SLOVENSKI STANDARD
oSIST prEN 50289-4-16:2007

01-oktober-2007

Komunikacijski kabli – Specifikacije za preskušalne metode – 4-16. del: Metode za okoljska preskušanja – Pogoji za celovitost omrežja v požaru

Communication cables - Specifications for test methods -- Part 4-16: Environmental test methods - Circuit integrity under fire conditions

Kommunikationskabel - Spezifikationen für Prüfverfahren -- Teil 4-16: Umweltprüfverfahren - Funktionserhalt im Brandfall

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Câbles de communication - Spécification des méthodes d'essais -- Partie 4-16: Méthodes d'essais d'environnement - Intégrité du circuit en cas d'incendie

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ICS:

33.120.10 Koaksialni kabli. Valovodi Coaxial cables. Waveguides

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2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT prEN 50289-4-16

June 2007

ICS

English version

Communication cables - Specifications for test methods - Part 4-16: Environmental test methods - Circuit integrity under fire conditions

Câbles de communication - Spécification des méthodes d'essais - Partie 4-16: Méthodes d'essais d'environnement - Intégrité du circuit en cas d'incendie

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This draft European Standard is submitted to CENELEC members for CENELEC enquiry. Deadline for CENELEC: 2007-11-30.

It has been drawn up by CLC/TC 46X.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Foreword

This draft European Standard was prepared by JWG 46X, Communication Cables, of Technical Committee CENELEC TC 46X, Communication cables. It is submitted to CENELEC enquiry.

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Draft for Enquiry

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1 Scope

The scope is to characterise that a communication cable is resistant to fire and is able to continue working during some time in the fire test. The work undertaken is to use the test method as described in EN 50200 and to add a procedure which allows the possibility of taking transmission type measurements and show that the cable is capable of continued running.

2 Normative references

The following referenced documents are indispensable for the application 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.

EN 50200	Method of test for resistance to fire of unprotected small cables for use in emergency circuits
EN 50288-1:2003	Multi-element metallic cables used in analogue and digital communication and control - Part 1: Generic specification
EN 50289 Series	Communication cables - Specifications for test methods

3 General

This clause specifies requirements required related to the continuous maintenance of circuit integrity under fire conditions for communication cables and describes the methods taken to achieve this aim. The maintenance of circuit integrity as assessed on the basis of this standard takes into account the performance requirements of the related application in cabling.

3.1 Designation, marking and coding

3.1.1 Code designation

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For the purpose of supplying cables to this standard, the following code designation shall be used:

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- EN reference;
- temperature tested;
- Frequency Range;
- Level.

EXAMPLE:

EN 50xx-x T3 F3 L1

3.1.2 Code identities

Circuit integrity maintenance - High frequency:

The High Frequency Circuit Integrity is deemed to be maintained if the change of any transmission characteristics, given in the table below, remains in the allowed margin for the intended use according to the length subjected to the fire test specified in Clause 4

Table 1 - Frequency range, required tests and level achieved

Designation	Frequency range	High frequency characteristics	Level
F0	F Max < 100 KHz	Capacity and isolation	L 5
F1	100 KHz > F > 2 MHz	Attenuation and Zo	L 4 or 5
F2	2 MHz > F > 16 MHz	Attenuation, Xtalk and Zo	L 3, 4 or 5
F3	16 MHz > F > 100 MHz	Attenuation Xtalk RL and Zo	L 1 to 3
L = Level			
NOTE Allowable Change: this is where the system manufacturer can demonstrate that a system/application can continue operating when the specified cable is at its intended level. The Level required, by a specific application, shall derivate from customer system tests using the same EN 50200 burner.			

The allowable change, to be measured that is significant to a system, is only for the specified characteristics as proposed in Table 1. The percentage allowable change is derived from the requirement of the sectional specification that the cable was manufactured to when compared to the result after the burn test. This only if the result is below the minimum requirement i.e. “Level 1” classification is where there was no characteristic that went below the minimum requirement of the sectional specification the cable was produced to.

High frequency characteristics shall be tested in accordance with EN 50288-1

Table 2 - Allowable changes

Classification	Percentage allowable change
L 1	No change (0 %)
L 2	< 5 %
L 3	5 % > L < 10 %
L 4	10 % > L < 20 %
L 5	20 % > L < 30 %

3.2 Circuit integrity classification

Circuit integrity classes:

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According to the length of time during which circuit integrity is maintained, and the level expected and achieved the cable is assigned to the class below.

Table 3 - Circuit integrity class

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Circuit integrity class	Circuit integrity maintained for in minutes	Level (L)
E15	15 min or more	L5
E30	30 min or more	L’s 3 to 5
E60	60 min or more	L’s 1 to 5
E90	90 min or more	L’s 1 to 5
E120	120 min or more	L’s 1 to 5

The length of time stated in Table 3 is only for guidance as regulatory minimum time limits are already set in many countries.

Table 4 - Temperature class

Temperature class	Temperature °C
T1	840

Draft for Discussion