

SLOVENSKI STANDARD

SIST HD 384.7.754 S1:2005

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Nadomešča:

SIST HD 384.7.708 S1:2000

Električne inštalacije zgradb – 7. del: Zahteve za posebne inštalacije ali lokacije – 754. poglavje: Električne inštalacije v počitniških prikolicah in avtodomih

Electrical installations of buildings -- Part 7: Requirements for special installations or locations -- Section 754: Electrical installations in caravans and motor-caravans

Elektrische Anlagen von Gebäuden -- Teil 7: Anforderungen für Betriebsstätten, Räume und Anlagen besonderer Art -- Hauptabschnitt 754: Elektrische Anlagen von Caravans und Motorcaravans

Installations électriques des bâtiments -- Partie 7: Règles pour les installations et emplacements spéciaux -- Section 754: Installations électriques des caravanes motorisés ou non

Ta slovenski standard je istoveten z: HD 384.7.754 S1:2005

ICS:

43.100	Osebni avtomobili. Bivalne prikolice in lahke prikolice	Passenger cars. Caravans and light trailers
91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems

SIST HD 384.7.754 S1:2005 en

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HARMONIZATION DOCUMENT
DOCUMENT D'HARMONISATION
HARMONISIERUNGSDOKUMENT

HD 384.7.754 S1

June 2005

ICS 43.100; 91.140.50

Partially supersedes HD 384.7.708 S1:1992

English version

Electrical installations of buildings
Part 7: Requirements for special installations or locations
Section 754: Electrical installations
in caravans and motor-caravans
(IEC 60364-7-708:1988 + A1:1993, modified)

Installations électriques des bâtiments
Partie 7: Règles pour les installations et
emplacements spéciaux
Section 754: Installations électriques
des caravanes motorisées ou non
(CEI 60364-7-708:1988 + A1:1993,
modifiée)

Elektrische Anlagen von Gebäuden
Teil 7: Anforderungen für Betriebsstätten,
Räume und Anlagen besonderer Art
Hauptabschnitt 754: Elektrische Anlagen
von Caravans und Motorcaravans
(IEC 60364-7-708:1988 + A1:1993,
modifiziert)

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This Harmonization Document was approved by CENELEC on 2004-07-06. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document on a national level.

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

This Harmonization Document exists in three official versions (English, French, German).

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

Foreword

The texts of the International Standard IEC 60364-7-708:1988 and IEC 60364-7-708/A1:1993, prepared by IEC TC 64, Electrical installations of buildings, together with the common modifications prepared by SC 64A, Protection against electric shock, of CENELEC TC 64, Electrical installations of buildings, were submitted to the formal vote and were approved by CENELEC as HD 384.7.708 S2 and HD 384.7.754 S1 on 2004-07-06.

This Harmonization Document, in conjunction with HD 384.7.708 S2:2005, supersedes HD 384.7.708 S1:1992.

In this Harmonization Document, the common modifications to the International Standard are indicated by a vertical line in the left margin of the text.

The numbering of the clauses and subclauses is different from the numbering of the International Standard.

The following dates were fixed:

- latest date by which the existence of the HD has to be announced at national level (doa) 2005-01-01
- latest date by which the HD has to be implemented at national level by publication of a harmonized national standard or by endorsement (dop) 2006-01-01
- latest date by which the national standards conflicting with the HD have to be withdrawn (dow) 2007-07-01

Annex ZA has been added by CENELEC.

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Introduction

The requirements of Part 7 supplement, modify or replace certain of the general requirements of HD 384. The absence of reference to a chapter, section or clause means that the corresponding general requirements are applicable.

The clause numbering of section 754 follows the pattern and corresponding references of HD 384. The section numbers are those of the corresponding parts, chapters or sections of HD 384.

NOTE In order not to mix rules on different matters as rules for electrical installation of caravan parks and rules for electrical installation inside caravans, it was agreed to split the previous document HD 384.7.708 S1 into two sections:

- HD 384.7.708 S2 concerns only caravan parks, and
- HD 384.7.754 S1 concerns caravans and motor-caravans.

754 Electrical installations in caravans and motor-caravans

754.1 Scope and normative references

754.11 Scope

The particular requirements of this section apply to the internal electrical installations of caravans and motor-caravans for rated voltage not exceeding 440 V.

For electrical installations in caravans and motor-caravans which are operated at 12 V d.c., EN 1648-1 and EN 1648-2 apply.

This standard is not applicable to the internal installations of mobile homes, fixed recreational vehicles, transportable sheds and the like, temporary premises or structures.

