



SLOVENSKI STANDARD
SIST EN 300 019-2-1 V 2.2.1:2014
01-december-2014

Okoljski inženiring (EE) - Okoljski pogoji in preskusi vplivov okolja na telekomunikacijsko opremo - 2-1. del: Specifikacija preskusov vplivov okolja - Skladiščenje

Environmental Engineering (EE) - Environmental conditions and environmental tests for telecommunications equipment - Part 2-1: Specification of environmental tests - Storage

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 019-2-1 V 2.2.1:2014](https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b295ad5c/sist-en-300-019-2-1-v-2-2-1-2014)

Ta slovenski standard je istoveten z: **EN 300 019-2-1 Version 2.2.1**

ICS:

19.040	Preskušanje v zvezi z okoljem	Environmental testing
33.050.01	Telekomunikacijska terminalna oprema na splošno	Telecommunication terminal equipment in general

SIST EN 300 019-2-1 V 2.2.1:2014 **en**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 019-2-1 V 2.2.1:2014

<https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014>

ETSI EN 300 019-2-1 V2.2.1 (2014-10)



**Environmental Engineering (EE);
Environmental conditions and environmental tests
for telecommunications equipment;
Part 2-1: Specification of environmental tests;
Storage**

SIST EN 300 019-2-1 V 2.2.1:2014
<https://standards.iteh.ai/catalog/standards/sist/en-300-019-2-1-v-2-2-1-2014>

Reference

REN/EE-0157

Keywords

environment, equipment practice, testing

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 019-2-1 V 2.2.1:2014

<https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3c/sist-300-019-2-1-v-2-2-1-2014>
Important notice

The present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2014.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights	4
Foreword.....	4
Modal verbs terminology.....	5
1 Scope	6
2 References	6
2.1 Normative references	6
2.2 Informative references.....	7
3 Environmental test specifications.....	7
3.1 Specification T 1.1: Weatherprotected, partly temperature-controlled storage locations.....	8
3.2 Specification T 1.2: Weatherprotected, not temperature-controlled storage locations.....	11
3.3 Specification T 1.3: Non-weatherprotected storage locations and T 1.3 E: Non-weatherprotected storage locations - extended.....	14
4 Notes to tables	19
4.1 General note	19
4.2 Notes to tables 1 to 7	19
Annex A (informative): Bibliography.....	21
History	22

ITeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 019-2-1 V 2.2.1:2014](https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014)

<https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014>

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://ipr.etsi.org>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Environmental Engineering (EE).

The present document is part 2, sub-part 1 of a multi-part deliverable covering the environmental conditions and environmental tests for telecommunications equipment, as identified below:

Part 1: "Classification of environmental conditions";

Part 2: "Specification of environmental tests":

Sub-part 0: "Introduction";

Sub-part 1: "Storage";

Sub-part 2: "Transportation";

Sub-part 3: "Stationary use at weatherprotected locations";

Sub-part 4: "Stationary use at non-weatherprotected locations";

Sub-part 5: "Ground vehicle installations";

Sub-part 6: "Ship environments";

Sub-part 7: "Portable and non-stationary use";

Sub-part 8: "Stationary use at underground locations".

Part 1 specifies different standardized environmental classes covering climatic and biological conditions, chemically and mechanically active substances and mechanical conditions during storage, transportation and in use.

Part 2 specifies the recommended test severities and test methods for the different environmental classes.

National transposition dates

Date of adoption of this EN:	1 October 2014
Date of latest announcement of this EN (doa):	31 January 2015
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 July 2015
Date of withdrawal of any conflicting National Standard (dow):	31 July 2015

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**may not**", "**need**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 019-2-1 V 2.2.1:2014](#)

<https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014>

1 Scope

The present document specifies test severities and methods for verification of the required resistibility of equipment according to the relevant environmental class.

The tests defined in the present document apply to storage of equipment covering the environmental conditions stated in EN 300 019-1-1 [1].

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

- [1] ETSI EN 300 019-1-1 (2014): "Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-1: Classification of environmental conditions; Storage".
- [2] Void. <https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014>
- [3] Void.
- [4] IEC 60068-2-1:2007: "Environmental testing - Part 2-1: Tests - Test A: Cold".
- [5] IEC 60068-2-2:2007: "Environmental testing - Part 2-2: Tests - Test B: Dry heat".
- [6] IEC 60068-2-6:2007: "Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal)".
- [7] IEC 60068-2-14:2009: "Environmental testing - Part 2-14: Tests - Test N: Change of temperature".
- [8] IEC 60068-2-18:2000: "Environmental testing - Part 2-18: Tests - Test R and guidance: Water".
- [9] IEC 60068-2-27:2008: "Environmental testing. Part 2-27: Tests - Test Ea and guidance: Shock".
- [10] IEC 60068-2-30:2005: "Environmental testing - Part 2-30: Tests - Test Db: Damp heat, cyclic (12 + 12 hour cycle)".
- [11] IEC 60068-2-78:2012: "Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state".
- [12] IEC 60068-2-64:2008: "Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ETSI EN 300 019-2-0 (2003): "Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-0: Specification of environmental tests; Introduction".
- [i.2] IEC 60068-2-68:1994: "Environmental testing - Part 2: Tests - Test L: Dust and sand".
- [i.3] IEC 60068-2: "Environmental testing - Part 2: Tests".

3 Environmental test specifications

The detailed descriptions of the environmental conditions are given in clauses 4 and 5 of EN 300 019-1-1 [1].

EN 300 019-2-0 [i.1] forms a general overview of part 2 of the present document.

If the equipment is normally stored in a packed state then it shall be tested in its packaging.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 019-2-1 V 2.2.1:2014](https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014)

<https://standards.iteh.ai/catalog/standards/sist/9a3afda6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014>

3.1 Specification T 1.1: Weatherprotected, partly temperature-controlled storage locations

This specification shall apply to weatherprotected or partially weather-controlled storage locations having partially temperature or humidity control. See tables 1 and 2.

Table 1: Test specification T 1.1: Weatherprotected, partly temperature-controlled storage locations - climatic tests

Environmental parameter			Environmental Class 1.1	Environmental test specification T1.1: Weatherprotected, partly temperature-controlled storage locations					
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method	Notes	
Air temperature	low	(°C)	-5	-5	72 h	IEC 60068-2-1 [4]	Ab: Cold		
	high	(°C)	+45	+45 or +55	72 h	IEC 60068-2-2 [5]	Bb: Dry heat	2	
	change	(°C/min)	0,5	none				3	
Humidity	relative	low	(%)	5	none			10	
		high	(%)	95	93	96 h	IEC 60068-2-78 [11]	Cab: Damp heat steady state	5
	absolute	condensation		yes	none				6
		low	(g/m ³)	1	none				10
		high	(g/m ³)	29					8
Air	pressure	low	(kPa)	70	none			9	
		high	(kPa)	106	none			9	
	speed	(m/s)	1	none				10	
Water	rain	intensity		no					
		low temperature		no					
	other sources			no					
	icing & frosting			yes				10	
Radiation	solar	(W/m ²)	700					13	
	heat	(W/m ²)	600					13	

<https://standards.iteh.ai/catalog/standards/sist/9a3a1f6c-015e-4976-bc3e-cc74b253a4e/sist-en-300-019-2-1-v-2-2-1-2014>
 SIST EN 300 019-2-1 V 2.2.1:2014
 STANDARD PREVIEW
 (standards.iteh.ai)

Environmental parameter			Environmental Class 1.1	Environmental test specification T1.1: Weatherprotected, partly temperature-controlled storage locations				
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method	Notes
Chemically active substances	sulphur	SO ₂ (mg/m ³)	0,3/1,0	none				14
		H ₂ S (mg/m ³)	0,1/0,5	none				14
	chlorine	salts	sea and road salt mist	none				14
		Cl ₂ (mg/m ³)	0,1/0,3	none				14
		HCl (mg/m ³)	0,1/0,5	none				14
	nitrogen	NO _x (mg/m ³)	0,5/1,0	none				14
		NH ₃ (mg/m ³)	1,0/3,0	none				14
	hydrogen fluoride	HF (mg/m ³)	0,01/0,03	none				14
ozone	O ₃ (mg/m ³)	0,05/0,1	none				14	
Mechanically active substances	dust	Sedimentation (mg/(m ² h))	1,5	none				15
		suspension (mg/m ³)	0,2	none				15
	sand	(mg/m ³)	30	none				15
Flora and Fauna	micro organisms		negligible					
	rodents, insects		negligible					
no = this condition does not occur in this class. NOTE: (n = number of note), see clause 4.2.								

<https://standards.iteh.ai/catalog/standards/sist/9a3a1fa6-015e-4976-bc3e-cc74b253ad3e/sist-en-300-019-2-1-v-2-2-1-2014>
 SIST EN 300 019-2-1 V 2.2.1:2014

iTeh STANDARD PREVIEW
 (standards.iteh.ai)