

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Appliances couplers for household and similar general purposes –
Part 1: General requirements**

**Connecteurs pour usages domestiques et usages généraux analogues –
Partie 1: Prescriptions générales**

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

J

FOREWORD

This amendment has been prepared by subcommittee 23G: Appliance couplers, of IEC technical committee 23: Electrical accessories.

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

FDIS	Report on voting
23G/273/FDIS	23G/274/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 maintenance result date indicated on the IEC web site 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- withdrawn,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.

Page 3

CONTENTS

Replace the page reference for standard sheet C1 – C27 by

Standard sheets C1 – C27.....	103
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Page 13

2 Normative references

Add the following IEC standard:

IEC 60999-1:1999, Connecting devices – Electrical copper conductors – Safety requirements for screw-type and screwless-type clamping units – Part 1: General requirements and particular requirements for clamping units for conductors from 0,2 mm² up to 35 mm² (included)

Page 25

8 Marking

8.1

Add the following new dash item:

- the marking as specified in Subclause 7.5 of IEC 60999-1 to identify the type of conductors suitable for screwless terminals.

Page 29

9 Dimensions and compatibility

9.6

Replace, on page 35, the first and second paragraphs of Subclause 9.6 by the following text:

Non-standardized appliance couplers which do not refer to the dimensions specified in the standard sheets are acceptable, but only if they provide a technical advantage and do not adversely affect the purpose and safety of appliance couplers complying with the standard sheets, especially with regard to interchangeability and non-interchangeability.

Non-standardized appliance couplers, however, shall comply with all other requirements of this standard as far as they reasonably apply.

Change “Note 1” to “Note”.

Insert after the Note the following normative text:

Small deviations from the dimensions as specified in the standard sheets, which give the impression of a standardized coupler and lead to confusion with standardized appliance couplers, are not allowed.

Change Notes 2 and 3 into normative text.

Add, at the end of the subclause, the following new paragraph:

It shall not be possible within a given system for a connector and associated appliance inlet to make improper connections other than the intended position or partial connections causing deformation which can impair the further use of the appliance.

Compliance is checked by manual test.

Page 37

12 Terminals and terminations

Renumber the first three paragraphs as “12.1 General”.

Delete the existing subtitle “12.1 General”.

Delete existing Subclauses 12.1.1, 12.1.2 and 12.1.3.

Add the following new Subclause 12.2:

12.2 Rewirable connectors shall be provided with clamping units according to IEC 60999-1.

Non-rewirable connectors shall be provided with soldered, welded, crimped or equally effective screwless connections, which shall not allow the possibility to disconnect the conductor. Screwed connections shall not be used.

The end of a stranded conductor shall not be consolidated by soft soldering at places where the conductor is subject to contact pressure unless the clamping means is designed so as to obviate the risk of a bad contact due to cold flow of the solder.

Replace the existing subtitle "Screw-type terminals" with the following new Subclause 12.3:

12.3 Rewirable connectors with a rated current not exceeding 16 A shall have a rated connecting capacity of 1,5 mm² according to IEC 60999-1.

Compliance is checked by the relevant tests of IEC 60999-1.

Delete all subclauses from 12.2.1 to 12.2.12.

Add the following new subclauses:

12.4 Clamping units shall be so fixed or located within the connector that when operated, the clamping units shall not work loose and creepage distances and clearances shall not be reduced below the values specified.

NOTE 1 These requirements do not imply the terminals should be so designed that their rotation or displacement is prevented, but any movement should be sufficiently limited so as to prevent non-compliance with this standard.

NOTE 2 The use of sealing compound or resin is considered to be sufficient for preventing a terminal from working loose, provided that

- the sealing compound or resin is not subject to stress during normal use, and
- the effectiveness of the sealing compound or resin is not impaired by temperatures attained by the terminal under the most unfavourable conditions as specified in this standard.

Compliance is checked by the relevant tests of IEC 60999-1.

12.5 Clamping units for earthing conductors shall be of the same size as the corresponding terminals for the current carrying conductors.

Compliance is checked by inspection.

Page 53

15 Insulation resistance and electric strength

15.2

Replace, on Page 55, item f) by:

- f) for rewirable connectors, between any metal part of the cord anchorage, excluding clamping screws, and a metal rod, of the maximum diameter of the cord $\begin{matrix} +0 \\ -1 \end{matrix}$ mm, inserted in its place.

Replace the second and third paragraphs after Table 2 by the following text:

The term "body" used in items a) and c) above includes all accessible metal parts, fixing screws, external assembly screws and the like and a metal foil in contact with the outer surface of external parts of insulating material, in item c) including the engagement face of connectors. The metal foil is wrapped round the outer surface of external parts of insulating material; however, it is not pressed into openings.

