IEC 60884-2-7

Edition 1.0 2011-02

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Plugs and socket-outlets for household and similar purposes – Part 2-7: Particular requirements for cord extension sets

Prises de courant pour usages domestiques et analogues – Partie 2-7: Exigences particulières pour les cordons prolongateurs

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

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Email: csc@iec.ch
Tél.: +41 22 919 02 11
Fax: +41 22 919 03 00

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

PRICE CODE
CODE PRIX

M

ICS 29.120.30

ISBN 978-2-88912-362-9

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES –

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FOREWORD

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International Standard IEC 60884-2-7 has been prepared by subcommittee 23B: Plugs, socket-outlets and switches, of IEC technical committee 23: Electrical accessories.

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

FDIS	Report on voting
23B/977/FDIS	23B/987/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

This Part 2-7 shall be used in conjunction with IEC 60884-1. It was established on the basis of the third edition of IEC 60884-1 (2002) and of its Amendment 1 (2006).

This Part 2-7 supplements or modifies the corresponding clauses in IEC 60884-1, so as to convert that publication into the IEC Standard: Particular requirements for cord extension sets.

Where this Part 2-7 states "addition", "modification" or "replacement", the relevant requirement, test specifications or explanatory matter in Part 1 shall be adapted accordingly.

Subclauses, figures, tables or notes which are additional to those in Part 1 are numbered starting from 101.

A list of all the parts in the IEC 60884 series, under the general title *Plugs and socket-outlets for household and similar purposes*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

PLUGS AND SOCKET-OUTLETS FOR HOUSEHOLD AND SIMILAR PURPOSES –

Part 2-7: Particular requirements for cord extension sets

1 Scope

Replacement:

This Part of IEC 60884 applies to cord extension sets, rewirable and non rewirable, with or without earthing contact, with a rated voltage greater than 50 V but not exceeding 440 V and a rated current not exceeding 16 A, intended for household and similar purposes, either indoors or outdoors.

NOTE 1 In the following countries, cord extension sets only for equipment of class II are not allowed: DE, UK and CZ.

NOTE 2 In the following country, rewirable cord extension sets are not allowed: ZA.

This standard does not apply to cord extension sets with means for reeling.

This standard also applies to cord extension sets which are intended to be used in a cable reel, and which therefore become cable reels with a detachable flexible cable. For the combination of the cord extension set, the reel requirements and tests of IEC 61242 have to be fulfilled in addition.

Cord extension sets should be suitable for use at ambient temperatures not normally exceeding +40 ºC, but their average over a period of 24 h does not exceed +35 °C, with a lower limit of the ambient air temperature of –5 °C.

2 Normative references

This clause of Part 1 is applicable with the following exceptions:

Addition:

IEC 60884-1:2002, *Plugs and socket-outlets for household and similar purposes – Part 1: General requirements*
Amendment 1 (2006)

IEC 60884-2-1, *Plugs and socket-outlets for household and similar purposes – Part 2-1: Particular requirements for fused plugs*

IEC 61242, *Electrical accessories – Cable reels for household and similar purposes*

3 Definitions

This clause of Part 1 is applicable except as follows.

Replacement of NOTE 3:

NOTE 3 The term "portable accessory" covers plugs, portable socket-outlets and cord extension sets. Examples of the use of accessories are shown in Figure 1a) of IEC 60884-1.

3.12
cord extension set

Addition:

NOTE 101 The term “plug” covers plugs and fused plugs. The term “socket outlet” covers also socket outlets with incorporated components such as switches and fuses etc. which are required to comply with the relevant IEC standard as far as it applies.

3.12.101
rewirable cord extension set
cord extension set so constructed that any of the accessories or the flexible cable can be replaced with the aid of a general purpose tool

3.12.102
non-rewirable cord extension set
cord extension set so constructed that it forms a complete unit with the flexible cable, the plug and the socket-outlet after connection and assembly by the manufacturer, the disassembly of which makes it permanently unfit for any further use

4 General requirements

This clause of Part 1 is applicable except as follows:

Addition of the following paragraph at the end of the clause:

Components (plug, socket-outlets and flexible cable) of the cord extension sets shall be fully compliant with, and have been verified against, the relevant product standards for those components.

5 General remarks on tests

Replacement:

5.1 Tests shall be made to prove compliance with the requirements laid down in this standard.

No extra requirements for components (plugs, socket outlets and flexible cables) have to be applied and the relevant tests shall not be repeated.

Tests are made as follows:

- *type tests shall be made on representative specimens of each assembly;*
- *routine tests shall be made on each assembly manufactured according to this standard.*

Subclauses 5.2 to 5.5 are applicable to type tests and Subclause 5.6 to routine tests.

5.2 *The specimens are tested as delivered and under normal conditions of use.*

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.

5.4 *Three specimens are subjected to all the relevant tests.*

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

If one specimen does not satisfy a test due to a manufacturing cord extension sets process 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 a number of specimens specified in Subclause 5.4, the 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.

5.6 *Routine tests are specified in Annex A.*

6 Ratings

This clause of Part 1 is applicable except as follows.

Replacement:

6.2 The rated current of the cord extension set shall be the lowest value from

a) the rated current of the plug; or
b) the arithmetic sum of the highest rated currents of all plugs which can be inserted into the cord extension set; or
c) the rated current of the protective overcurrent device.

The rated voltage of the cord extension set is that of the plug.

Compliance is checked by inspection of the marking.

7 Classification

This clause of Part 1 is not applicable except for 7.1.1, 7.1.2, 7.1.3 and 7.1.4.

8 Marking

This clause of Part 1 is applicable except as follows.

8.1 *Addition after the fourth dashed text:*

NOTE 101 This marking for cord extension set is necessary only if the manufacturer of the cord extension set is different to the manufacturer of the socket-outlet. The marking of the name, trade mark or identification mark of the manufacturer or responsible vendor may for example be applied on a sleeve or label provided around the cord.

Addition after the fifth dashed text:

NOTE 102 For a cord extension set, the type reference, which may be a catalogue number, may be placed on the smallest packaging unit.

Addition at the end:

– in case of multiple portable socket-outlets or when there is an overcurrent protective device, the power in watts.

Addition at the end:

The marking for power shall be completed by the word MAX.

The power is calculated using the nominal supply voltage in volts and a power factor cos φ = 1.

NOTE 103 These markings may be shown as in the following examples:

MAX 2000 W or 2000 W MAX

The maximum admissible power marking shall not be hidden by any inserted plug.

9 Checking of dimensions

This clause of Part 1 is not applicable.

10 Protection against electric shock

Replacement of the text of Clause 10:

10.1 Cord extension sets shall be so designed and constructed that after they are wired and assembled as for normal use, live parts are not accessible, even after removal of parts which can be removed without the use of a tool.

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

The standard test finger, test probe B of IEC 61032, is applied in every possible position, an electrical indicator with a voltage between 40 V and 50 V being used to show contact with the relevant parts.

10.2 Cord extension sets shall be so designed and constructed that after they are wired and assembled as for normal use, live parts are not accessible, even after removal of parts which can be removed without the use of a tool.

Compliance is checked by inspection and by applying with a test wire of 1,0 mm diameter (see Figure 10 of Part 1) a force of 1 N where the cable enters the plug and the portable socket outlet in every possible position.

During this test, it shall not be possible to touch live parts with the gauge.

An electrical indicator with a voltage between 40 V and 50 V shall be used.

11 Provision for earthing

This clause of Part 1 is not applicable.

12 Terminals and terminations

This clause of Part 1 is not applicable.

13 Construction of fixed socket-outlets

This clause of Part 1 is not applicable.

14 Construction of plugs and portable socket-outlets

Replacement of the title and text of Clause 14:

14 Construction of cord extension sets

14.1 Socket-outlets to be used in cord extension sets shall have shutters.

NOTE 1 In the following countries socket-outlets to be used in cord extension sets are not required to have shutters: AU, AT, CA, CH, SG, JP, US.

NOTE 2 In the following country the standards sheets for the portable socket-outlets specify the requirements for shutters: DK.

Plugs and socket outlets shall comply with IEC 60884-1.

Fused plugs shall comply with IEC 60884-2-1.

Flexible cables shall comply with IEC 60227 or IEC 60245.

The flexible cable shall have the same number of conductors as the poles in the socket-outlet(s). Earthing contacts, if any, are considered as one pole.

Where an earthing contact is provided in the socket-outlet it shall be connected to the corresponding earthing contact of the plug.

Compliance is checked by inspection.

14.2 The type, length of the flexible cable and nominal cross-sectional area of the conductors of cord extension sets shall comply with Table 101.

Table 101 – Type, length of the flexible cable and nominal cross-sectional area of the conductors of cord extension sets

Rated current A	Lightest type of flexible cable	Minimum nominal cross-sectional area of the conductors mm^2	Maximum length of the flexible cable m
2,5	60227 IEC 52	0,50	3
6	60227 IEC 52	0,75	5
	60227 IEC 53	1,00	
10	60227 IEC 53 or 60245 IEC 53	0,75	5
		1,00	30
13	60227 IEC 53 or 60245 IEC 53	1,00	5
		1,50[a]	30
16	60227 IEC 53 or 60245 IEC 53	1,00[b]	2
		1,50	30

[a] In the following countries the minimum nominal cross-sectional area is 1,25 mm^2: UK and SG.

[b] In the following countries, for cord extension sets with socket outlet of class I, the minimum nominal cross-sectional area is 1,5 mm^2: DE, FI.

NOTE 1 In the following countries, cord extension sets having a rated current of 6 A and 13 A are not allowed: CH, DE, FI, IT and NO.

NOTE 2 In the following countries, cord extension sets intended for outdoor use should be provided with cable type 60245 IEC 53 or equivalent: FI, NO, SA and SE.

NOTE 3 In the following country the nominal cross-sectional area is 1,5 mm^2 for 5 m maximum length and 2,5 mm^2 for 30 m maximum length: SA.

The length of the cable is measured between the operating faces of the plug and the socket-outlet. In the case of multiple socket-outlets the measurement is taken to the socket-outlet closest to the plug.

Compliance is checked by inspection and measurement.

14.3 The rated current of the plug shall not be lower than the rated current of the socket-outlet.

In a cord extension set protected against overload (e.g. having a fused plug or a protective overcurrent device), the rated current of the plug shall not be lower than the rated current of the protective overcurrent device.

For a cord extension set with a multiple portable socket-outlet and not incorporating a protective overcurrent device, the rated current of the plug shall be at least the arithmetic sum of the highest rated currents of all plugs which can be inserted into the cord extension set or the same as the rated current of the relevant socket outlet of the fixed wiring the plug is intended to be connected to, whichever is the lower.

NOTE In the following country this requirement is not applicable because it is possible to insert a 10 A, 13 A or 16 A plug into a 10 A, 13 A, or 16 A socket-outlet: DK

Compliance is checked by inspection.

14.4 The rated voltage of the plug and the socket-outlet shall be the same. The rated voltage of the cable shall not be less than the rated voltage of the plug and socket-outlet.

Compliance is checked by inspection.

15 Interlocked socket-outlets

This clause of Part 1 is not applicable.

16 Resistance to ageing, protection provided by the enclosures and resistance to humidity

Replacement:

The protection degree of the cord extension set is the same as the lowest protection degree of the plug and the portable socket outlet.

Compliance is checked by inspection.

17 Insulation resistance and electric strength

This clause of Part 1 is not applicable.

18 Operation of earthing contacts

This clause of Part 1 is not applicable.