

# SLOVENSKI STANDARD

## SIST HD 60364-7-704:2018

01-oktober-2018

**Nadomešča:**

**SIST HD 60364-7-704:2007**

**SIST HD 60364-7-704:2007/A11:2017**

---

**Nizkonapetostne električne inštalacije - 7-704. del: Zahteve za posebne inštalacije ali lokacije - Gradbišča**

Low-voltage electrical installations - Part 7-704: Requirements for special installations or locations - Construction and demolition site installations

**iTeh STANDARD PREVIEW**

Errichten von Niederspannungsanlagen - Teil 7-704: Anforderungen für Betriebsstätten, Räume und Anlagen besonderer Art - Baustellen

[SIST HD 60364-7-704:2018](https://standards.itih.ai/catalog/standards/sist/7-704-2018)

Installations électriques à basse tension - Partie 7-704 : Installations de chantiers de construction et de démolition

**Ta slovenski standard je istoveten z: HD 60364-7-704:2018**

---

**ICS:**

91.140.50	Sistemi za oskrbo z elektriko	Electricity supply systems
91.200	Gradbena tehnologija	Construction technology

**SIST HD 60364-7-704:2018** en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST HD 60364-7-704:2018](https://standards.iteh.ai/catalog/standards/sist/1211c1cc-87dc-45b0-9aae-2c25598de911/sist-hd-60364-7-704-2018)

<https://standards.iteh.ai/catalog/standards/sist/1211c1cc-87dc-45b0-9aae-2c25598de911/sist-hd-60364-7-704-2018>

HARMONIZATION DOCUMENT  
DOCUMENT D'HARMONISATION  
HARMONISIERUNGSDOKUMENT

**HD 60364-7-704**

May 2018

ICS 29.020; 91.140.50

Supersedes HD 60364-7-704:2007

English Version

Low voltage electrical installations - Part 7-704: Requirements  
for special installations or locations - Construction and demolition  
site installations  
(IEC 60364-7-704:2017 , modified)

Installations électriques basse tension - Partie 7-704:  
Exigences pour les installations ou emplacements spéciaux  
- Installations de chantiers de construction et de démolition  
(IEC 60364-7-704:2017 , modifiée)

Errichten von Niederspannungsanlagen - Teil 7-704:  
Anforderungen für Betriebsstätten, Räume und Anlagen  
besonderer Art - Baustellen  
(IEC 60364-7-704:2017 , modifiziert)

This Harmonization Document was approved by CENELEC on 2017-05-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for implementation of this Harmonization Document at national level.

Up-to-date lists and bibliographical references concerning such national implementations may be obtained on application to the CEN-CENELEC Management Centre 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, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

HD 60364-7-704:2018 (E)

## European foreword

The text of document 64/2155/FDIS, future edition 3 of IEC 60364-7-704:2017, prepared by IEC/TC 64 "Electrical installations and protection against electric shock" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as HD 60364-7-704:2018.

A draft amendment, which covers common modifications to IEC 60364-7-704 (64/2155/FDIS), was prepared by CLC/TC 64 "Electrical installations and protection against electric shock" and approved by CENELEC.

The following dates are fixed:

- latest date by which this document has to be implemented (dop) 2018-11-18  
at national level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2021-05-18  
this document have to be withdrawn

HD 60364-7-704:2018 supersedes HD 60364-7-704:2007.

Annexes which are additional to those in IEC 60364-7-704:2017 are prefixed "Z".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

**(standards.iteh.ai)**

SIST HD 60364-7-704:2018

<https://standards.iteh.ai/catalog/standards/sist/1211c1cc-87dc-45b0-9aae-2c25598dc911/sist-hd-60364-7-704-2018>

## Introduction

For the purpose of this part, the requirements of HD 60364/HD 384 apply.

The Parts 7XX of HD 60364 contain particular requirements for special installations or locations which are based on the requirements of the general parts of HD 60364 (Part 1, Part 4, Part 5 and Part 6). These Parts 7XX have to be considered in conjunction with the requirements of the general parts.

The particular requirements of this part of HD 60364 supplement, modify or replace certain of the requirements of the general parts of HD 60364 being valid at the time of publication of this part.