754.12 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 1648-1:1997, *Leisure accommodation vehicles – 12 V direct current extra low voltage electrical installations – Part 1: Caravans*

EN 1648-2:1997, *Leisure accommodation vehicles – 12 V direct current extra low voltage electrical installations – Part 2: Motor-caravans*

EN 13878:2003, *Leisure accommodation vehicles – Terms and definitions*

EN 60309-2:1999, *Plugs, socket-outlets and couplers for industrial purposes – Part 2: Dimensional interchangeability requirements for pin and contact-tube accessories* (IEC 60309-2:1999)
A11:2004

EN 60529:1991, *Degrees of protection provided by enclosures (IP code)* (IEC 60529:1989)
A1:2000 (IEC 60529:1989/A1:1999)

EN 60695-2 (series), *Fire hazard testing - Part 2: Test methods* (IEC 60695-2-series)

HD 308 S2:2001, *Identification of cores in cables and flexible cords*

HD 384 / HD 60364 (series), *Electrical installations of buildings*

HD 384.4.41 S2:1996 + A1:2002, *Electrical installations of buildings – Part 4: Protection for safety – Chapter 41: Protection against electric shock* (IEC 60364-4-41:1992 + A1:1996 + A2:1999, modified)

HD 384.7.708 S2:2005, *Electrical installations of buildings – Part 7: Requirements for special installations or locations – Section 708: Electrical installations in caravan parks* (IEC 60364-7-708:1988, modified)

HD 472 S1:1989 + Corrigendum February 2002, *Nominal voltages for low-voltage public electricity supply systems* (IEC 60038:1983, modified)
A1:1995

IEC 60050-826:2004, *International electrotechnical vocabulary - Part 826: Electrical installations*

IEC 60614 (series), *Conduits for electrical installations; specification*

754.2 Definitions

For general definitions, see IEC 60050-826:2004.

754.2.1

leisure accommodation vehicle

unit of living accommodation for temporary or seasonal occupation that may meet requirements for construction and use of road vehicles

[EN 13878:2003, 3.21]

754.2.1.1

caravan

trailer leisure accommodation vehicle, used for touring, that meets requirements for construction and use of road vehicles

[EN 13878:2003, 3.5, mod.]

754.2.1.2

motor-caravan

self-propelled leisure accommodation vehicle, used for touring, that meets requirements for construction and use of road vehicles

NOTE It is either adapted from a series production vehicle, or designed and built on an existing chassis, with or without the driving cab, the accommodation being either fixed or dismountable.

[EN 13878:2003, 3.26, mod.]

754.2.1.3

mobile home

transportable leisure accommodation vehicle that includes means for mobility but does not meet requirements for construction and use road vehicles

754.3 Assessment of general characteristics

754.313.1.2 Regarding the nominal voltage of the electrical installation 708.313.1.2 of HD 384.7.708 S2 shall be taken into account.

754.314 Division of installation

The electrical system may be arranged in one or more electrically independent installations. Each installation shall be supplied by a separate connecting device.

754.47 Application of protective measures for safety**754.471 Measures of protection against electric shock****754.471.1 Protection against electric shock in normal service**

754.471.1.1 Protection by obstacles and protection by placing out of reach shall not be used.

754.471.2 Protection against electric shock in case of a fault

754.471.2.1 The following wording is added to 471.2.1:

The wiring system shall incorporate a protective conductor connected to the protective contact of the caravan inlet, which shall be connected also to exposed conductive parts of electrical equipment and to the protective contact of the socket-outlets in the caravan.

Extraneous conductive parts of the caravan shall be bonded to the protective conductor of the installation, if necessary in more than one place if the type of construction does not ensure continuity.

The nominal cross-sectional area of conductors used for this purpose shall be not less than 4 mm², if of copper, or of equivalent conductance and mechanical strength if of another material.

If the caravan is made substantially of insulating material, these requirements do not apply to metal parts which are unlikely to become live in the event of a fault.

754.471.2.1.2 Protection by non-conducting location shall not be used.

NOTE This precludes the use of Class 0 equipment.

754.5 Selection and erection of electrical equipment**754.512.2 External influences**

754.512.2.4 Where a socket-outlet or other accessory is located in a position exposed to the effects of moisture, it shall be constructed or enclosed so as to provide a degree of protection not less than IP55 in accordance with EN 60529.

754.52 Wiring systems**754.521.1 Selection and routing of cables**

The following types of cables shall be used:

- flexible single-core cables (H07 HV-K) in non-metallic conduits;
- rigid stranded cables with a minimum of 7 strands (H07 V-R) in non-metallic conduits;
- ordinary polychloroprene sheathed flexible cables (H05 RN-F) or equivalents.

