

norm**NEN 1020**

Plugs, socket-outlets and cord extension sets for household and similar general purposes - Particular requirements for plugs, socket outlets and cord extension sets used in the Netherlands

Publicatie uitsluitend voor commentaar

Contactstoppen, contactdozen en verlengsnoeren voor huishoudelijk en dergelijk algemeen gebruik - Specifieke eisen voor contactstoppen, contactdozen en verlengsnoeren gebruikt in Nederland

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Zal vervangen NEN 1020:1987;
NEN 1020:1987/A2:2004

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Normcommissie 364023 'NEC 23 - Elektrotechnisch installatiematerieel'

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Voorbeeld
Preview

Foreword

This draft standard will replace NEN 1020:1987 and NEN 1020:1987/A2:2004.

This draft standard shall be used in conjunction with IEC 60884-1:2002 with Amendments A1:2006 and A2:2013 and Corrigendum C1:2014 and IEC 60884-2-7:2011 and Amendment A1:2013. When this draft NEN 1020 has reached the stage 'definitive' these IEC documents will be implemented as respectively NEN-IEC 60884-1 and NEN-IEC 60884-2-7. These designations are already used in this document.

NOTE The numbering of the standard sheets and gauges included in this draft standard corresponds to CEE 7 including modifications 1 to 4 second edition. The gauges have been provided with a new numbering to avoid confusion with IEC 60884-1 and CEE 7.

This draft standard has been prepared by subcommittee 364 023 02 'Stopcontacten voor huishoudelijk en industrieel gebruik, toestelschakelaars, schakeltoestellen voor huishoudelijk en soortgelijk gebruik en producten voor huishoudelijk en soortgelijk gebruik voor de bewaking en sturing van efficiënt energiegebruik (NEC 23BGHJKZ)'. At the time of publication of this draft standard, the following stakeholders were represented in this subcommittee:

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B.V. Attema Kunststoffenindustrie

DEKRA Certification B.V.

Niko Nederland

NVWA

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Comments on this draft standard can be submitted before 1 February 2019 on normontwerpen.nen.nl.

1 Scope

This clause of NEN-IEC 60884-1 is applicable, except as follows:

Add the following explanation to the first paragraph:

This standard applies to:

- plugs and socket-outlets according to standard sheets shown in Annex NA;
- cord extension sets according to Annex NB.

Replace NOTE 1 with:

NOTE 1 Requirements for mounting boxes for accessories are given in NEN-EN-IEC 60670-1. Requirements for cord sets are given in NEN-EN-IEC 60799. Requirements for cable reels are given in NEN-EN-IEC 61242. Requirements for flat non-rewirable two-pole 2,5 A 250 V plugs with cable for the connection of class II appliances for household and similar purposes are given in NEN-EN 50075.

2 Normative references

Replace in this clause title and text by:

2 Normative references to international publications with their corresponding national publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

Reference	Equivalent standard of the Netherlands	Notes
IEC 60068-2-30	NEN-EN-IEC 60068-2-30	EN 60068-2-30
IEC 60068-2-31	NEN-EN-IEC 60068-2-31	EN 60068-2-31
IEC 60068-2-75	NEN-EN-IEC 60068-2-75	EN 60068-2-75
IEC 60112	NEN-EN-IEC 60112	EN 60112
IEC 60227-series	NEN-EN 50525-series	EN 50525-series
IEC 60245-series	NEN-EN 50525-series	EN 50525-series
IEC 60423	NEN-EN-IEC 60423	EN 60423
IEC 60529	NEN-EN-IEC 60529	EN 60529
IEC 60669-series	NEN-EN-IEC 60669-series	EN 60669-series
IEC 60670-1	NEN-EN-IEC 60670-1	EN 60670-1
IEC 60695-2-10	NEN-EN-IEC 60695-2-10	EN 60695-2-10
IEC 60695-2-11	NEN-EN-IEC 60695-2-11	EN 60695-2-11
IEC 60799	NEN-EN-IEC 60799	EN 60799
IEC 60999-1	NEN-EN-IEC 60999-1	EN 60999-1
IEC 61032	NEN-EN-IEC 61032	EN 61032

Reference	Equivalent standard of the Netherlands	Notes
IEC 61058-series	NEN-EN-IEC 61058-series	EN 61058-series
IEC 61140	NEN-EN-IEC 61140	EN 61140
IEC 61210	NEN-EN-IEC 61210	EN 61210
IEC 61242	NEN-EN-IEC 61242	EN 61242
IEC 61643-11		
ISO 1456	NEN-EN-ISO 1456	
ISO 2039-2	NEN-EN-ISO 2039-2	
ISO 2081:1986	NEN-EN-ISO 2081	
ISO 2093:1986	NEN-ISO 2093	
	NEN-EN 50075	EN 50075

3 Definitions

This clause of NEN-IEC 60884-1 is applicable, except as follows:

Replace 3.6 with:

3.6

socket-outlet for appliances

socket-outlet which is integrated or intended to be incorporated in or fixed to an appliance

[SOURCE: IEC 60884-2-2, 3.6]

4 General requirements

This clause of NEN-IEC 60884-1 is applicable, except as follows:

For safety reasons, socket-outlets shall always consist of a base and a cover-plate having plug outlines when they are placed on the market for consumers.

Additional functions such as dimmers, fuses, switches, energy regulators, etc., integrated in the plug and socket-outlet shall comply with the relevant specifications.

5 General remarks on tests

This clause of NEN-IEC 60884-1 is applicable, except as follows:

5.4 Replace the 6th paragraph with:





For tests of 10.6 and 24.10 three additional samples are required.

6 Ratings

This clause of NEN-IEC 60884-1 is applicable, except as follows:

Replace table 1 by the following:

Table 1 - Preferred combinations of types and ratings

Type	Rated voltage	Rated current
	V	A
2P	250	2,5
2P	250	16
2P + 	250	16
2P + 	440	16
3P + 		
3P + N + 		

7 Classification

This clause of NEN-IEC 60884-1 is applicable, except as follows:

7.2.3 Add a new item:

j) rail-mounting.

7.2.4 According to national practice, design B is not used.

7.3 Add a new dash before the other two:

— plugs for equipment of class 0;

Delete the note.

8 Marking

This clause of NEN-IEC 60884-1 is applicable, except as follows:

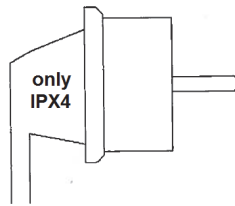
8.1 Delete first paragraph after the 7th dash.

Add the following explanation:

Plugs and/or socket-outlets that form an integral part of an appliance need not have the above marking, provided that the rating, manufacturer's name and type reference are marked on the appliance.

8.4 Add at the end:

Portable socket-outlets with IP code IPX4 shall be additionally marked with the following symbol:



Add a new subclause:

8.101

Socket-outlets and rewirable plugs according to standard sheets VIII and IX, the poles (terminals) shall be marked with L1, L2, L3 and N and be positioned as indicated in the standard sheets.

9 Checking of dimensions

This clause of NEN-IEC 60884-1 is applicable, except as follows:

9.1 The first paragraph is replaced by the following:

Accessories shall comply with the appropriate standard sheets specified in Annex NA. Applicable gauges are given in Annex NA.

10 Protection against electric shock

10.1 Add the following new paragraph:

For portable socket-outlets with suspension means it shall not be possible to touch the live parts through the space intended for suspension means.

Compliance is checked by the test described in 10.7.

10.2 Replace the last part of the paragraph with:

... however, the covers or cover-plates of fixed socket-outlets may be made of metal if the requirements given in 10.2.1 and 10.2.2 are fulfilled and accessible parts of plugs and portable socket-outlets may be made of metal if the requirements given in 10.2.1 are fulfilled.

10.2.2 This subclause is applicable only for fixed socket-outlets.

10.3 Replace the second paragraph with:

Compliance is checked by means of the gauges according to figures NL 18, NL 18a and NL 19.

10.4 Replace the first paragraph with:

External parts of the plugs and portable socket-outlets, with the exception of:

— assembly screws and the like;

- current carrying and earthing contacts;
- earthing straps and metal rings around pins;
- accessible metal parts fulfilling the requirements of 10.2.1;

shall be of insulating material.

10.5 Add after the last paragraph:

Shutters shall not inadmissibly impede the insertion of the plug. The force necessary to open the shutters shall not exceed 30 N.

Compliance is checked by using the gauges according to figure NL 33a and NL 33b. The gauge shall be arranged movable.

10.6 The test plug shown in figure NL 19a shall be used.

11 Provisions for earthing

This clause of NEN-IEC 60884-1 is applicable.

12 Terminals

This clause of NEN-IEC 60884-1 is applicable, except as follows:

Add the following new subclause:

12.1.101 Socket-outlets for appliances shall be provided with screw-type terminals, screwless terminals, male tabs of flat quick-connect terminations, soldered connections or welded connections (terminations).

Male tabs and female connectors of flat quick-connect terminations to be used for test purposes shall comply with NEN-EN-IEC 61210.

12.2.1

Table 3 – Relationship between rated current and connectable nominal cross-sectional areas of copper conductors

For portable accessories with rating 16 A 2P and 2P + ⊕ the table shall be replaced with:

Current and type of the accessory	Rigid (solid or stranded) copper conductors ^c		Flexible copper conductors	
	Nominal cross-sectional area mm ²	Diameter of the largest conductor mm ^{N1}	Nominal cross-sectional area mm ²	Diameter of the largest conductor mm ^{N1}
16 A 2P and 2P+⊕ (portable socket-outlets)	-	-	From 1 up to 1,5 inclusive	1,8
16 A 2P and 2P+⊕ (plugs)	-	-	From 0,75 up to 1,5 inclusive	1,8

^{N1} These dimensions are only given for information.

Add the following row in table 3:

2,5 A 2P (Socket-outlets for appliances)	-	-	From 0,5 up to 1 inclusive	1,5
---	---	---	----------------------------	-----

13 Construction of fixed socket-outlets

This clause of NEN-IEC 60884-1 is applicable, except as follows:

13.8 Add the following:

For socket-outlets according to standard sheet VIII, it shall not be possible to mount the cover or cover plate in the wrong position e. g. turned 180°.

13.14

Replace in the end of the third paragraph the value 5 N with 15 N.

Add the following new subclause:

13.101 Socket-outlets with self-closing lid intended to maintain a degree of protection IPX4 or higher shall be so designed that the proper functioning of the self-closing lid is secured in normal use.

Compliance is checked by inspection and by the test of 24.102.

14 Construction of plugs and portable socket-outlets

This clause of NEN-IEC 60884-1 is applicable, except as follows:

14.21 Replace the first paragraph with:

Plugs classified exclusively as plugs for equipment of class II may only be non-rewirable.

Add the following new subclauses:

14.101 Portable socket-outlets for class II appliance according to standard sheet CIII may only be non-rewirable.

14.102 For plugs according to standard sheet IX with side cable entry hole, the cable entry hole shall be affixed to the side of the connector body, opposite the (7 mm wide) tab.

14.103 Portable socket-outlets with a self-closing lid intended to maintain a degree of protection IPX4 or higher shall be so designed that the proper functioning of the self-closing lid is secured in normal use.

In the case of an ordinary lid, the lid shall be adequately fixed to the portable socket-outlet.

For portable socket-outlets with a self-closing lid compliance is checked by inspection and by the test of 24.102.

For portable socket-outlets with an ordinary lid compliance is checked by inspection and by the test of 24.103.

15 Interlocked socket-outlets

This clause of NEN-IEC 60884-1 is applicable.

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

This clause of NEN-IEC 60884-1 is applicable, except as follows:

In addition, fixed socket-outlets with a degree of protection IP44, are tested with a plug of the same degree of protection or with the gauge according to figure NL 28 in engagement.

In addition, portable socket-outlets are also tested without a plug in engagement with the lid, if any, being closed.

17 Insulation resistance and electric strength

This clause of NEN-IEC 60884-1 is applicable.

18 Operation of earthing contacts

This clause of NEN-IEC 60884-1 is replaced as follows:

Earthing contacts shall provide adequate contact pressure and shall not deteriorate in normal use.

For socket-outlets compliance is checked by the tests of subclauses 18.101, 19 and 21.

For plugs compliance is checked by the tests of subclause 18.102.

18.101 For socket-outlets with side earthing contacts compliance is checked by the following tests:

For two-pole 16 A 250 V socket-outlets with side earthing contacts, compliance is checked by measuring the force exerted by the earthing contacts by means of the device shown in figure NL 23. The device has two pivoted levers L, the lower ends of which bear against the earthing contacts. The upper ends are provided with hooks H, by means of which a force can be applied. Marker lines a and b are provided at upper ends; they are so placed that the line on the lever and the lines on the fixed part are in line when the distance between the tip F of the lever and the centre line of the device is 16 mm.

The device is inserted into the recess of the socket-outlet, where it is locked in position by the tightening the locking screw C, which forces the three pins B against the side of the recess; these pins are equally spaced around the body of the device. If the tips F of the levers do not bear against that part of the earthing contacts which makes contact with the earthing contacts of a normal plug, the device is positioned by means of spacing pieces as shown in the figure.

A force is applied to each of the hooks in turn and the value of the force is noted when the marker lines are in line. The test is then repeated, the device being turned through 180 degrees in the recess.

The average value of the forces necessary to move each contact to the indicated position, shall not be less than 5 N.

NOTE In medically used areas this force should be minimum 10 N and not more than 20 N.

Socket-outlets other than those with side earthing contacts compliance is checked by tests of clauses 19 and 21.

18.102 Rewirable and non-rewirable non-moulded-on plugs with side earthing contacts shall be so designed that any resiliency of the bodies cannot deteriorate the contact pressure of the side earthing contacts during normal use.

Compliance is checked by inspection and for plugs made of elastomeric or thermoplastic materials by the following test:

The side earthing contacts are subjected for 168 h to a force of 50 N, at a temperature of $35^{\circ}\text{C} \pm 2^{\circ}\text{C}$, applied to the points where they normally make contact with the corresponding earthing contacts of the socket-outlets, as shown in figure NL 25. The specimen as well as the test equipment shall have reached the prescribed temperature before the test is carried out.

The deformation of the earthing contacts is measured 30 s after removal of the force. The total deformation of the side earthing shall not be more than 1 mm.

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