



SLOVENSKI STANDARD
SIST IEC 60364-7-701:2006
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Low-voltage electrical installations - Part 7-701: Requirements for special installations or locations - Locations containing a bath or shower

iTeh STANDARD PREVIEW

Installations électriques à basse tension - Partie 7-701: Règles pour les installations et emplacements spéciaux - Emplacements contenant une baignoire ou une douche

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91.140.70	Sanitarne naprave	Sanitary installations

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Section 701: Locaux contenant une baignoire ou une douche

ITC STANDARD REVIEW
(standards.iteh.ai)

Electrical installations of buildings

Part 7: Requirements for special installations or locations

Section 701: Locations containing a bath tub or shower basin



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSTALLATIONS OF BUILDINGS

Part 7: Requirements for special installations or locations
Section 701: Locations containing a bath tub or shower basin

FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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PREFACE

This standard has been prepared by IEC Technical Committee No. 64: Electrical Installations of Buildings.

A draft was discussed at the meeting held in Anacapri in 1981. As a result of this meeting, a draft, Document 64(Central Office)123, was submitted to the National Committees for approval under the Six Months' Rule in April 1982.

The National Committees of the following countries voted explicitly in favour of publication:

Australia	New Zealand
Austria	Norway
Brazil	Poland
Egypt	Romania
Germany	Sweden
Israel	Switzerland
Italy	Union of Soviet
Japan	Socialist Republics
Netherlands	

Other IEC publication quoted in this standard:

Publication No. 669-1: Switches for Household and Similar Fixed-electrical Installations, Part 1: General Requirements.

ELECTRICAL INSTALLATIONS OF BUILDINGS

Part 7: Requirements for special installations or locations Section 701: Locations containing a bath tub or shower basin

700.1 Introduction

The requirements of Part 7 supplement, modify or replace the general requirements of the other parts of IEC Publication 364.

The numbers following the particular number of section of Part 7 are those of the corresponding parts, chapters, sections or clauses of IEC Publication 364.

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

701. LOCATIONS CONTAINING A BATH TUB OR SHOWER BASIN

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701.1 Scope

The particular requirements of this section apply to bath tubs, shower basins, and the surrounding zones where the risk of electric shock is increased by a reduction in body resistance and contact of the body with earth potential.

These requirements do not apply to an enclosed prefabricated shower cabinet with its own shower basin and drainage system, except for Item *b*) of Clause 701.53.

Note. — For locations containing baths for medical treatment, special requirements may be necessary.

701.3 Assessment of general characteristics

701.32 Classification of zones

These requirements are based on the dimensions of four zones (for examples, see Figures 701A and 701B, pages 13 and 15):

— *Zone 0*

is the interior of the bath tub or shower basin;

— *Zone 1* is limited

by the vertical plane circumscribing the bath tub or shower basin, or for a shower without basin, by the vertical plane 0.60 m from the shower head;

by the floor and the horizontal plane 2.25 m above the floor;

- Zone 2 is limited
 - by the vertical plane external to Zone 1 and the parallel vertical plane 0.60 m external to Zone 1,
 - by the floor and the horizontal plane 2.25 m above the floor;
- Zone 3 is limited
 - by the vertical plane external to Zone 2 and the parallel vertical plane 2.40 m external to Zone 2,
 - by the floor and the horizontal plane 2.25 m above the floor.

The dimensions are measured taking account of walls and fixed partitions (see Figure 701A b), d), f), page 13).

701.4 Protection for safety

701.41 Protection against electric shock

Note. — For protection of socket-outlets, see Item a) of Clause 701.53.

701.411.1.3.7 Where safety extra-low voltage is used, whatever the nominal voltage, protection against direct contact shall be provided by

- barriers or enclosures affording at least the degree of protection IP2X, or
- insulation capable of withstanding a test voltage of 500 V for 1 min.

701.413.1.6 *Supplementary equipotential bonding*

A local supplementary equipotential bonding shall connect all extraneous conductive parts in Zones 1, 2 and 3 with protective conductors of all exposed conductive parts situated in these zones.

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701.471 Application of protective measures against electric shock

701.471.0 In Zone 0, only protection by safety extra-low voltage at a nominal voltage not exceeding 12 V is permitted, the safety source being installed outside the zone.

701.471.1 The measures of protection by means of obstacles (Clause 412.3) and by placing out of reach (Clause 412.4) are not permitted.

701.471.2 The measures of protection by non-conducting location (Clause 413.3) and by earth-free equipotential bonding (Clause 413.4) are not permitted.

701.5 Selection and erection of electrical equipment

701.51 Common rules

701.512.2 Electrical equipment shall have at least the following degrees of protection:

In Zone 0: IPX7	} IPX5 in public baths
In Zone 1: IPX5	
In Zone 2: IPX4	
In Zone 3: IPX1	

701.52 Wiring systems*

701.520.01 The following rules apply to surface wiring systems and to wiring systems embedded in the walls at a depth not exceeding 5 cm.

701.520.02 The wiring systems shall provide insulation satisfying the requirements of Clause 413.2 without any metallic covering.

Note. Such wiring may consist for example of single-core cables in insulating conduits or multicore cables with insulating sheath.

701.520.03 In Zones 0, 1 and 2, wiring systems shall be limited to those necessary to the supply of appliances situated in those zones.

701.520.04 Junction boxes are not permitted in Zones 0, 1 and 2.

701.53 Switchgear and controlgear*

a) In Zones 0, 1 and 2, no switchgear and accessories shall be installed.

Note. — Insulating cords of cord-operated switches are admitted in Zones 1 and 2, provided that they comply with the requirements of IEC Publication 669-1: Switches for Household and Similar Fixed-electrical Installations, Part 1: General Requirements.

In Zone 3, socket-outlets are permitted only if they are

— either supplied individually by an isolating transformer complying with Sub-clause 413.5.1,

— or supplied by safety extra-low voltage (Clause 411.1),

— or protected by a residual current protective device with a residual operating current $I_{\Delta n}$ not exceeding 30 mA.

b) Any switches and socket-outlets shall be at a distance of at least 0.60 m from the door opening of the prefabricated shower cabinet (see Figure 701C, page 17).

701.55 Other fixed equipment*

These requirements do not apply to appliances supplied at safety extra-low voltage according to the conditions of Clause 411.1 and Sub-clause 701.411.1.3.7.

In Zone 0, only electrical appliances specially intended for use in a bath tub are permitted.

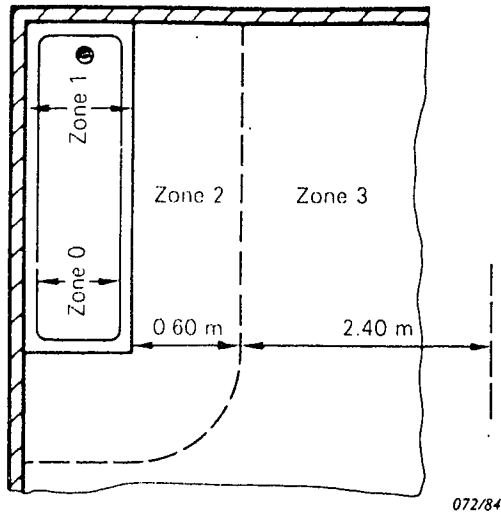
In Zone 1, only water heaters may be installed.

In Zone 2, only water heaters and Class II luminaires may be installed.

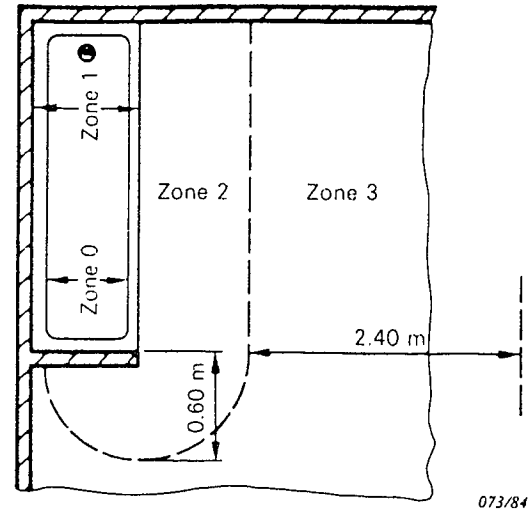
Heating units embedded in the floor and intended for heating the location may be installed in all zones provided that they are covered by a metallic grid or by an earthed metallic sheath connected to the equipotential bonding specified in Sub-clause 701.413.1.6.

* The corresponding chapter, in the general requirements, is under consideration.

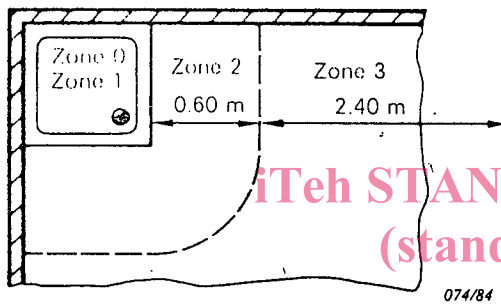
a) Bath tub



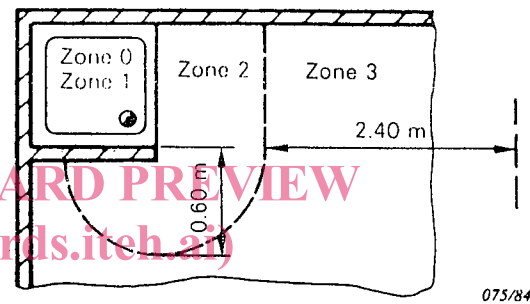
b) Bath tub, with fixed partition



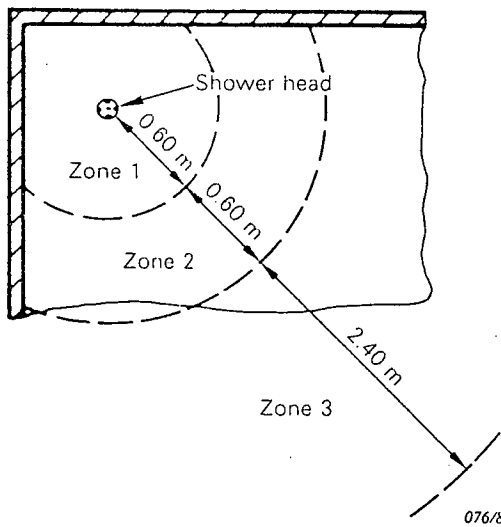
c) Shower basin



d) Shower basin, with fixed partition



e) Shower without basin



f) Shower without basin, but with fixed partition

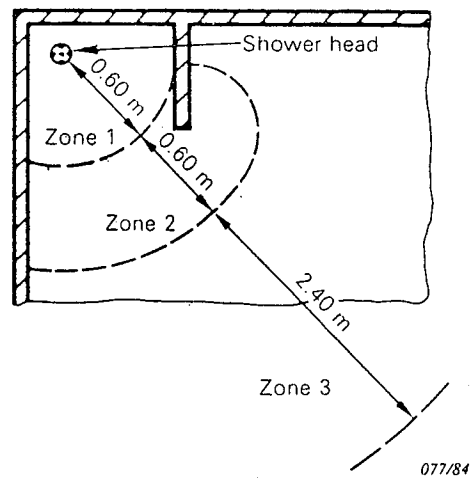


FIG. 701A. — Zone dimensions (plan).