Unless routed in conduits, all cables shall be supported with insulated clips at intervals not exceeding 0,40 m for vertical runs and at intervals not exceeding 0,25 m for horizontal runs.

Cable runs, if inaccessible, shall be unbroken.

754.521.6 Conduits and trunking systems

Conduits shall comply with IEC 60614. The polyethylene type shall not be used.

Cable conduits shall be of material in accordance with EN 60695-2(series), unless other values are specified in the relevant equipment specification.

754.522 Selection and erection of wiring systems in relation to external influences

754.522.6 Mechanical protection

As the wiring will be subjected to vibration, all wiring shall be protected against mechanical damage either by location or by additional protection. Wiring passing through metal work shall be protected by means of suitable bushes or grommets, securely fixed in position. Every precaution shall be taken to avoid mechanical damage due to sharp edges or abrasive parts.

754.522.15 Gas cylinder compartments

No wiring shall be located within or pass through a compartment intended for gas cylinders.

754.523 Cross-sectional area

The cross-sectional area of conductors shall be appropriate to the load to be connected within the caravan and in any case shall not be smaller than 1,5 mm² Cu or equivalent.

NOTE Attention is drawn to the effect of thermal insulation on the current-carrying capacity of cables. This may necessitate the use of larger cables.

754.526 Electrical connections

754.526.5 Boxes for cable connections and joints

Cable connections and joints shall be made in purpose-designed boxes providing mechanical protection. If the cover of the box is removable without the aid of a tool, the connections shall be insulated.

Connection boxes shall be of material in accordance with EN 60695-2 (series), unless other values are specified in the relevant equipment specification.

754.528.1.1 Segregation

Cables operating at low voltage shall be run separately from cables for extra-low voltage and shall be so disposed that there is no risk of physical contact between the two wiring systems.

754.53 Switchgear and controlgear

754.536 Isolation and switching

754.536.2.1 Caravan inlet

754.536.2.1.1 The caravan inlet shall be an appliance inlet as specified in EN 60309-2, suitable for accepting the type of connector provided on the connecting device and shall incorporate a protective contact.

754.536.2.1.2 The caravan inlet shall be installed:

- as high as practicable but not more than 1,8 m above ground level;
- in a readily accessible location; and
- in a suitable recess incorporating a lid on the outside of the caravan.

754.536.2.1.3 The following information shall be provided on the outside, near the recess, accommodating the caravan inlet:

- nominal voltage;
- nominal current;
- nominal frequency.

754.536.5 Functional switching (control)**754.536.5.2 Functional switching device****754.536.5.2.4 Main switch**

Every internal electrical installation shall be equipped with a main control switch which disconnects all live conductors (including the neutral if any) placed in a readily accessible position inside the caravan.

A warning notice shall be fixed in a prominent position in the vicinity of the main switch. This notice shall be in the language of the country in which the caravan is first offered for retail sale, and shall contain at least the following information:

- connecting/disconnecting procedure on arriving at, or leaving a site;
- procedure in the event of a fault;
- fuse replacement procedure if applicable;
- recommendation for periodic inspection.

754.53.3 Devices for protection against overcurrent

Every final circuit shall be protected against overcurrents by an individual overcurrent protective device which disconnects all phase conductors.

If there is only one final circuit, the overcurrent protective device required by this subclause may serve as the main control switch required by 754.536.5.2.4, provided that all requirements of this subclause are fulfilled.

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754.543.2.1 Single-core protective conductors shall be insulated.**754.55.1 Accessories****754.55.1.1 General**

Accessories such as switches, lampholders and the like shall be of a type without accessible metallic parts.

754.55.1.2 Socket-outlets

NOTE For socket outlets supplied at extra-low-voltage see 754.55.3.2.

Low-voltage socket-outlets shall incorporate a terminal for connection of the protective conductor. This requirement does not apply to socket-outlets supplied by an individual isolating transformer.

Where extra-low voltage (ELV) socket-outlets are provided in the caravan, all socket-outlets of the low voltage installation shall be of a type which will not admit plugs intended for the ELV socket-outlets.

754.55.2 Appliances

Every appliance which is permanently connected to the fixed wiring shall be controlled by a switch installed on or adjacent to the appliance, unless the appliance is provided with an incorporated switch.

754.55.3 Extra-low voltage installations**754.55.3.1 General**

Any portion of a caravan installation operating at extra-low voltage shall comply with the requirements of clause 411.1 of HD 384.4.41 S2:1996 + A1:2002.