



SLOVENSKI STANDARD SIST EN 60670-1:2006

01-januar-2006

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Boxes and enclosures for electrical accessories for household and similar fixed electrical installations -- Part 1: General requirements

Dosen und Gehäuse für Installationsgeräte für Haushalt und ähnliche ortsfeste elektrische Installationen -- Teil 1: Allgemeine Anforderungen

Boîtes et enveloppes pour appareillage électrique pour installations électriques fixes pour usages domestiques et analogues -- Partie 1: Règles générales

Ta slovenski standard je istoveten z: EN 60670-1:2005

ICS:

29.120.99 Öi` * æA | \ dã } æÅ [åæ) æ Other electrical accessories
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EUROPEAN STANDARD

EN 60670-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2005

ICS 29.120.10

English version

**Boxes and enclosures for electrical accessories
for household and similar fixed electrical installations
Part 1: General requirements
(IEC 60670-1:2002 + corrigendum 2003, modified)**

Boîtes et enveloppes pour appareillage
électrique pour installations électriques
fixes pour usages domestiques et
analogues
Partie 1: Règles générales
(CEI 60670-1:2002 + corrigendum 2003,
modifiée)

Dosen und Gehäuse
für Installationsgeräte für Haushalt
und ähnliche ortsfeste elektrische
Installationen
Teil 1: Allgemeine Anforderungen
(IEC 60670-1:2002 + Corrigendum 2003,
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This European Standard was approved by CENELEC on 2004-09-22. 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, 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 text of the International Standard IEC 60670-1:2002, prepared by SC 23B, Plugs, socket-outlets and switches, of IEC TC 23, Electrical accessories, together with the common modifications prepared by the Technical Committee CENELEC TC 23B, Switches for household and similar fixed electrical installations, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 60670-1 on 2004-09-22.

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) 2005-10-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-10-01

In this standard, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- Notes: in smaller roman type.

Figures and annexes which are additional to those in IEC 60670-1 are prefixed “Z”.

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Endorsement notice

The text of the International Standard IEC 60670-1:2002 + corrigendum February 2003 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

2 Normative references

Delete the reference to IEC 60981:1989.

7 Classification

Delete from Table 1 classifications 7.7.1, 7.7.2, 7.7.2.1 and 7.7.2.2.

Add to Table 1 the following:

7.8 The provision for fixing accessories to boxes	7.8.1 Boxes supplied with screws	
	7.8.2 Boxes intended to receive screws	
	7.8.3 Boxes intended to receive claws	
	7.8.4 Boxes intended to receive other means	

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8 Marking <https://standards.iteh.ai/catalog/standards/sist/67447982-34a3-47cb-b086-4cdd3f739f80/sist-en-60670-1-2006>

8.1 **Move** e) after the third paragraph.

Replace i) by:

i) void

Replace j) by:

j) the letter H or information for boxes and enclosures classified according to 7.2.1.3

8.2 **Delete** in NOTE 1 the word "impression".

11 Provision for earthing

11.2 **Delete** this subclause

12 Construction

12.2 **Replace** in the NOTE the words "at least 5 mm" by "at least 2 mm";

12.5 **Replace** the first dash of the first paragraph by:

- a conduit or suitable fitting connecting it to the box or enclosure, and/or

Delete in the second paragraph the words " and/or IEC 60981".

Delete NL in NOTE 2.

12.9 **Delete** the NOTE.

Replace the second paragraph by:

Thread-forming and thread-cutting screws intended only for mechanical assembly may be used provided they are supplied together with one of the pieces with which they are intended to be assembled.

12.10 **Replace** the text of this subclause by:

Flush type boxes and enclosures other than for hollow walls, shall be provided with obvious fixing means for their suitable attachment to the wall.

Screws, additional mechanical supports and obvious design features, which prevent the displacement of the box or the enclosure, are considered to be adequate fixing means.

Compliance is checked by inspection taking into account the normal conditions of the intended use.

Boxes and enclosures not fulfilling at least one of the above requirements shall be tested as follows.

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For boxes and enclosures having an internal volume less than 0,4 dm³, compliance is checked by the following test.

For boxes and parts of enclosures to be embedded in masonry the specimen is mounted into the mounting block shown in Figure Z1. The gap between the main external profile of the specimen and the internal profile of the receptacle shall be at least 20 mm and for parts that project from the main profile never less than 10 mm. The block is filled by the material specified in the manufactures instructions, or by plaster where the manufacturers instructions do not specify the material.

The assembly is kept at ambient temperature for (10 + 1/0) days.

The auxiliary device described in Figure Z2 is mounted on the specimen and the screws are tightened with a torque equal to two thirds of the applicable torque given in Table 4.

The assembly is then fixed to the mounting plate (A) of an apparatus shown in Figure Z3, so that the axes of the screws are normal to the mounting plane.

The total weight of the device including the principal weight (PW) shall be (72 ± 0,1) N, and the supplementary weight (SW) shall be (8 ± 0,1) N.

The supplementary weight (SW) and the principal weight (PW) are introduced on the axis of the device and fixed by the carrier (C) (see Figure Z3).

The supplementary weight shall fall from a height of 50 mm onto the principal weight 10 times.

After the test the specimen shall not have been displaced by more than 0,5 mm from the mounting block.

12.11 **Replace** the title and the first paragraph by:

Boxes and enclosures classified according to 7.2.1.3

Boxes and enclosures for hollow walls classified according to 7.2.1.3 shall provide suitable means for fixing the box or the enclosure to hollow walls.

12.12 **Delete** this subclause.

12.13 **Replace** Table 5 by:

Table 5 – Torque test values for cable glands

Diameter of test rod mm	Torque Nm	
	Metal glands	Glands of insulating material
Up to and including 8	4,0	2,5
Over 8 up to and including 14	6,3	3,8
Over 14 up to and including 20	7,5	5,0
Over 20	10,0	7,5

12.14 **Add** after the first paragraph the following paragraph:
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Boxes and enclosures classified according to 7.4.3 shall withstand the tests of 12.14.1 and 12.14.2.

Delete in the second paragraph the words "or IEC 60981".

15 Mechanical strength

15.1 **Replace** the third paragraph by:

The specimen shall be subjected to an impact test with a vertical hammer test apparatus (see Figure 8).

15.2 **Delete** the reference 15.2.1.

Delete 15.2.2.

16 Resistance to heat

16.3 **Delete** this subclause.

Figures

Delete Figures 2, 3, 4, 19, 20 and **replace** the relevant titles by "void".

Replace the title of Figure 7 by:

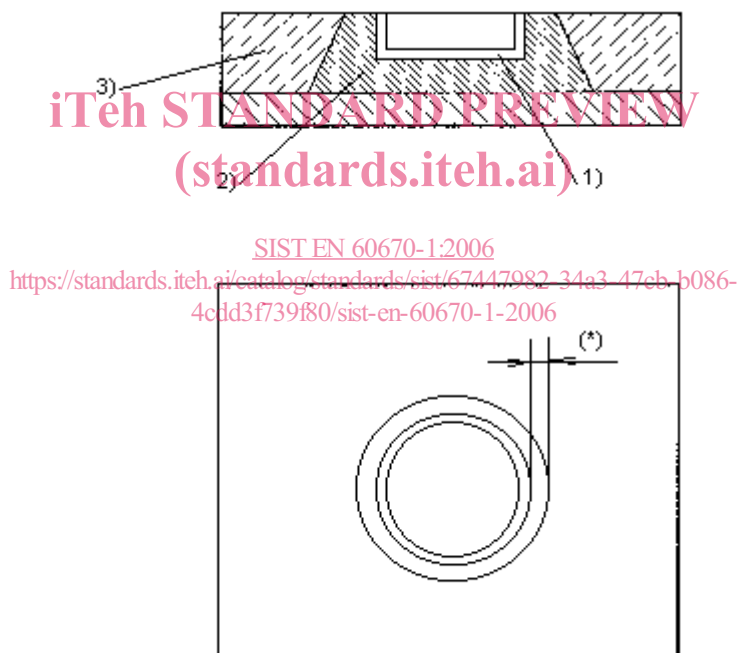
Mounting block for flush type boxes and enclosures in order to apply blows on the rear surface

Replace in the key to Figure 8 "(100 ± 1) g" by "(1 000 ± 1) g".

Replace the title of Figure 18 by:

Verification of fixing means for boxes and enclosures classified according to 7.2.1.3 (see 12.11)

Add the following new figures:

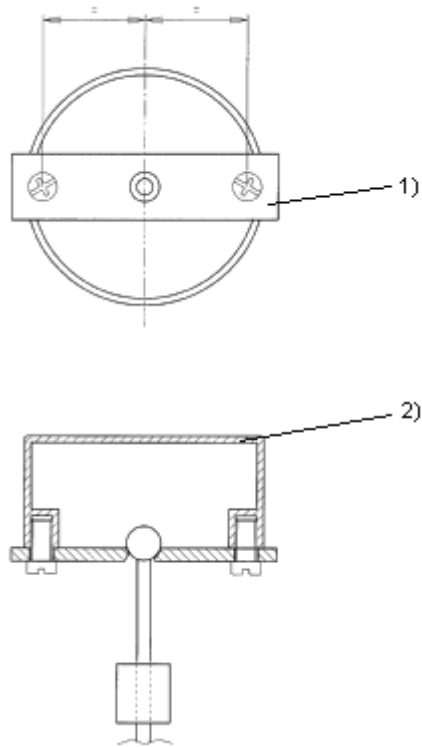


Key

- 1) Specimen
- 2) Plaster
- 3) Block of wood

(*) The gap between the main external profile of the box and the internal profile of the receptacle shall be at least 20 mm, and for parts which project from the main profile never less than 10 mm.

**Figure Z1 – Example of mounting block for boxes to be embedded in masonry
(flush type and semi-flush type)**

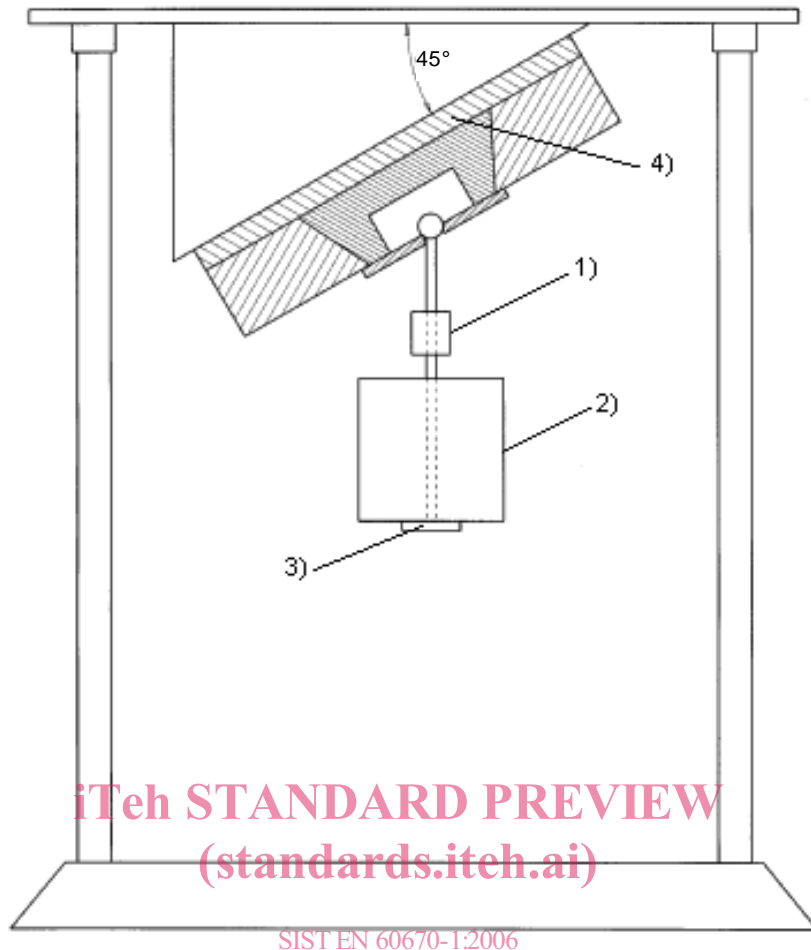
**Key**

- 1) Auxiliary device
- 2) Specimen

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Figure Z2 – Example of the fixing of the auxiliary device mounted on a specimen

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Key

- 1) Supplementary weight (SW)
- 2) Principal weight (PW)
- 3) Carrier (C)
- 4) Mounting plate (A)

Figure Z3 – Example of test apparatus for the test according to 12.10

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 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-75	1997	Environmental testing Part 2-75: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980 ¹⁾
IEC 60423 (mod)	1993	Conduits for electrical purposes - Outside diameters of conduits for electrical installations and threads for conduits and fittings	EN 60423	1994
IEC 60529	1989	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 1993
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 60695-10-2	1995 ²⁾	Part 10-2: Guidance and test methods for the minimization of the effects of abnormal heat on electrotechnical products involved in fires - Method for testing products made from non-metallic materials for resistance to heat using the ball pressure test	-	-
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998
IEC 61084	Series	Cable trunking and ducting systems for electrical installations	-	-
IEC 61140	2001	Protection against electric shock - Common aspects for installation and equipment	EN 61140	2002

¹⁾ HD 214 S2 is superseded by EN 60112:2003, which is based on IEC 60112:2003.

²⁾ IEC 60695-10-2:2003 was endorsed as EN 60695-10-2:2003.

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 European Standard / Harmonization Document.

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

<u>Clause</u>	<u>Special national condition</u>
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9	<p>Spain</p> <p>Boxes shall comply with the standard sheets specified in the Spanish Standard UNE 20451. Screws are included in some of these standard sheets because screws are considered as a dimensional requirement.</p>
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11.1	<p>Denmark</p> <p>Due to the lack of an earthing conductor in many existing old buildings, boxes and enclosures requiring earth connection cannot normally be used.</p>
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12.5	<p>Czech Republic, Netherlands, United Kingdom</p> <p>Inlets according to 7.3.3 in boxes intended to receive switches or socket-outlets shall have spout(s) with adequate inlet stops.</p>
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12.9	<p>Czech Republic, Netherlands</p> <p>Flush-type boxes shall have metal inserts and be provided with metal screws having ISO metric thread.</p>
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United Kingdom

Boxes shall be provided with metal threads so as to ensure safety. Thread-forming or thread-cutting screws shall not be permitted.

Annex ZC (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 national member.

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

NOTE (from CEN/CENELEC IR Part 2:2002 , 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.

<u>Clause</u>	<u>Deviation</u>
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9	Malta (Electrical Accessories Regulations, 2004)
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	United Kingdom (UK Plug and Socket Safety Regulations, 1994)
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Boxes intended to accommodate socket-outlets or connection units to BS 1363 shall have provision for two M3.5 fixing screws at the following fixing centres, in accordance with BS 4662:

- at centres of $60,3 \text{ mm} \pm 0,2 \text{ mm}$ on the horizontal or vertical centrelines for boxes intended to accommodate 1-gang socket-outlets or connection units
- at centres of $120,6 \text{ mm} \pm 0,3 \text{ mm}$ on the horizontal or vertical centrelines for boxes intended to accommodate 2-gang socket-outlets or connection units
- at centres of $180,9 \text{ mm} \pm 0,4 \text{ mm}$ on the horizontal or vertical centrelines for boxes intended to accommodate 3-gang socket-outlets or connection units.

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**NORME
INTERNATIONALE
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STANDARD**

**CEI
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60670-1

Première édition
First edition
2002-12

**Boîtes et enveloppes pour appareillage électrique
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**Partie 1:
Règles générales**

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**Part 1:
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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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