



BSI Standards Publication

Electrostatics

Part 5-4: Protection of electronic devices from electrostatic phenomena — Compliance verification

National foreword

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TECHNICAL SPECIFICATION



**Electrostatics –
Part 5-4: Protection of electronic devices from electrostatic phenomena –
Compliance verification**



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Part 5-4: Protection of electronic devices from electrostatic phenomena –
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CONTENTS

FOREWORD..... 9

INTRODUCTION..... 11

1 Scope..... 12

2 Normative references 12

3 Terms and definitions 12

4 Personnel safety..... 13

5 Test methods and test frequency 13

6 Test equipment..... 13

6.1 Selection of test equipment..... 13

6.2 AC outlet analyzer (or mains socket tester)..... 13

6.3 AC circuit tester (impedance meter)..... 14

6.4 Charged plate monitor (CPM)..... 14

6.4.1 CPM requirements 14

6.4.2 Portable CPM kit..... 14

6.5 Concentric ring electrode assembly 14

6.6 Resistance measuring apparatus (ohmmeter) 14

6.7 Low resistance meter 15

6.8 Electrostatic field meter 15

6.9 Electrostatic voltmeter 15

6.10 Footwear electrode 15

6.11 Hand-held electrode..... 15

6.12 Resistance measurement electrode(s) 15

6.13 Insulative support surface 16

6.14 Integrated measurement instrument for wrist strap systems or person-footwear systems 16

6.15 Two-point probe..... 16

6.16 User specified electrodes 16

7 Grounding/bonding 17

7.1 Equipment ground and responsibility for checking systems 17

7.2 Objective 17

7.3 Test equipment 18

7.4 Test procedure for wrist strap bonding points..... 18

7.5 Troubleshooting wrist strap bonding point failures..... 18

8 Work surfaces 19

8.1 Basis of test procedure 19

8.2 Objective 19

8.3 Test equipment 19

8.4 Test procedure..... 20

8.5 Troubleshooting 21

8.5.1 Visual and mechanical check 21

8.5.2 Electrical test..... 21

9 Wrist strap system 22

9.1 Basis of test procedure 22

9.2 Objective 22

9.3 Test equipment 22

9.4 Test procedure..... 22

9.4.1	Testing with integrated measurement instrument	22
9.4.2	Testing with resistance measuring apparatus.....	23
9.5	Troubleshooting	25
10	Person-footwear system	25
10.1	Basis of test procedure	25
10.2	Objective	26
10.3	Test equipment	26
10.4	Test procedure.....	26
10.4.1	Testing with integrated measurement instrument	26
10.4.2	Testing with resistance measuring apparatus.....	26
10.5	Troubleshooting	27
11	Flooring	28
11.1	Basis of test procedure	28
11.2	Objective	28
11.3	Test equipment.....	28
11.4	Test procedure.....	28
11.5	Troubleshooting	29
12	Person-footwear-flooring system measurement of resistance to ground.....	29
12.1	Basis of test procedure	29
12.2	Objective	29
12.3	Test equipment	29
12.4	Test procedure.....	30
12.5	Troubleshooting	31
13	Seating.....	31
13.1	Basis of test procedure	31
13.2	Objective	31
13.3	Test equipment	31
13.4	Test procedure.....	31
13.5	Troubleshooting	33
14	Air ionizers	33
14.1	Basis of test procedure	33
14.2	Objective	33
14.3	Test equipment	33
14.4	Test procedure.....	34
14.4.1	Initial test set-up.....	34
14.4.2	Discharge time test.....	34
14.4.3	Offset voltage test (ion balance)	34
14.5	Troubleshooting	34
15	Mobile equipment	35
15.1	Basis of test procedure	35
15.2	Objective	35
15.3	Test equipment	35
15.4	Test procedure.....	35
15.5	Troubleshooting	36
16	Groundable static control garment system	37
16.1	Basis of test procedure	37
16.2	Objective	37
16.3	Test equipment.....	37