15.3

Replace the second and third paragraphs by:

The value of the test voltage is 3 000 V \pm 60 V when applied between the parts and the body specified in items a) and c) and 1 500 V \pm 60 V in all other cases. Initially, not more than half the prescribed voltage is applied, and then it is raised rapidly to the full value.

Page 57

16 Forces necessary to insert and to withdraw the connector

16.2 Verification of the maximum withdrawal force

Replace, in the first paragraph, "figure 11" by "Figure 12".

Page 61

18 Resistance to heating of appliance couplers for hot conditions or very hot conditions

18.1

Replace the second paragraph by:

Connectors for hot and very hot conditions shall be so constructed that the body shall not allow separation from the front during the tests and the insulation of the core of the cord shall not be subjected to excessive heating.

18.2

Replace the paragraph "After removal from the apparatus ... appliance inlet 10 times" by:

After removal from the test apparatus, one of the connectors shall be subjected to the test of 23.7 within 15 s. The connectors are then allowed to cool down to approximately ambient air temperature and are inserted into and withdrawn from the appliance inlet 10 times.

Page 63

19 Breaking capacity

Replace the third paragraph by:

The connector is mounted in an appropriate test apparatus, which incorporates an appliance inlet having polished, hardened steel pins, and dimensions as specified in the relevant

standard sheet. The ends of the pins shall be rounded for rectangular pins and hemispherical for round pins as shown in the standard sheets.

Add the following new paragraph after the fourth paragraph:

The test apparatus shall be designed and adjusted so as to simulate as far as possible disconnection in normal use.

Page 67

21 Temperature rise

Replace the third paragraph by the following:

Rewirable connectors are fitted with polyvinyl chloride insulated cords having a length of 1 m and a cross-sectional area of 1 mm² for 10 A connectors and 1,5 mm² for 16 A connectors. Screws of clamping units, if any, are tightened with the torque values specified in the appropriate column of Table 8 of 25.1.

Non-rewirable connectors are tested with the cord as delivered.

22 Cords and their connection

22.1

Replace the third paragraph by the following:

Non-rewirable connectors shall be provided with a type of cord complying with the standard indicated in Table 4 for the type of connector and, in addition, the cord shall have a cross-sectional area not less than that specified in Table 4.

22.3

Replace, on Page 71, the paragraph after Table 5 by the following:

Conductors of the cord of rewirable connectors are introduced into the clamping units, and the screws of clamping units, if any, are tightened just sufficiently to prevent the conductors from easily changing their position.

Replace the third paragraph before the Note by the following:

After the tests, the cord shall not have been displaced by more than 2 mm. For rewirable connectors, the ends of the conductors shall not have moved noticeably in the terminals; for non-rewirable connectors, there shall be no break in the electrical connections. A visual inspection is made to ensure no undue twisting of the conductors where they are connected to the terminals or terminations. (For non-rewirable accessories this may need to be conducted at the end of the test sequence.)

Page 77

23 Mechanical strength

23.7

Replace, on Page 83, the second paragraph by the following:

Compliance is checked by the following test which shall be performed immediately after the test of 18.2.

Page 83

24 Resistance to heat and ageing

24.1.2

Replace the first paragraph by the following:

Parts of insulating material, of appliance inlets not integrated in or incorporated in an appliance or equipment and of connectors other than 0,2 A connectors, shall be subjected to a ball-pressure test by means of the apparatus shown in Figure 23.

Replace the last dashed sentence by the following:

- 75 °C ± 2 °C for other parts of accessories for cold conditions and all parts of 0,2 A appliance inlets.

Page 93

26 Creepage distances, clearances and distances through insulation

Replace the first paragraph by the following:

Creepage distances, clearances and distances through insulation of connectors and appliance inlets other than those integrated or incorporated in an appliance or equipment, shall be not less than the values shown in Table 9 if not otherwise specified in the standard sheets.

NOTE 1 For possible new standard sheets, the values of the table are valid if there are not very good reasons to have other values and thorough consideration has been given to the insulation coordination.

NOTE 2 The values of the table are valid for all dimensions not specified in the standard sheets. The note in the table specifies the possible exemptions and deviations from the values in the table.

Change "Note" to "Note 3".

Page 103

STANDARD SHEETS

Replace in standard sheet drawings C2, C6, C8, C8A, C8B, C10, C14, C16, C16A, C18, C20, C22 and C24 the thickness of the rim of 2,0 mm by:

1,5 mm

Replace in standard sheet C 6 the dimension $13 \begin{smallmatrix} +0,8 \\ 0 \end{smallmatrix}$ by:

$13,1 \begin{smallmatrix} +0,8 \\ 0 \end{smallmatrix}$

Delete standard sheets C26 and C27. They are covered by IEC 60999-1.

FIGURE 1

Correct the class of equipment reference in Figure 1, both in French and English, for Standard Sheet C16A and C15A 10 A, 155 °C appliance couplers to:

Class I

FIGURE 4

Replace the existing Figure 4 by the following: