SLOVENSKI STANDARD

SIST EN 61537:2007

marec 2007

Urejanje okablenja – Sistemi kabelskih polic in kabelskih lestvic (IEC 61537:2006)

Cable management - Cable tray systems and cable ladder systems (IEC 61537:2006)

ICS 29.120.10

Referenčna številka
SIST EN 61537:2007(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61537

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ICS 29.120.10

Supersedes EN 61537:2001

English version

Cable management - Cable tray systems and cable ladder systems

(IEC 61537:2006)

Systèmes de câblage - Systèmes de chemin de câbles et systèmes d'échelle à câbles (CEI 61537:2006)

Führungssysteme für Kabel und Leitungen - Kabelträgersysteme für elektrische Installationen (IEC 61537:2006)

This European Standard was approved by CENELEC on 2006-12-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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

Ref. No. EN 61537:2007 E

Foreword

The text of document 23A/513/FDIS, future edition 2 of IEC 61537, prepared by SC 23A, Cable management systems, of IEC TC 23, Electrical accessories, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61537 on 2006-12-01.

This European Standard supersedes EN 61537:2001.

It incorporates additional tables, annexes and figures as well as revisions to such that appeared in EN 61537:2001. In places, the text has been substantially altered including:

– the classification system,

– tests for resistance against corrosion,

– re-written SWL test procedure,

– re-written section on electrical non-conductivity.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2007-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-12-01

Annexes ZA and ZB have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61537:2006 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60093	NOTE Harmonized as HD 429 S1:1983 (not modified).
ISO 14713	NOTE Harmonized as EN ISO 14713:1999 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-75	1997	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60364-5-52	2001	Electrical installations of buildings Part 5-52: Selection and erection of electrical equipment - Wiring systems	-	-
IEC 60695-2-11	2000	Fire hazard testing Part 2-11: Glowing/hot-wire based test methods - Glow-wire flammability test method for end-products	EN 60695-2-11	2001
IEC 60695-11-2	2003	Fire hazard testing Part 11-2: Test flames - 1 kW nominal pre-mixed flame - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-2	2003
ISO 1461	1999	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods	EN ISO 1461	1999
ISO 2178	1982	Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method	EN ISO 2178	1995
ISO 2808	1997	Paints and varnishes - Determination of film thickness	EN ISO 2808	1999
ISO 4046	Series	Paper, board, pulp and related terms - Vocabulary	-	-
ISO 9227 [1)]	1990	Corrosion tests in artificial atmospheres - Salt spray tests	-	-
ISO 10289	1999	Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates - Rating of test specimens and manufactured articles subjected to corrosion tests	EN ISO 10289	2001

[1)] ISO 9227 is superseded by ISO 9227:2006.

Annex ZB
(informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CENELEC member.

This European Standard falls under Directive 73/23/EEC.

NOTE (from CEN/CENELEC IR Part 2:2006, 2.17) Where standards fall under EC Directives, it is the view of the Commission of the European Communities (OJ No C 59, 1982-03-09) that the effect of the decision of the Court of Justice in case 815/79 Cremonini/Vrankovich (European Court Reports 1980, p. 3583) is that compliance with A-deviations is no longer mandatory and that the free movement of products complying with such a standard should not be restricted except under the safeguard procedure provided for in the relevant Directive.

A-deviations in an EFTA-country are valid instead of the relevant provisions of the European Standard in that country until they have been removed.

Clause	Deviation
6.2.1	**France** (Decree from Equipment and Accommodation Minister for low voltage installations dated 22 October 1969) Classification not allowed.
Annex C	**France** (Decree from Equipment and Accommodation Minister for low voltage installations dated 22 October 1969) The use of cable tray systems and cable ladder systems as a PE conductor is not allowed.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
61537

Deuxième édition
Second edition
2006-10

Systèmes de câblage – Systèmes de chemin de câbles et systèmes d'échelle à câbles

Cable management – Cable tray systems and cable ladder systems

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For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

CABLE MANAGEMENT – CABLE TRAY SYSTEMS AND CABLE LADDER SYSTEMS

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.
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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.

International Standard IEC 61537 has been prepared by subcommittee 23A: Cable management systems, of IEC technical committee 23: Electrical accessories.

This second edition cancels and replaces the first edition published in 2001. This edition constitutes a technical revision. It incorporates additional tables, annexes and figures as well as revisions to such that appeared in the first edition. In places, the text has been substantially altered including:

– the classification system,
– tests for resistance against corrosion,
– re-written SWL test procedure,
– re-written section on electrical non-conductivity.

The text of this standard is based on the following documents:

FDIS	Report on voting
23A/513/FDIS	23A/524/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The following differences exist in some countries:

In the USA it is permitted to use cable tray systems and cable ladder systems as a PE conductor, in which case national wiring regulations have to be adhered to.

In France it is not permitted to use cable tray systems and cable ladder systems as a PE conductor.

In France the use of flame propagating cable tray and cable ladder systems is not permitted.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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

CABLE MANAGEMENT – CABLE TRAY SYSTEMS AND CABLE LADDER SYSTEMS

1 Scope

This International Standard specifies requirements and tests for cable tray systems and cable ladder systems intended for the support and accommodation of cables and possibly other electrical equipment in electrical and/or communication systems installations. Where necessary, cable tray systems and cable ladder systems may be used for the division or arrangement of cables into groups.

This standard does not apply to conduit systems, cable trunking systems and cable ducting systems or any current-carrying parts.

NOTE Cable tray systems and cable ladder systems are designed for use as supports for cables and not as enclosures.

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.

IEC 60068-2-75:1997, *Environmental testing – Part 2-75: Tests – Test Eh: Hammer tests*

IEC 60364-5-52:2001, *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*

IEC 60695-2-11:2000,*: Fire hazard testing - Part 2-11:Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 60695-11-2:2003, *Fire hazard testing - Part 11-2: Test flames - 1 kW nominal pre-mixed flame - Apparatus, confirmatory test arrangement and guidance*

ISO 1461:1999, *Hot dip galvanized coatings on fabricated iron and steel articles – Specifications and test methods*

ISO 2178:1982, *Non-magnetic coatings on magnetic substrates - Measurement of coating thickness - Magnetic method*

ISO 2808:1997, *Paints and varnishes - Determination of film thickness*

ISO 4046 (all parts), *Paper, board, pulp and related terms – Vocabulary*

ISO 9227:1990, *Corrosion tests in artificial atmospheres – Salt spray tests*

ISO 10289:1999, *Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates - Rating of test specimens and manufactured articles subjected to corrosion tests*

3 Terms and definitions

For the purpose of this document, the following definitions apply.

3.1
cable tray system or cable ladder system
assembly of cable supports consisting of cable tray lengths or cable ladder lengths and other system components

3.2
system component
part used within the system. System components are as follows:

a) cable tray length or cable ladder length
b) cable tray fitting or cable ladder fitting
c) support device
d) mounting device
e) system accessory

NOTE System components may not necessarily be included together in a system. Different combinations of system components may be used.

3.3
cable tray length
system component used for cable support consisting of a base with integrated side members or a base connected to side members

NOTE Typical examples of cable tray types are shown in Figures A.1 to A.3.

3.4
cable ladder length
system component used for cable support consisting of supporting side members, fixed to each other by means of rungs

NOTE Typical examples of cable ladder types are shown in Figure A.4.

3.5
fitting
system component used to join, change direction, change dimension or terminate cable tray lengths or cable ladder lengths

NOTE Typical examples are couplers, bends, tees, crosses.

3.6
cable runway
assembly comprised of cable tray lengths or cable ladder lengths and fittings only

3.7
support device
system component designed to provide mechanical support and which may limit movement of a cable runway

NOTE Typical examples of support devices are shown in Annex B.

3.8
mounting device
system component used to attach or fix other devices to the cable runway

3.9
apparatus mounting device
part used to accommodate electrical apparatus like switches, socket outlets, circuit- breakers, telephone outlets, etc. which can be an integral part of the electrical apparatus and which is not part of the cable tray system and cable ladder system

3.10
system accessory
system component used for a supplementary function such as cable retention, and covers, etc.

3.11
BLANK

3.12
metallic system component
system component which consists of metal only. Screws for connections and other fasteners are not considered

3.13
non-metallic system component
system component which consists of non-metallic material only. Screws for connections and other fasteners are not considered

3.14
composite system component
system component which consists of both metallic and non-metallic materials. Screws for connections and other fasteners are not considered

3.15
non-flame propagating system component
system component which may catch fire as a result of an applied flame and the resulting flame does not propagate and extinguishes itself within a limited time after the applied flame is removed

3.16
external influence
presence of water, oil, building materials, corrosive and polluting substances, and external mechanical forces such as snow, wind, and other environmental hazards

3.17
safe working load
SWL
maximum load that can be applied safely in normal use

3.18
uniformly distributed load
UDL
load applied evenly over a given area

NOTE Methods of applying uniformly distributed loads are shown in Annexes D and E.

3.19
span
distance between the centres of two adjacent support devices