

IEC 61340-4-6 Ed.3.0 - Preview only Copy via ILNAS e-Shop



COMMITTEE DRAFT FOR VOTE (CDV)

	DATE OF CIRCULATION 2022-05-20	N:	CLOSING DATE FOR VOTING: 2022-08-12		
	SUPERSEDES DOCUMI	ENTS:			
IEC TC 101 : ELECTROSTATICS					
SECRETARIAT:		SECRETARY:			
Germany		Mr Hartmut Berndt			
OF INTEREST TO THE FOLLOWING COMMITTEES:		PROPOSED HORIZONTAL STANDARD: □			
		Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.			
FUNCTIONS CONCERNED:					
☐ EMC ☐ ENVIRO	ONMENT	Quality assuran	NCE SAFETY		
SUBMITTED FOR CENELEC PARALLEL VOTING		☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING			
Attention IEC-CENELEC parallel voting	3				
The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.					
The CENELEC members are invited to vote through the CENELEC online voting system.					
This document is still under study and subject to change. It should not be used for reference purposes.					
Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.					
TITLE:					
Electrostatics – Part 4-6: Standard test methods for specific applications – Wrist straps					
PROPOSED STABILITY DATE: 2025					
NOTE FROM TC/SC OFFICERS:					

PROJECT NUMBER: IEC 61340-4-6 ED3

Copyright © 2022 International Electrotechnical Commission, IEC. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

Change to add clause 2, normative references for equipment safety is the only technical change.

1

2

CONTENTS

2	EOB	EWO	RD	,
3				
4			CTION	
5		•	ə	
6			ative references	
7	3	Term	s and definitions	7
8	4	Testi	ng levels and performance limits	8
9	5	Test	methods	9
10	5.	.1	Test method applications	ç
11	5.	.2	Wrist strap continuity and resistance test	
12		5.2.1	Purpose of test	
13		5.2.2	Equipment	. 10
14		5.2.3	Procedure	. 11
15		5.2.4	Reporting	. 12
16	5.	.3	Band resistance test	. 12
17		5.3.1	Purpose of test	. 12
18		5.3.2	Equipment	. 12
19		5.3.3	Procedure (interior resistance)	. 12
20		5.3.4	Procedure (exterior resistance)	. 12
21		5.3.5	Reporting	. 12
22	5.	.4	Band size requirements	. 12
23		5.4.1	Purpose of test	. 12
24		5.4.2	Equipment	. 13
25		5.4.3	Self-adjusting bands	. 13
26		5.4.4	"One-size-fits-all" bands	. 13
27	5.	.5	Breakaway force	. 13
28		5.5.1	Purpose of test	
29		5.5.2	Breakaway force measurement	
30	5.	.6	Connection integrity	
31		5.6.1	Purpose of test	. 13
32		5.6.2	• •	
33		5.6.3	Procedure	
34		5.6.4	Reporting	
35		.7	Ground cord extendibility	
36		5.7.1	Purpose of test	
37		5.7.2	Ground cord extendibility procedure	
38		.8	Bending life test	
39		5.8.1	Purpose of test	
40		5.8.2	Equipment	
41		5.8.3	Procedure	
42		5.8.4	Reporting	
43		.9	Manufacturer's identification	
14		.10	Identification of non-standard resistance value	
45			Wrist strap resistance	
46		5.11.	'	
47		5.11.	• •	
48		5.11.	3 Procedure	. 17

65

49	5.11.4	Reporting	17
50	5.12 Wi	rist strap system continuity test	17
51	5.12.1	Purpose of test	17
52	5.12.2	Equipment	17
53	5.12.3	Procedure with ohmmeter	19
54	5.12.4	Procedure with integrated checker	19
55	5.12.5	Reporting	19
56	Bibliography		20
57			
58	Figure 1 – W	/rist strap resistance test apparatus	11
59	Figure 2 – M	echanical ground cord flex tester (example)	16
60	Figure 3 – W	/rist strap system resistance test	18
61			
62	Table 1 – Ev	aluation testing	9
63	Table 2 – Ac	ceptance testing	9
64	Table 3 – Pe	eriodic or verification testing	9

INTERNATIONAL ELECTROTECHNICAL COMMISSION

68

69 70

ELECTROSTATICS -

71 72

73

67

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

74

75

76

77

78

79

81

82

86

87

90 91

92

94

95

96 97

99

100

101 102

103

104

105

106 107

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications
- Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.
- IEC 61340-4-6 has been prepared by IEC technical committee 101: Electrostatics. It is an 108 International Standard. 109
- This third edition cancels and replaces the second edition published in 2015. This edition 110 constitutes a technical revision. 111
- This edition includes the following significant technical changes with respect to the previous 112 edition: 113
- a) editorial comments made during the review of the second edition were reviewed and 114 incorporated where appropriate; 115
- b) addition of a normative section, clause 2 to address safety of equipment; 116
- The text of this International Standard is based on the following documents: 117

134

135

136

Draft	Report on comments
101/628/CD	101/634A/CC

118

- Full information on the voting for its approval can be found in the report on voting indicated in the above table.
- 121 The language used for the development of this International Standard is English
- A list of all parts in the IEC 61340 series, under the general title *Electrostatics*, can be found
- on the IEC website.
- 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/publications.
- 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
- reconfirmed,
- 132 withdrawn,
 - replaced by a revised edition, or
 - amended.

INTRODUCTION 137 This part of IEC 61340 has been developed to establish test methods for evaluating the 138 electrical and mechanical attributes of wrist straps used in an electrostatic control program. 139 Wrist straps are intended to connect the user to electrical ground, thus preventing electrostatic 140 charge on a user's body from attaining a level that may damage ESD susceptible devices or 141 assemblies. 142 Test methods and performance limits for evaluation, acceptance, and functional testing are 143 provided. 144 145