Product Service

TEST REPORT

DIN VDE 0620-1:2016/A1:2017

Plugs and socket-outlets for household and similar purposes

Part 1: General requirements on fixed socket-outlets

Report reference No..... :	70.410.21.016.06-00
Date of issue..... :	2021-12-01
Project handler…… ..... :	Chiyi Zhuang
Testing laboratory..... :	TüV SüD Certification and Testing (China) Co., Ltd. Shanghai Branch
Address ..... :	No.151, Heng Tong Road 200070 Shanghai P.R. China
Testing location ..... :	No. 1999, Duhui Road, Shanghai, 201108, P. R. China
Client..... :	Jiangyin Baohong Electrical Appliance Co., Ltd.
Client number…… ..... :	092292
Address ..... :	NO.173,Huqiao Road, Xiagang Town 214442 Jiangyin City, Jiangsu Province PEOPLE'S REPUBLIC OF CHINA
Contact person…….....	N/A
Standard ..... :	This TUV SUD test report form is based on the following requirements: DIN VDE 0620-1:2016/A1:2017
TRF originated by..... :	TUV SUD Product Service GmbH
Copyright blank test report ..... :	This test report is based on the content of the standard (see above). The test report considered selected clauses of the a.m. standard(s) and experience gained with product testing. It was prepared by TUV SUD Product Service GmbH. TUV SUD Group takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.
Scheme ..... :	☐ GS ☐ TÜV Mark ☑ EU-Directive ☐ without certification
Non-standard test method ..... :	☑ No ☐ Yes, see details under Summary
National deviations ..... :	N/A
Number of pages (Report) ..... :	39
Number of pages (Attachments)..... :	3

Compiled by..... : Chiyi ZHUANG (Project Handler)

(+ signature)

Approved by .....: Ying LIU (Mandatory reviewer)

(+ signature)

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Test sample……..:	Sockets
Type of test object ..... :	Surface type socket-outlets with a parallel connected switch
Trademark ..... :	N/A
Model and/or type reference ..... :	BHMB-E, BHMBW-E, BHTB-1E
Rating(s) ..... :	16A 250V~
Manufacturer ..... :	Jiangyin Baohong Electrical Appliance Co., Ltd
Manufacturer number…..... :	092292
Address ..... :	NO.173,Huqiao Road, Xiagang Town 214442 Jiangyin City, Jiangsu Province PEOPLE'S REPUBLIC OF CHINA
Sub-contractors/ tests (clause) ..... :	N/A
Name ..... :	N/A
Order description… ..... :	☒ Complete test according to TRF ☐ Partial test according to manufacturer's specifications ☐ Preliminary test ☐ Spot check
Date of order…… ..... :	2021-09-14
Date of receipt of test item ..... :	2021-09-14
Date(s) of performance of test ..... :	2021-09-15 to 2021-12-01

Test item particulars:	
Standard Sheet ..... :	DIN 49440 teil 1
Rated current (A) ..... :	16A
Rated voltage (V) ..... :	250V
Degree of protection against harmful ingress of water ..... :	ordinary / splash-proof (IPX4) / ~~jet-proof (IPX5)~~
Provision for earthing ..... :	~~without earthing contact~~ / with earting contact
Method of connecting the cable ..... :	rewirable / ~~non-rewirable~~
Type of cable ..... :	N/A
Nominal cross-sectional areas (mm^2) ..... :	N/A
Type of terminals ..... :	screw-type / ~~screwless (rigid) / screwless (rigid and flexible)~~
Type of connections ..... :	~~soldered~~ / welded / ~~crimped~~ / other: riveted
Socket-outlets:	
Degree of protection against electric shock ... :	normal protection / increased protection
Existence of enclosures ..... :	enclosed
Existence of shutters ..... :	~~without shutters~~ / with shutters
Method of application / mounting of the socket-outlet ..... :	surface-type (for socket box)/ flush-type (for socket module)/ ~~semi-flush type / panel type / architrave type / portable type / table-type (single/multiple) / floor recessed type / appliance type~~
Method of installation ..... :	design A / ~~design B~~
Plugs:	~~Two pole with earth contact, German standard~~
Class of equipment ..... :	~~I~~
Attachments: N/A	

General remarks:

"(see remark #)" refers to a remark appended to the report.
"(see appended table)" refers to a table appended to the report.
Throughout this report a comma is used as the decimal separator.
The test results presented in this report relate only to the object tested.
This report shall not be reproduced except in full without the written approval of the testing laboratory.

The following contents are included and as attachments of this test report:

- Test report DIN VDE 0620-1:2016/A1:2017 and DIN VDE 0620-1:2021 Abschnitt 10.5.
- Test report DIN VDE 0620-2-1:2016/A1:2017 and DIN VDE 0620-2-1:2021 Abschnitt 10.5.
- Photo documentation
- Data form for electrical equipment and machinery

Summary of testing:

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.

The test results comply with the requirements: DIN VDE 0620-1:2016/A1:2017.

DIN VDE 0620-1:2021 Abschnitt 10.5 was considered.

All applicable hazards are covered by the harmonized standard.

Copy of marking plate:

Refer to the CDF

Picture of the product

See photo documentation

Purpose of the product Surface type socket-outlets with a parallel connected switch, with screw type terminals, with shutter, IP 20 for BHMB-E, BHTB-1E, IP 44 for BHMBW-E.

Possible test case verdicts:	
- test case does not apply to the test object ..... :	N/A (not applicable / not included in the order)
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Possible suffixes to the verdicts:	
- suffix for detailed information for the client……..:	- C (Comment)
- suffix for important information for factory inspection...:	- M (Manufacturing)

Clause	Requirement – Test	Measuring result – Remark	Verdict
8	MARKING		
8.1	Socket-outlets marked with:		
	- rated current (A) ..... :	16A	P
	- rated voltage (V) ..... :	250V	P
	- symbol for nature of supply ..... :	~	P
	(see section 5 GPSG) a. hints for a safe use b. manufacturer's or responsible vendor's name or trade mark in accordance with the GPSG on the product or packaging		N/A
	- type reference ..... :	See page 2	P
	- symbol for degree of protection (first digit) ..... :	IP2X for BHMB-E, BHTB-1E IP4X for BHMBW-E	P
	- symbol for degree of protection (second digit) ..... :	IPX0 for BHMB-E, BHTB-1E IPX4 for BHMBW-E	P
	Socket-outlets with screwless terminals marked with:		
	- 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: as required in the standard		P
	Marking for the nature of supply placed next to the marking for rated current and rated voltage		P
8.3	Marking of fixed socket-outlets placed on the main part:		
	- rated current, rated voltage and nature of supply		P
	- identification mark of the manufacturer or of the responsible vendor		P
	- length of insulation to be removed, if any		N/A
	- type reference		P
	Cover plates necessary for safety purposes and intended to be sold separately: marked with the manufacturer's or responsible vendor's name and type reference		N/A
	Symbol for the degree of protection (second digit): marked on the outside of its associated enclosure so as to be easily discernible		P
8.4	Keep free		N/A
8.5	Neutral terminals: N ..... :		N/A
	Earthing terminals: [earth symbol] ..... :	⏚	P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	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:		
	- clearly identified unless their purpose is self evident, or		N/A
	- indicated in a wiring diagram fixed to the accessory		N/A
	Identification of accessory terminals may be achieved by:		
	- their marking with graphical symbols according to IEC 147 or colours and/or alphanumeric system, or		P
	- their physical dimension or relative location		P
8.6	Fixed socket-outlets other than ordinary: marked with the IP symbol visible when the accessory is installed	Only for BHMBW-E	P
8.7	Indication of which position or with which special provision the declared IP of flush-type and semi-flush type fixed socket-outlets is ensured	Only for BHMBW-E	P
	Additional indication for socket-outlets intended only for mounting on certain types of surface	Only for BHMBW-E	P
8.8	Marking durable and if possible not smaller than 3 mm,. Clearly readable without visual aids. Test: 15 s with water and 15 s with petroleum spirit		P
8.9	Keep free		N/A
8.10	Devices used in electrical installations On devices intended for installation, the information per Appendix E must be affixed to the smallest enclosed sales unit. Appendix E Information regarding minimum knowledge in electrical engineering.		P
8.11	Installation instructions must be attached to the smallest sales unit		P
	The name and contact address of the manufacturer or the authorized representative or the importer must be indicated on the smallest sales unit		P
9	CHECKING OF DIMENSIONS		
9.1	Socket-outlets comply with the appropriate standard sheets DIN 49075 (Reihe), DIN 49440-1, DIN 49440-5, DIN 49440-6, DIN 49442, DIN 49445, DIN 49447	DIN 49440 teil 1	P
	Insertion of plugs into fixed or portable socket-outlets ensured by their compliance with the relevant standard sheets		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Compliance checked by measurement and by means of gauges with manufacturing tolerances as shown in table 2		P
9.2	It shall not be possible to engage a plug with:		
	- 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 (plug for class 0 equipment).		P
	Engagement of a plug for class 0 or class I equipment with a socket-outlet designed to accept plugs for class II equipment, not possible		N/A
	Impossibility of insertion checked by applying a gauge, for 1 min, with a force of:		
	- 150 N (rated current $\leq$ 16A);		P
	- 250 N (rated current $>$ 16A)		N/A
	Socket-outlets with elastomeric or thermoplastic material: test carried out at 35 °C $\pm$ 2 °C		P
9.3	Socket-outlets, which are an integral part of a product, shall comply with the dimensions of standard sheets and the requirements of this standard. Additional parts, which affect the dimensions of standard sheets (such as an adhesive plates), are not allowed.		N/A
10	PROTECTION AGAINST ELECTRIC SHOCK		
10.1	Socket-outlets: live parts not accessible		P
	Live parts of plugs: not accessible when the plug is in partial or complete engagement with a socket-outlet		N/A
	Test with standard test finger shown in figure 2		P
	Socket-outlets with elastomeric or thermoplastic material: additional test carried out at 35 °C $\pm$ 2 °C with a straight unjointed test finger (75 N for 1 min)		P
	During the test: Socket-outlets not deform and no live parts accessible		P
10.2	Accessible parts (with exception of small screws and the like for fixing bases and covers or cover plates): made of insulating material		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Cover or cover plates of fixed socket-outlets: made of metal if the requirements of 10.2.1 or 10.2.2 are fulfilled		N/A
10.2.1	Metal covers or cover plates protected by supplementary insulation made by insulating linings or insulating barriers		N/A
	Insulating linings or insulating barriers cannot be removed without being permanently damaged		N/A
	Insulating linings or insulating barriers cannot be replaced in an incorrect position and, if they are omitted, Socket-outlets are rendered inoperable or manifestly incomplete		N/A
	There is no risk of accidental contact between live parts and metal covers or cover plates		N/A
10.2.2	Metal covers or cover plates automatically connected, through a low-resistance connection, to the earth during fixing		N/A
10.3	Connection between a pin of a plug and a live socket-contact of a socket-outlet not possible while any other pin is accessible	Construction proof	P
	Compliance checked by manual test and by means of gauges with tolerances as specified in 9.1		P
	Socket-outlets with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °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		N/A
	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 ..... :		N/A
10.4	Keep free		N/A
10.5	Shuttered socket-outlets: live parts not accessible, without a plug in engagement, with the gauge shown in figure 4		P
	Live contacts automatically screened when the plug is withdrawn		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 applied to the entry holes corresponding to live contacts with a force up to 1 N shall not touch live parts		P
	Socket-outlets with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Shutters may not improperly hinder the plug from being inserted. The force to open the shutter may not exceed 30 N. The testing is done with gauges 19a. The gauge should be aligned in a movable fashion.		P
10.6	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		P
10.6.1	The socket-outlet is placed with the outlet contacts in vertical position. Gauge 14 inserted into the socket outlet with a force of 150 [+0/-5] N for 1 min. this test is conducted on new sample. After this test: socket-outlet still comply with the requirements of clause 9		P
10.6.2	Side PE contacts are loaded with a torque of 100 [+0/-5] Ncm for 1 min. With the device picture 43. After this tests probe 4 must be possible to insert. This test is conducted on new samples		P
10.7	Socket-outlet with increased protection: live parts not accessible	Only for BHMBW-E	P
	Gauge of figure 4 applied with a force of 1 N on all accessible surfaces shall not touch live parts	Only for BHMBW-E	P
	Socket-outlets with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C	Only for BHMBW-E	P
11	PROVISION FOR EARTHING		
11.1	Earth connection made before the current-carrying contacts of the plug become live		P
	Current-carrying pins shall separate before the earth connection is broken		P
11.2	Earthing terminals of rewirable socket-outlets comply with clause 12		P
	Earthing terminals of the same size as the corresponding terminals for the supply conductors		P
	Any additional external earthing terminals of fixed socket-outlets of size suitable for conductors of at least 6 mm^2 ..... :		N/A
	Earthing terminals of rewirable Socket-outlets: internal		P
	Earthing terminals of fixed socket-outlets: fixed to the base or to a part reliably fixed to the base		P
	Earthing contacts of fixed socket-outlets:		P
	- fixed to the base, or		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- fixed to the cover (reliably connected to the earthing terminals; contact pieces silver plated or with adequate protection)		N/A
	Parts of earthing circuit in one piece or reliably connected by riveting, welding, or the like		P
11.3	Accessible metal parts of fixed socket-outlets: permanently and reliably connected to the earthing terminal		N/A
11.4	Socket-outlets, other than ordinary, with enclosure of insulating material and more than one cable inlet, provided with an internal earthing terminal for the continuity of the earthing circuit, unless		N/A
	earthing terminals allows the connection of an incoming and an outgoing earthing conductor together		N/A
11.5	Connection between earthing terminal and accessible metal parts: of low resistance		P
	Test:		P
	Test current equal to 1,5 times the rated current or 25 A (A) ..... :	25	—
	Resistance not exceed 0,05 Ω (Ω) ..... :	0,02Ω	P
12	TERMINALS		P
	All the test on terminals, with the exception of the test of 12.3 11, made after the test of clause 16		P
12.1	General		P
12.1.1	Rewirable fixed socket-outlets provided with screw-type terminals or with screwless terminals ..... :	Screw-type terminals	P
	Rewirable plugs and portable socket-outlets provided with terminals with screw clamping ..... :		N/A
	Pre-soldered flexible conductors used: pre-soldered area outside the squeezed area of screw-type terminals		N/A
	Clamping means of terminals: not serve to fix any other components		P
12.1.2	Keep free		N/A
12.1.3	Compiance is checked by inspection and the tests in 12.2 or 12.3 as applicable		P
12.2	Terminals with screw clamping for external copper conductors		P
12.2.1	Socket-outlets provided with terminals which allows the proper connection of copper conductors as shows in table 3		P
	Rated current (A); Type of Socket-outlets ..... :	16A; fixed	—