16.4	Test procedure.....	38
16.4.1	Testing with integrated measurement instrument	38
16.4.2	Testing with resistance measuring apparatus.....	38
16.5	Troubleshooting	39
17	Static control garments and groundable static control garments.....	40
17.1	Point-to-point test method	40
17.1.1	Basis of test procedure	40
17.1.2	Objective	40
17.1.3	Test equipment.....	40
17.1.4	Test procedure	40
17.1.5	Troubleshooting.....	41
17.2	Hanging clamp method	42
17.2.1	Basis of test procedure	42
17.2.2	Objective	42
17.2.3	Test equipment.....	42
17.2.4	Test procedure	42
17.2.5	Troubleshooting.....	43
18	Packaging	44
18.1	Basis of test procedure	44
18.2	Objective	44
18.3	Test equipment.....	44
18.4	Test procedure.....	45
18.4.1	Surface resistance using an integrated resistance measuring instrument.....	45
18.4.2	Surface resistance using a concentric ring electrode assembly or two SRBs	45
18.4.3	Surface resistance using a resistance measuring apparatus and two-point probe	46
18.4.4	Point-to-point resistance using a resistance measuring apparatus and resistance measuring electrodes.....	47
18.4.5	Volume resistance using resistance measuring apparatus or integrated resistance measuring instrument	48
18.5	Troubleshooting (surface, point-to-point and volume resistance).....	49
19	Process essential insulators	50
19.1	Basis of test procedure	50
19.2	Objective	50
19.3	Test equipment.....	50
19.4	Test procedure.....	50
19.4.1	Measuring electrostatic field strength at the site of the ESD sensitive device (ESDS) from electrostatic field source	50
19.4.2	Measurement of surface voltage of a process essential insulator	50
19.5	Troubleshooting	51
20	Process essential isolated conductors	51
20.1	Basis of test procedure	51
20.2	Objective	51
20.3	Test equipment.....	51
20.4	Test procedures	52
20.5	Troubleshooting	52
Annex A (informative)	Test frequency	53
Annex B (informative)	Verification of compliance verification test equipment.....	54

B.1	General.....	54
B.2	Charged plate monitor	54
B.2.1	Common problems.....	54
B.2.2	Basic charged plate monitor checks.....	54
B.2.3	Visual checks in the position of measurement.....	54
B.3	Electrodes	55
B.3.1	Common problems.....	55
B.3.2	Visual checks	55
B.3.3	Electrode resistance test	55
B.3.4	Electrode leakage test	55
B.3.5	Electrode test with known resistance	55
B.4	Resistance measuring apparatus	56
B.4.1	Common problems.....	56
B.4.2	Testing for leakage within the meter and leads	56
B.5	Insulative support surface	56
B.5.1	Common problems.....	56
B.5.2	Testing insulative surface resistance	56
B.6	Electrostatic field meter	56
B.6.1	Common problems.....	56
B.6.2	Visual and other pre-use checks.....	57
B.6.3	Checking field meter grounding	57
B.6.4	Checking the electrostatic field meter operation.....	57
B.7	Electrostatic voltmeter	58
B.7.1	Common problems.....	58
B.7.2	Visual and other pre-use checks.....	58
B.7.3	Checking voltmeter grounding.....	58
B.7.4	Checking voltmeter operation.....	58
Annex C	(informative) Other test methods for static control garments	60
C.1	General considerations for other test methods	60
C.2	Precautions to be observed when conducting tests	60
C.3	Tribocharging tests for garments.....	60
C.3.1	Objective	60
C.3.2	Test equipment for body voltage measurements	60
C.3.3	Test procedure for body voltage measurements.....	61
C.3.4	Test equipment for measuring charge on garments.....	64
C.3.5	Test procedure for measuring charge on garments	65
C.3.6	Test equipment for measuring electrostatic field or surface voltage on garments	65
C.3.7	Test procedure for measuring electrostatic field or surface voltage on garments	66
C.3.8	Troubleshooting tribocharging tests	66
C.4	Charge decay time tests for garments.....	67
C.4.1	Objective	67
C.4.2	Test equipment for measuring charge decay time after tribocharging.....	67
C.4.3	Test procedure for measuring charge decay time after tribocharging	67
C.4.4	Test equipment for measuring charge decay time after corona charging	68
C.4.5	Test procedure for measuring charge decay time after corona charging.....	68
C.4.6	Test equipment for measuring charge decay time after connection to a DC high-voltage supply.....	69

