



SLOVENSKI STANDARD
SIST ETS 300 019-2-3:1999

01-november-1999

Inženiring opreme (EE) - Pogoji okolja in preskusi vplivov okolja za telekomunikacijsko opremo – Del 2-3: Specifikacija preskusov vplivov okolja - Mirujoča (stacionarna) uporaba na lokacijah, zaščitenih pred vremenskimi vplivi

Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 2-3: Specification of environmental tests; Stationary use at weatherprotected locations

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ICS:

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33.050.01	Telekomunikacijska terminalska oprema na splošno	Telecommunication terminal equipment in general

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**Equipment Engineering (EE);
Environmental conditions and environmental tests for
telecommunications equipment
Part 2-3: Specification of environmental tests
Stationary use at weatherprotected locations**

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Foreword

This multi-part European Telecommunication Standard (ETS) has been produced by the Equipment Engineering (EE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

ETS 300 019 is concerned with environmental conditions and environmental tests for telecommunications equipment and comprises two main parts, each with subdivisions:

- ETS 300 019-1: "Classification of environmental conditions".

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

- ETS 300 019-2: "Specification of environmental tests".

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

Part 2-0 forms a general overview of Part 2. This part, (Part 2-3), deals with stationary use at weatherprotected locations.

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1 Scope

This European Telecommunication Standard (ETS) specifies test severities and methods for the verification of the required resistibility of equipment according to the relevant environmental class.

The tests in Part 2-3 of this multi-part standard apply to stationary use of equipment at weatherprotected locations covering the environmental conditions stated in ETS 300 019-1-3 [1].

2 Normative references

This ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 019-1-3: "Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment Part 1-3: Classification of environmental conditions; Stationary use at weatherprotected locations".
- [2] IEC 68-2: "Environmental testing. Part 2: Tests".
- [3] ETS 300 019-2-0: "Equipment Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment Part 2-0: Specification of environmental tests; Introduction".

3 Environmental test specifications

The detailed descriptions of the environmental conditions are in Clauses 4 and 5 of ETS 300 019-1-3 [1].

ETS 300 019-2-0 [3] forms a general overview of Part 2 of this ETS.

The equipment under test is assumed to be in its operational state throughout the test conditions described in this Part unless otherwise stated. The required performance before, during and after the test needs to be specified in the product specification. Input and load conditions of the equipment shall be chosen to obtain full utilisation of the equipment under test. The heat dissipation shall be maximised, except for the steady state, low temperature test, where it shall be minimised.

3.1 Specifications T 3.1 and T 3.1 E: Temperature-controlled locations

Specification T 3.1: Temperature-controlled locations, - normal operating conditions.

This specification applies to permanently temperature-controlled enclosed locations where humidity is usually not controlled. See tables 1 and 2.

Table 1: Test specification T 3.1: Temperature-controlled locations - climatic tests

Environmental parameter			Environmental Class 3.1	Environmental test specification T 3.1: In-use, Temperature-controlled locations				
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method	
Air temperature	low	(°C)	+5	+5	16 h	IEC 68-2-1	Ab/Ad: Cold (8) (9) (11)	
	high	(°C)	+40	+40 (2) or +50 (16)	16 h	IEC 68-2-2	Bb/Bd: Dry heat (11)	
	change	(°C) (°C/min)	0,5	+25/+40 (4) 0,5 (7) (16)	half cycle t ₁ = 3 h	IEC 68-2-14	Nb: Change of temperature (11)	
Humidity	relative	low	(%)	5	none (5)		(11)	
		high	(%) (°C)	85	85 +30	4 d	IEC 68-2-56	Cb: Damp heat steady state (11)
	absolute	condensation		no				
		low	(g/m ³)	1	none (5) (10)			
		high	(g/m ³)	25	(12)			
Air	pressure	low	(kPa)	70	none			
		high	(kPa)	106	none			
	speed	(m/s)	5,0	none				
Water	rain	intensity		no				
		low temperature		no				
	other sources		no					
	icing & frosting		no					
Radiation	solar	(W/m ²)	700	(21)				
	heat	(W/m ²)	600	(3)				

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Table 1 (concluded): Test specification T 3.1: Temperature-controlled locations - climatic tests

Environmental parameter			Environmental Class 3.1	Environmental test specification T 3.1: In-use, Temperature-controlled locations			
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method
Chemically active substances	sulphur	SO ₂ (mg/m ³)	0,3/1,0 (1)	none (6)			
		H ₂ S (mg/m ³)	0,1/0,5 (1)	none (6)			
	chlorine	salt mist	sea and road salt	none (6)			
		Cl ₂ (mg/m ³)	0,1/0,3 (1)	none (6)			
	nitrogen	HCl (mg/m ³)	0,1/0,5 (1)	none (6)			
		NO _x (mg/m ³)	0,5/1,0 (1)	none (6)			
	hydrogen fluoride HF	NH ₃ (mg/m ³)	1,0/3,0 (1)	none (6)			
		(mg/m ³)	0,01/0,03 (1)	none (6)			
Mechanically active substances	dust	sedimentation (mg/(m ² h))	1,5	none (5)			
		suspension (mg/m ³)	0,2	none (5)			
	sand (mg/m ³)	30	none (5)				
	micro organisms	negligible					
Flora and Fauna	rodents, insects	negligible					

no = this condition does not occur in this class.
 none = verification is required only in special cases.

(n) = NOTE (n = number of note), see subclause 3.6.

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Table 2: Test specification T 3.1: Temperature-controlled locations - mechanical tests

Environmental parameter			Environmental Class 3.1	Environmental test specification T 3.1: In-use, Temperature-controlled locations.			
Type	Parameter	Detail parameter	Characteristic severity	Test severity	Duration	Reference	Method
Vibration	sinusoidal	displacement (13) (mm)	0,3	none			
		acceleration (13) (m/s ²) frequency range (Hz) axes of vibration	2-9 1,0 9-200				
Shocks	shocks	shock spectrum duration (ms) acceleration (13) (m/s ²) number of shocks directions of shocks	Type L 22 40	half sine 6 (16) 50 6 (14)	3 in each direction	IEC 68-2-27	Ea: Shock (15)
no = this condition does not occur in this class. none = verification is required only in special cases.			(n) = NOTE (n = number of note), see subclause 3.6.				

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