The absence of reference to the exclusion of a part or a clause of a general part means that the corresponding clauses of the general part are applicable (undated reference).

Requirements of other Parts 7XX being relevant for installations covered by this part also apply. This part may therefore also supplement, modify or replace certain of these requirements valid at the time of publication of this part.

The clause numbering of this part follows the pattern and corresponding references of HD 60364. The numbers following the particular number of this part are those of the corresponding parts, or clauses of HD 60364 being valid at the time of publication of this part as indicated in the normative references of this document (dated reference).

If additional requirements or explanations are needed which have no direct relation to general parts or other Parts 7XX the numbering of such clauses are stated as 712.101, 712.102, 712.103 etc.

NOTE In the case where new or amended general parts with modified numbering were published after this part was issued, the clause numbers referring to a general part in this Part 704 may no longer align with the latest edition of the general part. Dated references should be observed.

HD 60364-7-704:2018 (E)

## 704.1 Scope

The requirements of this part apply to installations for construction and demolition sites for use during the period of the construction or demolition work which are intended to be taken out of service upon completion of the works. Examples include the following:

- construction work of new buildings;
- repair, alteration, extension or demolition of existing buildings or parts of existing buildings;
- engineering works;
- earthworks;
- work of similar nature.

The requirements apply to fixed or moveable installations.

The requirements do not apply to installations in administrative locations of construction sites (e.g. offices, cloakrooms, meeting rooms, canteens, restaurants, dormitories, toilets).

## 704.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60245-4, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables*

EN 60309-1, *Plugs, socket-outlets and couplers for industrial purposes – Part 1: General requirements*

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

HD 60364 (all parts), *Low voltage electrical installations*

HD 60364-4-41:2007, *Low-voltage electrical installations – Part 4-41: Protection for safety – Protection against electric shock*

HD 60364-5-537:2016, *Low-voltage electrical installations - Part 5-53: Selection and erection of electrical equipment - Devices for protection, isolation, switching, control and monitoring - Clause 537: Isolation and switching*

EN 61439-4, *Low-voltage switchgear and controlgear assemblies – Part 4: Particular requirements for assemblies for construction sites (ACS)*

## 704.3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

## 704.30 Assessment of general characteristics

**704.30.101** The clearances for overhead lines above construction sites shall be agreed with the owner of the overhead power line, on the basis of the dimensions of the construction site machines, such as cranes, and equipment, such as ladders and scaffolding, to be used.

**704.31 Purpose, supplies and structure****704.313 Supplies**

The following note is added:

NOTE A single construction site may be served by several sources of supply, including generating sets; see HD 60364-5-551.

**704.4 Protection for safety****704.41 Protection against electric shock****704.410 Introduction****704.410.3 General requirements****704.410.3.5** Replace with the following:

The protective measures:

- obstacles, and
- placing out of reach

as specified in HD 60364-4-41:2007, Annex B shall not be used.

**704.410.3.6** Replace with the following:

The protective measures

- non-conducting location,
- earth-free equipotential bonding, and
- electrical separation for the supply of more than one current-using equipment

as specified in HD 60364-4-41:2007, Annex C shall not be used.

**704.410.3.101** Circuits supplying socket-outlets with rated current up to and including 32 A and other circuits supplying hand-held electrical equipment with rated current up to and including 32 A shall:

- be protected by automatic disconnection of supply together with additional protection by the use of residual current devices having a rated residual operating current not exceeding 30 mA (see HD 60364-4-41:2007, 415.1.1), or
- be supplied by SELV or PELV (HD 60364-4-41:2007, 414), or
- have electrical separation of circuits (HD 60364-4-41:2007, 413), each socket-outlet and hand-held electrical equipment being supplied by an individual isolating transformer or by separate windings of an isolating transformer.

**704.411 Protective measure: Automatic disconnection of supply****704.411.3 Requirements for fault protection****704.411.3.2 Automatic disconnection in case of fault**

**704.411.3.2.101** For circuits supplying socket-outlets with a rated current exceeding 32 A, residual current devices shall be used as disconnection devices.

**704.414 Protective measure: Extra-low voltage provided by SELV and PELV****704.414.4 Requirements for SELV and PELV circuits****704.414.4.5** Replace the clause with the following:

HD 60364-7-704:2018 (E)

Irrespective of the nominal voltage, in AC and DC circuits, the requirement for basic protection shall be provided by the following:

- insulation in accordance with HD 60364-4-41:2007, Clause A.1, or
- barriers or enclosures in accordance with HD 60364-4-41:2007, Clause A.2.

#### **704.44 Protection against voltage disturbances and electromagnetic disturbances**

##### **704.443 Protection against transient overvoltages of atmospheric origin or due to switching**

###### **704.443.1 General**

**704.443.1.101** Cranes, lifts, cement mixers and similar items of equipment are liable to produce switching overvoltages. Where such equipment is present, consideration should be given to the need for protection against switching overvoltages.

#### **704.5 Selection and erection of equipment**

##### **704.51 Common rules**

###### **704.511 Compliance with standards**

###### **704.511.1** Add the following:

All assemblies on construction and demolition sites (ACS) for the distribution of electricity shall be in compliance with the requirements of EN 61439-4.

Where interchangeability is required:

- socket-outlets with a rated current not exceeding 16 A shall comply with EN 60309-2 or relevant national standards, and
- socket-outlets with a rated current exceeding 16 A but not exceeding 125 A shall comply with EN 60309-2.

Socket-outlets shall comply with EN 60309-1 where:

- the rated current exceeds 125 A, or
- interchangeability is not required.

###### **704.512 Operational conditions and external influences**

###### **704.512.2 External influences**

Add the following:

Consideration shall be given to the risk of damage to electrical equipment by corrosive substances, movement of structures and vehicles, wear and tear, tension, flexing, impact, abrasion, severing and ingress of liquids or solids.

#### **704.52 Wiring systems**

##### **704.522.8 Other mechanical stresses (AJ)**

###### **704.522.8.101**

To avoid damage, cables should not be run across site roads or walkways. Where this is necessary, special protection against mechanical damage and contact with construction plant machinery shall be provided.

Particular attention shall be given to the protection of surface run and overhead cables against mechanical damage, given the environment and activities at the construction site.

Flexible cables that are subject to movement shall be IEC 60245-4 type 66 or equivalent,



resistant to abrasion and to water.

## **704.537 Devices for isolation and switching**

### **704.537.2 Devices for isolation**

#### **704.537.2.101**

The following requirements are added:

Each assembly for construction sites (ACS) shall incorporate devices for isolating the incoming supply.

Devices for isolating the incoming supply shall be suitable for securing in the off position (see HD 60364-5-537:2016, 537.2.5) (for example, by providing a padlocking facility on the device or by locating the device inside a lockable enclosure). Safety and standby supplies shall be connected by means of devices arranged to prevent interconnection of the different supplies.

#### **704.56 Safety services**

The following note is added:

NOTE Site conditions may require the provision of safety services, e.g. escape lighting.

#### **704.6 Verification**

**704.6.101** Site work is in a constant state of change and, therefore, the associated electrical installation is subject to risk of damage or misuse. Therefore, in addition to initial and periodic verification, the installation shall be inspected frequently, e.g. daily, weekly, or monthly, as appropriate. Examples of some items to be inspected include:

- the adequacy of connections and the condition of the protective conductors;
- the condition of flexible conductors and their connections to portable equipment and hand-held equipment;
- the rating and condition of fuses and the setting of the circuit-breakers to ensure that they are not unduly altered;
- the functioning of residual current devices

## Annex ZB (normative)

### Special national conditions

Special national condition: National characteristic or practice that cannot be changed even over a long period, e.g. climatic conditions, electrical earthing conditions.

NOTE If it affects harmonization, it forms part of the Harmonization Document.

For the countries in which the relevant special national conditions apply these provisions are normative, for other countries they are informative.

1 Country	2 Clause	3 Special national condition
IT	704.30.101	In Italy clearances are established in ANNEX IX of Dlgs 81/08
GB	704.313	Protection by reduced low voltage system in which the highest voltage shall not exceed 110 V a.c. between phases and 55 V a.c. to earth (single-phase) or 63,5 V a.c. to earth (three phases) is considered as a particular application of the protection measure by automatic disconnection of supply in the TN system according to Clause 411.4. In this case, socket-outlets do not need the additional protective measures specified below.
IE	704.410.3.1.01	In IE, only portable equipment with the protective measure Reduced Low Voltage is permitted for equipment having a rating of 2kVA or less
DE	704.410.3.6	In Germany add the following new sentence at the end of 704.410.36 This requirements does not affect the use of generating sets in accordance with HD 60364-5-551.
GB	704.411.3	In the United Kingdom, the following applies: <b>704.411.3.1</b> A PME earthing facility shall not be used for the means of earthing for an installation falling within the scope of this section unless all extraneous-conductive-parts are reliably connected to the main earthing terminal in accordance with Regulation 411.3.1.2. NOTE: If the PME earthing facility is considered for use, see also BS 7375.
DE	704.411.3.2.101	In DE, for circuits supplying socket-outlets with a rated current exceeding 32 A, residual current operating devices having a rated residual operating current not exceeding 500 mA shall be used as disconnection devices.
IT	704.411.3.2.101	In IT, socket-outlets with a rated current exceeding 32 A shall be protected according to the general rules.
NO	704.411.3.2.101	In NO, the following requirement is added: For circuits supplying socket-outlets with rated current exceeding 32A, residual current devices or insulation monitoring devices provided with means for tripping a circuit breaker shall be used as disconnection devices. The rated residual operating current of the devices shall: - in TN and TT systems, not exceed 50 % of the minimum prospective earth fault current in the circuit, and - in IT system, not exceeding 3 x the expected leakage current in the circuit during normal operation.
DE	704.511.101	In DE, plugs and socket-outlets with a rated current above 16 A up to and including 125 A shall comply with EN 60309-2.
ES	704.511.1	In Spain assemblies on construction sites to be installed in Spain shall comply with 61439-4 and also with the constructive requirements included in UNE 201008-IN
GB	704.511.1	In GB, plugs and socket-outlets with a rated current of 16 A up to 125A shall comply with the requirements of BS EN 60309-2. Plugs and socket-outlets with a rated current exceeding 125A up to 800A and where interchangeability is not required shall comply with BS EN 60309-1.
IT	704.511.1	In IT, plugs and socket-outlets with a rated current above 16 A up to and including 125 A shall comply with EN 60309-2.
NL	704.521.11	In NL the following is added: <b>704.521.11 Selection of wiring</b> <b>704.521.11.1</b> Electrical conductors shall be selected and erected according to table 700.A.1 in annex 700.A, under the condition that they are suitable for the applied external influences.

1 Country	2 Clause	3 Special national condition
NL	704.521.12	In NL the following is added: <b>704.521.12</b> In addition to clause 704.521.11.1 unarmoured cables with protective earth screen but without mechanical protection can be buried directly in the ground if simultaneous compliance is provided with the following: a) the construction site cables are buried in separate cable routing that is clearly and durably marked; b) other pipes/ tubes than the construction site cables may not be placed directly adjacent; c) clear and reliable drawings of the construction site cable routing shall be present on the construction site; d) digging works may only be performed after written permission of the site responsible contractor and under continuous supervision of a therefore appointed person; e) the cables are buried at a depth of at least 0,5 m
DE	704.522.8.101	In DE, the following cables are also allowed: H07BQ-F (EN 50525-2-21) taking into account the thermal effects, such as from welding sputter
GB	704.522.8.101	In GB, for reduced low voltage systems, low temperature 300/500 V thermoplastic (PVC) or equivalent flexible cables shall be used.
DE	531.3	In DE, 3-phase socket outlets up to and included 63 A shall be protected by a residual current protective device of Type B in accordance with EN 62423.
NL	704.536.1	In NL the following is added: Switch disconnectors have to be easily accessible during working hours.
DE	704.537.101	In DE, fixed connected assembly for construction sites (ACS) with socket-outlets shall incorporate an isolation and lockable device which is usable by ordinary Persons (BA1). A lockable enclosure is not sufficient.
NL	704.559.3	In NL the following is added: In the Netherlands, only class II luminaires shall be used with the exception of: - fixed installed luminaires not within arm's reach; - fixed installed luminaires on board of ships where the external conductive parts are durably and conductively connected to the ship's hull; - luminaires being part of SELV-circuits.