C.4.7	Test procedure for measuring charge decay time after connection to a DC high-voltage supply	69
C.5	Field suppression tests for garments	70
C.6	Capacitance loading tests for garments	70
Annex D (informative)	Person-footwear-flooring system measurement of body voltage	71
D.1	Basis of test procedure	71
D.2	Objective	71
D.3	Test equipment	71
D.4	Test procedure	71
D.5	Troubleshooting	71
Annex E (informative)	Electrical soldering/desoldering hand tools	73
E.1	Basis of test procedure	73
E.2	Objective	73
E.3	Test equipment	73
E.4	Test procedure	74
E.4.1	Soldering/desoldering hand tool tip voltage test procedure (hot iron) using integrated tester or AC millivoltmeter	74
E.4.2	Soldering/desoldering hand tool resistance to ground (cold iron)	74
E.4.3	Soldering/desoldering hand tool resistance to ground (cold iron)	74
E.4.4	Soldering/desoldering hand tool resistance to ground (hot iron) using low resistance meter	75
E.5	Troubleshooting	75
Annex F (informative)	Hand tools	76
F.1	Basis of test procedure	76
F.2	Objective	76
F.3	Test equipment	76
F.3.1	Resistance measurements	76
F.3.2	Charge decay time measurements	76
F.4	Test procedure for hand tool resistance measurements	76
F.5	Test procedure for hand tool resistance to ground measurements	77
F.6	Test procedure for charge decay time measurements	78
F.7	Troubleshooting	79
Annex G (informative)	Constant (continuous) monitors	80
G.1	Basis of test procedure	80
G.2	Objective	80
G.3	Test equipment	80
G.4	Test procedure	80
G.5	Troubleshooting	80
Annex H (informative)	Gloves and finger cots – In use resistance	81
H.1	Basis of test procedure	81
H.2	Objective	81
H.3	Test equipment	81
H.4	Test procedure	81
H.4.1	Integrated measuring instrument for wrist strap systems with a touch plate and wrist strap	81
H.4.2	Hand-held electrode and resistance measuring apparatus via wrist strap	82
H.4.3	Integrated measuring instrument for person-footwear systems with a touch plate and ESD control footwear	83
H.4.4	Constant area and force electrode (CAFE) with resistance measuring apparatus and wrist strap	83

H.4.5	Troubleshooting.....	84
Annex I (informative)	Grounding/bonding systems	85
I.1	Objective	85
I.2	Test equipment.....	85
I.3	Test procedure.....	85
I.4	Troubleshooting	85
Bibliography.....		86
Figure 1	– ESD control workstation	18
Figure 2	– ESD control work surface test	20
Figure 3	– Point-to-point resistance measurement set-up.....	22
Figure 4	– Wrist strap test using integrated measurement instrument	23
Figure 5	– Wrist strap test using resistance measurement apparatus	24
Figure 6	– Wrist strap fabric test using resistance measuring apparatus	24
Figure 7	– Pinched wrist strap fabric test using resistance measuring apparatus	25
Figure 8	– ESD control footwear test.....	27
Figure 9	– ESD control flooring test	28
Figure 10	– Person-footwear-flooring system test	30
Figure 11	– ESD control chair test	32
Figure 12	– ESD control mobile equipment test	36
Figure 13	– Testing groundable static control garment system in combination with a person using an integrated measurement instrument	38
Figure 14	– Test set-up – Groundable garment in combination with a person, hand-held probe and resistance measurement apparatus	39
Figure 15	– Garment (point-to-point) test	41
Figure 16	– Electrodes for hanging garment test.....	43
Figure 17	– Hanging clamp resistance measurement	43
Figure 18	– Set-up for test method using concentric ring electrode assembly and surface resistance bar electrodes	46
Figure 19	– Set-up for test method using a resistance measuring apparatus and two-point probe	47
Figure 20	– Set-up for test method using two resistance measurement electrodes	48
Figure 21	– Set-up for test method using resistance measurement electrode or concentric ring electrode assembly and integrated resistance measuring instrument	49
Figure C.1	– Example of a test set-up for measuring body voltage whilst removing a garment	62
Figure C.2	– Example of a test set-up for measuring body voltage whilst rubbing the garment under test.....	63
Figure C.3	– Example of a test set-up for measuring body voltage on a person rising from a seat	64
Figure C.4	– Example of a test set-up for measuring charge on garments	65
Figure C.5	– Examples of test set-ups for measuring charge decay time on garments as worn and on a bench-top after tribocharging	68
Figure C.6	– Example of test set-up for measuring charge decay time after connecting a garment to a DC high-voltage supply	70
Figure E.1	– Soldering iron resistance and tip voltage measurements	74
Figure F.1	– Hand tool resistance measurement	77

Figure F.2 – Hand tool resistance to ground measurement	78
Figure F.3 – Hand tool charge decay time measurement.....	79
Figure H.1 – Wrist strap test wearing a glove using integrated measurement instrument.....	82
Figure H.2 – Glove test with hand-held electrode and resistance measuring apparatus via wrist strap	83
Figure H.3 – Test wearing a glove using constant area and force electrode	84

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROSTATICS –

**Part 5-4: Protection of electronic devices from
electrostatic phenomena – Compliance verification**

FOREWORD

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IEC TS 61340-5-4 has been prepared by IEC technical committee 101: Electrostatics. It is a Technical Specification.

This first edition cancels and replaces IEC TR 61340-5-4 published in 2019. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC TR 61340-5-4:

- a) test methods in the main body of the document have been made normative, and consequently normative references have been added;
- b) the term "ESD ground" has been added and defined;
- c) description of equipment for measuring low resistance has been added;
- d) user specified electrodes, including surface resistance bar electrodes, are permitted to be used for resistance measurements;

- e) an informative annex on verification of compliance verification test equipment has been added;
- f) compliance verification of person-footwear-flooring systems by measuring body voltage has been moved to an informative annex.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
101/615/DTS	101/627A/RVDTS

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Technical Specification is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all 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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

Compliance verification is the process of monitoring and measuring all elements of an ESD control program. Regular compliance verification checks and tests are an essential part of this process, ensure that area precautions and equipment remain effective, and that an ESD control program is correctly implemented in compliance with an ESD control program plan.

Qualification testing is typically carried out under controlled conditions, often in a laboratory environment, and using industry recognized standards. Compliance verification testing is carried out under operational conditions using test methods that are appropriate to a user's requirements. Although qualification test methods can be used, compliance verification testing often uses simple equipment and procedures. Accuracy is still important, but of equal importance is the ability to carry out non-destructive testing without interrupting the normal business of the organization.

This document describes equipment and test methods that can be used for compliance verification testing of ESD control items and systems, and provides users with some guidance on how to carry out the tests and take appropriate action to ensure continuous compliance.

ELECTROSTATICS –

Part 5-4: Protection of electronic devices from electrostatic phenomena – Compliance verification

1 Scope

This part of IEC 61340 describes compliance verification testing for technical items that are included in ESD control programs, such as those specified in IEC 61340-5-1.

Test methods are based on those specified in IEC 61340-5-1 and other parts of the IEC 61340 series, and are simplified where necessary for the purposes of compliance verification, to be performed by competent personnel.

Users can, by reference to this document in their compliance verification plan, adopt the necessary test methods described herein without change or addition. Alternatively, test methods described in this document can be adapted to match the requirements of their own ESD control program, provided deviations in equipment or procedure are documented in their compliance verification plan.

Compliance verification test frequency is not specified in this document. Guidance on how users can consider compliance verification test frequency is given in informative Annex A.

Product qualification is excluded from the scope of this document.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 61340-2-3, *Electrostatics – Part 2-3: Methods of test for determining the resistance and resistivity of solid materials used to avoid electrostatic charge accumulation*

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

IEC 61340-5-1, *Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements*

IEC 62631-3-2, *Dielectric and resistive properties of solid insulating materials – Part 3-2: Determination of resistive properties (DC methods) – Surface resistance and surface resistivity*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in the documents listed in Clause 2 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses: