






Test Report issued under the responsibility of:

TEST REPORT IEC 60884-1:2022 IEC 60884-2-5:2017 Plugs and socket-outlets for household and similar purposes Part 1: General requirements Part 2-7: Particular requirements for cord extension sets	
Report Reference No.....:	TR22011702
Date of issue.....:	2022-01-07(updated 2023-04-26)
Total number of pages	73
Name of Testing Laboratory preparing the Report	Kind Product Technical Service Co., Ltd. 
Testing location/ address	5th floor, No. 9 Fengling Road, Wuchang Street, Yuhang District, Hangzhou
Tested by (name, function, signature)	:Jime Liu 
Approved by (name, function, signature) ..	: Kenny 
Applicant's name.....:	Ningbo Cowell Electronics & Technology Co., Ltd.
Address	Building 1, No. 59, Changxing Road, Jiangbei District, Ningbo, Zhejiang Province, China
Test item description	POWER METER
Trade Mark	N/A
Manufacturer.....:	Ningbo Cowell Electronics & Technology Co., Ltd. Building 1, No. 59, Changxing Road, Jiangbei District, Ningbo, Zhejiang Province, China
Model/Type reference	PMB01, PMB01B, PMB03, PMB02, PMB02B, PMB05, PMB05B PMB06,PMB09
Ratings	250V output, 16A ,3500W

Test item particulars

Standard: IEC 60884-1:2022 IEC 60884-2-5:2017

Rated current (A) / Rated voltage (V): 230V

Degree of protection against access to hazardous parts and against harmful ingress of solid foreign objects: IP20

Degree of protection against harmful ingress of water.....:

Provision for earthing: with earthing contact

Method of connecting the cable: non-rewirable

Plugs:

Class of equipment: I

Possible test case verdicts:

- test case does not apply to the test object.....: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing

Date of receipt of test item: 2023.04.07

Date (s) of performance of tests: 2023.04.07-2023.04.26

General remarks:

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"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

Summary of compliance with National Differences (List of countries addressed):

All are same, except the overall shape.

Test Report Form No.....: IEC60884_1F

Test Report Form(s) Originator: IMQ S.p.A.

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Copy of marking plate:

Product name: POWER METER

Model: PMB01

Rating: 230V/50Hz, 3680W


Manufacturer: Ningbo Cowell Electronics & Technology Co., Ltd.

Address: Building 1, No. 59, Changxing Road, Jiangbei District, Ningbo, Zhejiang Province, China

Caution: To prevent risk electric shock, don not open the enclosure
Please disconnect the power supply before change heat element.



8	MARKING		
8.1	General		P
	Accessories marked as follows		P
	- rated current (A)	16A	P
	- rated voltage (V)	250V	P
	- symbol for nature of supply	~	P
	- name, trademark or identification mark of manufacturer's or responsible vendor's name :		P
	- type reference		P
	- degree of protection (first characteristic numeral) if higher than 2		N/A
	- degree of protection (second characteristic numeral) if higher than 0		N/A
	- degree of protection (first characteristic numeral) higher than 4 for fixed socket outlet in which case the second characteristic numeral shall also be marked.....:		N/A
	- degree of protection (second characteristic numeral) higher than 2 for fixed socket outlet in which case the first characteristic numeral shall also be marked.....:		N/A
	Socket-outlets with screwless-type terminals marked with the following:		N/A
	- the length of insulation to be removed		N/A
	- an indication of the suitability to accept rigid conductors only (if any)		N/A
8.2	Symbols used		P
	Symbols used as follows		P
	Amperes: A		P
	Volts: V		P
	Alternating current: ~ or AC		P
	Neutral: N		N/A
	Protective earth: 		P
	Degree of protection: IPXX		N/A
	Degree of protection for fixed accessories also able to be installed on rough surfaces 		N/A
	Screwless-type terminals: suitability to accept rigid conductors only: r		N/A
	Rated current and rated voltage values may be used alone (oblique or horizontal line)		P

	Marking for the nature of supply placed next to the marking for rated current and rated voltage		P
8.3	Particular requirements for fixed socket-outlets		N/A
	Marking placed on the main part		N/A
	- rated current, rated voltage and nature of supply		N/A
	- identification mark of the manufacturer or of the responsible vendor		N/A
	- length of insulation to be removed, if any		N/A
	- indication of the suitability to accept rigid conductors only for screwless-type terminals for those socket-outlets having this restriction	r	N/A
	- type reference		N/A
	Cover plates necessary for safety purposes and intended to be sold separately: marked with the manufacturer's or responsible vendor's name, trademark or identification mark and type reference		N/A
	IP code, if applicable: marked so as to be easily discernible		N/A
	Fixed socket-outlets classified according to 7.2.5.2: identified by a triangle visible after installation unless they have an interface configuration different from that used in normal circuits		N/A
8.4	Particular requirements for portable accessories		P
	Plugs and portable socket-outlets: marking specified in 8.1, other than the type reference, easily discernible		P
	Plugs and portable socket-outlets for equipment of class II not marked with the symbol for class II construction		N/A
8.5	Particular requirements for markings on terminals other than phase terminals		P
	Neutral terminals indicated by the letter N		N/A
	Earthing terminals indicated by the symbol 		P
	Markings not placed on screws or other easily removable parts		P
	Terminals for conductors not forming part of the main function of the socket-outlet:		N/A
	- clearly identified unless their purpose is self-evident, or		N/A

	- indicated in a wiring diagram fixed to the accessory		N/A
	Identification of such terminals may be achieved by:		N/A
	- their being marked with graphical symbols according to IEC 60417 or colours and/or alphanumeric system, or		N/A
	- their being marked with their physical dimensions or relative location		N/A
8.6	IP code marking for surface-type mounting boxes forming an integral part of socket-outlets		N/A
	Surface-type mounting boxes forming an integral part of socket-outlets having an IP code higher than IP4X, or higher than IPX2, the IP code marked on the outside of its associated enclosure so as to be easily discernible		N/A
8.7	Additional requirement for marking		N/A
	Indication of which position or with which special provisions the declared degree of protection of fixed socket-outlets having an IP code higher than IPX0 is ensured		N/A
8.8	Durability		P
	Marking easily legible, durable and indelible		P
	Inspection using normal or corrected vision, without additional magnification		P
	Test, if necessary, is done by:		P
	- rubbing the mark for 15 s with cotton cloth soaked with water - rubbing the mark for 15 s with cotton cloth soaked with n-hexane 95 %		P
	Rubbing started immediately after soaking the piece of cotton		P
	Compression force of (5 ± 1) N applied at a rate of approximately one cycle per second		P
	Compression force applied by means of a test piston having the dimensions specified in Figure 5		P
	Test piston made of an elastic material inert to test liquids and having a Shore-A hardness of 47 ± 5		P
9	CHECKING OF DIMENSIONS		
9.1	General		P

	Accessories and surface-type mounting boxes comply with the appropriate standard sheets and corresponding gauges, if any		P
	Insertion of plugs into fixed or portable socket-outlets ensured by their compliance with the relevant standard sheets		P
	Compliance checked by ten insertions / withdrawals of a plug, having maximum dimension checked by measurement and / or by means of gauges, with manufacturing tolerances as shown in Table 3		P
	Test as described in 22.4 carried out on the same samples after the ten insertions / withdrawals have been performed		P
9.2	Dangerous compatibility		P
	It is not possible to engage a plug with:		P
	- a socket-outlet having a higher voltage rating or a lower current rating;		P
	- a socket-outlet with a different number of live poles (exception admitted provided that no dangerous situation can arise);		P
	- a socket-outlet with earthing contact, if the existing plug of the present national system is a plug for class 0 equipment;		P
	Engagement of an existing plugs on the relevant national system for equipment of class 0 or of class I with a socket-outlet exclusively designed to accept plugs for class II equipment		P
	Impossibility of insertion checked by applying the gauge, for 1 min, with a force of:		P
	- 150 N (rated current \leq 16A);		P
	- 250 N (rated current $>$ 16A)		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at (35 ± 2) °C		P
9.3	Permitted deviations		N/A
	Deviations from standard sheets made only if they provide technical advantage and do not affect the purpose and safety of accessories complying with standard sheet, with regard to interchangeability and non-interchangeability		N/A
10	PROTECTION AGAINST ELECTRIC SHOCK		
10.1	General		P
	Accessories shall ensure protection against electric shock		P

10.2	Accessibility of live parts during normal use		P
	Plugs when engaged, fixed and portable socket-outlets designed and constructed that when they are mounted and or wired as for normal use, live parts are not accessible, even after removal of parts which can be removed without the use of a tool		P
	Live parts of plugs no accessible when it is in partial or complete engagement		P
	Compliance checked by test:		P
	- specimen mounted as for normal use		P
	- fitted with conductors smallest nominal cross-sectional area		N/A
	- then with conductors largest nominal cross-sectional area		N/A
	Table 4 screw-type terminals		N/A
	Table 8 screwless-type terminals		N/A
	Test probe B of IEC 61032 applied in every position		P
	Plugs are partially and complete engaged in socket-outlets		P
	Accessories with elastomeric or thermoplastic material: additional test carried out at $(35 \pm 2) ^\circ\text{C}$ with test probe 11 of IEC 61032 (75 N for 1 min)		P
	During the test: accessories do not deform, and live parts does not accessible		P
	Plugs and portable socket-outlets pressed with a force of 150 N for 5 min as shown in Figure 6: specimens do not show deformation		P
10.3	Requirements for accessible parts of accessory during normal use		P
10.3.1	Accessible parts made of insulating materials, with exception for:		P
	- small screws and the like, isolated from live parts, used for fixing main parts, covers, cover plates or other parts		N/A
	- covers, cover plates, other parts of fixed socket-outlets and accessible parts of portable socket-outlets and plugs of metal, comply with 10.3.2 or 10.3.3		P
	- earthing pins, earthing straps		P
	- current carrying pins and metal shoulders around pins of plugs		P

10.3.2	Cover, cover plates, other parts of metal protected by additional insulation made by insulating linings or insulating barriers. They are either:		P
	- be fixed in such a way that they cannot be removed without being permanently damaged, or		P
	- be so designed that: <ul style="list-style-type: none"> cannot be replaced in an incorrect position 		P
	<ul style="list-style-type: none"> if omitted the accessories are inoperable or incomplete 		P
	<ul style="list-style-type: none"> no risk of accidental contact between live parts and metal covers, cover plates, other parts, e.g., fixing screws, even if a conductor should come away from its terminal 		P
	<ul style="list-style-type: none"> creepage, clearance distances becoming less than values of Table 26 		P
	<ul style="list-style-type: none"> comply with Clauses 17 and 27 		P
10.3.3	Earthing of metal cover or cover plates made with fixing screws or other integral means: connection of low resistance		N/A
	Creepage and clearance distances between live pins of a plug when fully inserted and the earthed metal cover of a socket-outlet comply with item 2 and 7 of Table 26		N/A
10.4	Single-pole insertion		P
	Contact between a pin of a plug and a live socket-contact of a socket-outlet not possible while any other pin is accessible		P
	Compliance checked by manual test and by means of gauges (most unfavourable dimensions). Tolerances as specified in Table 3		P
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		P
	Socket-outlets with enclosure or bodies of rubber or polyvinyl chloride: test carried out with a force of 75 N for 1 min		P
	Fixed socket-outlets provided with metal covers or cover plates: clearance of at least 2 mm required between a pin and a socket-contact when another pin(s) is(are) in contact with the metal covers or cover plates (mm).....:		N/A

	Single-pole insertion prevented by the use at least:		P
	- a large cover or cover plate		P
	- other means (e.g., shutters)		P
10.5	Shuttered socket-outlets		P
	Constructed that live parts not accessible, without a plug in engagement, with the gauges shown in Figures 7 and 8		P
	They do not touch live parts when applied to the entry holes corresponding to the live contact.		P
	Live contacts automatically screened when the plug is withdrawn		P
	Shutters so designed that a plug is inserted with the same movement in a socket-outlet with shutters as in a socket-outlet without shutters		P
	Means cannot easily be operated by anything other than a plug and not depend upon parts which are liable to be lost		P
	Gauge of Figure 7		P
	- applied to the entry holes corresponding to live contacts with a force of 20 N		P
	- most unfavourable position		P
	- successively in three directions, to the same place		P
	- for approximately 5 s in each of three directions		P
	- it does not be rotated		P
	- it is applied in such a way that the 20 N force is maintained.		P
	- moving the gauge from one direction to the next, no force is applied but the gauge is not withdrawn		P
	Gauge of Figure 8, applied with a force of 1 N		P
	- in three directions, for 5 s in each direction		P
	- independent movements		P
	- withdrawing the gauge after each movement		P
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		P
10.6	Deformation of earthing contacts		P

	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		P
	Test plug inserted into the socket-outlet with a force of 150 N for 1 min		P
	After this test: socket-outlet still comply with the requirements of clause 9		P
10.7	Socket-outlet with increased protection		P
	- with or without lid		P
	- according to 7.2.1.2		P
	- mounted and wired for normal use		N/A
	Test wire of 1 mm diameter (Figure 8) applied with a force of 1 N		P
	- on all accessible surfaces		P
	- most unfavourable conditions		P
	- without a plug inserted		P
	- with the lid, if any, open		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		P
	- live parts not accessible		P
11	PROVISION FOR EARTHING		
11.1	General		P
	Earth connection made before the current-carrying contacts of the plug become live		P
	Current-carrying pins are separated before the earth connection is broken		P
11.2	Earthing terminals		N/A
	- of rewirable accessories:		N/A
	• comply with clause 12		N/A
	• the same size as the corresponding terminals for the supply conductors		N/A
	• internal		N/A
	- of fixed socket-outlet:		N/A
	• can have additional external earthing terminal		N/A
	• fixed to the base or to a part reliably fixed to the base		N/A
	• fixed to the base, or		N/A

	<ul style="list-style-type: none"> fixed to the cover, automatically and reliably connected to the earthing terminal when the cover is put in place 		N/A
	<ul style="list-style-type: none"> contact pieces silver plated or 		N/A
	<ul style="list-style-type: none"> protected against corrosion and abrasion 		N/A
	Connection ensured under all conditions		N/A
	Parts of earthing circuit in one piece or reliably connected by riveting, welding, or the like		N/A
11.3	Accessible metal parts		N/A
	of accessories: permanently and reliably connected to the earthing terminal		N/A
11.4	Socket-outlets, having an IP code higher than IPX0		N/A
	with enclosure of insulating material and more than one cable inlet, provided with:		N/A
	<ul style="list-style-type: none"> an internal fixed earthing terminal, or 		N/A
	<ul style="list-style-type: none"> adequate space for a floating terminal (test connection using the type of terminal specified by the manufacturer), unless 		N/A
	<ul style="list-style-type: none"> earthing terminal of socket-outlet itself allows the connection of an incoming and an outgoing earthing conductor 		N/A
11.5	Internal connection with the earthing terminal		N/A
	and accessible metal parts: of low resistance		N/A
	Test current equal to 1,5 times the rated current or 25 A (A)		—
	Resistance does not exceed 0,05 Ω (Ω)		N/A
11.6	Fixed socket-outlets according to 7.2.5.2		N/A
	- earthing socket contact and its terminal electrically separated from any metal mounting means or		N/A
	- other exposed conductive parts which may be connected to the protective earthing circuit of the installation		N/A
12	TERMINALS AND TERMINATIONS		
12.1	General		N/A
	All the test on terminals, with the exception of the tests of 12.3.11 and 12.3.12, made after the test of clause 16		N/A

12.1.1	Rewirable accessories provided with clamping-screw terminals or with screwless-type terminals		N/A
	Pre-soldered flexible conductors used: pre-soldered area outside the clamp area of screw-type terminals		N/A
	Clamping means of terminals: not serve to fix any other components		N/A
	Non-rewirable accessories provided with soldered, welded, crimped or equally effective permanent connections (termination)		N/A
	Screwed or Snap-On connections not used		N/A
	Connections made by crimping a pre-soldered flexible conductor not permitted		N/A
12.2	Terminals with screw clamping for external copper conductors		N/A
12.2.1	Screw clamping terminals suitable:		N/A
	<ul style="list-style-type: none"> rigid copper conductors only 		N/A
	<ul style="list-style-type: none"> both rigid and flexible copper conductors 		N/A
	Screw clamping terminals for rewirable portable accessories suitable for flexible copper conductors		N/A
	Cross-sectional area as shown in Table 4	From ... up to ... x ... mm ²	—
	Diameter of the largest conductor (mm).....:	... mm	—
	Figure of terminal.....:	<input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12	—
	Minimum diameter D (minimum dimensions) of conductor space: required (mm); measured (mm)....:		—
	Minimum distance g between clamping screw / end of conductor fully inserted		—
	Torque (Nm).....:		—
12.2.2	Terminals allow the conductor to be connected without special preparation		N/A
12.2.3	Terminals have adequate mechanical strength		N/A
	Screws and nut for clamping the conductors have metric ISO thread or a comparable thread		N/A
	Screws not of soft metal such as zinc or aluminium		N/A
12.2.4	Terminals resistant to corrosion		N/A

12.2.5	Terminals clamp the conductor(s) without undue damage (test apparatus according to Figure 13)	See appended table 12.2.5	N/A
	During the test: conductor do not slip out, no break near clamping unit and no damage		N/A
12.2.6	Terminals clamp the conductor reliably between metal surfaces	See appended table 12.2.6	N/A
	During the test: conductor do not move noticeably		N/A
12.2.7	Terminals designed or placed that the conductor cannot slip out while the clamping screws or nuts are tightened	See appended table 12.2.7	N/A
	After the test: no wire of the conductor escaped from the clamping unit		N/A
12.2.8	Terminals do not work loose from their fixing to accessories		N/A
	Torque test (screws and nuts tightened and loosened 5 times):		N/A
	- rated current (A)		—
	- copper conductor of the largest cross-sectional area (mm ²) (Table 4)		—
	- type of conductor (solid or stranded)		—
	- torque (Nm) (Table 7 or appropriate Figures 9, 10 or 11)		—
	During the test: terminals do not work loose and show no damage		N/A
12.2.9	Clamping screws or nuts of earthing terminals: adequately locked against accidental loosening; not possible to loosen them without the aid of a tool		N/A
12.2.10	Earthing terminals: no risk of corrosion		N/A
	Body of brass or other metal no less resistant to corrosion		N/A
	The body is a part of a frame or enclosure of aluminium alloy: precautions are taken to avoid the risk of corrosion		N/A
12.2.11	Pillar terminals: distance <i>g</i> no less than the value specified in Figure 9: req. (mm); meas. (mm)		N/A
	Mantle terminals: distance <i>g</i> no less than the value specified in Figure 2: req. (mm); meas. (mm)		N/A
12.3	Screwless-type terminals for external copper conductors		N/A
12.3.1	Screwless-type terminals of the type suitable for:		N/A

	- rigid copper conductors only, or		N/A
	- both rigid and flexible copper conductors (tests carried out with rigid and then repeated with flexible conductors)		N/A
12.3.2	Screwless-type terminals provided with two clamping units each allowing the proper connection of rigid or of rigid and flexible conductors having nominal cross-sectional areas from 1,5 up to 2,5 mm ² (Table 8)		N/A
	Two conductors to be connected: each conductor introduced in a separate clamping unit		N/A
12.3.3	Screwless-type terminals allow the conductor to be connected without special preparation		N/A
12.3.4	Parts of screwless-type terminals intended for carrying current of materials as specified in 26.5		N/A
12.3.5	Screwless-type terminals clamp specified conductors with sufficient contact pressure without undue damage to the conductor		N/A
	Conductor clamped between metal surfaces		N/A
12.3.6	It is clear how the connection and disconnection of the conductors is to be made		N/A
	Disconnection of a conductor require an operation, other than a pull, so that can be made manually with or without a general-purpose tool		N/A
	It is not possible to confuse the opening intended for the use of a tool with the opening intended for the conductor		N/A
12.3.7	Screwless-type terminals intended for the interconnection of two or more conductors:		N/A
	- the clamping of one of the conductors is independent of the clamping of the other conductor(s)		N/A
	- during the connection or disconnection, the conductors can be connected or disconnected either at the same time or separately		N/A
	- each conductor introduced in a separate clamping unit.		N/A
	- it is possible to clamp securely any number of conductors up to the maximum as designed. No. of conductors; Nom. cross-sectional area (mm ²)		N/A

12.3.8	Screwless-type terminals of fixed socket-outlets: adequate insertion obvious and over-insertion prevented		N/A
12.3.9	Screwless-type terminals properly fixed to the socket-outlets		N/A
	Not work loose when conductors are connected or disconnected		N/A
	Self-hardening resins used to fix terminals not subject to mechanical stress		N/A
12.3.10	Screwless-type terminals withstand mechanical stresses occurring in normal use	See appended table 12.3.10	N/A
	During application of the pull conductor not come out of the terminal		N/A
	Additional test with apparatus shown in Figure 13	See appended table 12.3.10	N/A
	During the test: conductors not moved noticeably in the clamping unit		N/A
	After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration		N/A
12.3.11	Screwless-type terminals withstand electrical and thermal stresses occurring in normal use	See appended table 12.3.11	N/A
	After the test: inspection show no changes		N/A
	Repetition of mechanical strength test according to 12.3.10	See appended table 12.3.11	N/A
	During application of the pull conductor not come out of the terminal		N/A
	Additional test with apparatus shown in Figure 13	See appended table 12.3.11	N/A
	During the test: conductors not moved noticeably in the clamping unit		N/A
	After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration		N/A
12.3.12	Screwless-type terminals: connected rigid solid conductor remains clamped, even when deflected during normal installation	See appended table 12.3.12	N/A
12.4	Insulation piercing terminals (IPT)		N/A
	See Annex F		—
12.5	Crimped connections in accessories		N/A
12.5.1	All conductors strands deformed from their original cross-section form in the effective crimp zone		N/A

	No cracks throughout the metal barrel are present		N/A
	For closed barrels:		N/A
	<ul style="list-style-type: none"> any burr does not bigger than half of the thickness of the original material 		N/A
	For open barrels:		N/A
	<ul style="list-style-type: none"> the height of the burr does not bigger than the thickness of the original material 		N/A
	<ul style="list-style-type: none"> the width of the burr does not bigger than half of the thickness of the original material 		N/A
	Compliance is checked by analysis of the crimped connection; documentation of the manufacturer and test of 12.5.2		N/A
12.5.2	Pull-out test for crimped connections for accessories		N/A
	- suitable mechanical strength		N/A
	- six specimen prepared by the manufacturer		N/A
	- more than 24 h before the test		N/A
	- crimp height measured/documentated before the test		N/A
	- pull force applied axially to the termination		N/A
	- any cable clamping device that is not part of termination: inoperative		N/A
	- pull-out force measured/documentated (minimum value defined by manufacturer)		N/A
	Test conducted applying tension to the specimen:		N/A
	- until the conductor is pulled out of the crimp barrel		N/A
	- or the conductor breaks		N/A
13	CONSTRUCTION OF FIXED SOCKET-OUTLETS		
13.1	General		N/A
	Socket-contact assembly have sufficient resilience to ensure adequate contact pressure on plug pins		N/A
	Part of socket-contact assembly ensure metallic opposing contacts at least on two sides of each pins		N/A
13.2	Requirements for socket-contacts and pins		N/A
	- resistant to corrosion and abrasion		N/A

	Socket-contact and pin(s) of socket-outlet which are made of copper or copper alloy, as specified in 26.5, are considered as complying with this requirement		N/A
	Compliance by inspection or by chemical analysis		N/A
	The pin(s) of socket-outlets so constructed in such a way that the mechanical strength of the pin(s) does not depend on the plastic material		N/A
	Compliance is checked by inspection and in case of doubt by the tests of 14.2 and Clause 21 on a new set of specimens without plastic		N/A
13.3	Insulating linings, barriers and the like		N/A
	adequate mechanical strength		N/A
13.4	Connection of conductors		N/A
	Socket-outlets constructed as to permit:		N/A
	- easy introduction into the terminal and reliable connection of the conductors in the terminals, except for lead wires of pilot lights		N/A
	- easy fixing of the main part to a wall or in a mounting box		N/A
	- correct positioning of the conductors		N/A
	- adequate space between the underside of the main part and the surface on which the main part is mounted		N/A
	- adequate space between the sides of the main part and the enclosure (cover or box)		N/A
	Socket-outlets having screwless-type terminals or insulation-piercing terminals, constructed that the connecting and/or disconnecting means of the screwless-type terminals cannot be activated by the conductors during and after installation		N/A
	Compliance checked by inspection / test		N/A
	- a solid copper conductor having the smallest cross-sectional area, as specified in 12.3.2 (mm ²) is pushed into the terminal		N/A
	- the test probe 1 of IEC 61032 is pushed against the connecting mean with 120 N, in the direction opposite to the mounting direction (Fig. 15a).		N/A
	During the application of force, the conductor is pulled, 1 min, in the direction of the longitudinal axis of the conductor space.		N/A

	The conductor do not come out.		N/A
	Allowed exert the resulting force if the axes deviates by more than 20° (Fig. 15b)		N/A
	- If the angle is greater than 60° or		N/A
	- If it is not possible to exert a force onto the connecting/disconnecting device, the product is deemed to comply with the requirements without further tests.		N/A
	In addition, socket-outlets classified to 7.2.4.1 Design A: permit easy positioning and removal of the cover or cover plate, without displacing the conductors or activating the connecting and/or disconnecting means of screwless-type terminals or insulation-piercing terminals.		N/A
	Compliance is checked by inspection and by an installation test with conductors of the largest nominal cross-sectional area specified in Table 3 4 (mm ²)		N/A
13.5	Engagement of plugs		N/A
	Socket-outlets designed that full engagement of associated plugs is not prevented by any projection from their engagement face		N/A
	Gap between the engagement face of the socket-outlet and the plug: not exceed 1 mm		N/A
13.6	Covers provided with bushings for the entry holes for the pins		N/A
	- not possible to remove them from the outside or for them to become detached inadvertently from the inside when the cover is removed		N/A
13.7	Protection against electric shock provided by covers, cover plates		N/A
13.7.1	- held in place at two or more points by effective fixings		N/A
	- fixed by means of a single fixing, for example, by a screw, provided that they are located by another means (captive)		N/A
	Fixings of covers or cover-plates of socket-outlets of design A serve to fix the main parts: there are means to maintain the base in position, even after removal of the covers or cover-plates		N/A
13.7.2	Covers or cover-plates whose fixings are of the screw-type:		N/A
	Compliance checked by inspection only		N/A

13.7.2.3	Covers or cover-plates whose fixing is not dependent on screws and whose removal is obtained by applying a force in a direction approximately perpendicular to the mounting / supporting surface (Table 14)		N/A
	Compliance checked, when their removal may give access, with the standard test finger		N/A
	a) to live parts: by the test of 24.13		N/A
	b) to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values shown in Table 26: by the test of 24.14		N/A
	c) only to: <ul style="list-style-type: none"> • parts of insulating material, or • earthed metal parts, or • metal parts separated from live parts in such a way that creepage distances and clearances have twice the values shown in Table 26, or • live parts of SELV circuits not greater than 25 V AC or 60 V DC: by the test of 24.15 		N/A
13.7.4	Covers or cover-plates the fixing of which is not dependent on screws and whose removal is obtained by using a tool, in accordance with the manufacturer's instructions given in an instruction sheet or in other documentation		N/A
	Compliance checked, when their removal may give access, with the standard test finger (Table 14)		N/A
	a) to live parts: by the test of 24.13		N/A
	b) to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values shown in Table 26, by the test of 24.14		N/A
	c) only to: <ul style="list-style-type: none"> • parts of insulating material, or • earthed metal parts, or • metal parts separated from live parts in such a way that creepage distances and clearances have twice the values shown in Table 26, or • live parts of SELV circuits not greater than 25 V AC or 60 V DC: by the test of 24.15 		N/A
13.8	Cover-plate intended for a socket-outlet with earthing contact		N/A

	- not interchangeable with a cover-plate intended for a socket-outlet without earthing contact		N/A
13.9	Surface-type socket-outlets		N/A
	- no free openings in their enclosures		N/A
	- drain holes, small gaps, cables, earthing contacts, grommets, membranes, knockouts are neglected provided they do not compromise the declared IP rating		N/A
	- have not bare current-carrying strips at the back		N/A
13.10	Means for mounting the socket-outlet		N/A
	Screws or other means for mounting the socket-outlet on a surface in a box or enclosure: easily accessible from the front		N/A
	Fixing means do not serve any other fixing purpose		N/A
13.11	Multiple socket-outlets with a common base		N/A
	- provided with fixed links for the interconnection of the contacts in parallel		N/A
	- fixing of the links independent from the connection of the supply wires		N/A
13.12	Multiple socket-outlets with separate bases		N/A
	Multiple socket-outlets, comprising separate bases: correct position of each base ensured		N/A
	Fixing of each base independent of the fixing of the combination to the mounting surface		N/A
13.13	Mounting plate of surface-type socket-outlets		N/A
	- adequate mechanical strength		N/A
13.14	Lateral strain imposed by equipment		N/A
	Socket-outlets withstand the lateral strain imposed by equipment likely to be introduced into them		N/A
	Socket-outlets 16 A 250 V: test made 4 times with the socket-outlet turned through 90°, 5 N for 1 min (device shown in fig. 16)		N/A
	During the test: device not become disengaged from the socket-outlet		N/A
	After the test:		N/A
	- socket-outlets comply with the requirements of sub-clauses 22.2 and 22.3		N/A
13.15	Lampholders		N/A

	Socket-outlets are not an integral part of lampholders		N/A
13.16	Surface-type socket-outlets having IP code higher than IP20		N/A
	Surface-type socket-outlets having an IP code higher than IP20 are according to their IP classification when installed in accordance with the manufacturer's instructions and without a plug in engagement		N/A
	Surface-type socket-outlets having an IP code from IPX4 to IPX6 have provision for opening a drain hole		N/A
	Socket-outlets with a drain hole: drain hole is not less than 5 mm in diameter, or 20 mm ² in area with a width and a length of not less than 3 mm		N/A
	Drain hole: effective		N/A
	Lid springs (if any): of corrosion-resistant material (bronze or stainless steel)		N/A
13.17	Earthing pins		N/A
	Earthing pins: adequate mechanical strength		N/A
	Not solid pins: compliance checked by inspection and by test of 14.2 made after the tests of clause 21		N/A
13.18	Rotation of contacts		N/A
	Earthing contacts, phase contacts and neutral contacts: locked against rotation		N/A
	- when the product is ready for the wiring do not possible to be removed without the use of a tool		N/A
13.19	Metal strips of the earthing circuit		N/A
	Metal strips of the earthing circuit: no burrs which might damage the insulation of the supply conductors		N/A
13.20	Installation in boxes		N/A
	Socket-outlets to be installed in a box: designed that the conductor ends can be prepared after the box is mounted in position, but before the socket-outlet is fitted in the box		N/A
13.21	Inlet openings		N/A
	Inlet openings: allow the introduction of the conduit or the sheath of the cable		N/A
	Surface-type socket-outlets:		N/A

	the conduit or sheath of the cable can enter at least 1 mm into the enclosure		N/A
	inlet opening for conduit entries, or at least two of them if there are more than one, capable of accepting conduit sizes of 16, 20, 25 or 32 according to IEC 60423:2007 or a combination of at least two of any of these sizes		N/A
	inlet opening for cable entries capable of accepting cables having the dimensions specified in Table 15 or be as specified by the manufacturer: rated current (A); Limits of external dimensions of cable min/max (mm) :		N/A
13.22	Fixing of membranes (grommets)		N/A
	Membranes (grommets) in inlet openings: reliably fixed and not displaced by the mechanical and thermal stresses occurring in normal use		N/A
	Test on membranes subjected to the ageing treatment specified in 16.1 and assembled in the accessories		N/A
	Accessories placed at (40 ± 2) °C for 2 h. After this period, a force of 30 N applied for 5 s by test probe 11 of IEC 61032. During the test: no deformation		N/A
	Membranes likely to be subjected to an axial pull: axial pull of 30 N applied for 5 s. During the test: membranes not become detached		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
	Test repeated with membranes not subjected to any treatment		N/A
13.23	Material for membranes		N/A
	Membranes in inlet openings: introduction of the cables into the accessory permitted when the ambient temperature is low		N/A
	Test on membranes not subjected to the ageing treatment specified in 16.1 and assembled in the accessories		N/A
	Accessories kept at (-15 ± 2) °C for 2 h: possibility to introduce cables of the largest diameter through membranes		N/A
	After the test of 13.22 and 13.23: no harmful deformation, cracks or similar damage		N/A
14	CONSTRUCTION OF PLUGS AND PORTABLE SOCKET-OUTLETS		
14.1	Non-rewirable portable accessories		P

	flexible cable cannot be separated from the accessory without making it permanently useless		N/A
	Accessory cannot be opened by hand or by using a general purpose tool, for example a screwdriver used as such		P
14.2	Mechanical strength of pins of portable accessories		P
	- adequate; compliance by test of clause 24		P
	Test for pins not solid (made after test of clause 21): force of 100 N exerted on the pin, according to Figure 17, for 1 min by means of a steel rod \varnothing 4,8 mm		P
	During the application of the force: reduction of the dimension of the pin do not exceed 0,15 mm		P
	After removal of the rod: dimensions of the pin not changed by more than 0,06 mm		P
14.3	Fixing of pins and contacts of portable accessories		P
	- locked against rotation;		P
	- not removable without dismantling the accessory		P
	- adequately fixed in the body of the accessory		P
	Earthing contacts, phase contacts and neutral contacts of socket-outlets: not removable unless with the aid of a tool, after dismantling the socket-outlet		P
	Earthing or neutral pins or contacts of accessories: not possible to arrange in an incorrect position		P
	In addition, for single portable socket-outlets compliance is checked by the test of 24.3		P
	Pins of portable accessories constructed in such a way that their mechanical strength does not depend on the internal plastic material		P
	Compliance is checked by inspection; in case of doubt by the tests of 14.2 and 21, on a new set of specimens with pins without internal plastic material		P
	Surfaces of portable accessories pins smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters		P
14.4	Construction of socket-contacts assemblies		P

	Socket-contact assemblies: sufficient resilience		P
	Parts of socket-contact assemblies:		P
	- ensure metallic contact at least on two opposing sides of each pin		P
	Contact pressure of the contact tube does not depend on soldered connection only		P
14.5	Resistance to corrosion and abrasion of pins and socket-contacts		P
	- resistant to corrosion and abrasion		P
	Socket contacts and pin(s) of socket-outlets, which are made of copper or copper alloy, as specified in 26.5, are considered as complying with this requirement.		P
14.6	Enclosures of rewirable portable accessories		N/A
	- completely enclose the terminals and the ends of flexible cable		N/A
	- conductors can be properly connected		N/A
	Construction is unlikely that:		N/A
	- cores not pressed together so as not to cause damage		N/A
	- cores of live conductor not pressed against accessible metal parts		N/A
	- core of earthing conductor not pressed against live parts		N/A
14.7	Screws and nuts of rewirable portable accessories		N/A
	- terminal screws or nuts cannot become loose and fall out of position and establish an electrical connection between live parts and earthing terminal or metal parts		N/A
14.8	Strain relief		N/A
	Rewirable portable accessories with earthing contact: ample space for slack of earthing		N/A
	Test: it is possible to house the loop formed by the earthing conductor owing to its surplus length		N/A
	Non-rewirable non-moulded-on accessories with earthing contact: current-carrying conductors stressed before the earthing conductor if the flexible cable slips in its anchorage		N/A
14.9	Risk of electric shock from loose wires		N/A

14.9.1	Terminals of rewirable portable accessories and terminations of non-rewirable portable accessories: located and shielded that loose wires do not present a risk of electric shock		N/A
	Non-rewirable moulded-on portable accessories: provided with means to prevent loose wires of a conductor from reducing the minimum isolation distance requirements		N/A
14.9.2	Test for rewirable accessories		N/A
	- 6 mm free wire of a conductor connected to a live terminal do not touch any accessible metal part or able to emerge from the enclosure		N/A
	- free wire of a conductor connected to an earthing terminal do not touch a live part		N/A
14.9.3	Test for non-rewirable non-moulded on accessories with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm		N/A
	- free wire of a conductor connected to a live termination do not touch any accessible metal part or reduce creepage distance and clearance below 1,5 mm to the external surface		N/A
	- free wire of a conductor connected to an earth termination do not touch any live part		N/A
14.9.4	Verification for non-rewirable moulded on accessories		N/A
	- there are means to prevent stray wires reducing the minimum distance through insulation to external accessible surface below 1,5 mm		N/A
14.10	Cord anchorage		N/A
	Rewirable portable accessories		N/A
	- clear how the relief from strain and prevention of twisting is intended to be effected		N/A
	- cord anchorage, or at least part of it, integral with or securely fixed to one of the component parts of the plug or portable socket-outlet		N/A
	- makeshift methods not used		N/A
	- cord anchorage suitable for the different types of flexible cable which may be connected to it; screws, if any: not serve to fix any other component		N/A
	- cord anchorages: of insulating material or provided with an insulating lining fixed to the metal parts		N/A

	- metal parts of cord anchorages, including clamping screws: insulated from the earthing circuit		N/A
14.11	Removal of covers, cover plates or parts of them		N/A
	Rewirable portable accessories and non-rewirable non-moulded on portable accessories: it is not possible to remove covers, cover-plates or parts of them intended to ensure protection against electric shock without the use of a tool		N/A
	- fixing of screw-type: inspection		N/A
	- fixing not depend on screws / removal give access to live parts: test of 24.13.4		N/A
14.12	Bushings		P
	Covers of portable socket-outlets: bushings for entry holes for the pins not removable from the outside or detachable inadvertently from the inside		P
14.13	Screws intended to allow access to interior of the accessory		N/A
	- captive		N/A
14.14	Engagement face of plugs		P
	- no projections		P
14.15	Engagement in portable socket-outlets		P
	- full engagement not prevented by any projection		P
14.16	Portable accessories having IP code higher than IP20		N/A
	enclosed according to their IP classification		N/A
	Plugs having an IP code higher than IP20, with the exception of the engagement face, adequately enclosed when fitted with a flexible cable as for normal use		N/A
	Portable socket-outlet having an IP code higher than IP20 adequately enclosed when fitted with a flexible cable as for normal use and without a plug in engagement		N/A
	Lid springs: of corrosion-resistant material.....:		N/A
14.17	Portable socket-outlets having means for suspension		N/A
	- means for suspension from a wall or other mounting surfaces: do not allow access to live parts		N/A

	No free openings between space intended for suspension means by which the socket-outlet is fixed to the wall, or to another mounting surface and live parts	see 24.12.1; 24.12.2; 24.12.3	N/A
14.18	Combinations of portable accessories and switches, circuit-breakers or other devices		P
	- comply with relevant individual IEC International Standards, if a relevant combined product standard does not exist		P
14.19	Lampholders		N/A
	Portable accessories are not integral part of lampholders		N/A
14.20	Plugs for equipment of class II		N/A
	- rewirable or non-rewirable		N/A
	- if part of a cord set: provided with a connector for equipment of class II		N/A
	- if part of a cord extension set: provided with a portable socket-outlet for equipment of class II		N/A
14.21	Components incorporated in accessories		P
	Components such as switches and fuses, incorporated in accessories: comply with the applicable parts of the relevant IEC International Standard		P
	Components incorporated in portable accessories:		P
	- so rated, or so protected, that overloading of either the component or the plug or the socket-outlet portion cannot occur in normal use		P
	Requirements for switches incorporated in portable accessories are detailed in Annex C		N/A
	For portable socket-outlets and rewirable plugs:		N/A
	- the incorporated overcurrent protective device in the accessory have a rated current equal to or less than the rated current of the accessory		N/A
	Any other component(s), such as switches or control devices, have a rated current not less than (rated current referred to resistive load):		P
	- the rated current of the accessory or		P
	- the rated current of the incorporated overcurrent protective device		P
	For non-rewirable plugs, any other incorporated component(s), such as switches or control devices, have a rated current not less than:		N/A

	- the test current for the combination of the accessory and the cable as indicated in Table 18, for Clause 21, or		N/A
	- the rated current of the incorporated overcurrent protective device		N/A
	Any incorporated component(s) have a rated voltage not less than the rated voltage of the accessory		P
	Compliance is checked by inspection and, if necessary, by testing the component according to the relevant IEC International Standard		P
14.22	Plug which is an integral part of plug-in equipment		P
14.22.1	Plug-in equipment: not cause overheating of the pins or impose undue strain on fixed socket-outlets		P
	Plugs with rating above 16 A and 250 V: not integral part of other equipment		P
	Tests of 14.2.2 and 14.22.3 for two-pole plugs, with or without earthing contact, with rating up to and including 16 A and 250 V		P
14.22.2	- Plug of equipment inserted into a fixed socket-outlet complying with this standard		P
	- Socket-outlet being connected to a supply voltage equal to 1,1 times the highest rated voltage of the equipment (V)		P
	Temperature rise of the pins after 1 h does not exceed 45 K		P
14.22.3	- Equipment inserted into a fixed socket-outlet complying with this standard. The socket-outlet is pivoted about a horizontal axis through the axis of the live socket-contacts at a distance of 8 mm behind its engagement face and parallel to it.		—
	- additional torque applied to the socket-outlet in order to maintain the engagement face in the vertical plane does not exceed 0,25 Nm		P
14.23	Gripping		P
	Plugs can easily be withdrawn by hand from the relevant socket-outlets		P
	Gripping surfaces are so designed that the plug can be withdrawn without having to pull the flexible cable		P
14.24	Membranes in inlet openings of portable accessories		N/A
	- meet the requirements of 13.22 and 13.23		N/A
14.25	Rewirable portable socket-outlets which can be fixed		N/A

	Rewirable portable socket-outlets which can be assembled and wired for normal use, after their rear part has been fixed onto a surface, comply both with the requirements for portable socket-outlets and with the following additional requirements for surface fixed socket-outlets	N/A
	- provision for earthing: 11.2, 11.3, 11.6;	N/A
	- terminals and terminations: 12.2.1;	N/A
	- construction of fixed socket-outlets: Clause 13;	N/A
	- resistance to ageing, protection provided by enclosures, and resistance to humidity: 16.2.2, 16.2.3;	N/A
	- temperature rise: Clause 19;	N/A
	- mechanical strength: Clause 24;	N/A
	- resistance to heat: Clause 25;	N/A
	- creepage distances, clearances and distances through sealing compound: Clause 27;	N/A
	- resistance of insulating material to abnormal heat, to fire and to tracking: 28.1.2, glow-wire test	N/A
14.26	Requirements for shutters in portable socket-outlets	P
	Portable socket-outlets: provided with shutters	P
15	INTERLOCKED SOCKET-OUTLETS	
	Socket-outlet interlocked with a switch:	N/A
	- plug cannot be inserted into or completely withdrawn from the socket-outlet while the socket-contacts are live	N/A
	- socket-contacts cannot be made live until a plug is almost completely in engagement	N/A
16	RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES, AND RESISTANCE TO HUMIDITY	
16.1	Resistance to ageing	P
	Accessories are resistant to ageing	P
	For accessories having a lid, the lid is closed during the test	N/A
	Portable socket-outlets: the plug of the same system having the same rated current as the socket-outlet inserted into the socket-outlet during the test	P
	Accessories subjected to a test in a heating cabinet at (70 ± 2) °C for seven days (168 h)	P
	After the tests, the specimens show:	P

	- no crack visible with normal or corrected vision without additional magnification		P
	- no sticky or greasy material		P
	- no trace of cloth (forefinger pressed with 5 N)		P
	- no damage		P
	- portable socket-outlets: contact pressure of the contact assembly checked as specified in subclause 22.3 with the single-pin gauge. It do not fall out from the contact assembly within 30 s.		P
	- fixed socket-outlet: test repeated on a new set of specimen. Contact pressure of the contact assembly checked as specified in subclause 22.2.3 with the single-pin gauge. It do not fall out from the contact assembly within 30 s.		N/A
16.2	Protection provided by enclosures		N/A
16.2.1	General		N/A
	Enclosures provide protection against access to hazardous parts, harmful effects due to ingress of solid foreign objects and water, in accordance with the IP designation of the accessory		N/A
16.2.2	Protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects		N/A
16.2.2.1	General		N/A
	Accessories and their enclosures provide a degree of protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects		N/A
	Fixed socket-outlets: mounted as in normal use on a vertical surface		N/A
	Flush-type and semi-flush type socket-outlets: mounted in an appropriate box according to the manufacturer's instructions		N/A
	Accessories with screwed glands or membranes fitted and connected with cables within the connecting range specified in Table 4.		N/A
	- largest cross-sectional area (mm ²); type of cable (Table 20) x ... mm ² ; 60... IEC	
	- smallest cross-sectional area (mm ²); type of cable (Table 20) x ... mm ² ; 60... IEC ..	

	Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.7 (Nm) : ... Nm		
	Screws of the enclosure tightened with a torque equal to 2/3 of the torque given in Table 7 (Nm) : ... Nm		
16.2.2.2	Protection against access to hazardous parts		N/A
	Appropriate test performed as specified in IEC 60529 (see also clause 10)		N/A
16.2.2.3	Protection against harmful effects due to ingress of solid foreign objects		N/A
	Appropriate test performed as specified in IEC 60529		N/A
	Test on accessories with IP5X (considered to be of category 2): dust not penetrated in a quantity to interfere with satisfactory operation or to impair safety		N/A
	Test on accessories with IP6X (considered to be of category 1): dust do not penetrate		N/A
16.2.3	Protection against harmful effects due to ingress of water		N/A
	Accessories and their enclosures provide a degree of protection against harmful effects due to ingress of water in accordance with their IP classification		N/A
	Appropriate test performed as specified in IEC 60529 under the following conditions:		N/A
	- Flush-type and semi flush-type socket-outlets: fixed in a vertical test wall according to Figure 18 a) representing the intended use of the flush and semi flush-type socket-outlets, using an appropriate box in accordance with the manufacturer's instruction		N/A
	- when manufacturer's instruction specify: 'accessory suitable to be installed on a rough wall', test wall according to Figure 18 b) or Figure 18 c) is used.		N/A
	- test wall: with bricks or plastic; smooth surfaces		N/A
	- box mounted in the test wall: fit tight against the wall		N/A
	- sealing material do not influence sealing properties of specimen tested		N/A
	- Surface-type socket-outlets mounted as for normal use in a vertical position		N/A

	- fitted with cables or conduits or both in accordance with the manufacturer's instructions		N/A
	- cables have conductors of the largest and smallest nominal cross-sectional area (Table 4)		N/A
	- test wall: smooth surface (Figure 18 a)		N/A
	- end of cable sheath, raised 2 mm		N/A
	- entry of cable: below		N/A
	Accessories IPX3 IPX4		N/A
	- test device Figure 19		N/A
	- rotation axis horizontal and		N/A
	- on the mounting plane of the test wall		N/A
	- specimen centre in the middle of rotation axis		N/A
	- Portable socket-outlets tested on a flat, horizontal surface in a position as in normal use		N/A
	- no strain of flexible cable		N/A
	- fitted with flexible cables (Table 20)		N/A
	- cables have conductors of the largest and smallest nominal cross-sectional area (Table 4)		N/A
	- screws of enclosure tightened with a torque equal to 2/3 of the torque given in Table 7 (Nm)		N/A
	- glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.7 (Nm)		N/A
	- cable glands not filled with sealing compound		N/A
	Accessory with drain holes opened during the test: any accumulation of water proved by inspection		N/A
	- socket-outlet with IP code less than IPX5 with drain holes, one is opened in the lowest position		N/A
	- socket-outlet with IP code equal or greater than IPX5 with drain holes, they not opened		N/A
	Socket-outlets tested without a plug in engagement		N/A
	Plugs tested when in full engagement with:		N/A
	- a fixed socket-outlet		N/A
	- a portable socket-outlet		N/A

	of the same system / same degree of protection against harmful effects due to ingress of water		
	Accessory with drain holes opened during the test: any water entered does not accumulate; it drains away without doing any harm to the complete assembly		
	Specimens withstand an electric strength test specified in 17.3 which is started within 5 min of completion of the IP test		N/A
16.3	Resistance to humidity		P
	Accessories proof against humidity which may occur in normal use		P
	Compliance checked by a humidity treatment carried out in a humidity cabinet containing air with relative humidity maintained between 91 % and 95 %		P
	Specimens kept in the cabinet for:		P
	- two days (48 h) for accessories having IPX0		P
	- seven days (168 h) for accessories having IP>X0		N/A
	After this treatment the specimens comply with the insulation resistance measurement and the electric strength test specified in Clause 17		P
17	INSULATION RESISTANCE AND ELECTRIC STRENGTH		
17.1	General		P
	Insulation resistance and electric strength of accessories: adequate Pilot light or electronic devices pole: disconnected		P
17.2	Test for measuring the insulation resistance		P
17.2.1	Insulation resistance: measured 1 min after application of 500 V DC		P
17.2.2	Socket-outlet: the insulation resistance is measured consecutively		P
17.2.3	Plugs: the insulation resistance is measured consecutively		P
17.3	Electric strength test		P
	A sine-wave form voltage applied for 1 min		P
18	OPERATION OF EARTHING CONTACTS		
	Earthing contacts provide adequate contact pressure and not deteriorate in normal use		P

	Compliance checked by the tests of clauses 19 and 21		P
19	TEMPERATURE RISE		
19.1	General		P
	Accessories constructed that they comply with the following temperature rise test		P
	Plugs and socket-outlets tested according to 19.2, except:		P
	Fixed socket-outlets of a socket-outlet and fused plug system: 19.3 Fused plugs tested according to IEC 60884-2-1		N/A
	Accessories with incorporated components not covered by other parts of IEC 60884 series: 19.4		N/A
	Crimped connections: 19.5.1		N/A
	Fixed socket-outlets incorporating pilot lights: 19.5.2		N/A
	Non-rewirable accessories are tested as delivered		N/A
	Rewirable accessories fitted with polyvinyl chloride conductors: nominal cross sectional area Table 16		N/A
	Tightening torque: 2/3 of that specified in 12.2.8		N/A
	Conductors length not less than 1 m		N/A
	Test plug conductors same nom. cross-section of the socket-outlet under test		P
	The conductor from each terminal not less than 1 m		N/A
	For a two-pole plug, length between terminals do not less than 2 m		N/A
	Flush-mounted accessories mounted in flush-mounted boxes made of pinewood filled around with plaster		N/A
	- flush-mounted boxes made of pinewood filled around with plaster		N/A
	- box front edge does not protrude; no more 5 mm below the front surface		N/A
	- test assembly dried at least seven days		N/A
	- at least 25 mm of wood surrounding the plaster		N/A

	- thickness of plaster 10 - 15 mm around the box		N/A
	- cable entry (sealed) through the top of the box		N/A
	- length of conductors within the box: 80÷10 mm		N/A
	Surface-type socket-outlets mounted on a wooden block surface, at least 20 mm thick, 500 mm wide/high		N/A
	Other type socket-outlets mounted:		N/A
	- according to manufacturer's instructions, or		N/A
	- position give most onerous condition		N/A
	Draught-free environment		N/A
	Non-rewirable accessories: minimum influence in accessing its terminations		N/A
	Three poles or more accessory: current passed through the phase contacts		N/A
	Separate test through neutral and adjacent phase contact		N/A
	Separate test through earthing and nearest phase contact		N/A
	In the case of multiple socket-outlets, the test is carried out on one socket-outlet of each type and current rating with the test current as specified in Table 18 passed through that one socket-outlet		P
	Multiple socket-outlet consisting of pre-wired single socket-outlets intended to be mounted in one single box: test current on the socket-outlet farthest from the main terminals		P
	The temperature rise of the terminals, terminations and clamping units according to Figure 20 determined by means of thermocouples do not exceed 45 K		P
	External parts of insulating material: temperature rise determined for 25.4		P
	Socket-outlets test: test plug brass pins with dimensions corresponding standard sheet		P
	Plug test: draught-free environment, on a wooden block surface, at least 20 mm thick, 500 mm wide/high		P
	- clamping units of Figure 20 used		P

	- supply cable of figure 20: nominal cross-sectional area appropriate (Table 16); at least length 1 m		N/A
	- screw on pin tightened 0,8 Nm		N/A
	- plugs with lateral / resilient earthing contacts; test performed with a socket-outlet:		P
	- complying with IEC 60884-1		P
	- average characteristics		P
	- earthing pin with minimum size		P
19.2	Test for plugs and socket-outlets		P
	- socket-outlet with a test plug inserted; AC or DC current, specified in Table 18, passed for 60+5/0 min		P
	- plug: an AC or DC current, as specified in Table 18, passed for 60+5/0 min		P
	- HL plugs and socket-outlets: AC or DC as specified in Table 18 is passed, for sufficient time to reach the steady-state value, or 4 hours, whichever is shorter		P
19.3	Test for fixed socket-outlets in fused plug system		N/A
	For fixed socket-outlets of a socket-outlet and fused plug system, an AC or DC current as specified in Table 18 is passed for 60+5/0 min as follows		N/A
	a) For a single socket-outlet the plug is inserted into the socket-outlet and 70 % of the test current is passed through the plug		N/A
	The balance of the total test current is passed, simultaneously through a looped connection, connected to the socket-outlet terminals		N/A
	The total nominal load on the supply cable is passed for 60+5/0 min.		N/A
	b) For a multiple socket-outlet a plug is inserted into one socket-outlet and 70 % of the test current is passed		N/A
	A second plug is inserted into another socket-outlet and the balance of the total test current is passed simultaneously through this plug ..:		N/A
	The total nominal load on the supply cable is passed for 60+5/0 min.		N/A
	Components:		N/A
	- connected in series are short circuited		N/A
	- connected in parallel are disconnected		N/A
19.4	Test for accessories with incorporated components not covered by other parts of IEC 60884 series		N/A

	Socket-outlets and rewirable plugs with incorporated components are tested by the following tests 1) and 2):	N/A
	<u>Test 1)</u> with a current which is equal to the test current as indicated in Table 18, for Clause 19. Incorporated components: - connected in series are short circuited; - connected in parallel are disconnected.	N/A
	<u>Test 2)</u> incorporated components in series, with a current which is equal to the rated current, or the rated current of the component(s) whichever is the lower.	N/A
	<u>Test 2)</u> incorporated components in parallel, with a current which is equal to the rated current, or with the component working as in normal use.	N/A
	When the incorporated components need to be supplied for their correct functioning, the test is made at the rated voltage.	N/A
	Non-rewirable plugs with incorporated components are tested by the following tests 3) and 4):	N/A
	<u>Test 3)</u> with a current which is equal to the test current for the combination of the plug and the cable as indicated in Table 18, for Clause 19. - Incorporated components connected in series are short circuited. - Incorporated components connected in parallel are disconnected.	N/A
	<u>Test 4)</u> incorporated components connected in series, with: - a current which is equal to the test current for the combination of the plug and the cable as indicated in Table 18, for Clause 21, or - the rated current of the component(s), whichever is the lower.	N/A
	<u>Test 4)</u> Incorporated components connected in parallel, with: - a current which is equal to the test current for the combination of the plug and the cable as indicated in Table 18, for Clause 21, with the incorporated component working as in normal use.	N/A
	When the incorporated components need to be supplied for their correct functioning, the test is made at the rated voltage.	N/A

	Tests 1) - 3), the temperature rise of terminals / terminations / clamping units according to Figure 20 determined by thermocouples do not exceed 45 K		N/A
	Tests 2) - 4), the temperature rise do not exceed the permissible values given in Table 101 of IEC 60669-2-1:2021 for Clause 17		N/A
	Non-rewirable accessories: minimum influence in accessing its terminations		N/A
19.5	Additional tests		P
19.5.1	Temperature rise test for accessories with crimped connections		P
19.5.1.1	General		P
	Accessories with crimped connections: AC or DC as specified in Table 18 is passed, for sufficient time to reach the steady-state value, or 4 hours, whichever is shorter		P
	Crimped connections with flexible conductors used in accessories withstand, without harmful effect, mechanical, electrical, and thermal stresses occurring when subjected to cyclic loads.		N/A
	Tests performed on six connections of each crimp construction, taken from three specimens by new non-moulded on or non-assembled specimens.		P
	Accessories shall be tested in a draught-free environment.		P
19.5.1.2	Test		P
	<ul style="list-style-type: none"> - Live pins of the plug inserted in the clamping units having the dimensions specified in Figure 20. - flexible conductors selected according to Table 16 at least 1 m long to be connected to the source. - Screw of the clamping unit tightened with a torque of 0,8 Nm. 		P
	<ul style="list-style-type: none"> - Plug fixed on a vertical wooden sheet, being at least 20 mm thick. - pins of the plugs are maintained in a horizontal position. - Distance between specimens simultaneously under test is 150 mm. 		N/A

	<p>- Crimped connections of socket-outlets are tested in open air (without their enclosures) fitted with cable having a minimum length of 1 m as provided by the manufacturer.</p> <p>- Temperature rise measured on the conductors as close as possible to the crimped connection, not more than 10 mm away from the entrance of the crimping barrel.</p> <p>- Contact tube connected by a means which does not affect the test results, e.g. welding, soldering or a clamping unit, to a flexible conductor selected according to column 2 for rigid conductors (solid or stranded) for fixed accessories of Table 16.</p>		N/A
	<p>- Length of the conductor connected: 1 m.</p> <p>- the crimped connection is not affected by the mounting of thermocouples on the conductors and flexible conductors on the socket contacts.</p>		N/A
	<p>For each cycle, an overload AC or DC current as given in Table 17 according to the nominal cross-section area of the conductor connected is passed for 45 ^{+1/0} min through the poles (no earthing circuit).</p> <p>The accessory then be left without current for 15 min (0, -1 min).</p>		N/A
	Number of cycles is 250 or 500 depending on the measurement results.		N/A
	The temperature rises at the clamping units of the plug, or the conductor of the socket-outlet is measured for each cycle within the last 5 min before the end of the current-carrying period.		P
	The accessory is declared compliant when the following conditions are fulfilled.		P
	a) The temperature rises measurement of each crimped connection do not exceed 45 K.		P
	b) The average of the six temperature rises measurements of the crimped connections under testing recorded at the 250th cycle do not exceed 35 K.		P
	<p>c) A linear trend-line of all six measurements is calculated and drawn through the measurement points from the 50th to the 250th cycle.</p> <p>The value given by each trend-line at the 250th cycle do not exceed the value given on the trend-line at the 50th cycle by more than 5 K.</p>		P

	When c) is not fulfilled the test is extended to 500 cycles with the following additional compliance conditions.		N/A
	d) The average of the six temperature rises measurements of the crimped connections under testing recorded at the 500th cycle do not exceed 35 K.		N/A
	e) A linear trend-line of all six measurements is calculated and drawn through the measurement points from the 250th to the 500th cycle. The value given by each trend-line at the 500th cycle do not exceed the value given on the trend-line at the 250th cycle by more than 10 K. The linear trend-line is calculated according to the formula given the standard		N/A
19.5.2	Additional test for fixed socket-outlets incorporating pilot-lights		N/A
	Fixed socket-outlets incorporating pilot-lights: in normal use temperature rise of accessible surfaces do not excessive		N/A
	Test:		N/A
	- Fixed socket-outlets mounted / connected as 19.1		N/A
	- Pilot light supplied at rated voltage.		N/A
	- The fixed socket-outlets loaded at rated current.		N/A
20	BREAKING CAPACITY		
	Accessories have adequate breaking capacity		P
	Pilot lights disconnected or removed		P
	Compliance checked by testing:		P
	- socket-outlets;		P
	- plugs with pins which are not solid		P
	Rewirable accessories fitted with polyvinyl chloride conductors: nom. section Table 16		N/A
	Failure of the shutters: the test repeated with operations done by hand.		P
	Rate of strokes per minute and the period during which the test current is passed closed as possible to the indicated values.		P

	Socket-outlets tested using a test plug with brass pins having the dimensions of the corresponding standard sheets. As far as the extremities of the sleeves are concerned, it is sufficient that their dimensions are within the tolerances given in the relevant standard sheet.		P
	Material of the brass pins of the test plug contain 58 % copper and their micro-composition is homogeneous.		P
	The ends of round pins are rounded.		P
	Plugs are tested using a fixed socket-outlet having as near to-average characteristics as can be selected.		P
	For accessories with a rated voltage lower than or equal to 250 V and a rated current lower than or equal to 32 A, the length of the stroke of test apparatus is between 50 mm and 60 mm.		P
	15 strokes per minute for other accessories.		P
	Test voltage: 1,1 times the rated voltage.		P
	Test current: 1,25 times the rated current.		P
	Periods during which the test current is passed from the insertion of the plug until subsequent withdrawal:		P
	- accessories with rated current ≤ 16 A: 1,5 0+0,5 s		P
	- accessories with rated current > 16 A: 3 0+0,5 s		N/A
	Accessories are tested using an alternating current with $\cos \varphi = 0,6 \pm 0,05$.		P
	No current passed through the earthing circuit.		P
	The test is carried out with the connections shown in Figure 23.		P
	Multiple socket-outlets: test carried out on one socket-outlet of each type and current rating		N/A
	During the test: no sustained arcing occur		P
	After the test:		P
	- specimens show no damage impairing their further use;		P
	- entry holes for the pins do not show any damage which may impair the safety		P
21	NORMAL OPERATION		

	Accessories withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use		P
	Compliance checked by testing:		P
	- socket-outlets;		P
	- plugs with resilient earthing socket-contacts;		P
	Test pins (during socket-outlet test) and fixed socket-outlets (during plug test for plugs with earthing socket-contacts or with pins not solid): - replaced after 4500 and 9000 strokes.		P
	Socket-outlets with shutters: Test performed according to the procedure specified in Figure 24; point at which the test program has begun (1, 2, 3)		P
	Socket-outlets tested using a test plug with brass pins having the dimensions of the corresponding standard sheets. As far as the extremities of the sleeves are concerned, it is sufficient that their dimensions are within the tolerances given in the relevant standard sheet.		P
	Material of the brass pins of the test plug contain 58 % copper and their micro-composition is homogeneous.		P
	The ends of round pins are rounded.		P
	Plugs are tested using a fixed socket-outlet having as near to-average characteristics as can be selected.		P
	Specimens are tested with an AC as specified in Table 18, at rated voltage, in a circuit with $\cos \varphi = 0,8 \pm 0,05$. The tolerance for the test voltage is +5 / 0 %		P
	The plug is inserted and withdrawn from the socket-outlet 5 000 times (10 000 strokes) at a rate of:		P
	- 30 strokes per minute for accessories having a rated current up to and including 16 A and a rated voltage up to and including 250 V		P
	- 15 strokes per minute for other accessories.		N/A
	Test current passed:		P
	- during each insertion and withdrawal of the plug ($I_n \leq 16$ A)		P
	- during alternate insertion and withdrawal, the other insertion and withdrawal being made without current flowing ($I_n > 16$ A)		N/A

	Periods of passage test current, from insertion of the plug until subsequent withdrawal: – accessories with rated current ≤ 16 A: 1,5+0,5/0 s – accessories with rated current > 16 A: 3 +0,5/0 s		P
	No current is passed through the earthing circuit		P
	The test is carried out with the connections indicated in Clause 20.		P
	Multiple socket-outlets: test carried out on one socket-outlet of each type and current rating		N/A
	During the test: no sustained arcing occur		P
	After the test the specimens do not show:		P
	- wear impairing their further use;		P
	- deterioration of enclosures, insulating linings or barriers;		P
	- damage to the entry holes for the pins, that might impair proper working;		P
	- loosening of electrical or mechanical connections;		P
	- seepage of sealing compound		P
	Shuttered socket-outlets: tested again according to Clause 10.5 performed at ambient temperature, with gauges of Figures 7 and 8		P
	Specimens comply with Clause 19. Test current as specified in Table 18		P
	Specimens withstand an electric strength test carried out according to 17.3, the test voltage being reduced with 500 V for accessories having a rated voltage exceeding 130 V and with 250 V for accessories having a rated voltage up to and including 130 V		P
	Pins which are not solid: test according to 14.2		N/A
22	FORCE NECESSARY TO WITHDRAW THE PLUG		
22.1	General		P
	Construction of accessory allows the easy insertion and withdrawal of the plug, and prevent the plug from working out of the socket-outlet in normal use		P
	Compliance for socket-outlets:		P

	- the maximum force necessary to withdraw the test plug from the socket-outlet is not higher than that specified in Table 19		P
	- the minimum force necessary to withdraw a single pin gauge from the individual contact assembly is not lower than that specified in Table 19		P
	- the maximum force to operate the shutters is not higher than that specified in 22.4 (30 N)		P
	Compliance for plugs with resilient earthing contact assemblies:		P
	- the maximum force necessary to withdraw a single pin gauge from the individual, resilient, earthing contact assembly is not higher than that specified in Table 19		P
	- the minimum force necessary to withdraw a single pin gauge from the individual earthing contact assembly is not lower than that specified in Table 19		P
22.2	Verification of the maximum withdrawal force		P
22.2.1	Test for socket-outlets		P
	Use of apparatus shown in Figure 25		P
	Test plug (multi-pin): ten insertions / withdrawal		P
	Test plug (multi-pin) inserted again; a carrier E with a principal mass F and supplementary mass G being attached to it by a clamp D		P
	Force exerted by the supplementary mass G equal to one-tenth of the maximum withdrawal force shown in Table 19		P
	The principal mass is hung, and the supplementary mass fall onto the principal mass from a height of 50 mm		P
	The plug did not remain in the socket-outlet		P
22.2.2	Test for plugs with resilient earthing contact assemblies		P
	Test pin gauge, Fig. 26, applied to the resilient earthing contact assembly		P
	Pin gauge of hardened steel; surface roughness $0,6 \div 0,8 \mu\text{m}$ over its active length		P
	Pins: diameter of maximum dimensions		P
	Force exerted by the gauge as specified in Tab. 19		P

	The test pin gauge inserted into / withdrawal from the earthing contact ten times. It is inserted again and did not remain in the contact assembly		P
22.3	Verification of the minimum withdrawal force		P
	Test pin gauge, Fig. 26, applied to each individual contact of the socket-outlet or the plug		P
	Shutters, if any, inoperative		P
	Pin gauge of hardened steel; surface roughness $0,6 \div 0,8 \mu\text{m}$ over its active length		P
	Pins: diameter of minimum dimensions and sufficient length		P
	Force exerted by the gauge as specified in Tab. 19		P
	Socket-outlet intended to accept plugs with different nominal dimensions: the smallest one is used		P
	Rating of the plug with the smallest dimensions for the pin is used		P
	The test pin gauge inserted into the contact assembly: shall not fall from the contact within 30 s		P
22.4	Force necessary to operate the shutter when inserting the plug		N/A
	Socket-outlet fixed to a mounting plate		N/A
	Axes are vertical		N/A
	Entry holes upwards		N/A
	Test plug corresponding standard sheet is used		N/A
	The test plug and the supplementary mass enter in the holes under its own weight: force exerted, 30 N		N/A
	Contact within 5 s		N/A
	Electrical indicator used to show the contact		N/A
23	FLEXIBLE CABLES AND THEIR CONNECTIONS		
23.1	General		N/A
	Rewirable plugs and rewirable portable socket-outlets are provided with a cord anchorage such that the conductors are relieved from strain and twisting; the covering is protected from abrasion		N/A
	Sheath of flexible cable is clamped within the cord anchorage		N/A

	In non-rewirable plugs and non-rewirable portable socket-outlets the cable is maintained in position and the terminations are relieved from strain and twisting		N/A
	Sheath of flexible cable is maintained inside the accessory		N/A
23.2	Cord anchorage		N/A
	Effectiveness of the retention of the cable by the cord anchorage		N/A
	Non-rewirable accessories:		N/A
	- tested as delivered; new specimens		N/A
	Rewirable accessories:		N/A
	- tested with cable of smallest cross sectional area		N/A
	- tested with cable of largest cross sectional area		N/A
	- conductors introduced into the terminals		N/A
	- terminal screws tightened sufficiently to prevent the position of the conductors from easily changing		N/A
	- cord anchorage used in the normal way: clamping screws tightened with torque two-thirds of that specified in Table 7		N/A
	- with specimen reassembled, the component parts are fit snugly		N/A
	- it is not possible to push the flexible cable appreciably into the sample		N/A
	- the axis of the flexible cable is vertical		N/A
	Test:		N/A
	Flexible cable is subjected 100 times to a pull of:		N/A
	<ul style="list-style-type: none"> • 50 N if the rated current is 2,5 A • 60 N if the rated current is above 2,5 A, but not more than 20 A; the rated voltage is up to and including 250 V • 80 N if the rated current is above 2,5 A, but not more than 20 A; the rated voltage is above 250 V • 100 N if the rated current greater than 20 A 		N/A
	Pulls applied each time for 1 s without jerks		N/A
	Pulls exert simultaneously on all parts of the cable		N/A

	Immediately afterwards, the flexible cable is subjected for 1 min to a torque as specified in Table 21		N/A
	After the test:		N/A
	Displacement ≤ 2 mm		N/A
	Rewirable accessories: end of conductors have not moved noticeably in the terminals		N/A
	Non-rewirable accessories: no break in the electrical connections		N/A
	Measurements of the longitudinal displacement made at a distance of 20 mm from the end of the specimen, or the flexible cable guard, while the flexible cable is subjected to the pull		N/A
	In addition, for rewirable accessories having a rated current up to and including 16 A: manual test to check that they are suitable for fitting with the appropriate cable, as shown in Table 22.		N/A
	Type of flexible cable; number of conductors, nominal cross-sectional area (mm ²), maximum dimensions for flexible cables (mm)		—
23.3	Flexible cable of non-rewirable accessories		N/A
	Non-rewirable plugs and non-rewirable portable socket-outlets are provided with a flexible cable complying with IEC 60227, IEC 60245, IEC 62821, or IEC 63010		N/A
	Flexible cables have the same number of conductors as there are poles in the plug or socket-outlet		N/A
	Conductor connected to the earthing contact is identified by the colour combination green/yellow		N/A
23.4	Protection of cable entrance in the accessories		N/A
	Non-rewirable accessories: designed that the flexible cable is protected against excessive bending		N/A
	Guards of insulating material and fixed in reliable manner		N/A
	Helical metal springs: do not used		N/A
	Flexing test (new specimens)		N/A
	Apparatus shown in Fig. 28		N/A

	Force applied: – 20 N for accessories with flexible cables having a nominal cross-sectional area exceeding 0,75 mm ² – 10 N for other accessories		N/A
	Current equal to the rated current of the accessory, or the following, whichever is the lower, is passed through the conductors: – 16 A for accessories with flexible cables having a nominal cross-sectional area larger than 0,75 mm ² – 10 A for accessories with flexible cables having a nominal cross-sectional area of 0,75 mm ² – 2,5 A for accessories with flexible cables having a nominal cross-sectional area less than 0,75 mm ²		N/A
	The voltage between the conductors is equal to the rated voltage of the specimen		N/A
	The oscillating member is moved through an angle of 90° (45° on either side of the vertical). Number of flexings: 10 000		N/A
	Rate of flexing 60/min.		N/A
	Specimens with circular section flexible cables are turned through 90° in the oscillating member after 5000 flexings; specimens with flat flexible cables are only bent in a direction perpendicular to the plane containing the axes of the conductors.		N/A
	During the test: no interruption of the test current and no short-circuit between conductors		N/A
	After the test: guard no separated from the body, insulation shows no sign of abrasion or wear, broken strands become no accessible		N/A
24	MECHANICAL STRENGTH		
24.1	General		P
	Accessories, surface mounting boxes, screwed glands and shrouds have adequate mechanical strength		P
24.2	Impact test with pendulum hammer		P
	Fixed socket-outlets, portable multiple socket-outlets and surface-type mounting boxes: hammer test described in IEC 60068-2-75 (test EHA), equivalent mass of 250 g		P

	Height of fall and parts of enclosures subjected to the impacts specified in Table 23		P
	After the test: - no damage impairing further use - live parts no become accessible as defined in Clauses 10.2 / 10.5 - live parts no damage as to impair Cr / Cl distances as defined in Clause 27		P
	After the test on a lens (window for pilot lights) the lens may be cracked and/or dislodged, but it is not possible to touch live parts with the: – test probe B (IEC 61032) under the conditions stated in 10.2 – test probe 11 (IEC 61032) under the conditions stated in 10.2, but with a force of 10 N – steel wire of Fig. 8, applied with a force of 1 N, for accessories with increased protection		P
	In case of doubt, it is verified that it is possible to remove and replace external parts such as boxes, enclosures, covers and cover-plates, without these parts or their insulating lining being broken.		P
24.3	Tumble barrel test		P
	Rewirable portable accessories fitted with the flexible cable specified in 23.2		N/A
	with the smallest nominal cross-sectional area specified in Table 4		N/A
	A free length of approximately 100 mm measured from the outer end of the guard		P
	Terminal screws and assembly screws are tightened with a torque equal to two-thirds of that specified in Table 7		N/A
	Non-rewirable portable accessories tested as delivered		N/A
	The flexible cable cut so that a free length of about 100 mm projects from the accessory		N/A
	Portable single socket-outlets and plugs: subjected to test Ec: Rough handling shocks, primarily for equipment-type specimens, procedure 2 of IEC 60068-2-31; number of falls:		P
	After the test:		P
	- no part become detached or loosened;		P

	- pins no become so deformed that the plug cannot be introduced into a socket-outlet and also fails to comply with the requirements of 9.1 and 10.4		P
	- pins no turn when a torque of 0,4 Nm is applied for 1 min in one direction, then for 1 min in the opposite direction		P
	Shutters of socket-outlets tested again according to 10.5 performed at ambient temperature		P
24.4	Test for fixed socket-outlets with a main part intended to be mounted directly on a surface		N/A
	Main parts of surface-type socket-outlets are first fixed to a cylinder of rigid steel sheet		N/A
	Cylinder radius equal to 4,5 times the distance between fixing holes (no less than 200 mm)		N/A
	Axes of the holes perpendicular to the axis of the cylinder		N/A
	Axes of the holes parallel to the radius through the centre of the distance between the holes		N/A
	Fixing screws of the base are gradually tightened		N/A
	Torque applied: - 0,5 Nm for screws having a thread diameter up to and including 3 mm - 1,2 Nm for screws having a larger thread diameter.		N/A
	The main parts of socket-outlets are then fixed in a similar manner to a flat steel sheet		N/A
	During and after the tests: no damage		N/A
24.5	Impact test at low temperature		P
	Portable single / multiple socket-outlets and plugs subjected to an impact test by means of an apparatus as shown in Figure 30		P
	- apparatus, positioned on a pad of sponge rubber 40 mm thick		P
	- placed together with the specimens in a freezer at a temperature of $(-15 \pm 2) ^\circ\text{C}$, for at least 16 h.		P
	At the end of this period, the following test is carried out inside the freezer: each specimen, in turn, is placed in the normal position of use as shown in Figure 30, and a weight is allowed to fall from a height of 100 mm. The mass of the falling weight is $(1\ 000 \pm 2)$ g.		P

	<p>After the test:</p> <ul style="list-style-type: none"> - no damage impairing further use - live parts no become accessible as defined in Clauses 10.2 / 10.5 <p>live parts no damage as to impair Cr / CI distances as defined in Clause 27</p>		P
24.6	Compression test		P
	Specimens subjected to a compression test		P
	<ul style="list-style-type: none"> - temperature of the pressure plate, of the base and of the specimens: 23 ± 2 °C - force applied: 300 N. - specimens are first placed in position a), as shown in Figure 6 - force is applied for 1 min. - they are then placed in position b), - again, subjected to the force for 1 min 		P
	The specimens are removed from the test apparatus and are left to recover for 15 min.		P
	<p>After the test:</p> <ul style="list-style-type: none"> - no damage impairing further use - live parts no become accessible as defined in Clauses 10.2 / 10.5 <p>live parts no damage as to impair Cr / CI distances as defined in Clause 27</p>		P
24.7	Torque test for cable glands		N/A
	Screwed cable glands fitted with a cylindrical metal rod		N/A
	Cable glands are then tightened by means of a suitable spanner; the torque shown in Table 24 being applied for 1 min.		N/A
	- diameter of test rod (mm)		N/A
	- type of material (metal / moulded)		N/A
	- torque (Nm)		N/A
	After the test: no damage of glands and enclosures of the specimens		N/A
24.8	Abrasion test on insulating sleeves of plug pins		P
	Plug pins provided with insulating sleeves: subjected to the test by means of the apparatus shown in Figure 31.		P
	Force on the pin: 4 N		—
	Number of movements: 20 000		—
	Rate of operations: 30 movements per minute		—

	After the test: no damage of pins, insulating sleeve do not have punctured or rucked up		P
24.9	Mechanical tests on shutters		P
	Shuttered socket-outlets: mechanical test carried out on specimens submitted to the normal operation test according to clause 21		P
	Force (40 N / 75 N) applied for 1 min against the shutter of an entry hole by means of one pin (N).....:		P
	Pin did not come in contact with live parts		P
	After the test: no damage		P
	A plug complying with corresponding standard sheet is inserted and withdrawn 5 times and the shutters shall operate as intended.		P
24.10	Test for multiple portable socket-outlets		N/A
	Mechanical test for multiple portable socket-outlet: 8 falls on concrete floor with the specimens arranged as shown in Figure 32		N/A
	After the test: - no part have become detached or loosened - no damage impairing further use - live parts no become accessible as defined in Clauses 10.2 / 10.5 live parts no damage as to impair Cr / Cl distances as defined in Clause 27		N/A
	Accessories having IP code higher than IPX0 submitted again to the tests as specified in 16.2		N/A
	Shutters of socket-outlets tested again according to 10.5 performed at ambient temperature		N/A
24.11	Retention test for pins		P
	Plugs: pull test to verify the fixation of pins in the body of the plug (new specimens)		P
	A pull P equal to the maximum withdrawal force (table 19) applied for 1 min on each pin in turn, after the specimen has been placed at $(70 \pm 2) ^\circ\text{C}$ for 1 h (N)		P
	After the test: displacement of pins in the body of the plug ≤ 1 mm (mm)		P
24.12	Mechanical test for means for suspension of portable socket-outlets		N/A

24.12.1	Barriers, between the space intended for the suspension means fixed to the mounting surface and the live parts, likely to be subjected to mechanical strain when the portable socket-outlet is suspended on a mounting surface, tested as follows:		N/A
	A steel rod, diameter 3 mm, hemispherical end radius 1,5 mm, is pushed perpendicular to the mounting surface, for 10 s against the barrier, the force being equal to 1,5 times the maximum plug withdrawal force (Table 19)		N/A
	Rod did not pierce the barrier		N/A
24.12.2	The portable socket-outlet, fitted with a flexible cable, is suspended on the mounting surface, by the same rod as 24.12.1, length sufficient to touch the rear of the barrier		N/A
	A pull equal to the force specified in 23.2 for checking the anchorage is applied to the flexible cable for 10 s (N)		N/A
	The portable socket-outlet means for suspension on a mounting surface, do not break in a way which allows live parts to become accessible to the test probe B of IEC 61032		N/A
24.12.3	The portable socket-outlet is suspended on the mounting surface, using a round head screw with shank diameter 3 mm, and is subjected to a pull test with the maximum withdrawal force specified, for the corresponding plug, in Table 19, applied without jerks		N/A
	The pull force is applied for 10 s perpendicular to the engagement face of the socket-outlet giving the greatest strain on the suspension means.		N/A
	The portable socket-outlet means for suspension on a wall do not break in a way which allows live parts to become accessible to the test probe B of IEC 61032.		N/A
24.13	Tests on covers, cover-plates or parts of them according to 13.7.3 a)		N/A
24.13.1	Accessories mounted as for normal use to check the forces necessary to retain or remove covers, cover-plates or parts of them		N/A
	Flush-type socket-outlets are fixed in appropriate mounting boxes		N/A
	Rims of the boxes are flush with the walls		N/A
	Covers or cover-plates are fitted		N/A

	Plugs / portable socket-outlets are fixed so that the force can be applied to the cover, cover-plates or parts of them		N/A
	Locking means which can be operated without the aid of a tool: unlocked.		N/A
24.13.2	Fixed socket-outlets: verification of the retention of covers or cover-plates		N/A
	Forces are gradually applied perpendicular to the mounting surface. The resulting force acting on the centre of the covers, cover-plates, or parts of them is, respectively:		N/A
	<ul style="list-style-type: none"> • 40 N, for covers, cover-plates or parts of them complying with the tests of 24.16 and 24.17, or • 80 N, for other covers, cover-plates or parts of them. (Table 14)		N/A
	Force applied for 1 min. The covers or cover-plates do not come off.		N/A
	Test repeated on new specimens. The cover or cover-plate being fitted on the wall. A sheet of hard material, (1 ± 0,1) mm thick, fitted around the supporting frame.		N/A
	After the test, the specimens do not show damage impairing their future use.		N/A
24.13.3	Fixed socket-outlets: verification of the removal of covers or cover-plates		N/A
	Force 120 N gradually applied, perpendicular to the mounting/supporting surfaces, to covers, cover-plates or parts of them by means of a hook placed in turn in each of the grooves, holes, spaces or the like, provided for removing them.		N/A
	Covers or cover-plates come off.		N/A
	Test carried out 10 times on separable parts. Removal force applied to the grooves, holes, or the like provided for removing the separable parts, distributing the application points.		N/A
	Test repeated on new specimens. The cover or cover-plate being fitted on the wall. A sheet of hard material, (1 ± 0,1) mm thick, fitted around the supporting frame.		N/A

	After the test, the specimens do not show damage impairing their future use.		N/A
24.13.4	Plugs / portable socket-outlets: Force 80 N gradually applied and maintained for 1 min to covers, cover-plates or parts of them. Other parts of the accessory, fixed		N/A
	During the test covers, cover-plates or parts of them do not come off.		N/A
	Test repeated with a force of 120 N.		N/A
	a) rewirable plugs / rewirable portable socket-outlets: cover, cover-plate or parts of them may come off during the test, but the specimen show no damage impairing further use.		N/A
	b) non-rewirable / non-moulded-on accessories: during the test, cover, cover-plate or parts of them may come off but the accessories are permanently useless (see 14.1).		N/A
24.14	Tests on covers, cover-plates or parts of them according to 13.7.3 b)		N/A
	Test carried out as described in 24.13, but applying the forces for the purposes of 24.13.2:		N/A
	<ul style="list-style-type: none"> • 10 N, for covers, cover-plates complying with the tests of 24.16 and 24.17 • 20 N, for other covers or cover-plates (Table 14) 		N/A
24.15	Tests on covers, cover-plates or parts of them according to 13.7.3 c)		N/A
	Test carried out as described in 24.13, but applying the force of 10 N for all covers or cover-plates for the purposes of 24.13.2 (Table 14)		N/A
24.16	Verification of the outline of covers fixed without screws on a mounting surface or supporting surface		N/A
	Gauge of Figure 35 pushed toward each side of each cover or cover-plate which is fixed without screws on a mounting or supporting surface		N/A
	Face B resting on the mounting/supporting surface, with face A perpendicular to it, the gauge applied at right angles to each side under test.		N/A
	Distances between face C of the gauge and the outline of the side under test, measured parallel to face B, do not decrease		N/A

24.17	Verification of grooves, holes and reverse tapers		N/A
	Gauge of Figure 38, applied with a force of 1 N do not enter more than 1,0 mm from the upper part of any groove, hole or reverse taper, or the like, when the gauge is applied parallel to the mounting / supporting surface and perpendicular to the part under test		N/A
24.18	Compression test on shrouds of portable socket-outlets		P
	Shrouds of portable socket-outlets: compression test at an ambient temperature of $(25 \pm 5) ^\circ\text{C}$		P
	Apparatus: two steel jaws, cylindrical face 25 mm radius, width 15 mm, length of 50 mm.		P
	Front face of the jaws coincides with the front face of the shroud.		P
	Force applied through the jaws: $20 \pm 2 \text{ N}$		P
	After 1 min, while the shrouds are still under pressure, dimensions comply with the appropriate standard sheet.		P
	Test repeated with the specimen rotated 90°		P
25	RESISTANCE TO HEAT		
25.1	General		P
	Accessories and surface-type mounting boxes are resistant to heat.		P
	Compliance is checked by the relevant tests according to Table 25.		P
25.2	Basic heating test		P
	Specimens kept: heating cabinet, 1h, $100 \pm 2 ^\circ\text{C}$		P
	During the test: - no change impairing their further use; sealing compound, if any, do not flow so live parts are exposed.		P
	After the test: - markings still legible - no access to live parts with probe B of IEC 61032 applied with a force not exceeding 5 N - in particular: live parts no become accessible as defined in Clauses 10.2 / 10.5 live parts no damage as to impair Cr / Cl distances as defined in Clause 27		P

25.3	Ball-pressure test at 125 °C		P
	Parts of insulating material necessary to retain current-carrying parts and parts of the earthing circuit in position, as well as parts of the front surface zone, 2 mm wide, surrounding phase and neutral pin entry holes: ball-pressure test at (125 ± 2) °C for 1 h (apparatus shown in Figure 40)		P
	Part under test placed on a steel plate at least 3 mm thick and in direct contact with it		N/A
	Surface of the part tested: placed in horizontal position		N/A
	The hemispherical tip of the test equipment: pressed against the surface with a force of 20 N		P
	Diameter of the impression caused by the ball: not exceed 2 mm.		P
25.4	Ball-pressure test at 70 °C or higher		P
	Parts of insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball pressure test at (70 ± 2) °C, or (40 ± 2) °C plus the temperature rise determined during the test of Clause 19, whichever is the higher		P
25.5	Compression test		P
	Portable accessories: compression test, by means of the apparatus shown in Figure 41 (steel jaws): - 20 N at (80 ± 2) °C for 1 h		P
	After the test: - no damage impairing further use - in particular: live parts no become accessible as defined in Clauses 10.2 / 10.5 live parts no damage as to impair Cr / Cl distances as defined in Clause 27		P
26	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		
26.1	General		P
	Connections, electrical or mechanical, withstand mechanical stresses		P
	Thread-forming or thread-cutting screws used only if supplied together with the piece in which they are intended to be inserted		N/A
	Thread-cutting screws intended to be used during installation: captive		N/A

	Threaded part torque test		N/A
26.2	Correct insertion of screws		N/A
	Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured		N/A
26.3	Contact pressure of electrical connections		P
	Contact pressure: not transmitted through insulating material other than ceramic, pure mica or other material no less suitable unless there is sufficient resiliency in metallic parts		P
	Designs with flat tinsel cord		N/A
	Connections made by insulation piercing of tinsel cord reliable		N/A
	Compliance checked by inspection, according to relevant parts of Annex F		P
26.4	Screws and rivets used both as electrical and mechanical connections		N/A
	Screws and rivets locked against loosening and/or turning		N/A
26.5	Material of current-carrying parts		P
	Current-carrying parts: metal having mechanical strength, electrical conductivity and resistance to corrosion adequate		P
	- copper;		P
	- alloy containing at least 58 % copper for parts made from cold-rolled sheet or at least 50 % copper for other parts;		P
	- stainless steel containing at least 13 % chromium and not more than 0,09 % carbon		N/A
	- steel with electroplated coating of zinc (ISO 2081), the coating having a thickness of at least: service condition ISO no. (1/2/3); IP code (X0/X4/X5/X6); thickness (μm)		N/A
	- steel with electroplated coating of nickel and chromium (ISO 1456): the coating having a thickness of at least: service condition ISO no. (2/3/4); IP code (X0/X4/X5/X6); thickness (μm)		N/A
	- steel with electroplated coating of tin (ISO 2093), the coating having a thickness of at least: service condition ISO no. (2/3/4); IP code (X0/X4/X5/X6); thickness (μm)		N/A
	Current-carrying parts subjected to mechanical wear: not of steel with electroplated coating		P

	Metals showing a great difference of electrochemical potential with respect to each other: not used in contact with each other.		P
26.6	Contacts subjected to sliding actions		P
	Contacts subjected to a sliding action are of metal resistant to corrosion		P
26.7	Thread-forming screws and thread-cutting screws		N/A
	Thread-forming screws and thread-cutting screws are not used for the connection of current-carrying parts		N/A
	Thread-forming screws and thread-cutting screws used to provide earthing connection: it is not necessary to disturb the connection and at least two screws are used for each connection		N/A
27	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND		
27.1	General		P
	Creepage distances, clearances and distances through sealing compound are not less than the values shown in table 26		P
27.2	Insulating sealing compound		N/A
	Insulating sealing compound does not protrude above the edge of the cavity in which it is contained		N/A
28	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING		
28.1	Resistance to abnormal heat and to fire		P
28.1.1	General		P
	Parts of insulating material exposed to thermal stresses due to electric effects, and the deterioration of which impair the safety of the accessory, do not affected by abnormal heat and by fire.		P
28.1.2	Glow-wire test		P
	Test performed according to: - IEC 60695-2-10:2021 - IEC 60695-2-11:2021		P
	Parts of insulating material necessary to retain current-carrying parts, and parts of the earthing circuit of fixed accessories in position: test carried out at 850 °C.		N/A

	Parts of insulating material necessary to retain current-carrying parts, and parts of the earthing circuit of portable accessories in position: test carried out at 750 °C.		P
	Parts of insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though they are in contact with them: test carried out at 650 °C. Parts needed to retain the earth terminal in position in a box: test carried out at 650 °C.		P
	Test carried out on specimen of a complete accessory		P
	Test carried out on a suitable part cut from of a complete accessory		P
	The specimen has passed the glow-wire test if: – there is no visible flame and nosustained glowing, or if – flames and glowing extinguish within 30 s after removal of the glow-wire.		P
	No ignition of the tissue paper or scorching of the board		P
28.1.3	Test for pins with insulating sleeves		N/A
	Pins provided with insulating sleeves tested by means of the test apparatus as shown in Figure 43.		N/A
	Test temperature maintained for 3 h at $(120 \pm 5) \text{ °C}$ or $180 \pm 5 \text{ °C}$		N/A
	Specimens removed and cooled at room temperature		N/A
	Insulating sleeves of the pins submitted to an impact test: 4 impacts, mass 100 g, height 10 mm		N/A
	No cracks visible on the insulating sleeves		N/A
	Dimensions have not changed		N/A
28.2	Resistance to tracking		N/A
	Accessories having an IP code higher than IPX0, parts of insulating material retaining live parts in position are of material resistant to tracking		N/A
	Material designation		N/A
	Check in accordance with IEC 60112		N/A

	Flat surface of the part tested: 15x15 mm		N/A
	Proof-tracking index 175, test solution A, interval between drops of 30 ± 5 s.		N/A
	No flashover or breakdown occurs before 50 drops has fallen.		N/A
29	RESISTANCE TO RUSTING		
	Ferrous parts protected against rusting		N/A
	All grease is removed using a suitable degreasing agent		N/A
	Parts immersed for 10 min in a 10 % solution of ammonium chloride in water at (20 ± 5) °C		N/A
	Without drying, but after shaking off any drops, the parts placed for 10 min in a box containing air saturated with moisture at (20 ± 5) °C.		N/A
	After the parts have been dried for 10 min at (100 ± 5) °C, their surfaces do not show signs of rust		N/A
30	ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES		
30.1	General		N/A
	Material of pin-insulating sleeves are resistant to high and low temperature due to: - bad connection conditions - particular conditions of service		N/A
30.2	Pressure test at high temperature		N/A
	Apparatus of Fig. 44, maintained 2 h at (200 ± 5) °C		N/A
	Rectangular blade (Fig. 44a) used for round pins		N/A
	Round blade (Fig. 44b) used for other type pins		N/A
	Specimen placed in position (Fig. 44)		N/A
	Force applied through the blade: 2,5 N		N/A
	Thickness of the insulation measured: before the test (mm); after the test (mm)		N/A
	Thickness remaining at the point of impression is not reduced by more than 50 % of its original value measured at the start of the test: percentage value (%)		N/A
30.3	Static damp heat test		N/A
	Set of 3 specimens submitted to two damp heat cycles in accordance with IEC 60068-2-30 (variant 2 with a temperature of 40 °C).		N/A
	After the test:		N/A

	- insulation resistance and electric strength test (clause 17)		N/A
	- abrasion test (sub-clause 24.8)		N/A
30.4	Test at low temperature		N/A
	Set of three specimens maintained at $(-15 \text{ }^{\circ}\text{C} \pm 2) \text{ }^{\circ}\text{C}$ for 24 h		N/A
	After the test:		N/A
	- insulation resistance and electric strength test (clause 17)		N/A
	- abrasion test (sub-clause 24.8)		N/A
30.5	Impact test at low temperature		N/A
	Specimens are subjected to an impact test by means of the apparatus as shown in Figure 45.		N/A
	Mass of the falling weight: $100 \pm 1 \text{ g}$		N/A
	Apparatus and specimens, placed on a sponge rubber pad, 40 mm thick, in a freezer at $-15 \pm 2 \text{ }^{\circ}\text{C}$ for 24 h		N/A
	At the end of this period, each specimen in turn, placed in position (Figure 45)		N/A
	Falling weight fall from a height of 100 mm		N/A
	Four impacts applied successively to the same specimen, rotating it through 90° between impacts		N/A
	After the test: no crack of the insulating sleeves		N/A
31	EMC REQUIREMENTS		
31.1	Immunity		P
	Operation of accessories within the scope of Standard IEC60884-1, in normal use, is not affected by electromagnetic disturbances		—
	No test required		—
	Accessory with incorporated active electronic circuit: additional requirements on EMC fulfilled according to the relevant products standards		P
	- incorporated active electronic circuit		P
	- relevant products standards		P
31.2	Emission		P

	Accessories within the scope of Standard IEC60884-1 are intended for continuous use; in normal use they do not generate electromagnetic disturbances		—
	Accessory with incorporated active electronic circuit: additional requirements on EMC fulfilled according to the relevant products standards		P
	- incorporated active electronic circuit :		P
	- relevant products standards :		P
32	ELECTROMAGNETIC FIELDS (EMF) REQUIREMENTS		
	Accessories within the scope of Standard IEC60884-1 are intended for continuous use; in normal use they do not generate an additional electromagnetic field beside the one originating from the flowing current		—
	No test required		—
	Accessory with incorporated active electronic circuit: additional requirements on EMF fulfilled according to the relevant products standards		P
	- incorporated active electronic circuit :		P
	- relevant products standards :		P

IEC 60884-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
8	MARKING		-
8.1	Cord extension sets marked as follows:		-
	- manufacturer's or responsible vendor's name (only if the manufacturer is different to the manufacturer of the socket-outlet)		P
	- type reference		P
	- symbol for degree of protection (first digit)	IP2X	N/A
	- symbol for degree of protection (second digit)	IPX0	N/A
	- multiple portable socket-outlets or when there is an overcurrent protective device, the power in watt (completed by the word MAX)		P
	Marking of the power durable and easily legible with normal or corrected vision, without additional magnification		P
	The maximum admissible power marking not hidden by any inserted plug		P
8.8	Marking durable and easily legible. Test: 15 s with water and 15 s with petroleum spirit		P
9	CHECKING OF DIMENSIONS		-
	The clause of Part 1 is not applicable		—
10	PROTECTION AGAINST ELECTRIC SHOCK		-
10.1	Live parts not accessible, even after removal of parts which can be removed without the use of a tool for cord extension sets		P
	Test with test probe B of IEC 61032 applied in every possible position		P
	During this test, not possible to touch live parts		P
10.2	Live parts not accessible, even after removal of parts which can be removed without the use of a tool for cord extension sets		P
	Test wire of 1 mm diameter (figure 10 of Part 1) applied with a force of 1 N where the cable enters the plug and the portable socket-outlet in every possible position		P
	During this test, not possible to touch live parts		P
11	PROVISION FOR EARTHING		-
	The clause of Part 1 is not applicable		—
12	TERMINALS AND TERMINATIONS		-

IEC 60884-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	The clause of Part 1 is not applicable		—
13	CONSTRUCTION OF FIXED SOCKET-OUTLETS		-
	The clause of Part 1 is not applicable		—
14	CONSTRUCTION OF CORD EXTENSION SET		-
14.1	Socket-outlets used in cord extension sets have shutters		P
	Plugs and socket-outlets comply with IEC 60884-1.		P
	Fused plugs comply with IEC 60884-2-1.		N/A
	Flexible cables comply with IEC 60227 or IEC 60245		P
	Same number of conductors of the flexible cable as the poles in the socket-outlet (s)		P
	Earthing contact of the socket-outlet, connected to the corresponding earthing contact of the plug		P
	Compliance is checked by inspection		P
14.2	The type, length of the flexible cable and nominal cross-sectional area of the conductors of cord extension sets comply with Table 101.... :		—
	Compliance is checked by inspection and measurement		P
14.3	The rated current of the plug, not lower than the rated current of the socket-outlet		P
	The rated current of the plug of cord extension set protected against overload, not lower than the rated current of the protective overcurrent device		N/A
	Rated current of the plug, for a cord extension set with a multiple portable socket-outlet and not incorporating a protective overcurrent device is		N/A
	Compliance is checked by inspection		P
14.4	Same rated voltage of the plug and the socket-outlet		P
	The rated voltage of the cable not less than the rated voltage of the plug and socket-outlet		P
	Compliance is checked by inspection		P
15	INTERLOCKED SOCKET-OUTLETS		-

IEC 60884-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
	The clause of Part 1 is not applicable		—
16	RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES, AND RESISTANCE TO HUMIDITY		-
	The protection degree of the cord extension set is the same as the lowest protection degree of the plug and the portable socket outlet		P
	Compliance is checked by inspection		P
17	INSULATION RESISTANCE AND ELECTRIC STRENGTH		-
	The clause of Part 1 is not applicable		—
18	OPERATION OF EARTHING CONTACTS		-
	The clause of Part 1 is not applicable		—
19	TEMPERATURE RISE		-
	The clause of Part 1 is not applicable		—
20	BREAKING CAPACITY		-
	The clause of Part 1 is not applicable		—
21	NORMAL OPERATION		-
	The clause of Part 1 is not applicable		—
22	FORCE NECESSARY TO WITHDRAW THE PLUG		-
	The clause of Part 1 is not applicable		—
23	FLEXIBLE CABLES AND THEIR CONNECTIONS		-
	The clause of Part 1 is not applicable		—
24	MECHANICAL STRENGTH		-
	The clause of Part 1 is not applicable		—
25	RESISTANCE TO HEAT		-
	The clause of Part 1 is not applicable		—
26	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		-
	The clause of Part 1 is not applicable		—

IEC 60884-2-7			
Clause	Requirement + Test	Result - Remark	Verdict
27	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND		-
	The clause of Part 1 is not applicable		—
28	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING		-
	The clause of Part 1 is not applicable		—
29	RESISTANCE TO RUSTING		-
	The clause of Part 1 is not applicable		—
30	ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES		-
	The clause of Part 1 is not applicable		—
101	EMC REQUIREMENT		P
101.1	The operation of cord extension sets within the scope of this standard, in normal use, is not affected by electromagnetic disturbances	Refer to EMC report	P
101.2	Cord extension sets within the scope of this standard are intended for continuous use; in normal use they do not generate electromagnetic disturbances	Refer to EMC report	P

Data form for critical components and material information:

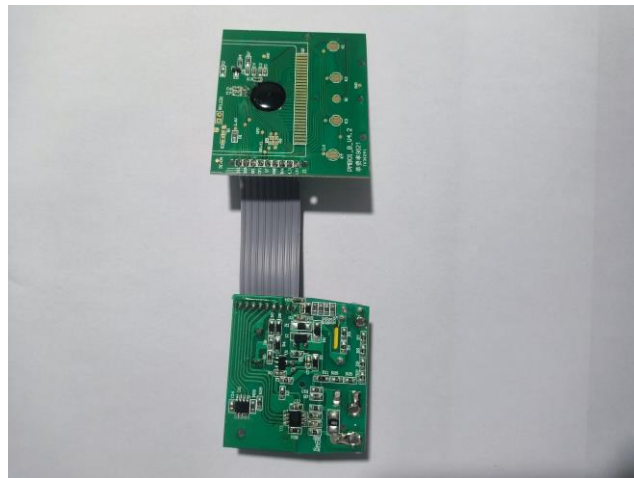
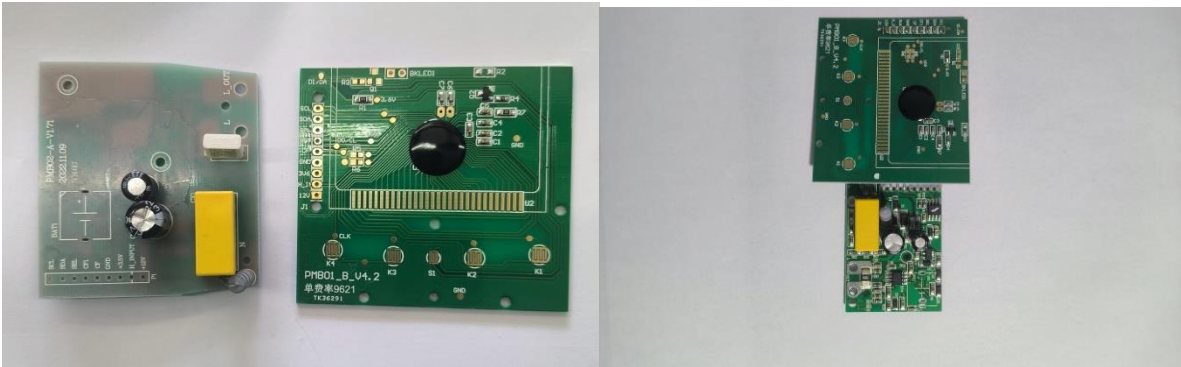
Object/Part No.	Manufactory/ Trademark	Type / Model	Technical Data	Standard No. And Edition Year	Mark(s) of Conformity
MCU	Shanghai Aijia Electronic Technology Co., Ltd	LHM9621(RoHS)	LHM9621(RoHS)	/	Tested with appliance
PCB	Guangde Yingfeite Electronic Co., Ltd	PCB	V-0, 130° C	UL 796	UL (E466867)
Capacitor	Changxing Youchang Electronics Co., Ltd	CAP-P15MM-0.47uF/275V(RoHS)	CAP-P15MM-0.47uF/275V(RoHS)	IEC/EN 60384-14	CQC17001178779
Resistance	Ningbo Xinshang Electronic Technology Co., LTD	33R2WS±5% DIP(RoHS)	33R2WS±5% DIP(RoHS)	EN 61010-1	Tested with appliance
Switch	Gutang Accord Rubber Products Factory Guilin Brothers Electronics Co., Ltd	Rubber	Soft and Gray/black rubber Material	EN 61010-1	Tested with appliance
Coppers	Ningbo Bayern Electrical Appliance Technology Co., Ltd Cixi Hexin Electric Appliance Factory Cixi Ruitai Electric Appliance Factory	N/L, E coppers	H62	EN 61010-1	Tested with appliance
			QSn4-0.1		
			H62		
			QSn4-0.1		
Electrolytic Capacitor	Shanghai Zitong Electronic Technology Co., Ltd	220UF-35V-8*12 (RoHS)	220UF-35V-8*12 (RoHS)	IEC/EN 60384-14	Tested with appliance
		220uF-10V-6*11 (RoHS)	220uF-10V-6*11 (RoHS)		
IC	Ningbo Xinshang Electronic Technology Co., LTD	SMD-SOP8-BL0937(RoHS)	SMD-SOP8-BL0937(RoHS)	/	Tested with appliance
Battery	Guangzhou Yaoming New Energy Technology Co., LTD	3.6V/20MAH(RoHS)	3.6V/20MAH(RoHS)	/	Tested with appliance

Object/Part No.	Manufactory/ Trademark	Type / Model	Technical Data	Standard No. And Edition Year	Mark(s) of Conformity
Plastic Housing	Ningbo Jiangbei Xianghe Plastic Products Factory	PC, white	Min Thickness:1.0mm	/	Tested with appliance
				/	
				/	
				/	
Crystal Oscillator	Shenzhen Topter Electronic Technology Co., Ltd	cylinder-shaped -32.768KHZ \pm 10PPM (RoHS)	cylinder-shaped -32.768KHZ \pm 10PPM (RoHS)	/	Tested with appliance
Internal Wire	Tongxiang City Yisheng Electric Appliance Factory	06(RV) 1.0MM2	1.0mm2	/	CCC Report No. 201101010547 9279
		14#AWG	14# AWG 105° C	/	UL(E255495)

Photos of product:







The end of report