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Type of conductor (rigid / flexible) ..... :	rigid and flexible	—
	Smallest / largest cross-sectional area (mm²) ..... :	1.5 / 2 x 2,5	—
	Diameter of the largest conductor (mm) ..... :	2,2 / 2,21	—
	Figure of terminal ..... :	Figure 3	—
	Minimum diameter D (minimum dimensions) of conductor space: required (mm); measured (mm). :	Required: 1,7 mm Measured: 2,2 mm	P
12.2.2	Terminals allow the conductor to be connected without special preparation		P
12.2.3	Terminals have adequate mechanical strength		P
	Screws and nut for clamping the conductors have metric ISO thread or a comparable thread		P
	Screws not of soft metal such as zinc or aluminium		P
12.2.4	Terminals resistant to corrosion		P
12.2.5	Screw-type terminals clamp the conductor(s) without undue damage		P
	Test with apparatus shown in figure 32:		---
	- type of conductors ..... :	rigid solid / rigid stranded / flexible	—
	- number of conductors ..... :	1	—
	- smallest cross-sectional area (mm²) (table 3); diameter of bushing hole (mm); height H (mm); mass (kg) ..... :	1.5mm² , bushing hole 6,5mm, Mass 0,4kg, height 260mm	P
	- largest cross-sectional area (mm²) (table 3); diameter of bushing hole (mm); height H (mm); mass (kg) ..... :	2.5mm² , bushing hole 9,5mm, Mass 0,7kg, height 280mm	P
	- nominal diameter of thread (mm); torque according to table 6 (Nm) ..... :	L/N: ϕ 2,9mm, 0,5Nm PE: ϕ 3,4mm, 0,8Nm	—
	During the test: conductor not slip out, no break near clamping unit and no damage		P
12.2.6	Terminals clamp the conductor reliably between metal surfaces		P
	Pull test (1 min):		---
	- type of conductors ..... :	rigid solid / rigid stranded / flexible	—
	- number of conductors ..... :	1	—
	- smallest cross-sectional area (mm²) (table 3); pull (N) ..... :	1,5mm², 40N	P
	- largest cross-sectional area (mm²) (table 3); pull (N) ..... :	2,5mm², 50N	P
	- torque (Nm) (2/3 table 6) ..... :	L/N: 2/3 x 0,5Nm PE: 2/3 x 0,8Nm	—

Clause	Requirement – Test	Measuring result – Remark	Verdict
	During the test: conductor not move noticeably		P
12.2.7	Terminals designed or placed that the conductor cannot slip out while the clamping screws or nuts are tightened		P
	- largest cross-sectional area (mm²) (table 3) ..... :	2,5mm²	—
	- number of wires and nominal diameter of wires (table 5):		----
	fixed socket-outlets: rigid solid conductors / rigid stranded conductors ..... :	1 x 1,78/ 7 x 0,67	—
	plugs and portable socket-outlets: flexible conductors ..... :		—
	- terminals intended for looping-in 2 or 3 conductors: permissible number of conductors..... :	2	—
	- torque (Nm) (2/3 table 6) ..... :	L/N: 2/3 x 0,5Nm PE: 2/3 x 0,8Nm	—
	After the test: no wire of the conductor escaped outside the clamping unit		P
12.2.8	Terminals not work loose from their fixing to Socket-outlets		P
	Torque test:		P
	- rigid solid copper conductor of the largest cross-sectional area (mm²) (table 3) ..... :	2,5 mm²	—
	- torque (Nm) (table 6 or appropriate figures 34, 35, 36) ..... :	L/N: 0,5Nm PE: 0,8Nm	—
	Screws and nuts tightened and loosened 5 times. During the test: terminals not work loose and show no damage		P
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		P
12.2.10	Earthing terminals: no risk of corrosion		P
	Body of brass or other metal no less resistant to corrosion		P
	If the body is a part of a frame or enclosure of aluminium alloy, precautions shall be taken to avoid the risk of corrosion		N/A
12.2.11	Pillar terminals: distance *g* no less than the value specified in figure 34: required (mm); measured (mm) ..... :		N/A
	Mantle terminals: distance *g* no less than the value specified in figure 37: required (mm); measured (mm) ..... :		N/A
12.3	Screwless terminals for external copper conductors		N/A
12.3.1	Screwless terminals of the type suitable for:		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- for rigid copper conductors only, or		N/A
	- for both rigid and flexible copper conductors (tests carried out with rigid and then repeated with flexible conductors)		N/A
12.3.2	Screwless 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 7)		N/A
	Two conductors to be connected: each conductor introduced in a separate clamping unit		N/A
12.3.3	Screwless terminals allow the conductor to be connected without special preparation		N/A
12.3.4	Parts of screwless terminals intended for carrying current of materials as specified in 26.5		N/A
12.3.5	Screwless 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 shall be 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 shall not be possible to confuse the opening for the use of a tool with the opening intended for the conductor		N/A
12.3.7	Screwless terminals intended for the interconnection of two or more conductors:		N/A
	- during insertion, operation of clamping means of one of the conductors is independent of operation of that for the other conductor(s);		N/A
	- during disconnection, conductors can be disconnected either at the same time or separately;		N/A
	- each conductor introduced in a separate clamping unit.		N/A
	It shall be possible clamp securely any number of conductors up to the maximum as designed. Number of conductors; Nominal cross-sectional area (mm^2) ..... :		N/A
12.3.8	Screwless terminals of fixed socket-outlets: adequate insertion obvious and over-insertion prevented		N/A
12.3.9	Screwless terminals properly fixed to the socket-outlets		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	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 terminals withstand mechanical stresses occurring in normal use		N/A
	Test:		N/A
	Connection / disconnection 5 times: rigid solid conductor 2,5 mm^2		N/A
	Connection / disconnection 5 times: rigid solid conductor 1,5 mm^2		N/A
	Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull conductor not come out of the terminal		N/A
	Connection / disconnection 1 time: rigid stranded conductor 2,5 mm^2		N/A
	Connection / disconnection 1 time: rigid stranded conductor 1,5 mm^2		N/A
	Conductor subjected to a pull of 30 N for 1 min after connection. During application of the pull conductor not come out of the terminal		N/A
	Additional test on terminals intended for both rigid and flexible conductors:		N/A
	Connection / disconnection 5 times: flexible conductor 2,5 mm^2		N/A
	Connection / disconnection 5 times: flexible conductor 1,5 mm^2		N/A
	Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull conductor not come out of the terminal		N/A
	Additional test with apparatus shown in figure 32:		N/A
	- type of conductors ..... :	rigid solid / rigid stranded / flexible	—
	- number of conductors ..... :		—
	- 1,5 mm^2; diameter of bushing hole 6,5 mm; height H 260 mm; mass 0,4 kg		N/A
	- 2,5 mm^2; diameter of bushing hole 9,5 mm; height H 280 mm; mass 0,7 kg		N/A
	During the test: conductors not move 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

Clause	Requirement – Test	Measuring result – Remark					Verdict
12.3.11	Screwless terminals withstand electrical and thermal stresses occurring in normal use						N/A
	Test a) carried out for 1 h connecting rigid solid conductors:						N/A
	- test current (A) (table 10) ..... :						—
	- nominal cross-sectional area (mm^2) ..... :						—
	- screwless terminal number ..... :	1	2	3	4	5	—
	- voltage drop measured (mV) (requirement: ≤ 15 mV) ..... :						N/A
	Test b) (temperature cycles test) carried out on terminals subjected to Test a):						N/A
	- test current (A) (table 10) ..... :						—
	- cross-sectional area (mm^2) ..... :						—
	- screwless terminal number ..... :	1	2	3	4	5	—
	- voltage drop measured after the 24 cycle (requirement: ≤ 22,5 mV) ..... :						N/A
	- voltage drop measured (mV) after 48th cycle ..... :						N/A
	- voltage drop measured (mV) after 72th cycle ..... :						N/A
	- voltage drop measured (mV) after 96th cycle ..... :						N/A
	- voltage drop measured (mV) after 120th cycle ..... :						N/A
	- voltage drop measured (mV) after 144th cycle ..... :						N/A
	- voltage drop measured (mV) after 168th cycle ..... :						N/A
	- voltage drop measured (mV) after 192th cycle ..... :						N/A
	- requirement: ≤ 22,5 mV or 2 times 24th cycle value (mV) ..... :						N/A
	After this test: inspection show no changes						N/A
	Mechanical strength test according 12.3.10:						N/A
	Connection / disconnection 5 times: rigid solid conductor 2,5 mm^2						N/A
	Connection / disconnection 5 times: rigid solid conductor 1,5 mm^2						N/A
	Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull conductor not come out of the terminal						N/A
	Connection / disconnection 1 time: rigid stranded conductor 2,5 mm^2						N/A
	Connection / disconnection 1 time: rigid stranded conductor 1,5 mm^2						N/A
	Conductor subjected to a pull of 30 N for 1 min after connection. During application of the pull conductor not come out of the terminal						N/A

Clause	Requirement – Test	Measuring result – Remark			Verdict
	Additional test on terminals intended for both rigid and flexible conductors:				N/A
	Connection / disconnection 5 times: flexible conductor 2,5 mm^2				N/A
	Connection / disconnection 5 times: flexible conductor 1,5 mm^2				N/A
	Conductor subjected to a pull of 30 N for 1 min after each connection. During application of the pull conductor not come out of the terminal				N/A
	Additional test with apparatus shown in figure 32:				N/A
	- type of conductors ..... :	rigid solid / rigid stranded / flexible			—
	- number of conductors ..... :				—
	- 1,5 mm^2; diameter of bushing hole 6,5 mm; height H 260 mm; mass 0,4 kg				N/A
	- 2,5 mm^2; diameter of bushing hole 9,5 mm; height H 280 mm; mass 0,7 kg				N/A
	During the test: conductors not move 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 terminals: connected rigid solid conductor remains clamped, even when deflected during normal installation				N/A
	Deflection test (principle of test apparatus shown in figure 33 a):				N/A
	- test current (A) (equal rated current) ..... :				—
	Smallest cross-sectional area (mm^2) (table 11) ..... :				—
	Force (N) (table 12) ..... :				—
	- screwless terminal number ..... :	1	2	3	—
	- starting point (X = deflection original point)..... :	X	X+10°	X+20°	—
	- voltage drop measured (mV) (1st deflection) ..... :				N/A
	- voltage drop measured (mV) (2nd deflection) ..... :				N/A
	- voltage drop measured (mV) (3rd deflection) ..... :				N/A
	- voltage drop measured (mV) (4th deflection) ..... :				N/A
	- voltage drop measured (mV) (5th deflection) ..... :				N/A
	- voltage drop measured (mV) (6th deflection) ..... :				N/A
	- voltage drop measured (mV) (7th deflection) ..... :				N/A
	- voltage drop measured (mV) (8th deflection) ..... :				N/A
	- voltage drop measured (mV) (9th deflection) ..... :				N/A
	- voltage drop measured (mV) (10th deflection) ..... :				N/A

Clause	Requirement – Test	Measuring result – Remark			Verdict
	- voltage drop measured (mV) (11th deflection) .....:				N/A
	- voltage drop measured (mV) (12th deflection) .....:				N/A
	- requirement: ≤ 25 mV				N/A
	Largest cross-sectional area (mm²) (table 11) .....:				—
	Force (N) (table 12) .....:				—
	- screwless terminal number .....:	1	2	3	—
	- starting point (X = deflection original point).....:	X	X+10°	X+20°	—
	- voltage drop measured (mV) (1st deflection) .....:				N/A
	- voltage drop measured (mV) (2nd deflection) .....:				N/A
	- voltage drop measured (mV) (3rd deflection) .....:				N/A
	- voltage drop measured (mV) (4th deflection) .....:				N/A
	- voltage drop measured (mV) (5th deflection) .....:				N/A
	- voltage drop measured (mV) (6th deflection) .....:				N/A
	- voltage drop measured (mV) (7th deflection) .....:				N/A
	- voltage drop measured (mV) (8th deflection) .....:				N/A
	- voltage drop measured (mV) (9th deflection) .....:				N/A
	- voltage drop measured (mV) (10th deflection) .....:				N/A
	- voltage drop measured (mV) (11th deflection) .....:				N/A
	- voltage drop measured (mV) (12th deflection) .....:				N/A
	- requirement: ≤ 25 mV				N/A
12.4	Keep free				N/A
13	CONSTRUCTION OF FIXED SOCKET-OTLETS				P
13.1	Socket-contact assembly: sufficient resiliency Parts of socket-contact assemblies, which will be in contact with the portion of the pin intended to make electrical contact when the plug is fully inserted in the socket-outlet :				P
	-Shall be of metal and				P
	-shall ensure metallic opposing contacts at least on two sides of each pin.				P
	where the contact pressure relies on the insulating material, it shall have such a characteristic as to ensure a safe and permanent contact in any condition of normal use with regard to shrinking, ageing and abrasion Compliance is checked by inspection and test of cl.9,21 and 22				P
13.2	Socket-contact and pins of socket-outlets: resistant to corrosion				P

Clause	Requirement – Test	Measuring result – Remark	Verdict
13.3	Insulating linings, barriers and the like: adequate mechanical strength		P
13.4	Socket-outlets constructed as to permit		P
	- easy fixing of the base to a wall or in a mounting box		P
	- easy introduction and connection of the conductors in the terminals		P
	- correct positioning of the conductors		P
	- adequate space between the underside of the base and the surface on which the base is mounted – surface mounted	Fox socket box	P
	- adequate space between the underside of the base and the sides of the base and the enclosure (cover or box) – flush mounted	For socket module	P
	Socket-outlets classified as design A: permit easy positioning and removal of the cover or cover plate, without displacing the conductors		P
13.5	Socket-outlets designed that full engagement of associated plugs is not prevented by any projection from their engagement face		P
	Gap between the engagement face of the socket-outlet and the plug: not exceed 1 mm		P
13.6	Covers provided with bushings for the entry holes for the pins: not possible to remove them from the outside or for them to become detached inadvertently from the inside when the cover is removed	Only for EHMBW-E	P
13.7	Covers, cover-plates or parts of them intended to ensure protection against electric shock:		P
	- held in place at two or more points by effective fixings		P
	- fixed by means of a single fixing, e.g. by a screw, provided that they are located by another means (e.g. by a shoulder)		P
	Fixings of covers or cover-plates of socket-outlets of design A serve to fix the base: there shall be means to maintain the base in position, even after removal of the covers or cover-plates		P
13.7.1	Covers or cover-plates whose fixings are of the screw-type:		P
	Compliance checked by inspection only		P
13.7.2	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:		N/A
	Compliance checked, when their removal may give access, with the standard test finger:		—

Clause	Requirement – Test	Measuring result – Remark	Verdict
	to live parts: by the test of 24.14 (verification of the non-removal and the removal)		N/A
	to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values shown in table 23: by the test of 24.15 (verification of the non-removal and the removal)		N/A
	only to insulating parts, 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 23, or live parts of SEL V circuits not greater than 25 V a.c.: by the test of 24.16 (verification of the non-removal and the removal)		N/A
13.7.3	Covers or cover-plates whose fixing is not dependent on screws and whose removal is obtained by using a tool, in accordance with the manufacturer's information given in an instruction sheet or in a catalogue:		N/A
	Compliance checked, when their removal may give access, with the standard test finger:		N/A
	to live parts: by the test of 24.14 (verification of the non-removal only)		N/A
	to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values shown in table 23: by the test of 24.15 (verification of the non-removal only)		N/A
	only to insulating parts, 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 23, or live parts of SEL V circuits not greater than 25 V a.c.: by the test of 24.16 (verification of the non-removal only)		N/A
13.8	Keep free		N/A
13.9	Ordinary surface-type socket-outlets: no free openings in the enclosure		P
13.10	Screws or other means for mounting the socket-outlet on a surface in a box or enclosure: easily accessible from the front.		P
	Fixing means not serve any other fixing purpose		P
13.11	Multiple socket-outlets with a common base: provided with fixed links for the interconnection of the contacts in parallel		N/A
	Fixing of the links independent of the connection of the supply wires		N/A
13.12	Multiple socket-outlets, comprising separate bases: correct position of each base ensured		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	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: adequate mechanical strength		P
13.14	Socket-outlets withstand the lateral strain imposed by equipment likely to be introduced into them		P
	Socket-outlets 16A 250V: test made 4 times with the socket-outlet turned through 90°, 15 N for 1 min (device shown in fig.11)		P
	During the test: device not come out		P
	After the test:		P
	- no damage		P
	- socket-outlets comply with clause 22		P
13.15	Socket-outlets shall not be an integral part of lampholders		P
13.16	Socket-outlets other than ordinary: totally enclosed when fitted with screwed conduits or with polyvinyl chloride (p.v.c.) sheathed or similar type cables and without a plug in position	Only for BHMBW-E	P
	Surface-type socket-outlets other than ordinary shall have provision for opening a drain hole of at least 5 mm in diameter, or 20 mm^2 in area with a width and a length of at least 3mm .....:	Ø mm / mm^2	N/A
	Drain hole: effective		N/A
	Lid springs (if any): of corrosion resistant material (bronze or stainless steel)		P
13.17	Keep free		N/A
13.18	Earthing pins: adequate mechanical strength		P
	Not solid pins: compliance checked by inspection and by the test of 14.2 made after the tests of clause 21		N/A
13.19	Earthing contacts and neutral contacts: locked against rotation and removable only with the aid of a tool, after dismantling the socket-outlet		P
	Metal strips of the earthing circuit: no burrs which might damage the insulation of the supply conductors		P
13.20	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: allow the introduction of the conduit or the sheath of the cable		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Surface-type socket-outlets:		P
	the conduit or sheath of the cable can enter at least I mm into the enclosure		P
	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 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 14 or be as specified by the manufacturer: rated current (A); Limits of external dimensions of cable min/max (mm) .....:	as specified by the manufacturer	P
13.22	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 Socket-outlets		N/A
	Socket-outlets placed at 40 °C for 2 h. Force of 30 N applied for 5 s by test finger. 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 come out		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	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 Socket-outlets		N/A
	Socket-outlets kept at -15 °C for 2 h: possibility to introduce cables of the largest diameter through membranes		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
13.24	Socket-outlets with flap lids for securing the protection degree higher or equal to IPX4 shall be constructed that the correct functioning of the flap lid is ensured during intended use. Compliance is checked by inspection and test according to 24.20	Only for BHMBW-E	P

Clause	Requirement – Test	Measuring result – Remark	Verdict
14	KEEP FREE		N/A
15	INTERLOCKED SOCKET-OUTLETS		N/A
	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, TO HARMFUL INGRESS OF WATER AND TO HUMIDITY		P
16.1	Resistance to ageing		P
	Socket-outlets shall be resistant to ageing		P
	Socket-outlets subjected to a test in a heating cabinet at 70 °C ± 2 °C for seven days (168 h)		P
	After the tests, samples shall 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
16.2	Protection by enclosure		P
	Enclosure of Socket-outlets other than ordinary shall provide a degree of protection against harmful ingress of water in accordance with the classification	IP20 for BHMB-E, BHTB-1E IP44 for BHMBW-E	P
	Socket-outlets are mounted on a vertical surface as in intended use. Flush-type and semi flush-type socket-outlets fixed in a test wall using an appropriate box in accordance with the manufacturer's instructions		P
	Socket-outlets with glands or membranes are fitted with a cord according to 12.2.1. Glands are tightened with a torque 2/3 of the torque for the test in Clause 24.6.		P
	Mounting screws for housings are tightened with 2/3 of the torque in table 6 of 12.2.8.		P
	Parts that can be removed without tools are removed.		P
	Flush-type and semi flush-type socket-outlets fixed:		

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- in a test wall using an appropriate box in accordance with the manufacturer's instructions		N/A
	-The wall description and instructions for mounting if according to the manufacturer.		N/A
	- in a test wall according to figure 13. No water can enter between the tile and socket-outlet box.		N/A
	The test wall for surface type socket-outlets is arranged in vertical position.		N/A
	Fixed socket-outlets are mounted as in normal use and fitted with such cable having conductors of the largest and smallest cross sectional area given in table 3 as appropriate to their rating.		P
	Mounting screws tightened with a torque equal to 2/3 of the torque given in table 6 (Nm) ..... :		---
	Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm) ..... :		---
	Parts that can be removed without tools are removed.		P
	Socket-outlets with IP classification lower than IP X5 and drain holes have a drain hole open according to intended use and in lowest position		P
	Fixed socket-outlets are tested without plug and with the lid closed		P
	High voltage test according to clause 17.2 immediately after the IP test		P
16.2.1	Protection against access to hazardous parts and ingress of solids.	IP44 for BHMBW-E	P
16.2.1.1	Protection against contact with hazardous parts		P
	Appropriate test performed as specified in EN 60529 (VDE 0470) (see also clause 10)		P
16.2.1.2	Protection against ingress of solids.		P
	Appropriate test performed as specified EN 60529 (VDE 0470)		P
	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. Drain holes remain closed.		N/A
	Drain holes remain closed.		N/A
16.2.2	Protection against ingress of water		P
	The enclosure of plugs and sockets shall provide protections against ingress of water according to their IP classification (test to EN 60529).		P
	Directly after this test the High voltage test 17.2 must be passed. No water may penetrate in between the insulation and the strands.		P
16.3	Resistance to humidity		P
	Socket-outlets proof against humidity which may occur in normal use		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	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 ordinary Socket-outlets	BHMB-E, BHTB-1E	P
	- seven days (168 h) for Socket-outlets other than ordinary	BHMBW-E	P
	After this treatment the specimens show no damage		P
17	INSULATION RESISTANCE AND ELECTRIC STRENGTH		P
17.1.1	For socket-outlets: insulation resistance (500 V d.c. for 1 min):		P
	a) between all poles connected together and the body, with a plug in engagement ≥ 5 MΩ ..... :	>6,5 MΩ	P
	b) between each pole in turn and all others connected to the body, with a plug in engagement ≥ 5 MΩ ..... :	>6,5 MΩ	P
	c) between any metal enclosures and metal foil in contact with the inner surface of its insulating linings, if any ≥ 5 MΩ ..... :	MΩ	N/A
	d) between any metal part of the cord anchorage, including clamping screws, and earthing terminal or earthing contact, if any, of portable socket-outlets ≥ 5 MΩ ..... :	MΩ	N/A
	e) between any metal part of the cord anchorage of portable socket-outlets and a metal rod of the maximum diameter of the flexible cable inserted in its place ≥ 5 MΩ ..... :	MΩ	N/A
17.1.2	Keep Free		N/A
17.2	Socket-outlets: electric strength, test voltage (a.c., for 1 min):		P
	a) test voltage (V) ..... :	~~1250 V~~ / 2000 V	P
	b) test voltage (V) ..... :	~~1250 V~~ / 2000 V	P
	c) test voltage (V) ..... :	1250 V / 2000 V	N/A
	d) test voltage (V) ..... :	1250 V / 2000 V	N/A
	e) test voltage (V) ..... :	1250 V / 2000 V	N/A
	During the test no flashover or breakdown		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
18	OPERATION OF EARTHING CONTACTS		
18.1	Earthing contacts provide adequate contact pressure and not deteriorate in normal use		P
	Compliance checked by the tests of clauses 19 and 21		P
	Force exerted measured in side earthing contacts not less than 5 N (CEE 7 clause 18) .....:	>6,5N	P
18.2	Keep free		N/A
19	TEMPERATURE RISE		
	Socket-outlets have to be constructed that they can pass the following heating tests.		P
	Temperature rise on touchable metal parts not exceed 40 K and on touchable not metal covers not exceed 60 K	Max.39,2K <60K	P
19.1	Fixed outlets		P
	Fixed outlets with cable are tested as delivered:		N/A
	- type of flexible cable; number of conductors and nominal cross-sectional area (mm^2).....:		—
	- rated current of accessory .....:	16	—
	- nominal cross-sectional area (mm^2) .....:	2,5 mm^2	—
	- type of conductors .....:	rigid solid ~~/ rigid stranded / flexible~~	—
	Rewirable outlets without cable are to be fitted with polyvinyl chloride insulated conductors having a nominal cross-sectional area as show in table 15:		P
	Flush-mounted outlets are to be prepared in an in-wall box mounted in hardwood as described in the standard.		P
	On-wall outlets are to be prepared on a wooden block with min. Thickness of 20mm, width of 500mm and height of 500mm.		N/A
	Other kind of outlets are to be mounted according to the manufacturer's instructions or if not available under worst case conditions in normal use.		P
	Outlets are tested with a test plug according to figure 16		P
	Multiple outlets are tested at one outlet of each kind and rated current. The test plug is inserted into that outlet which may result in the highest temperature rise. In case of doubts the test has to be repeated at another outlet.		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
19.1.1	Fixed outlets without accessories		P
	Outlets are tested for 1h with an AC current according to table 20		P
	The temperature rise of terminals and internal connections must not exceed 45 K.	Test current: 22A Measured: Max.43,4K<45K	P
19.1.2	Fixed outlets with accessories		N/A
	Outlets are tested as follows: Rated current for 1 h or until tripping of an internal protection device. The temperature rise of terminals and internal connections of accessories must not exceed the limits given in the related standards. The temperature rise of all other terminals and internal connections must not exceed 45 K		N/A
	After that outlets are tested with a test current according to table 20 for 1 h or until tripping of an internal protection device. If an internal protection device operates the test has to be repeated (for 1 h) with a current of 0.95 times the tripping current of the protection device. If the internal protection device is a fuse according to EN 60127-2 the test has to be repeated with 1,5 times the rated fuse current for 1 h for a rated fuse current up to 6.3 A 30 min for a rated fuse current above 6.3 A The temperature rise of terminals and internal connections must not exceed 70 K The temperature rise of the plug socket must not exceed 45 K		N/A
19.2	Keep free		
19.3	Keep free		
19.4	Keep free		
19.5	Keep free		
20	BREAKING CAPACITY		P
	Socket-outlets shall have adequate breaking capacity		P
	Compliance checked by testing:		P
	- socket-outlets;		P
	- plugs with pins which are not solid		N/A
	Test conditions:		P
	- 100 strokes; rate of operation .....:	30 strokes per minute	—

