



BSI Standards Publication

Devices for the connection of luminaires for household and similar purposes

Part 1: General requirements

National foreword

This British Standard is the UK implementation of EN 61995-1:2008, including amendment A1:2017. It is identical to IEC 61995-1:2008, including amendment A1:2016. It supersedes BS EN 61995-1:2008, which will be withdrawn on 21 April 2020.

The text of IEC amendment A1:2016 has been provided in its entirety at the beginning of this document. BSI's policy of providing consolidated content remains unchanged; however, in the interest of expediency, in this instance BSI have chosen to collate the relevant content at the beginning of this document.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags **[C]** **[C]**.

The UK participation in its preparation was entrusted to Technical Committee PEL/23, Electrical accessories.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Amendments/corrigenda issued since publication

Date	Text affected
31 March 2018	Implementation of IEC amendment A1:2016 with CENELEC endorsement A1:2017

**Devices for the connection of luminaires
for household and similar purposes -
Part 1: General requirements
(IEC 61995-1:2005, modified)**

Dispositifs de connexion pour luminaires
pour usage domestique et analogue -
Partie 1: Exigences générales
(CEI 61995-1:2005, modifiée)

Betriebsmittel für den Anschluss von
Leuchten für Haushalt
und ähnliche Zwecke -
Teil 1: Allgemeine Anforderungen
(IEC 61995-1:2005, modifiziert)

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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.

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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 61995-1:2005, prepared by SC 23B, Plugs, socket-outlets and switches, of IEC TC 23, Electrical accessories, together with common modifications prepared by the Technical Committee CENELEC TC 23BX, D.C. plugs and socket outlets and switches for household and similar fixed electrical installations, was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 61995-1 on 2008-04-01.

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) 2009-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2013-04-01

Annexes ZA and ZB have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61995-1:2005 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A1

The text of document 23B/1208/FDIS, future IEC 61995-1:2005/A1, prepared by SC 23B "Plugs, socket-outlets and switches", of IEC/TC 23 "Electrical accessories" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61995-1:2008/A1:2017.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2017-10-21
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-04-21

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

Endorsement notice

The text of the International Standard IEC 61995-1:2005/A1:2016 was approved by CENELEC as a European Standard without any modification.

[C] Annex ZA [C] (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.

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>
1	Belgium, France, Germany, Italy Only DCL types with a standardised interface according to EN 61995-2 are used.
7.3.1.1	Denmark Only DCL plugs for connection of flexible cables are allowed.
9.2	Denmark For many years Denmark has had a supporting 10 A DCL system on the market. Add the following indent after the last indent: – be interchangeable with or create a hazardous situation with this special Danish DCL system
10.2.2	Denmark Due to the lack of an earthing conductor in many existing old buildings luminaires with DCL plugs requiring earth connection cannot normally be used.

Annex ZB

(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 When 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 60068-2-32	1975	Environmental testing - Part 2: Tests - Test Ed: Free fall	EN 60068-2-32 ¹⁾	1993
IEC 60068-2-75	1997	Environmental testing - Part 2: Tests - Test Eh: Hammer tests	EN 60068-2-75	1997
IEC 60112	- ²⁾	Method for the determination of the proof and the comparative tracking indices of solid insulating materials	EN 60112	2003 ³⁾
IEC 60227-5	- ^{2) 4)}	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 5: Flexible cables (cords)	-	-
IEC 60417	Data- base	Graphical symbols for use on equipment	-	-
IEC 60529	- ²⁾	Degrees of protection provided by enclosures (IP Code)	EN 60529 + corr. May	1991 ³⁾ 1993
IEC 60695-2-11	- ²⁾	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 ³⁾
IEC 61032	1997	Protection of persons and equipment by enclosures - Probes for verification	EN 61032	1998

¹⁾ EN 60068-2-32 includes A2:1990 to IEC 60068-2-32.

²⁾ Undated reference.

³⁾ Valid edition at date of issue.

⁴⁾ HD 21.5:1994 + A1:1999 + A2:2001, which is related to, but not directly equivalent with IEC 60227-5, applies instead.

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1 AMENDEMENT 1

Devices for the connection of luminaires for household and similar purposes – Part 1: General requirements

Dispositifs de connexion pour luminaires pour usage domestique et analogue – Partie 1: Exigences générales

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FOREWORD

This amendment has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories.

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

FDIS	Report on voting
23B/1208/FDIS	23B/1212/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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.

1 Scope

Replace the first two paragraphs with the following new paragraphs:

This part of IEC 61995 applies to devices for the connection of luminaires (DCL) intended for household and similar purposes, for the electrical connection of fixed luminaires of class I or class II to final circuits rated at not more than 16 A without providing a mechanical support for the luminaire. DCLs are intended for use according to their IP rating as specified in IEC 60529.

Outlets have an earthing contact and a rated current of 6 A. Plugs have a rated current of 6 A.

3 Terms and definitions

Insert, between 3.6 and 3.7, the following new entry 3.20:

3.20

DCL temporary lampholder

independent lampholder designed in order to be temporarily connected to a DCL outlet, in compliance with the corresponding standards, and provided with a DCL rewirable plug (2P + E) for future connection of a luminaire

8.1

Replace NOTE 1 with the following new paragraph:

The additional markings shall be put on the DCL outlet. In addition, they can be given on the packaging unit and/or in an instruction sheet which accompanies the DCL outlet.

Replace "NOTE 2" with "NOTE".

8.2

Replace the NOTE with the following new paragraph:

The additional markings shall be put either on the DCL plug or on the packaging unit, and/or given in an instruction sheet which accompanies the DCL plug.

11.4

Replace the second paragraph with the following new paragraph:

"Compliance is checked by the following test after the tests of Clauses 18 and 19:"

Replace the third paragraph with the following new paragraph::

A current derived from an a.c. source having a no-load voltage not exceeding 12 V and equal to 1,5 times rated current is passed between the earthing terminal and each of the accessible metal parts in turn, and for DCLs with earthing contacts between the DCL outlet earthing terminal and the DCL plug earthing terminal.

12.1 General

Replace Table 1 with the following new table:

Table 1 – Connection of copper conductors

Accessory		Terminal	Rigid (solid & stranded) conductors) ^a	Flexible conductors
DCL outlet	Floating	Line, neutral and earth terminals	From 1 × 1,0 mm ² up to 2 × 2,5 mm ² inclusive	From 1 × 1,0 mm ² up to 2 × 2,5 mm ² inclusive
	Fixed	Line, neutral and earth terminals	From 1 × 1,0 mm ² up to 2 × 2,5 mm ² inclusive	From 1 × 1,0 mm ² up to 2 × 2,5 mm ² inclusive
		Loop terminal (when fitted)	From 2 × 1,0 mm ² up to 2 × 2,5 mm ² inclusive	From 2 × 1,0 mm ² up to 2 × 2,5 mm ² inclusive
DCL plug		Line, neutral and earth terminals (when fitted)	From 1 × 0,5 mm ² up to 1 × 1,5 mm ² inclusive	From 1 × 0,5 mm ² up to 1 × 1,5 mm ² inclusive
NOTE 1 In the following countries, only loop terminals able to connect 3 × 2,5 mm ² conductors are allowed: GB.				
NOTE 2 In the following countries, DCL outlet terminals able to connect conductors up to 2 × 1,5 mm ² maximum are also allowed: FR				
^a The use of flexible conductors of the same cross sectional area is permitted.				

13.6.2

Add, in Table 9, first column, last row, the words "and clearances" after "creepage distances".

20 Force necessary to insert and withdraw the plug

Replace the existing text with the following new text:

The construction of DCLs shall allow the easy insertion and withdrawal of the plug, but prevent the inadvertent disengagement of plug and outlet in normal use.

Compliance is checked by the following test:

A previously untested specimen of the DCL plug and DCL outlet and a specimen having previously completed the tests of Clause 19 are tested.

All pins are wiped free from grease before use.

Each DCL outlet is fixed to a suitable flat surface.

Each DCL plug, in turn, is inserted and withdrawn from each DCL outlet without the effect of any locking means and the force required to perform each movement is measured.

The force required to insert or withdraw the plug shall not exceed 50 N.

At a force of 2 N the plug shall not come out.

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DEVICES FOR THE CONNECTION OF LUMINAIRES FOR HOUSEHOLD AND SIMILAR PURPOSES –

Part 1: General requirements

1 Scope

☐ This standard applies to devices for the connection of luminaires (DCL) intended for household and similar purposes, for the electrical connection of fixed luminaires of class I or class II to final circuits rated at not more than 16 A without providing a mechanical support for the luminaire. DCLs are intended for use according to their IP rating per EN 60529.

Outlets have an earthing contact and a rated current of 6 A, plugs are rated at 6 A.

The rated voltage is 250 V at 50 Hz. ☐

NOTE 1 This standard does not cover integrated DCL-plugs (under consideration).

This standard can also be applied to types other than those with standardised interface.

☐ NOTE 2 Void. ☐

DCL plugs and DCL outlets complying with this standard are suitable for use under the following conditions:

- an ambient temperature not normally exceeding 25 °C, but occasionally reaching 35 °C;
NOTE 3 The effect of the heat generated by the luminaire may affect the ambient temperature local to the DCL.
- a temperature not exceeding 70 °C at the terminals of the DCL outlet including the effect of heat generated by the luminaire and the passage of current.

NOTE 4 The requirements and tests of this standard may also be used as a guide when testing DCL's which have different interface configurations or ratings.

2 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.

IEC 60068-2-32:1975, *Environmental testing – Part 2: Tests – Test Ed: Free fall*

IEC 60068-2-75:1997, *Environmental testing – Part 2: Tests – Test Eh: Hammer test*

IEC 60112, *Method for the determination of the proof and the comparative tracking indices of solid insulating materials*

IEC 60227-5, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750V – Part 5: Flexible cables (cords)*

IEC 60417-DB:¹⁾, *Graphical symbols for use on equipment*

IEC 60529, *Degrees of protection provided by enclosures*

IEC 60695-2-11, *Fire hazard testing – Part 2-11: Glowing/hot-wire based test methods – Glow-wire flammability test method for end-products*

IEC 61032:1997, *Protection of persons and equipment by enclosures – Probes for verification*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

Where the terms voltage and current are used, they imply r.m.s. values, unless otherwise specified.

Throughout this standard the word "earthing" is used for "protective earthing".

3.1

device for connecting a luminaire

DCL

system comprising a DCL outlet and a DCL plug providing a fixed luminaire with electrical connection to and disconnection from a fixed installation

NOTE The designations DCL, DCL outlet or DCL plug, are used when it is necessary to specify particular requirements and test specifications.

3.2

DCL outlet

device for connecting a luminaire having socket-contacts designed to engage with the pins of a DCL plug and having terminals for the connection of cable

3.3

DCL plug

device for connecting a luminaire having pins designed to engage with the contacts of a DCL outlet, also incorporating means for the electrical connection and mechanical retention of flexible cable

3.4

rewirable DCL plug

DCL plug so constructed that the flexible cable can be replaced

3.5

non-rewirable DCL plug

DCL plug so constructed that it forms a complete unit with the flexible cable after connection and assembly by the manufacturer of the plug (see also 14.1)

¹⁾ "DB" refers to the IEC on-line database.

3.6

moulded-on DCL plug

non-rewirable DCL plug, the manufacture of which is completed by insulating material moulded around pre-assembled component parts and the terminations of the flexible cable

3.7

rated voltage

voltage assigned to the DCL plug or DCL outlet by the manufacturer

3.8

rated current

current assigned to the DCL plug or DCL outlet by the manufacturer

3.9

mounting box

box in or on a wall or ceiling, etc., for flush or surface application, intended to house a DCL outlet

3.10

terminal

insulated or non-insulated connecting device intended for reusable electrical connection of the external conductors

3.11

termination

insulated or non-insulated connecting device intended for non-reusable electrical connection of the external conductors

3.12

clamping unit

part or parts of a terminal necessary for the mechanical clamping and the electrical connection of the conductor(s)

3.13

screw-type terminal

terminal for the connection and subsequent disconnection of a conductor or the interconnection of two or more conductors capable of being dismantled, the connection being made, directly or indirectly, by means of screws or nuts of any kind

3.14

pillar terminal

terminal with screw clamping in which the conductor is inserted into a hole or cavity, where it is clamped under the shank of the screw or screws. The clamping pressure may be applied directly by the shank of the screw or through an intermediate member to which pressure is applied by the shank of the screw

NOTE Examples of pillar terminals are shown in IEC 60999-1.

3.15

screw terminal

terminal with screw clamping in which the conductor is clamped under the head of the screw. The clamping pressure may be applied directly by the head of the screw or through an intermediate part, such as a washer, clamping plate or anti-spread device

NOTE Examples of screw terminals are shown in IEC 60999-1.

3.16**stud terminal**

terminal with screw clamping in which the conductor is clamped under a nut. The clamping pressure may be applied directly by a suitably shaped nut or through an intermediate part, such as a washer, clamping plate or anti-spread device

NOTE Examples of stud terminals are shown in IEC 60999-1.

3.17**mantle terminal**

terminal with screw clamping in which the conductor is clamped against the base of a slot in a threaded stud by means of a nut. The conductor is clamped against the base of the slot by a suitably shaped washer under the nut, by a central peg if the nut is a cap nut, or by equally effective means for transmitting the pressure from the nut to the conductor within the slot

NOTE Examples of mantle terminals are shown in IEC 60999-1.

3.18**screwless terminal**

connecting device for the connection and subsequent disconnection of a rigid (solid or stranded) or flexible conductor or the interconnection of two or more conductors capable of being dismantled, the connection being made, directly or indirectly, by means of springs, parts of angled, eccentric or conical form, etc., without special preparation of the conductor concerned, other than removal of insulation

3.19**loop terminal**

supply terminal intended for the interconnection of live conductors

3.21**DCL temporary lampholder**

independent lampholder designed in order to be temporarily connected to a DCL outlet, in compliance with the corresponding standards.

Moreover this lampholder is provided with a DCL rewirable plug (2P + E) to be used for the connection of a luminaire later 

4 General requirements

DCL systems shall be so designed and constructed that in normal use their performance is reliable and without danger to the user or surroundings.

Compliance is checked by carrying out all the relevant tests specified.

5 General notes on tests

5.1 *Tests according to this standard are type tests.*

5.2 *Unless otherwise specified, the specimens are tested as delivered and under normal conditions of use.*

Non-rewirable DCL plugs are tested with the type and size of flexible cable as delivered.

5.3 *Unless otherwise specified, the tests are carried out in the order of the clauses, at an ambient temperature between 15 °C and 35 °C. In case of doubt the tests are made at an ambient temperature of (20 ± 5) °C.*

Plugs and outlets are tested separately, unless otherwise specified.

The neutral is treated as a pole.

5.4 *Unless otherwise specified, three specimens are subjected to all the relevant tests.*

For the purpose of the test of 12.3.11 three new specimens are required.

For the purpose of the test of Clause 20 one additional specimen is required.

5.5 *The specimens are submitted to all the relevant tests and the requirements are satisfied if all these tests are met.*

If one specimen does not satisfy a test due to an assembly or manufacturing fault, that test and any preceding one which may have influenced the results of the test shall be repeated and also the tests which follow shall be made in the required sequence on another full set of specimens, all of which shall comply with the requirements.

NOTE The applicant may submit, together with the number of specimens specified in 5.4, an additional set of specimens which may be required, should one specimen fail. The testing station will then, without further request, test the additional specimens and will only reject them if a further failure occurs. If the additional set of specimens is not submitted at the same time, the failure of one specimen will entail rejection.

6 Ratings

DCL plugs and DCL outlets shall have a rated voltage of 125 V a.c. or 250 V a.c. and a rated current of 6 A.

Compliance is checked by inspection of the marking and by the tests described in this standard.

7 Classification

7.1 DCLs are classified according to their interface design:

- a) complying with the relevant part 2 of this standard;
- b) other types (not complying with any relevant part 2 of this standard).

7.2 DCL outlets shall have an earthing contact and are classified:

7.2.1 according to the method of application:

- fixed type;
- floating type;

7.2.2 according to the type of terminals:

- DCL outlets with screw-type terminals;
- DCL outlets with screwless terminals for rigid conductors only;
- DCL outlets with screwless terminals for rigid and flexible conductors;

7.2.3 according to the provision of a loop terminal:

- DCL outlets with a loop terminal;
- DCL outlets without a loop terminal;

NOTE The loop terminal may be needed for the continuity of the live conductor.

7.2.4 according to the method of mounting as a consequence of design:

- design A – DCL outlets where the cover or cover-plate or parts of them can be removed without displacement of the conductors;
- design B – DCL outlets where the cover or cover-plate or parts of them cannot be removed without displacement of the conductors.

NOTE If a DCL outlet has a base (main part) which cannot be separated from the cover or cover-plate and requires a supplementary plate which can be removed for redecorating the wall or ceiling without displacement of the conductors, it is considered to be of design A, provided the supplementary plate meets the requirements specified for covers and cover-plates.

7.3 DCL plugs are classified:

7.3.1 according to the method of connecting the cable:

- rewirable DCL plugs;
- non-rewirable DCL plugs;

7.3.1.1 rewirable DCL plugs are classified according to the type of terminal:

- DCL plug with screw-type terminals,
- DCL plug with screwless terminals for rigid and flexible conductors.

 Note Void. 

7.3.2 according to the class of luminaire to which they are intended to be connected:

- DCL plugs for fixed luminaires of Class I;
- DCL plugs for fixed luminaires of Class II;

NOTE For the description of the classes of equipment, see IEC 61140 (Protection against Electric Shock – Common aspects for installation and equipment).

7.4 according to the degree of protection per IEC 60529;

7.5 according to the provision of signal contacts:

7.5.1 with provision;

7.5.2 without provision.

8 Marking

8.1 DCL outlets shall be marked with the following information:

- rated current;
- rated voltage;
- symbol for alternating current;
- name or trademark of the manufacturer or responsible vendor;
- terminal identification (see 8.5);
- symbol indicating that the outlet is only to be used with luminaires.

In addition DCL outlets with screwless terminals shall be marked with:

- an appropriate marking indicating the length of insulation to be removed before the insertion of the conductor in the screwless terminal;
- an indication of the suitability to accept rigid conductors only (“r”) for those DCL outlets having this restriction. (see also 12.3.1).

NOTE 1 The additional markings may be put on the DCL outlet, on the packaging unit and/or given in an instruction sheet which accompanies the DCL outlet.

NOTE 2 The manufacturer should explain the marking “r” in the instruction sheet (r - use rigid conductors only).

The symbol indicating “luminaires only” shall be visible after installation but not necessarily after insertion of the DCL plug.

8.2 DCL plugs shall be marked with the following information:

- rated current;
- rated voltage;
- symbol for alternating current;
- name or trademark of the manufacturer or responsible vendor;
- terminal identification (see 8.5);
- symbol indicating the plug is only for use with luminaires.

The symbol indicating “luminaires only” shall be visible after fitting the flexible cable but not necessarily after insertion into the DCL outlet.

In addition DCL plugs with screwless terminals shall be marked with:

- an appropriate marking indicating the length of insulation to be removed before the insertion of the conductor in the screwless terminal

NOTE The additional markings may be put on the DCL plug, on the packaging unit and/or given in an instruction sheet which accompanies the DCL plug.

8.3 DCL outlets and DCL plugs shall be provided with information warning the user that these products are intended only for the connection of fixed luminaires.

Where it is necessary for safe operation that the user be aware of any particular characteristics of the DCL plug or DCL outlet, the necessary information shall be given.

The instructions and information referred to in this subclause shall be given by marking the DCL plug or DCL outlet itself, or where this is not practicable, in a notice which accompanies it.

8.4 Where symbols are used they shall be as follows:

- | | |
|--|---|
| – amperes | A |
| – volts | V |
| – nature of supply (symbol IEC 60417- 5032) | ~ |
| – line | L |
| – neutral | N |
| – protective earth (symbol IEC60417- 5019) |  |
| – symbol for use with luminaires only (symbol IEC60417-5974) |  |

For the marking of rated current and rated voltage, figures may be used alone. These figures shall be placed on one line separated by an oblique line. Alternatively the figure for rated current shall be placed above the figure for rated voltage, separated by a horizontal line. The marking for the nature of supply if any shall be next to the marking for voltage and current.

NOTE 1 Lines formed by the construction of the tool are not considered as part of the marking.

NOTE 2 Details of construction of symbols are given in IEC 60470.

NOTE 3 The marking for current, voltage and nature of supply may be, for example, as follows:

$$6 \text{ A } 250 \text{ V} \sim \quad \text{or} \quad 6/250 \sim \quad \text{or} \quad \frac{6}{250} \sim$$

8.5 Terminals intended exclusively for the neutral conductor shall be indicated by the letter N.

Earthing terminals shall be indicated by the symbol for protective earth.

These markings shall not be placed on screws, or any other easily removable parts.

NOTE "Easily removable parts" are those parts which can be removed during the normal installation of the DCL outlet or the assembly of the DCL plug.

Terminations of non-rewirable DCL plugs need not be marked.

8.6 Markings shall be durable and easily legible.

Compliance is checked by inspection and by the following test:

The marking is rubbed by hand for 15 s with a piece of cloth soaked with water and again for 15 s with a piece of cloth soaked with petroleum spirit.

Marking made by impression, moulding, pressing or engraving is not subjected to this test.

NOTE It is recommended that the petroleum spirit used consist of a solvent hexane with an aromatic content of maximum 0,1 volume percentage, a kauributanol value of 29, an initial boiling point of approximately 65 °C, a dry point of approximately 69 °C and a specific density of approximately 0,68 g/cm³.

9 Checking of dimensions

9.1 DCL types classified according to 7.1 a) shall comply with the standard sheets of the relevant part 2.

Compliance is checked by measurement and/or by means of gauges.

9.2  DCL types classified according to 7.1 b) as other types shall comply with the relevant specification and shall not

- be interchangeable with any socket-outlet systems of IEC 60083 and EN 60309-2,
- create a hazardous situation with DCL types complying with the standard sheets of Part 2 or any existing DCL or any socket-outlet systems of IEC 60083 and EN 60309-2. 

Compliance is checked by measurement and/or by means of gauges.

10 Protection against electric shock

10.1 DCL outlets shall be so designed that, when they are wired and mounted as for normal use, live parts are not accessible, even after removal of parts which can be removed without the use of a tool.

Live parts of DCL plugs shall not be accessible when the DCL plug is in partial or complete engagement with a DCL outlet.

Compliance is checked by inspection and, if necessary, by the following test:

The specimen is mounted as for normal use and fitted with conductors of the smallest cross-sectional areas and the test is then repeated using conductors of the largest cross-sectional areas, as specified in Table 1.

For DCL outlets, the test finger specified in IEC 61032 test probe B is applied in every possible position.

For DCL plugs, the test finger is applied in every possible position when the plug is in partial or complete engagement with a DCL outlet.

An electrical indicator with a voltage of (45 ± 5) V, is used to show contact with the relevant part.

For DCL systems where the use of elastomeric or thermoplastic material is likely to influence the requirement, the test is repeated but at an ambient temperature of (35 ± 2) °C, the DCLs being at this temperature.

During this additional test the DCLs are subjected for 1 min to a force of 75 N, applied through the tip of a straight unjointed test finger of the same dimensions as the standard test finger. This finger, with an electrical indicator as described above, is applied to all places where yielding of the insulating material could impair the safety of the accessory, and it is applied to thin walled knock-outs with a force of 10 N.

During this test, the DCL, with its associated mounting means, shall not deform to such an extent that those dimensions shown in the relevant standard sheets which ensure safety are unduly altered and no live part shall be accessible.

10.2 Parts which are accessible when the DCL is wired and mounted as for normal use, with exception of small screws and the like, isolated from live parts, for fixing bases and covers or cover plates of DCL outlets, shall be made of insulating material; however the covers or cover-plates of fixed DCL outlets may be made of metal if the requirements given in 10.2.1 or 10.2.2 are fulfilled.

10.2.1 The covers or cover-plates of metal shall be protected by supplementary insulation made by insulating linings or insulating barriers fixed to covers or cover-plates or to the body of the DCL, in such a way that the insulating linings or insulating barriers:

- either cannot be removed without being permanently damaged,
- or are so designed that:
 - they cannot be replaced in an incorrect position;
 - if they are omitted, the DCLs are rendered inoperable or manifestly incomplete;