap resistance .....	16
4.11.1 Purpose of test .....	16
4.11.2 Equipment .....	16
4.11.3 Procedure.....	16

- 4.11.4 Reporting..... 16
- 4.12 Wrist strap system continuity test..... 16
  - 4.12.1 Purpose of test ..... 16
  - 4.12.2 Equipment ..... 17
  - 4.12.3 Procedure with ohmmeter ..... 18
  - 4.12.4 Procedure with integrated checker ..... 18
  - 4.12.5 Reporting..... 18
- Bibliography..... 19
  
- Figure 1 – Wrist strap resistance test apparatus ..... 11
- Figure 2 – Mechanical ground cord flex tester (example) ..... 15
- Figure 3 – Wrist strap system resistance test..... 18
  
- Table 1 – Evaluation testing.....9
- Table 2 – Acceptance testing .....9
- Table 3 – Periodic or verification testing .....9

# INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ELECTROSTATICS –

### Part 4-6: Standard test methods for specific applications – Wrist straps

#### FOREWORD

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International Standard IEC 61340-4-6 has been prepared by IEC technical committee 101: Electrostatics.

This second edition cancels and replaces the first edition published in 2010. This edition constitutes a technical revision.

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

- a) editorial comments made during the review of the first edition were reviewed and incorporated where appropriate;
- b) several changes were made to update the Figures and improve the presentation of metric measurements (Imperial measurements have been removed);

- c) the option of using an integrated checker for wrist strap system continuity testing has been added;
- d) the evaluation and acceptance limit for wrist strap resistance has been changed so as to harmonize with IEC 61340-5-1.

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

FDIS	Report on voting
101/463/FDIS	101/476/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.

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 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.

## INTRODUCTION

This part of IEC 61340 has been developed to establish test methods for evaluating the electrical and mechanical attributes of wrist straps used in an electrostatic control program. Wrist straps are intended to connect the user to electrical ground, thus preventing electrostatic charge on a user's body from attaining a level that may damage ESD susceptible devices or assemblies.

Test methods and performance limits for evaluation, acceptance, and functional testing are provided.

## ELECTROSTATICS –

### Part 4-6: Standard test methods for specific applications – Wrist straps

#### 1 Scope

This part of IEC 61340 provides electrical and mechanical test methods and performance limits for evaluation, acceptance and periodic verification testing of wrist straps.

NOTE All dimensions are nominal except where indicated.

This standard is intended for testing wrist straps and wrist strap systems used for the grounding of personnel engaged in working with ESD sensitive assemblies and devices.

It does not address constant monitoring systems.

#### 2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

##### 2.1 wrist strap

assembled device consisting of a band and ground cord that is designed to provide electrical connection from a person's skin to ground

##### 2.2 wrist strap system

wrist strap when properly worn by a person, where the electrical path includes the person, the band and the ground cord

##### 2.3 band

portion of the wrist strap worn on the wrist

Note 1 to entry: The band maintains electrical contact with a person's skin.

##### 2.4 ground cord

portion of the wrist strap that provides flexibility of movement while completing the electrical circuit between the band and ground

##### 2.5 evaluation testing

testing of a wrist strap to determine its electrical and mechanical performance abilities

Note 1 to entry: Data are in the form of values from laboratory testing.

##### 2.6 acceptance testing

incoming tests to confirm proper marking and electrical functionality

Note 1 to entry: Data are in the form of visual inspection records and values or pass/fail notation.