SLOVENSKI STANDARD

SIST IEC 60364-7-706:2006

september 2006

Nizkonapetostne električne inštalacije – 7-706. del: Zahteve za posebne inštalacije ali lokacije – Prevodni prostori z omejenim gibanjem

Low-voltage electrical installations - Part 7-706: Requirements for special installations or locations - Conducting locations with restricted movement

ICS 91.140.50

Referenčna številka
SIST IEC 60364-7-706:2006(en)

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
60364-7-706

Deuxième édition
Second edition
2005-10

Installations électriques basse tension –

Partie 7-706:
Exigences pour les installations ou emplacements spéciaux – Enceintes conductrices exiguës

Low-voltage electrical installations –

Part 7-706:
Requirements for special installations or locations – Conducting locations with restricted movement

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE G

Pour prix, voir catalogue en vigueur
For price, see current catalogue

INTERNATIONAL ELECTROTECHNICAL COMMISSION

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

Part 7-706: Requirements for special installations or locations – Conducting locations with restricted movement

FOREWORD

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International standard IEC 60364-7-706 has been prepared by IEC technical committee 64: Electrical installations and protection against electric shock.

This second edition cancels and replaces the first edition published in 1983 and constitutes a technical revision.

The main changes with respect to the previous edition are as follows:

– only SELV and electrical separation are allowed for all portable equipment not just measuring equipment.
– PELV is allowed for the supply to fixed equipment, and the use of class II equipment or equivalent is allowed to supply fixed equipment if additional protection is provided by an RCD.

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

FDIS	Report on voting
64/1478/FDIS	64/1493/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.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

IEC 60364 consists of the following parts, under the general title *Low-voltage electrical installations:*

Part 1: Fundamental principles, assessment of general characteristics, definitions

Part 2: Void

Part 3: Void

Part 4: Protection for safety

Part 5: Selection and erection of electrical equipment

Part 6: Verification

Part 7: Requirements for special installations or locations

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.

INTRODUCTION

The requirements of this part of IEC 60364 supplement, modify or replace certain of the general requirements of the other parts of IEC 60364.

The clause numbering of part 706 follows the pattern and corresponding references of IEC 60364. The numbers following the particular number of part 706 are those of the corresponding parts, or clauses of IEC 60364.

The absence of reference to a part, a clause or a subclause means that the corresponding general requirements are applicable.

LOW-VOLTAGE ELECTRICAL INSTALLATIONS –

Part 7-706: Requirements for special installations or locations – Conducting locations with restricted movement

706.1 Scope

The particular requirements of this part apply to fixed equipment in conducting locations where movement of persons is restricted by the location, and to supplies for portable equipment for use in such locations.

A conducting location with restricted movement is comprised mainly of metallic or other conductive surrounding parts, within which it is likely that a person will come in contact through a substantial portion of his body with the metallic or other conductive surrounding parts and where the possibility of interrupting this contact is limited.

The particular requirements of this part do not apply to location which allows a person freedom of bodily movement to work, enter, and leave the location without physical constraint.

NOTE For installation and use of arc welding equipment, see IEC 62081 TS.

706.410.3 Application of measures of protection against electric shock

The following requirement is added:

706.410.3.1.6 In conducting locations with restricted movement the following protective measures apply to circuits supplying the following current-using equipment:

a) For the supply to hand-held tools and portable equipment:
   - SELV (Clause 411.1), or
   - electrical separation (Clause 413.5) subject to only one item of equipment being connected to a secondary winding of the isolating transformer.

   NOTE An isolating transformer may have several secondary windings.

b) For the supply to handlamps:
   - SELV (Clause 411.1).

   NOTE A fluorescent luminaire with built-in step-up transformer with electrically separated windings transformer supplied at SELV is equally permitted.

c) For the supply to fixed equipment:
   - automatic disconnection of the supply (Clause 413.1) with supplementary equipotential bonding (Subclause 413.1.6) that shall connect exposed-conductive-parts of fixed equipment and the conductive parts of the location, or
   - SELV (Clause 411.1), or
   - PELV (Clause 411.1) where equipotential bonding shall be provided between all exposed-conductive-parts, all extraneous-conductive-parts inside the conducting location with restrictive movement, and the connection of the PELV system to earth, or

     NOTE 1 In France, PELV is not allowed in conducting locations with restricted movement.

   - electrical separation (Clause 413.5) subject to one item of equipment being connected to a secondary winding of the isolating transformer, or

– by use of Class II equipment or equipment having equivalent insulation (Clause 413.2) provided the supplying circuits are protected by additional protection by the use of residual current devices (Clause 412.5) with a rated residual operating current not exceeding 30 mA.

NOTE 2 A fluorescent luminaire with built-in step-up transformer with electrically separated windings and supplied at SELV is equally permitted.

NOTE 3 In Switzerland, the use of hand-held tools, luminaires and portable equipment for tank cleaning services are permitted under conditions others than mentioned above. These conditions are defined in a law. (Weisung des Eidgenössischen Starkstrominspektorates STI 608.0702 d).

706.411 Protection against both direct and indirect contact

The following requirements and note are added:

706.411.1.2 Sources for SELV and PELV

NOTE In Italy, PELV is not admitted.

706.411.1.2.6 Sources for SELV and PELV shall be situated outside the conducting location with restrictive movement, unless they are part of the fixed installation within the conducting location with restricted movement as provided by item c) of 706.410.3.1.6.

706.411.1.4 Requirements for unearthed circuits (SELV)

706.411.1.4.3 Basic protection (protection against direct contact) in accordance with 411.1.4.3 shall be provided, irrespective of the nominal voltage of the SELV circuits.

706.411.1.5 Requirements for earthed circuits (PELV)

706.411.1.5.2 Basic protection (protection against direct contact) in accordance with 411.1.5.1 shall be provided, irrespective of the nominal voltage of the PELV circuits.

706.412 Protection against direct contact

The following requirements are added:

706.412.3 Obstacles

Protection by means of obstacles (Clause 412.3) is not permitted.

706.412.4 Placing out of reach

Protection by placing out of reach (Clause 412.4) is not permitted.

706.413 Protection against indirect contact

The following requirements are added:

Only circuits and the protective measures for supplying equipment indicated in 706.410.3.1.6 are permitted.

706.413.1.2.3 Equipotential bonding and functional earth

If a functional earth is required for certain equipment, for example measuring and control apparatus, equipotential bonding shall be provided between all exposed-conductive-parts, extraneous-conductive-parts inside the conducting location with restrictive movement and the functional earth.