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- test voltage (1,1 Vn) .....:	275V	—
	- test current (1,25 In) (power factor 0,6) .....:	20A	—
	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 not show any damage which may impair the safety		P
21	NORMAL OPERATION		P
	Socket-outlets shall withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use		P
	Compliance for socket-outlets as well as plugs with resilient earthing contacts or non solid pins is checked by testing, see figure 17.		P
	- socket-outlets;		P
	- plugs with resilient earthing socket-contacts;		N/A
	- plugs with pins which are not solid		N/A
	Test performed on:		P
	- complete shuttered socket-outlets		P
	- specimens prepared by the manufacturer without shutters (with current flowing). Number of strokes:		N/A
	- specimens with shutters (without current flowing)		N/A
	- complete shuttered socket-outlets with operations made by hand as in normal use		N/A
	Test conditions:		P
	- 10000 strokes; rate of operation .....:	30 strokes per minute	—
	- test voltage Vn (V) .....:	250V	—
	- test current (as specified in table 20) (A) (power factor 0,8) .....:	16A	—
	Test current passed:		P
	- during each insertion and withdrawal of the plug (In ≤ 16A)		P
	- during alternate insertion and withdrawal, the other insertion and withdrawal being made without current flowing (In > 16A)		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	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 shall not show:		P
	- wear impairing their further use;		P
	- deterioration of enclosures, insulating lining 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		N/A
	Shuttered socket-outlets: the following gauges not touch live parts when they remain under the relevant forces:		P
	- gauges of figure 3 applied with a force up to 20 N		P
	- steel gauge of figure 4 applied with a force up to 1 N		P
	Temperature-rise test (requirements of clause 19):		P
	Test current as required for the normal operation test, given in table 20, passed for 1 h (A) ..... :		—
	Temperature rise of terminals not exceed 45 K (K) .....:	Max. 39,6K<45K	P
	Separate tests made passing the current through:		P
	- the neutral contact, if any, and the adjacent phase contact (K) ..... :		N/A
	- the earthing contact, if any, and the nearest phase contact (K) .....:	Max. 41,3K<45K	P
	Socket-outlets: electric strength (sub-clause 17.2), test voltage (a.c., for 1 min):		P
	a) test voltage (V)..... :	~~1000 V~~ / 1500 V	P
	b) test voltage (V)..... :	~~1000 V~~ / 1500 V	P
	c) test voltage (V)..... :	1000 V / 1500 V	N/A
	d) test voltage (V)..... :	1000 V / 1500 V	N/A
	e) test voltage (V)..... :	1000 V / 1500 V	N/A
	During the test: no flashover or breakdown		P
	Fixed socket-outlets: test according to 13.1		P
	Force exerted measured in side earthing contacts not less than 60 % or 5 N (CEE 7 clause 18) ..... :		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	The force to open the shutter may not exceed 50 N, as specified in the normal operation test. The test is done with gauges 19a.		P
22	FORCE NECESSARY TO WITHDRAW THE PLUG		P
	Construction of accessory shall allow the easy insertion and withdrawal of the plug, and prevent the plug from working out of the socket-outlet in normal use		P
	Rated current (A) .....:	16A	P
	Number of poles .....:	2P+E	P
22.1.1	Verification of the maximum withdrawal force (multi-pin gauge)		P
	- Maximum withdrawal force (N) .....:	54 N	—
	The plug not remain in the socket-outlet		P
22.1.2	Keep free		
22.2	Verification of the minimum withdrawal force (single-pin gauge)		P
	- Minimum withdrawal force (N) .....:	2 N	—
	The plug not fall from each individual contact-assembly within 30 s		P
23	FLEXIBLE CABLES AND THEIR CONNECTION		N/A
23.1	Keep free		N/A
23.2	Keep free		N/A
23.3	For the relationship between socket ratings and test currents for the temperature rise test (clause 19) and normal operation (clause 21), refer to table 20.		N/A
23.4	Keep free		N/A
24	MECHANICAL STRENGTH		P
	Socket-outlets, surface mounting boxes and screwed glands have adequate mechanical strength		P
24.1	Fixed socket-outlets, portable multiple socket-outlets and surface mounting boxes: impact test (apparatus shown in fig. 16, 17, 18 and 19)		P
	After the test: no damage, live parts no become accessible		P
24.2	Keep free		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
24.3	Ordinary surface type socket-outlets: first fixed to a cylinder of rigid steel sheet and then fixed to a flat steel sheet		P
	During and after the test: no damage		P
24.4	Keep free		N/A
24.5	Keep free		N/A
24.6	Screwed glands of Socket-outlets other than ordinary: torque test (1 min)		N/A
	- diameter of test rod (mm) ..... :		—
	- type of material ..... :	~~metal / moulded material~~	—
	- torque (Nm) ..... :		—
	After the test: no damage of glands and enclosure of the specimens		N/A
24.7	Keep free		N/A
24.8	Shuttered socket-outlets: mechanical test carried out on specimens submitted to the normal operation test according to clause 21		P
	Force applied for 1 min against the shutter of an entry hole by means of one pin ..... :	40 N	—
	Pin not come in contact with live parts		P
	After the test: no damage		P
24.9	Keep free		N/A
24.10	Keep free		N/A
24.11	Keep free		N/A
24.12	Keep free		N/A
24.13	Keep free		N/A
24.14	Force necessary for covers or cover-plates to come off or not to come off (accessibility with the test finger to live parts)		N/A
24.14.1	Verification of the non-removal of covers or cover-plates		N/A
	Force applied for 1 min in direction perpendicular to the mounting surface ..... :	~~40 N / 80 N~~	—
	Covers or cover-plates not come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		N/A
	Covers or cover-plates not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates		N/A
	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting / supporting surface: covers or cover-plates come off		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		N/A
	Covers or cover-plates come off		N/A
	After the test: no damage		N/A
24.15	Force necessary for covers or cover-plates to come off or not to come off (accessibility with the test finger to non-earthed metal parts separated from live parts by creepage distances and clearances according to table 23)		N/A
24.14.1	Verification of the non-removal of covers or cover-plates		N/A
	Force applied for 1 min in direction perpendicular to the mounting surface .....:	~~10 N / 20 N~~	—
	Covers or cover-plates not come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		N/A
	Covers or cover-plates not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates		N/A
	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting / supporting surface: covers or cover-plates come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		N/A
	Covers or cover-plates come off		N/A
	After the test: no damage		N/A
24.16	Force necessary for covers or cover-plates to come off or not to come off (accessibility to insulating parts, earthed metal parts, live parts of SELV $\leq$ 25 V a.c. or metal parts separated from live parts by creepage distances twice those according to table 23)		N/A
24.14.1	Verification of the non-removal of covers or cover-plates		N/A
	Force 10 N applied for 1 min in direction perpendicular to the mounting surface: covers or cover-plates not come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		N/A
	Covers or cover-plates not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting / supporting surface: covers or cover-plates come off		N/A
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		N/A
	Covers or cover-plates come off		N/A
	After the test: no damage		N/A
24.17	Test with gauge of figure 7 applied according to figure 9 for verification of the outline of covers or cover-plates: distances between face C of gauge and outline of side under test, not decrease .....:	~~complying / not complying~~	—
24.18	Test with gauge according to figure 5 applied as shown in figure 11 (1 N): gauge not enter more than 1mm .....:	~~complying / not complying~~	—
24.19	Keep free		N/A
24.20	On socket-outlets with hinged lid In order to secure a degree of protection greater or equal to IP 44 for socket-outlets with hinged lids the hinged lid is subjected to a motion test. After successful assembly, same as for intended use, the hinged lid is opened 5,000 times to a minimum of 5° before contact point. Any springs that may be present or other devices to close the lid may not get lost or rendered useless.		P
24.21	For socket-outlets with hinged lid, and to test the captivity of the lid, the hinged lid is subjected to a tensile test for 30 sec. in the most unfavorable direction, without jerking, using a force of 50 N. The lid may not loosen and/or break away.		N/A
25	RESISTANCE TO HEAT		P
25.1	Specimens kept in heating cabinet 100 °C for 1 h		P
	During the test: no change impairing their further use and sealing compound, if any, not flow		P
	After the test: markings still legible		P
25.2	Parts of insulating material of fixed socket-outlets necessary to retain current-carrying parts and parts of the earthing circuit in position, and parts of the front surface zone of 2 mm width surrounding the phase and neutral pin entry holes: ball-pressure test (1 h, 125 °C)		P
	After the test: diameter of impression ≤ 2 mm .....:	Max.1,2mm	P

Clause	Requirement – Test	Measuring result – Remark	Verdict
25.3	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)		P
	Test temperature (°C) ..... :	70°C	P
	After the test: diameter of impression ≤ 2 mm .....:	1,0mm	P
25.4	Keep free		N/A
26	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
26.1	Connections 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
	Screws and nuts which transmit contact pressure: in engagement with a metal thread		P
	Test:		P
	- 10 times for screws in engagement with a thread of insulating material and for screws of insulating material	Screws used for assembly and cord anchorage	P
	- 5 times for all other cases	Screws used for terminal	P
	- terminals: screw diameter (mm); torque (Nm); times ..... :	2,9mm; 0,5Nm; 5	—
	- earthing terminals: screw diameter (mm); torque (Nm); times ..... :	3,4mm; 0,8Nm; 5	—
	- assembly screws: screw diameter (mm); torque (Nm); times ..... :	2,6mm; 0,4Nm; 10	—
	- cord anchorage: screw diameter (mm); torque (Nm); times ..... :	2,9mm; 0,8Nm; 10	—
	- other screws or nuts: diameter (mm); torque (Nm); times ..... :		—
	During the test: no damage impairing the further use of the screwed connectons		P
26.2	Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured		P
26.3	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
	Connections made by insulation piercing of tinsel cord reliable		N/A
26.4	Screws and rivets locked against loosening and/or turning		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
26.5	Current-carrying parts of metal having mechanical strength, electrical conductivity and resistance to corrosion adequate:		P
	- copper;		N/A
	- alloy with at least 58 % copper for parts made from cold-rolled sheet or with at least 50 % copper for other parts;	>58%	P
	- stainless steel with at least 13 % chromium and not more than 0,09 % carbon		N/A
	- steel with electroplated coating of zinc (ISO 2081), with thickness of at least:		N/A
	5 µm, service condition ISO no. 1, for ordinary equipment		N/A
	12 µm, service condition ISO no. 2, for splash-proof equipment		N/A
	25 µm, service condition ISO no. 3, for jet-proof equipment		N/A
	- steel with electroplated coating of nickel and chromium (ISO 1456), with thickness of at least:		N/A
	20 µm, service condition ISO no. 2, for ordinary equipment		N/A
	30 µm, service condition ISO no. 3, for splash-proof equipment		N/A
	40 µm, service condition ISO no. 4, for jet-proof equipment		N/A
	- steel with electroplated coating of tin (ISO 2093), with thickness of at least:		N/A
	12 µm, service condition ISO no. 2, for ordinary equipment		N/A
	20 µm, service condition ISO no. 3, for splash-proof equipment		N/A
	30 µm, service condition ISO no. 4, for jet-proof equipment		N/A
	Current-carrying parts subjected to mechanical wear: not of steel with electroplated coating		P
	Metals having a great difference of electrochemical potential: not used in contact with each other		N/A
26.6	Contacts subjected to a sliding action: of metal resistant to corrosion		P
26.7	Thread-forming screws and thread-cutting screws not used for the connection of current-carrying parts		P
	Thread-forming screws and thread-cutting screws used to provide earthing connection: not necessary to disturb the connection and at least two screws are used for each connection		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
26.8	If other than screw-type or screwless terminals used for internal connections in plugs and portable socket-outlets, these connections shall be soldered, welded, crimped or equally effective permanent connections.		P
	Screwless terminations, similar like insulating piercing terminations, shall only be used for uninsulated rigid conductors, compliance is checked by the tests according to 12.3 as far as applicable.		N/A
27	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND		P
27.1	Creepage distances, clearances and distances through sealing compound no less than the values shown in table 23		P
	Creepage distances (cr):		P
	1) between live parts of different polarity ≥ 4(3) mm ..... :	>3,0 (by gauge)	P
	2) between live parts and:		P
	- accessible insulating and earthed metal parts ≥ 3 mm ..... :	>3,0 (by gauge)	P
	- parts of earthing circuit ≥ 3 mm ..... :	>3,0 (by gauge)	P
	- metal frames supporting the base of flush-type socket-outlets ≥ 3 mm ..... :		N/A
	- screws or devices for fixing bases, covers or cover-plates of fixed socket-outlets ≥ 3 mm ..... :	>3,0 (by gauge)	P
	- external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit ≥ 3 mm ..... :	>3,0 (by gauge)	P
	3) between pins of plugs and metal parts connected to them, when fully engaged, and a socket-outlet of the same system having accessible unearthed metal parts ≥ 6(4,5) mm ..... :		N/A
	4) between the accessible unearthed metal parts of a socket-outlet and a fully engaged plug of the same system having pins and metal parts connected to them ≥ 6(4,5) mm ..... :		N/A
	5) between live parts of a socket-outlet (without a plug) and its accessible unearthed metal parts ≥ 6(4,5) mm ..... :		N/A
	Clearances (cl):		P
	6) between live parts of different polarity ≥ 3 mm .. :	>3,0 (by gauge)	P
	7) between live parts and:		P

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- accessible insulating and earthed metal parts not mentioned under 8 and 9 ≥ 3 mm ..... :	>3,0 (by gauge)	P
	- parts of earthing circuit ≥ 3 mm ..... :	>3,0 (by gauge)	P
	- metal frames supporting the base of flush-type socket-outlets ≥ 3 mm ..... :		N/A
	- screws or devices for fixing bases, covers or cover-plates of fixed socket-outlets ≥ 3 mm ..... :	>3,0 (by gauge)	P
	- external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit ≥ 3 mm ..... :	>3,0 (by gauge)	P
	8) between live parts and:		N/A
	- exclusively earthed metal boxes ≥ 3 mm ..... :		N/A
	- unearthed metal boxes, without insulating lining ≥ 4,5 mm ..... :		N/A
	9) between live parts and the surfaces on which the base of a socket-outlet for surface mounting is mounted ≥ 6 mm..... :	>6 mm	P
	10) between live parts and the bottom of any conductor recess, if any, in the base of a socket-outlet for surface mounting ≥ 3 mm ..... :		N/A
	Distance through insulating sealing compound:		N/A
	11) between live parts covered with at least 2 mm of sealing compound and the surfaces on which the base of a socket-outlet for surface mounting is mounted ≥ 4(3) mm ..... :		N/A
	12) between live parts covered with at least 2 mm of sealing compound and the bottom of any conductor recess, if any, in the base of a socket-outlet for surface mounting ≥ 2,5 mm ..... :		N/A
27.2	Insulating sealing compound: not protrude above the edge of the cavity in which it is contained		N/A
27.3	Ordinary surface-type socket-outlets: no bare current-carrying strips at the back		P
28	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING		P
28.1	Resistance to abnormal heat and to fire		P
28.1.1	Glow-wire test		P
	For parts of fixed socket-outlets necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 850 °C Note 5: The outer material by moulded plugs is totally removed when testing the supporting parts		P
	No visible flame and no sustained glowing		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Flame and glowing extinguish within 30 s .....:	extinguish within 3 s	P
	No ignition of the tissue paper		P
	For parts of fixed socket-outlets needed to retain the earth terminal in position in a box: test temperature 650 °C		P
	No visible flame and no sustained glowing	No visible flame	P
	Flame and glowing extinguish within 30 s .....:		N/A
	No ignition of the tissue paper		P
	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: test temperature 650 °C		N/A
	No visible flame and no sustained glowing	No visible flame	P
	Flame and glowing extinguish within 30 s .....:		N/A
	No ignition of the tissue paper		P
28.1.2	Keep free		N/A
28.2	Resistance to tracking		P
	Parts of insulating material retaining live parts in position of socket-outlets other than ordinary: test voltage 175 V, 50 drops, solution A of IEC 112		P
	No flashover or breakdown		P
29	RESISTANCE TO RUSTING		P
	Ferrous parts protected against rusting		P
	No signs of rust after 10 min in carbon tetrachloride, trichloroethane or equivalent degreasing agent, 10 min 10 % solution of ammonium chloride, 10 min in a box with air saturated with moisture and 10 min at 100 °C		P
30	KEEP FREE		N/A
31	EMC		N/A
	No requirements except when the accessories contain electronic parts Neon lamps are not electronic parts.		N/A
	Accessories with electronic parts must comply with the relevant EMC requirements		N/A

Product Service

ATTACHMENT			
ATTACHMENT TO TEST REPORT DIN VDE 0620-1:2016 + A1:2017 New requirements according to DIN VDE 0620-1:2021 Clause 10.5			
Differences according to:	**DIN VDE 0620-1:2016/A1:2017**		
TRF attachment number and revision:	DIN VDE 0620-1:2016 Attachment DIN VDE 0620-1:2021 Clause 10.5		
TRF attachment originated by:	TÜV SÜD Product Service		
Copyright blank test report:	This test report is based on the content of the standard (see above). The test report considered selected clauses of the a.m. standard(s) and experience gained with product testing. It was prepared by TUV SUD Product Service. TUV SUD Group takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.		
Clause	Requirement + Test	Result - Remark	Verdict
10.5	Shuttered fixed socket-outlets: live parts not accessible with gauges 13 and 15, without a plug-in engagement. Test under application of the gauge 13 and 15. ~~ *Steckdosen mit Shutter zusätzlich so gebaut, dass aktive Teile bei nicht eingeführtem Stecker mit den Lehren 13 und 15 nicht berührbar sind.* *Prüfung mit den Lehren 13 und 15*		P
	The construction of fixed socket outlets provides that live contacts are automatically screened when the plug is withdrawn ~~ *Steckdosen so gebaut, dass aktive Kontakte automatisch abgeschirmt werden, wenn der Stecker herausgezogen ist*		P
	Means cannot easily be operated by anything other than a plug and do not depend upon parts which are liable to be lost. ~~ *Die Mittel hierfür sind so beschaffen, dass sie nicht leicht mit etwas anderem als einem Stecker zu betätigen sind, und nicht von Teilen abhängig sind, die verloren gehen können.*		P

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10.5.1	Fixed socket outlets with elastomeric or thermoplastic material: test carried out at 35°C ± 2 °C Both, the socket outlet and the gauge have this temperature. ~~ *Bei Steckdosen mit Gehäusen oder Kappen aus thermoplastischem Material wird die Prüfung bei einer Umgebungstemperatur von 35 °C ±2°C durchgeführt.* *Wobei die Steckdosen als auch die Lehre diese Temperatur haben.*	Clause 10.5.1 (access gauge) was only assessed on the socket port. Protection from access to live parts has to be checked at openings of the end product enclosure after integration of the socket outlet.	P
	Gauge 13 is applied to the entry holes corresponding to live contacts, as well as to all other openings in enclosures and covers. ~~ *Die Lehre 13 wird sowohl auf die Eintrittslöcher der zugehörigen aktiven Kontakte als auch auf alle weiteren Öffnungen in Gehäusen und Kappen angewendet.*		P
	The gauge does not touch live parts of the socket and its additional components ~~ *Die Lehre berührt keine stromführenden Teile der Steckdose und ihrer zusätzlichen Komponenten.*		P
	The gauge 13 does not touch any active parts or any parts of SELV circuits even if it touches the earth conductor system at the same time ~~ *Die Lehre 13 berührt bei gleichzeitiger Berührung des Schutzleitersystems keine aktiven Teile und keine Teile von SELV-Stromkreisen.*		P
	The test is done with fully disengaged plug at fixed socket outlet. ~~ *Die Prüfung wird mit vollständig ausgezogenem Stecker an der Steckdose durchgeführt.*		P
	The additional test with partly engaged plug at the fixed socket outlet is performed with Test finger DIN EN 61032, Fig. 2 ~~ *Die zusätzliche Prüfung mit einem teilweise eingesteckten Stecker an der Steckdose wird mit dem Prüffinger gemäß DIN EN 61032, Bild 2 durchgeführt.*		P

ATTACHMENT			
10.5.2	The gauge 15 is applied to the entry holes corresponding to live contacts and does not touch live parts ~~ *Die Lehre 15 wird auf die Eintrittsöffnungen der zugehörigen aktiven Kontakte angewendet und berührt keine aktiven Teile.*		P
	Gauge is applied in the most unfavourable position on the shutter, successively in three directions at the same place. ~~ *Die Lehre wird t in der ungünstigsten Stellung auf die Shutter nacheinander in drei Richtungen an derselben Stelle angewendet.*		P
10.5.3	Shutters do not improperly hinder the plug from being inserted. The force to open the shutter does not exceed 30 N. ~~ *Shutter behindern das Einführen des Steckers nicht unzulässig. Die Kraft zum Öffnen des Shutters überschreitet nicht 30 N.*		P
10.5.4	A pin from a connector of the same system is applied with a force of 40N for 1 min +5 -0 sec against the shutter perpendicular to the front of the socket outlet to the entry hole. ~~ Ein Stift von einem Stecker desselben Systems wird 1 min +5 -0 s mit einer Kraft von 40 N +2-0 N gegen den Shutter eines Einführungslochs senkrecht zur Vorderseite der Kupplungsdose gepresst		P
	With fixed sockets that can accommodate plugs of different types, the test is carried out with a pen of the connector with the largest pin diameter. ~~ *Bei Steckdosen, die Stecker verschiedener Typen aufnehmen können, wird die Prüfung mit einem Stift des Steckers mit dem größten Stiftdurchmesser durchgeführt*		P
	The Pin does not come in contact with live parts ~~ Der Stift kommt nicht mit aktiven Teilen in Berührung		P
	After the test, the test items do not show any damage within the meaning of this standard ~~ *Nach der Prüfung weisen die Prüflinge keine Beschädigung im Sinne dieser Norm auf.*		P

Product Service

TEST REPORT DIN VDE 0620-2-1:2016+A1:2017 DIN VDE 0620-2-1:2021;Abs.10.5 TUV SUD Test report for Plugs and socket-outlets for household and similar purposes, Part 2-1: General requirements on plugs and coupling sockets	
Report No.: Date of issue: Project handler:	70.410.21.016.06-00 2021-12-01 Chiyi Zhuang
Testing laboratory: Address: Testing location:	TüV SüD Certification and Testing (China) Co., Ltd. Shanghai Branch No.151 Hengtong Road, 200070 Shanghai, P.R.China No. 1999, Duhui Road, Shanghai, 201108, P. R. China
Client: Client number: Address: Contact person:	Jiangyin Baohong Electrical Appliance Co., Ltd. 092292 NO.173,Huqiao Road, Xiagang Town 214442 Jiangyin City, Jiangsu Province PEOPLE'S REPUBLIC OF CHINA N/A
Standard:	This TUV SUD test report form is based on the following requirements: DIN VDE 0620-2-1:2016 in conjunction with Amendmend DIN VDE 0620-2-1:2016/A1:2017 DIN VDE 0620-2-1:2021;Clause 10.5
TRF number and revision*:*	DIN VDE 0620-2-1/A1:2017;DIN VDE 0620-2-1:2021;Cl.10.5 Rev 00
TRF originated by:	TUV SUD Product Service GmbH, Mr. Reinhold Hug
Copyright blank test report:	This test report is based on the content of the standard (see above). The test report considered selected clauses of the a.m. standard(s) and experience gained with product testing. It was prepared by TUV SUD Product Service. TUV SUD Group takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.
General disclaimer:	This test report may only be quoted in full. Any use for advertising purposes must be granted in writing. This report is the result of a single examination of the object in question and is not generally applicable evaluation of the quality of other products in regular production.
Scheme: Non-standard test method: National deviations:	☐ TUV Mark ☐ without certification ☐ GS Mark ☒ EU-Directive ☐ No ☐ Yes, see details under Summary of testing N/A
Number of pages *(Report)*: Number of pages *(Attachments)*:	55 N/A
Compiled by: Approved by:	Chiyi ZHUANG (Project Handler) *(Printed Name and Signature)* Ying LIU (Mandatory reviewer) *(Printed Name and Signature)*

Test sample: Type of test object: Trademark: Model and/or type reference:	Sockets Surface type socket-outlets with a parallel connected switch N/A BHMB-E, BHMBW-E, BHTB-1E
Rating(s):	16A 250V~
Manufacturer: Manufacturer number: Address:	Jiangyin Baohong Electrical Appliance Co., Ltd 092292 NO.173,Huqiao Road, Xiagang Town 214442 Jiangyin City, Jiangsu Province PEOPLE'S REPUBLIC OF CHINA
Sub-contractors/ tests (clause): Name:	N/A N/A
Order description:	☒ Complete test according to TRF
	☐ Partial test according to manufacturer's specifications
	☐ Preliminary test
	☐ Spot check
	☐ Others:
Date of order: Date of receipt of test item: Date(s) of performance of test:	2021-09-14 2021-09-14 2021-09-15 to 2021-12-01

Test item particulars:	
Standard Sheet ..... :	DIN 49440 teil 1
Rated current (A)..... :	16A
Rated voltage (V) ..... :	250V
Degree of protection against harmful ingress of water..... :	ordinary / splash-proof (IPX4) / ~~jet-proof (IPX5)~~
Provision for earthing ..... :	~~without earthing contact~~ / with earting contact
Method of connecting the cable ..... :	rewirable / ~~non-rewirable~~
Type of cable..... :	N/A
Nominal cross-sectional areas (mm^2) ..... :	N/A
Type of terminals..... :	screw-type / ~~screwless (rigid) / screwless (rigid and flexible)~~
Type of connections ..... :	~~soldered~~ / welded /~~ crimped~~ / other: riveted
Degree of protection against electric shock ... :	normal protection / increased protection
Existence of enclosures ..... :	enclosed
Existence of shutters..... :	~~without shutters~~ / with shutters
Method of application / mounting of the socket-outlet ..... :	surface-type (for socket box)/ flush-type (for socket module)/~~ semi-flush-type / panel type / architrave-type / portable type / table-type (single/multiple) / floor-recessed type / appliance type~~
Method of installation ..... :	design A /~~ design B~~
Plugs:	~~Two pole with earth contact, German standard~~
Class of equipment ..... :	~~I~~

Purpose of the product (Description of intended use):

Surface type socket-outlets with a parallel connected switch, with screw type terminals, with shutter, IP 20 for BHMB-E, BHTB-1E, IP 44 for BHMBW-E.

Characteristic data *(not shown on the marking plate)*:

N/A

Attachments:

N/A

General remarks:

"(see remark #)" refers to a remark appended to the report.
"(see appended table)" refers to a table appended to the report.
*Throughout this report **a comma** is used as the decimal separator.*
The test results presented in this report relate only to the object tested.
This report shall not be reproduced except in full without the written approval of the testing laboratory.

The following contents are included and as attachments of this test report:

- Test report DIN VDE 0620-1:2016/A1:2017 and DIN VDE 0620-1:2021 Abschnitt 10.5
- Test report DIN VDE 0620-2-1:2016/A1:2017 and DIN VDE 0620-2-1:2021 Abschnitt 10.5
- Photo documentation
- Data form for electrical equipment and machinery

Summary of testing:

The test results comply with the requirements:

DIN VDE 0620-2-1:2016/A1:2017 in conjunction with DIN VDE 0620-1:2016/A1:2017; DIN VDE 0620-2-1:2021 Clause 10.5

All applicable hazards are covered by the harmonized standard.

The sample's mentioned in this report is/are submitted/ supplied/ manufactured by client. The laboratory therefore assumes no responsibility for accuracy of information on the brand name, model number, origin of manufacture, consignment or any information supplied.

☐ deviation(s) found

☒ no deviations found

Additional information on Non-standard test method(s)

Sub clause:	N/A
Page:	N/A
Rational:	N/A

If additional information is necessary, please provide

N/A

Copy of marking plate:

Refer to the CDF

Picture of the product:

See photo documentation

Name and address of factory (ies) *(only if certification is provided)*:

Factory information:

Jiangyin Baohong Electrical Appliance Co., Ltd.
NO.173,Huqiao Road, Xiagang Town 214442 Jiangyin City, Jiangsu Province
PEOPLE'S REPUBLIC OF CHINA

Possible test case verdicts:

test case does not apply to the test object:	N/A (not applicable / not included in the order)
test object does meet the requirement:	P (Pass)
test object does not meet the requirement:	F (Fail)

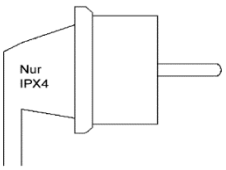
Possible suffixes to the verdicts:

suffix for detailed information for the client:	C (Comment)
suffix for important information for factory inspection:	M (Manufacturing)

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
5.7	Devices with crimp connections:		-
	For additional tests on crimp connections see Appendices D and 12.4 Requirements on the manufacturer - Suitability of crimping tool on 50 samples - Routine test during production Picture documentation on devices with crimp connections see attachment		N/A
6.3	The degree of protection of plugs for devices with detachable cord must at a minimum conform to the degree of protection of the respective device, provided it is not regulated in the product standard for the device.		N/A
8	MARKING		-
8.1	Plugs and portable socket outlets marked with:		-
	- rated current (A) .....:	16A	P
	- rated voltage (V) .....:	250V	P
	- symbol for nature of supply .....:	~	P
	(see paragraph 6 ProdSG) a. hints for a safe use b. manufacturer's or responsible vendor's name or trade mark in accordance with the ProdSG on the product or packaging		N/A
	- type reference .....:	See page 2	P
	- symbol for degree of protection (first digit) .....:	IP2X for BHMB-E, BHTB-1E IP4X for BHMBW-E	P
	- symbol for degree of protection (second digit) .....:	IPX0 for BHMB-E, BHTB-1E IPX4 for BHMBW-E	P
	- rating and type of fuse, if any		N/A
	Separate marking not required on plugs and portable socket outlets if part of equipment and rating, manufacturer and type indicated		N/A
8.2	Symbols used: as required in the standard		P
	Marking for the nature of supply placed next to the marking for rated current and rated voltage		P
8.3	not relevant		-
8.4	Plugs and portable socket-outlets: marking specified in 8.1, other than the type reference, easily discernible		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Plugs and portable socket-outlets for equipment of class II not marked with the symbol for class II construction		N/A
	Portable socket-outlets with IP-degree of protection IPX4, have to be marked with the following symbol: 	Use for fixed surface-type	N/A
8.5	Neutral terminals: N .....:		N/A
	Earthing terminals: [earth 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 portable socket-outlet:		-
	- clearly identified unless their purpose is self evident, or		N/A
	- indicated in a wiring diagram fixed to the accessory		N/A
	Identification of accessory terminals may be achieved by:		-
	- their marking with graphical symbols according to IEC 60417 or colours and/or alphanumeric system, or		P
	- their physical dimension or relative location		P
8.6	not relevant		N/A
8.7	not relevant		N/A
8.8	Marking durable and if possible not smaller than 3 mm,. Clearly readable without visual aids. Test: 15 s with water and 15 s with petroleum spirit		P
8.9	Portable multiple socket-outlets and adaptor must have the following warnings on the equipment or in the package		N/A
	For portable multiple socket outlet - Do not connect after each other (Nicht hintereinanderstecken) - Do not cover when in use (Nicht abgedeckt betreiben)		N/A
	For portable multiple socket outlet with functional switch, additionally - To disconnect Voltage pull the plug (Spannungsfrei nur bei gezogenem Stecker)		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	For adaptor - Do not connect after each other (Nicht hintereinanderstecken)		N/A
8.10	Devices to be installed by a professional. On devices intended for installation, the information per Appendix E must be affixed to the smallest enclosed sales unit. Appendix E Information regarding minimum knowledge in electrical engineering.		N/A
8.11	Indication at the smallest unit of sales unit		P
	Installation instructions for professionals who are not known to those skilled in the art can be assumed		N/A
	Name and contact address of the manufacturer		P
	or, if the manufacturer is not in the European Economic Area resident, the name and contact address of the authorized representative or importer		N/A
9	CHECKING OF DIMENSIONS		-
9.1	Plugs and portable socket outlets comply with the appropriate standard sheets DIN 49406 (all parts), DIN 49437, DIN 49440-1, DIN 49440-2, DIN 49440-3, DIN 49440-4, DIN 49440-6, DIN 49441 (all parts), DIN 49442, DIN 49443, DIN 49445, DIN 49446, DIN 49447, DIN 49448, DIN 49464.	DIN 49440-1	P
	Insertion of plugs into fixed or portable socket-outlets ensured by their compliance with the relevant standard sheets		P
	Compliance checked by measurement and by means of gauges with manufacturing tolerances as shown in table 2		P
	Plugs and portable socket outlets according standard sheets from 9.1 tested using gauges L1 to L9		P
9.2	It shall not be possible to engage a plug with:		-
	- a socket-outlet/portable socket outlet having a higher voltage rating or a lower current rating;		P
	- a socket-outlet/portable socket outlet with a different number of live poles (exception admitted provided that no dangerous situation can arise);		P
	- a socket-outlet/portable socket outlet with earthing contact (plug for class 0 equipment).		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Engagement of a plug for class 0 or class I equipment with a socket-outlet designed to accept plugs for class II equipment, not possible		P
	Impossibility of insertion checked by applying gauge 11, for 1 min, with a force of:		-
	- 150 N (rated current ≤ 16A);		P
	- 250 N (rated current > 16A)		N/A
	Connectors with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C		P
9.3	Plugs and portable socket outlets which are integrated part of equipment comply with standard sheet		N/A
	Additional components provide a technical advantage and do not impair dimensions from standard sheets		N/A
10	PROTECTION AGAINST ELECTRIC SHOCK		-
10.1	Portable socket-outlets: live parts not accessible		P
	Live parts of plugs: not accessible when the plug is in partial or complete engagement with a socket-outlet		N/A
	Test with standard test finger acc. DIN EN 61032 (VDE 0470-2), fig. 2		P
	Portable socket outlets with elastomeric or thermoplastic material: additional test carried out at 35 °C ± 2 °C with a straight unjointed test finger (75 N for 1 min)		P
	During the test: Portable socket outlets not deform and no live parts accessible		P
	Plugs and portable socket-outlets pressed with a force of 150 N for 5 min as shown in figure 22: specimens not show deformation		N/A
10.2	Accessible parts (with exception of small screws and the like for fixing bases and covers or cover plates): made of insulating material		P
	Cover or cover plates of plugs and portable socket-outlets: made of metal if the requirements of 10.2.1 or 10.2.2 are fulfilled		N/A
10.2.1	Metal covers or cover plates protected by supplementary insulation made by insulating linings or insulating barriers		N/A
	Insulating linings or insulating barriers cannot be removed without being permanently damaged		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Insulating linings or insulating barriers cannot be replaced in an incorrect position and, if they are omitted, Connectors are rendered inoperable or manifestly incomplete		N/A
	There is no risk of accidental contact between live parts and metal covers or cover plates		N/A
	No undue reduction of clearances and creepage distances		N/A
10.2.2	Metal covers or cover plates automatically connected, through a low-resistance connection, to the earth during fixing		N/A
	Clearances and creepage distances between live pins of totally engaged plugs and metal covers of a portable socket outlet according table 23		N/A
10.3	Connection between a pin of a plug and a live socket-contact of a portable socket-outlet not possible while any other pin is accessible	Construction proof	P
	Compliance checked by manual test and by means of gauge 10 with tolerances as specified in 9.1		P
	Plugs and portable socket outlets with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C		P
	Portable socket-outlets with enclosure or bodies of rubber or polyvinyl chloride: test carried out with a force of 75 N for 1 min using gauge 10.		N/A
10.4	External parts of plugs and portable socket-outlets made of insulating material		P
	Overall dimensions of rings around pins not exceed 8 mm concentric with respect to the pin		N/A
10.5	Shuttered portable socket-outlets: live parts not accessible with gauges 13 and 15, without a plug-in engagement. Test under application of the gauge 13 and 15.		P
	The construction of portable socket outlets provides that live contacts are automatically screened when the plug is withdrawn		P
	Means cannot easily be operated by anything other than a plug and do not depend upon parts which are liable to be lost.		P
10.5.1	Portable socket outlets with elastomeric or thermoplastic material: test carried out at 35°C ± 2 °C Both, the socket outlet and the gauge have this temperature.	Clause 10.5.1 (access gauge) was only assessed on the socket port. Protection from access to live parts has to be checked at openings of the end product enclosure after integration of the socket outlet.	P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Gauge 13 is applied to the entry holes corresponding to live contacts, as well as to all other openings in enclosures and covers.		P
	The gauge does not touch live parts of the socket and its additional components		P
	The gauge 13 does not touch any active parts or any parts of SELV circuits even if it touches the earth conductor system at the same time		P
	The test is done with fully disengaged plug at portable socket outlet.		P
	The additional test with partly engaged plug at the portable socket outlet is performed with Test finger DIN EN 61032, Fig. 2		P
10.5.2	The gauge 15 is applied to the entry holes corresponding to live contacts and does not touch live parts		P
	Gauge is applied in the most unfavourable position on the shutter, successively in three directions at the same place.		P
10.5.3	Shutters do not improperly hinder the plug from being inserted. The force to open the shutter does not exceed 30 N.		P
10.5.4	A pin from a connector of the same system is applied with a force of 40N for 1 min +5 -0 sec against the shutter perpendicular to the front of the socket outlet to the entry hole.		P
	With coupling sockets that can accommodate plugs of different types, the test is carried out with a pen of the connector with the largest pin diameter.		P
	The Pin does not come in contact with live parts		P
	After the test, the test items do not show any damage within the meaning of this standard		P
10.6	Earthing contacts of a portable socket-outlet designed that they cannot be deformed by the insertion of a plug		P
10.6.1	The socket-outlet is placed with the outlet contacts in vertical position. Gauge 14 inserted into the socket outlet with a force of 150 [+0/-5] N for 1 min. this test is conducted on new sample. After this test: socket-outlet still comply with the requirements of clause 9		P
10.6.2	Side PE contacts are loaded with a torque of 100 [+0/-5] Ncm for 1 min, using device fig. 43. After this tests probe 4 must be possible to insert. This test is conducted on new samples		P
10.7	Portable socket-outlet with increased protection: live parts not accessible		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Gauge 13 applied with a force of 1 N on all accessible surfaces shall not touch live parts		P
	Portable socket-outlets with elastomeric or thermoplastic material: test carried out at 35 °C ± 2 °C		P
11	PROVISION FOR EARTHING		-
11.1	Earth connection made before the current-carrying contacts of the plug become live		P
	Current-carrying pins shall separate before the earth connection is broken		P
11.2	Earthing terminals of rewireable plugs and portable socket outlets comply with clause 12		P
	Earthing terminals of the same size as the corresponding terminals for the supply conductors		P
	Earthing terminals of rewirable plugs and portable socket outlets: internally mounted		P
	Parts of earthing circuit in one piece or reliably connected by riveting, welding, or the like		P
11.3	not relevant		N/A
11.4	Portable socket-outlets, other than ordinary , with enclosure of insulating material and more than one cable inlet, provided with an internal earthing terminal for the continuity of the earthing circuit, unless		N/A
	earthing terminals allows the connection of an incoming and an outgoing earthing conductor together		N/A
11.5	Connection between earthing terminal and accessible metal parts: of low resistance		P
	Test:		-
	Test current equal to 1,5 times the rated current or 25 A (A) .....:	25	—
	Resistance not exceed 0,05 Ω (Ω) .....:	0,02Ω	P
12	TERMINALS		-
	All the test on terminals, with the exception of the test of 12.3 11, made after the test of clause 16		P
12.1	General		-
12.1.1	Rewirable plugs and portable socket-outlets provided with terminals with screw clamping .....:	Screw-type terminals	P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Pre-soldered flexible conductors used: pre-soldered area outside the squeezed area of screw-type terminals		N/A
	Clamping means of terminals: not serve to fix any other components		P
12.1.2	Non-rewirable Connectors provided with soldered, welded, crimped or equally effective permanent connections .....:		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		-
12.2.1	Plugs and socket outlets provided with terminals which allows the proper connection of copper conductors as shows in table 3	Socket-outlets for fixed use, see test report DIN VDE 0620-1:2016/A1:2017	N/A
	Rated current (A); Type of Connectors .....:		—
	Type of conductor (rigid / flexible) .....:		—
	Smallest / largest cross-sectional area (mm^2) .....:		—
	Diameter of the largest conductor (mm) .....:		—
	Figure of terminal .....:		—
	Minimum diameter D (minimum dimensions) of conductor space: required (mm); measured (mm) .:		N/A
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	Screw-type terminals clamp the conductor(s) without undue damage		N/A
	During the test: conductor not slip out, no break near clamping unit and no damage		N/A
12.2.6	Terminals clamp the conductor reliably between metal surfaces		N/A
	During the test: conductor 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		N/A

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Clause	Requirement – Test	Measuring result – Remark	Verdict
	After the test: no wire of the conductor escaped outside the clamping unit		N/A
12.2.8	Screw terminals mounted inside plugs and portable socket outlets do not work loose while tightening or loosening the clamping screws.		N/A
	Torque test:		-
	- rigid solid copper conductor of the largest cross-sectional area (mm²) (table 3) .....:		—
	- torque (Nm) (table 6 or appropriate figures 34, 35, 36) .....:		—
	Screws and nuts tightened and loosened 5 times. During the test: terminals 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
	If the body is a part of a frame or enclosure of aluminium alloy, precautions shall be taken to avoid the risk of corrosion		N/A
12.2.11	Pillar terminals: distance *g* no less than the value specified in figure 34: required (mm); measured (mm) .....:		N/A
	Mantle terminals: distance *g* no less than the value specified in figure 37: required (mm); measured (mm) .....:		N/A
12.3	Screwless terminals for external copper conductors		N/A
12.4	**Crimp connections**		N/A
	Special requirements on picture documentation Crimp connections of non-rewirable plugs and non-rewirable portable socket-outlets must exhibit sufficient electrical and mechanical properties. A picture documentation must be generated from 3 sides of at least 3 points of contact, consisting of side view, top view and perspective view.		N/A
	The values for crimp height, withdrawal force or voltage drop (upper and lower limit) must be determined and documented by the manufacturer; these will be the basis for the routine tests during production.		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
14	CONSTRUCTION OF PLUGS AND PORTABLE SOCKET-OUTLETS		-
14.1	Non-rewirable plug or non-rewirable portable socket-outlet:		-
	flexible cable cannot be separated from the accessory without making it permanently useless	Socket-outlets for fixed use, see test report DIN VDE 0620-1:2016/A1:2017	N/A
	Accessory cannot be opened by hand or by using a general purpose tool, for example a screwdriver used as such		N/A
14.2	Pins of plugs and portable socket-outlets: adequate mechanical strength		N/A
	Test for pins not solid (made after clause 21): force of 100 N exerted on the pin for 1 min by means of a steel rod Ø 4,8 mm		-
	During the application of the force: reduction of the dimension of the pin not exceed 0,15 mm		N/A
	After removal of the rod: dimensions of the pin not changed by more than 0,06 mm		N/A
14.3	Pins of plugs:		-
	- locked against rotation		N/A
	- not removable without dismantling the plug		N/A
	- adequately fixed in the body of the plug when the plug is wired and assembled as in normal use		N/A
	Earthing or neutral pins or contacts of plugs: not possible to insert in an incorrect position		N/A
14.4	Earthing contacts and neutral contacts of portable socket-outlets:		-
	- locked against rotation		N/A
	- removable only with the aid of a tool, after dismantling the socket-outlet		N/A
14.5	Socket-contact assemblies: sufficient resiliency		N/A
	Parts of contacts with the pin are:		-
	- not from insulation material		N/A
	- in contact with pin at least in two opposite positions		N/A
14.6	Pins and socket-contacts: resistant to corrosion and abrasion		N/A
14.7	Enclosures of rewirable Connectors: completely enclose terminals and ends of flexible cable.		N/A
	Construction of rewirable Connectors:		-
	- conductors can be properly connected		N/A
	- cores not pressed against each other		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- cores of live conductor not in contact with accessible metal parts		N/A
	- core of earthing conductor not in contact with live parts		N/A
14.8	Rewirable Connectors: 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
14.9	Rewirable Connectors with earthing contact: ample space for slack of earthing (test)		N/A
	Non-rewirable non-moulded-on Connectors with earthing contact: current-carrying conductors stressed before the earthing conductor if the flexible cable slips in its anchorage		N/A
14.10	Terminals of rewirable Connectors and terminations of non-rewirable Connectors: located and shielded that loose wires not present a risk of electric shock		N/A
14.10.1	Rewirable Connectors: test with 6 mm free wire		-
	free wire of a conductor connected to a live terminal 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 not touch a live part		N/A
14.10.2	Non-rewirable, non-moulded-on Connectors: test with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm		-
	free wire of a conductor connected to a live termination not touch any accessible metal part or reduce creepage and clearance below 1,5 mm to the external surface		N/A
	free wire of a conductor connected to an earth termination not touch any live part		N/A
14.10.3	Non-rewirable, moulded-on Connectors:		-
	Verification of means to prevent stray wires reducing the minimum distance through insulation to external accessible surface below 1,5 mm		N/A
14.11	Rewirable plugs and rewirable portable socket-outlets:		-
	- clear how 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 permanently fixed to one of the component parts of the plug or portable socket-outlet		N/A
	- makeshift methods not used		-

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Clause	Requirement – Test	Measuring result – Remark	Verdict
	- cord anchorage suitable for the different types of flexible cable which may be connected; 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
14.12	Insulating parts which keep live parts in position: reliably fixed together; not possible to dismantle the accessory without the aid of a tool		N/A
14.13	Covers of portable socket-outlets: bushings for entry holes for the pins not removable from the outside or detachable inadvertently from the inside		N/A
14.14	Screws intended to allow access to interior of the accessory: captive		N/A
14.15	Engagement face of plugs: no projections		N/A
14.16	Engagement face of portable socket-outlets: no projection		N/A
14.17	Connectors other than ordinary: provided with gland(s) or the like		N/A
	Plugs other than ordinary: adequately enclosed		N/A
	Portable socket-outlets other than ordinary: adequately enclosed without a plug in engagement		N/A
	Lid springs (if any): of corrosion resistant material (bronze or stainless steel)		N/A
14.18	Portable socket-outlets with means for permanent mounting shall be tested as fixed outlets with a current acc. to table 20, glow wire test 28.1.1 and additionally for strength to 24.1		N/A
	No free openings between space intended for suspension means fixed to the wall and live parts		N/A
14.19	Combinations of plugs and socket-outlets with circuit-breakers or other protective devices comply with relevant standards, if any ..... :		N/A
14.20	Portable Connectors: not integral part of lampholders Adaptors without interposed auxiliaries (switches, regulators, timers etc.) shall comply with DIN 49437 Multiple outlets with earthing contact and with stiffly mounted plug are not allowed		N/A
14.21	Plugs for equipment of class II:		-

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- non-rewirable		N/A
	- if incorporated in a cord set: provided with a connector for equipment of class II		N/A
	- if incorporated in a cord extension set: provided with a portable socket-outlet for equipment of class II		N/A
14.22	Components (switches and fuses) incorporated in Connectors: comply with the relevant IEC standard		N/A
14.23	Plug-in equipment: not cause overheating of the pins or impose undue strain		N/A
	Plugs with rating above 16 A and 250 V: not integral part of other equipment		N/A
	Tests for two-pole plugs, with or without earthing contact, with rating up to and including 16 A and 250 V (plug of equipment inserted into a fixed socket-outlet complying with this standard):		-
14.23.1	Socket-outlet connected to a supply voltage equal to 1,1 times the highest rated voltage of the equipment (V) ..... :		—
	Temperature rise of the pins after 1 h not exceed 45 K (K) ..... :		N/A
14.23.2	Additional torque applied to the socket-outlet to maintain the engagement face in the vertical plane not exceed 0,25 Nm (Nm) ..... :		N/A
14.24	Plugs: can easily withdrawn by hand from the relevant socket-outlet		N/A
	Gripping surfaces: so designed that the plug can be withdrawn without pull on the flexible cable		N/A
14.25	Membranes in inlet openings: meet the requirements of 13.23 and 13.24		N/A
14.26	Plugs and socket outlets on intermediate adaptors shall comply with DIN 49440 and 49441		N/A
	intermediate adaptors must be so constructed and the connection of the cord so manufactured that the efficacy of the protective measures is assured.		N/A
	One constructive unit may only accommodate one plug and one socket outlet.		N/A
	The cord shall be at least 1.4m long. Length…		N/A
	intermediate adaptors shall not impose undue strain on the socket outlet. (0,25Nm)		N/A
14.27	The length of the cord for table-top outlets shall be at least 1,4m. Length…..		N/A

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Clause	Requirement – Test	Measuring result – Remark	Verdict
	For cords in spiral form the length is measured when stretched under own weight.		N/A
14.28	Portable socket outlets with a flap which covers to achieve IPX4 or higher: operates as intended under use as intended		N/A
	Portable socket outlets with a stopper which covers to achieve IPX4 or higher: stopper sufficiently attached to the portable socket outlet		N/A
15	not relevant		-
16	RESISTANCE TO AGEING, TO HARMFUL INGRESS OF WATER AND TO HUMIDITY		-
16.1	Resistance to ageing		-
	Plugs and socket outlets shall be resistant to ageing	Socket-outlets for fixed use, see test report DIN VDE 0620-1:2016/A1:2017	P
	Plugs and socket outlets subjected to a test in a heating cabinet at 70 °C ± 2 °C for seven days (168 h)		P
	Plugs and socket outlets with degree of protection other than ordinary tested after mounting and assembled acc. 16.2		P
	After the tests, samples shall show:		-
	- 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
16.2	Resistance to harmful ingress of water		-
	Enclosure of plugs and socket outlets other than ordinary shall provide a degree of protection against • access to hazardous parts • ingress of solids bodies • harmful ingress of water in accordance with the classification	IP20 for BHMB-E, BHTB-1E IP44 for BHMBW-E	P
16.2.1	Portable socket-outlets tested on a plain, horizontal surface in a position as in normal use and fitted with flexible cables according to table 17 having the largest and smallest cross-sectional area given in table 3:		-

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- largest cross-sectional area (mm^2); type of cable (table 27) .....:		—
	- smallest cross-sectional area (mm^2); type of cable (table 27) .....:		—
	Mounting screws tightened with a torque equal to 2/3 of the torque given in table 6 (Nm) .....:		—
	Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm) .....:		—
	Portable socket-outlets tested with a plug of same degree of protection and without a plug in engagement		P
	Plugs tested in full engagement with a portable socket-outlet of the same system and with the same degree of protection		N/A
16.2.1.1	Testing of access to hazardous parts performed according EN 60529		P
16.2.1.2	Testing of ingress of solids bodies performed according EN 60529, category 2		P
	In case of IP5X, ingress of dust does not impair safety		N/A
16.2.2	Testing of harmful ingress of water parts performed according EN 60529		P
	Splash-proof Connectors subjected to the test IPX4 according to EN 60529		P
	Jet-proof Connectors subjected to the test IPX5 according to EN 60529		N/A
	Specimens withstand an electric strength test specified in 17.2 which is started within 5 min after the IP test		P
16.3	Resistance to humidity		-
	Plugs and socket outlets 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:		-
	- two days (48 h) for ordinary Connectors	BHMB-E, BHTB-1E	P
	- seven days (168 h) for Connectors other than ordinary	BHMBW-E	P
	After this treatment the specimens show no damage		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
17	INSULATION RESISTANCE AND ELECTRIC STRENGTH		-
17.1.1	For portable socket-outlets: insulation resistance:		-
	a) between all poles connected together and the body, with a plug in engagement ≥ 5 MΩ .....:	Socket-outlets for fixed use, see test report DIN VDE 0620-1:2016/A1:2017	N/A
	b) between each pole in turn and all others connected to the body, with a plug in engagement ≥ 5 MΩ .....:	MΩ	N/A
	c) between any metal enclosures and metal foil in contact with the inner surface of its insulating linings, if any ≥ 5 MΩ .....:	MΩ	N/A
	d) between any metal part of the cord anchorage, including clamping screws, and earthing terminal or earthing contact, if any, of portable socket-outlets ≥ 5 MΩ .....:	MΩ	N/A
	e) between any metal part of the cord anchorage of portable socket-outlets and a metal rod of the maximum diameter of the flexible cable inserted in its place ≥ 5 MΩ .....:	MΩ	N/A
	Insulation resistance measured 1 min after application of 500 V d.c.	MΩ	N/A
17.1.2	For plugs: insulation resistance :		-
	a) between all poles connected together and the body ≥ 5 MΩ .....:	MΩ	N/A
	b) between each pole in turn and all others connected to the body ≥ 5 MΩ .....:		N/A
	c) between any metal part of the cord anchorage, including clamping screws, and earthing terminal or earthing contact, if any ≥ 5 MΩ .....:		N/A
	d) between any metal part of the cord anchorage and a metal rod of the maximum diameter of the flexible cable inserted in its place ≥ 5 MΩ .....:		N/A
	Insulation resistance measured 1 min after application of 500 V d.c.	See appended table 17.1.2	N/A
17.2	Portable socket-outlets: electric strength, test voltage :		-
	a) test voltage (V) .....:	MΩ	N/A
	b) test voltage (V) .....:	MΩ	N/A
	c) test voltage (V) .....:		N/A
	d) test voltage (V) .....:		N/A
	e) test voltage (V) .....:		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Plugs: electric strength, test voltage (a.c., for 1 min):		-
	a) test voltage (V) .....:	plug is approved	N/A
	b) test voltage (V) .....:		N/A
	c) test voltage (V) .....:		N/A
	d) test voltage (V) .....:		N/A
	Electric strength: a.c. test voltage applied for 1 min		N/A
18	OPERATION OF EARTHING CONTACTS		-
	Earthing contacts provide adequate contact pressure and not deteriorate in normal use		P
	Force exerted measured in side earthing contacts not less than 5 N (CEE 7 clause 18) .....:	>6,5N	P
	Portable socket outlets without side earthing contacts, compliance checked by the tests of clauses 19 and 21		N/A
19	TEMPERATURE RISE		-
	Plugs and socket outlets have to be constructed that they can pass the following heating tests.		-
	Temperature rise on touchable metal parts not exceed 40 K and on touchable not metal covers not exceed 60 K	Socket-outlets for fixed use, see test report DIN VDE 0620-1:2016/A1:2017	N/A
19.1	not relevant		-
19.2	Portable socket outlets		-
	Portable socket outlets with cable are tested as delivered:		-
	- type of flexible cable; number of conductors and nominal cross-sectional area (mm^2).....:		—
	- rated current of accessory .....:		—
	- nominal cross-sectional area (mm^2) .....:		—
	- type of conductors .....:		—
	Rewirable outlets without cable are to be fitted with polyvinyl chloride insulated conductors having a nominal cross-sectional area as show in table 15:		-
	Outlets are tested with a test plug according to figure 16		-
	Non-rewirable plugs of extension cords and multiple socket outlets are to be tested with a test current according to table 20 for non-rewirable sockets or rewirable connectors.		-
19.2.1	Portable socket outlets without accessories		-
	Outlets are tested for 1h with an AC current according to table 20		-

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Testing performed	See appended table 19.2.1	N/A
	The temperature rise of terminals and internal connections must not exceed 45 K.		N/A
19.2.2	Portable socket outlets with accessories		-
	Outlets are tested with rated current for 1 h or until tripping of an internal protection device.		N/A
	Testing performed	See appended table 19.2.2	N/A
	The temperature rise of terminals and internal connections of accessories must not exceed the limits given in the related standards.		N/A
	The temperature rise of all other terminals and internal connections must not exceed 45 K	See appended table 19.2.2	N/A
	After that outlets are tested with a test current according to table 20 for 1 h or until tripping of an internal protection device.		N/A
	If an internal protection device operates the test has to be repeated (for 1 h) with a current of 0.95 times the tripping current of the protection device.		N/A
	If the internal protection device is a fuse according to EN 60127-2 the test has to be repeated with 1,5 times the rated fuse current for • 1 h for a rated fuse current up to 6.3 A • 30 min for a rated fuse current above 6.3 A		N/A
	Test performed	See appended table 19.2.2	N/A
	The temperature rise of terminals and internal connections must not exceed 70 K	See appended table 19.2.2	N/A
	The temperature rise of the plug socket must not exceed 45 K	See appended table 19.2.2	N/A
19.3	Plugs		-
	Plugs with cable are tested as delivered:		-
	- type of flexible cable; number of conductors and nominal cross-sectional area (mm^2).....:		—
	- rated current of accessory .....:		—
	- nominal cross-sectional area (mm^2) .....:		—
	- type of conductors .....:	rigid solid / rigid stranded / flexible	—
	Rewirable outlets without cable are to be fitted with polyvinyl chloride insulated conductors having a nominal cross-sectional area as show in table 15:		-
	An appropriate (normal outlet) testing outlet with thermo couple on each pin and PE contact will be attached to the plug.		-

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
19.3.1	Plug without accessories		-
	Plugs are tested for 1h with an AC current according to table 20		-
	Test performed		N/A
	The temperature rise of terminals and internal connections must not exceed 45 K.		N/A
19.3.2	Plug with accessories		-
	Rewirable Plugs are tested as follows: Rated current for 1 h or until tripping of an internal protection device		N/A
	Test performed		N/A
	The temperature rise of terminals and internal connections of accessories must not exceed the limits given in the related standards		N/A
	The temperature rise of all other terminals and internal connections must not exceed 45 K		N/A
	Non-Rewirable Plugs are tested as follows: Test current according table 20 for 1 h or until tripping of an internal protection device		N/A
	Test performed		N/A
	The temperature rise of terminals and internal connections of accessories must not exceed the limits given in the related standards.		N/A
	The temperature rise of all other terminals and internal connections must not exceed 45 K		N/A
	After that plugs are tested with a test current according to table 20 for 1 h or until tripping of an internal protection device.		N/A
	If an internal protection device operates the test has to be repeated (for 1 h) with a current of 0.95 times the tripping current of the protection device		N/A
	If the internal protection device is a fuse according to EN 60127-2 the test has to be repeated with 1,5 times the rated fuse current for • 1 h for a rated fuse current up to 6.3 A • 30 min for a rated fuse current above 6.3 A		N/A
	Test performed		N/A
	The temperature rise of terminals and internal connections must not exceed 70 K		N/A
	The temperature rise of the plug socket must not exceed 45 K		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
19.4	Adaptor plug		-
	Adaptor-outlets are tested with a test plug according to figure 16		-
	For adaptor-plugs an appropriate (normal outlet) testing outlet with thermocouple on each pin and PE contact will be attached to the plug.		-
19.4.1	Adaptor without accessories (Adaptor according to DIN 49437)		-
	Adaptors are tested for 1h with an AC current according to table 20		-
	Testing performed		N/A
	The temperature rise of terminals and internal connections must not exceed 45 K.		N/A
19.4.2	Adaptor with accessories		-
	Adaptors with cable are tested as delivered:		-
	- type of flexible cable; number of conductors and nominal cross-sectional area (mm^2).....:		—
	- rated current of accessory .....:		—
	- nominal cross-sectional area (mm^2) .....:		—
	- type of conductors .....:	rigid solid / rigid stranded / flexible	—
	Rewirable adaptors without cable are to be fitted with polyvinyl chloride insulated conductors having a nominal cross-sectional area as show in table 15:		-
	Adaptors are tested as follows: Rated current for 1 h or until tripping of an internal protection device.		N/A
	Testing perforemd		N/A
	The temperature rise of terminals and internal connections of accessories must not exceed the limits given in the related standards.		N/A
	The temperature rise of all other terminals and internal connections must not exceed 45 K		N/A
	After that adaptors are tested with a test current according to table 20 for 1 h or until tripping of an internal protection device.		N/A
	If an internal protection device operates the test has to be repeated (for 1 h) with a current of 0.95 times the tripping current of the protection device.		N/A
	If the internal protection device is a fuse according to EN 60127-2 the test has to be repeated with 1,5 times the rated fuse current for • 1 h for a rated fuse current up to 6.3 A • 30 min for a rated fuse current above 6.3 A		N/A
	Testing perforemd		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	The temperature rise of terminals and internal connections must not exceed 70 K		N/A
	The temperature rise of the plug socket must not exceed 45 K		N/A
19.5	Plug-in devices		N/A
	Plug-in devices are tested according to the related product standard. For testing of the plug see 14.23.		N/A
20	BREAKING CAPACITY		-
	Plugs and portable socket outlets shall have adequate breaking capacity		P
	Compliance checked by testing:		-
	- portable socket-outlets;	See appended table 20	P
	- plugs with pins which are not solid		N/A
	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:		-
	- specimens show no damage impairing their further use;		P
	- entry holes for the pins not show any damage which may impair the safety		P
21	NORMAL OPERATION		-
	Plugs and portable socket outlets shall withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use		P
	Compliance of the following is checked by testing with an appropriate test set up:		-
	- portable socket-outlets;	See appended table 21	P
	- plugs with resilient earthing socket-contacts;		N/A
	- plugs with pins which are not solid		N/A
	Test performed on:		-
	- complete shuttered socket-outlets		P
	- complete shuttered socket-outlets with operations made by hand as in normal use		N/A
	Test conditions:		-
	- 10000 strokes; rate of operation .....:	See appended table 21	—

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- test voltage Vn (V) .....:	See appended table 21	—
	- test current (as specified in table 20) (A) (power factor 0,8) .....:	See appended table 21	—
	Test current passed:		-
	- during each insertion and withdrawal of the plug (In ≤ 16A)		P
	- during alternate insertion and withdrawal, the other insertion and withdrawal being made without current flowing (In > 16A)		N/A
	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 shall not show:		-
	- wear impairing their further use;		P
	- deterioration of enclosures, insulating lining 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		N/A
	Shuttered socket-outlets: the following gauges not touch live parts when they remain under the relevant forces	See appended table 21	P
	Temperature-rise test (requirements of clause 19):	See appended table 21	P
	Test current as required for the normal operation test, given in table 20, passed for 1 h (A) .....:	See appended table 21	—
	Temperature rise of terminals not exceed 45 K (K) .....:	See appended table 21	P
	Separate tests made passing the current through:		-
	- the neutral contact, if any, and the adjacent phase contact (K) .....:		N/A
	- the earthing contact, if any, and the nearest phase contact (K) .....:	See appended table 21	P
	Socket-outlets: electric strength (sub-clause 17.2), test voltage (a.c., for 1 min):		-
	a) test voltage (V) .....:	~~1000 V~~ / 1500 V	P
	b) test voltage (V) .....:	~~1000 V~~ / 1500 V	P
	c) test voltage (V) .....:		N/A
	d) test voltage (V) .....:		N/A

Clause	Requirement – Test	Measuring result – Remark	Verdict
	e) test voltage (V) .....:		N/A
	Electric strength (sub-clause 17.2)	See appended table 21	P
	Plugs: electric strength (sub-clause 17.2), test voltage (a.c., for 1 min):		-
	a) test voltage (V) .....:		N/A
	b) test voltage (V) .....:		N/A
	c) test voltage (V) .....:		N/A
	d) test voltage (V) .....:		N/A
	Electric strength (sub-clause 17.2)	See appended table 21	N/A
	During the test: no flashover or breakdown		P
	Fixed socket-outlets: test according to 13.1		N/A
	Pins of plugs and portable socket-outlets: test according to 14.2		N/A
	Force exerted measured in side earthing contacts not less than 60 % or 5 N (CEE 7 clause 18) .....:	>5,0N	P
	The force to open the shutter may not exceed 50 N, as specified in the normal operation test. The test is done with gauges no.19a or 19b.		P
22	FORCE NECESSARY TO WITHDRAW THE PLUG		-
	Construction of portable socket outlets shall allow the easy insertion and withdrawal of the plug, and prevent the plug from working out of the socket-outlet in normal use		P
	Rated current (A) .....:	16A	P
	Number of poles .....:	2P+E	P
	Testing at portable socket outlets for maximum withdrawal force (N) .....:	See appended table 22	—
	Testing at portable socket outlets for minimum withdrawal force (N) .....:	See appended table 22	—
	Testing at plugs with reslient protective contacts for maximum withdrawal force (N) .....:	See appended table 22	—
	Testing at plugs with reslient protective contacts for minimum withdrawal force (N) .....:	See appended table 22	—
22.1	Verification of the maximum withdrawal force (multi-pin gauge)		-
22.1.1	Testing at portable socket outlets	See appended table 22	P
	Test plug according gauge no. 16 is applied.		P
	The plug does not remain in the socket-outlet		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
22.1.2	Testing at plugs with resilient protective contact arrangements		N/A
	Test gauge no. 16e is applied to resilient protective contact arrangements with the plug held vertically and the gauge hanging down		N/A
	Gauge no. 16e is made of hardened steel with a surface roughness between 0.6 µm and 0,8 µm over its usable length.		N/A
	Test pin not obstructed by the contact arrangement		N/A
22.2	Verification of the minimum withdrawal force (single-pin gauge)		-
	Test plug according gauge no. 2 applied at each individual contact with the gauge hanging down	See appended table 22	P
	The plug does not fall from each individual contact-assembly within 30 s		P
23	FLEXIBLE CABLES AND THEIR CONNECTION		-
23.1	Rewirable plugs and rewirable portable socket-outlets provided with a cord anchorage such that the conductors at the terminals are relieved from strain and twisting and that their covering is protected from abrasion		P
	Sheath of flexible cable clamped within the cord anchorage		P
	Non-rewirable plugs and non-rewirable portable socket-outlets so designed that the cord is kept in position and the connections are relieved from strain and twisting.		N/A
	Sheath of flexible cable clamped within the connector.		N/A
23.2	Pull and torque test		-
	The accessory is conditioned at 45^{0}C for 1h. Directly there after (while hot) a pull test is conducted with 50N for 30s, The anchorage shall remain functional but displacement of the cord may not exceed 2mm. Thereafter the samples are cooled down to ambient temperature for the further tests below		-
	Non-rewirable plugs and portable socket outlets:		-
	- rating .....:		—
	- type of flexible cable; number of conductors and nominal cross-sectional area (mm^2) .....:		—
	- pull (100 times) (N) .....:		N/A
	- torque (1 min) as specified in table 18 (Nm) .....:		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Testing performed	See appended table 23.2	N/A
	After the test:		-
	Displacement ≤ 2 mm .....:		N/A
	No break in the electrical connections		N/A
	Rewirable plugs and portable socket outlets:		-
	- rating .....:	16A 250V~	—
	- clamping screws, if any, tightened with a torque equal to 2/3 of that specified in 12.2.8 (Nm) .....:	L/N: 2/3 x 0,5Nm PE: 2/3 x 0,8Nm	—
	- type of flexible cable; number of conductors and smallest nominal cross-sectional area (mm^2) as shown in table 17 .....:	H05VV-F 3G1.5mm^2	—
	- pull (100 times) (N) .....:	60N	P
	- torque (1 min) as specified in table 18 (Nm) .....:	0,25Nm	P
	Testing performed	See appended table 23.2	P
	After the test:		-
	Displacement ≤ 2 mm .....:	Max.0,4mm	P
	End of conductors not have moved noticeably in the terminals		P
	Rewirable accessories having rated current up to and including 16 A:		-
	Suitable for fitting with the appropriate cable as shown in table 19		P
	Type of flexible cable; number of conductors and nominal cross-sectional area (mm^2).....:	H05VV-F, 3G1.5mm^2	—
23.3	Non-rewirable plugs and portable socket-outlets shall be provided with a flexible cable complying with DIN VDE 0281 or DIN VDE 0282. Cross sectional area see table 20. Non-rewirable plugs may have other types or cord if permitted by other German standards A cable equipped with rewirable plug or portable socket outlet shall be of the same quality.		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: identified by the colour combination green/yellow		N/A
	Non-rewirable plugs rated 16A/250V are tested: 1mm^2 and 1.5mm^2 at 16A/20A		N/A
	Extension cords and multiple connectors (table-type socket-outlets) without built-in safety device and its individual components must be designed for a rated current of 16 amps.		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	A reduced cross-section below 1.5 mm² up to and including 1.0 mm² of the cable is acceptable only when a fuse or protection unit is installed that is related to the rated current of the cable.		N/A
	Extension cords and multiple connectors with cable and plug (table-type socket-outlet) are tested in assembled condition as one unit.		N/A
23.4	Plugs and portable socket-outlets with cord connected: designed that the flexible cable is protected against excessive bending		P
	Guards shall be of insulating material and fixed in reliable manner		P
	Flexing test (10.000 flexings):		-
	- type of flexible cable and nominal cross-sectional area (mm²) .....:	H05VV-F 3G 1.5mm²	—
	- test current (A) .....:	16A	—
	- mass (N) .....:	20N	—
	Testing performed	See appended table 23.4	P
	During the test: no interruption of the test current and no short-circuit between conductors		P
	After the test: guard no separated from the body, insulation shows no sign of abrasion or wear, broken strands become no accessible		P
24	MECHANICAL STRENGTH		-
	Plugs and portable socket outlets, screw glands and shrouds have adequate mechanical strength	Socket-outlets for fixed use, see test report DIN VDE 0620-1:2016/A1:2017	N/A
	Testing is performed at		-
	- single portable socket outlets with enclosure not from elastomer or thermoplast, acc. 24.2		N/A
	- single portable socket outlets with enclosure from elastomer or thermoplast, acc. 24.2, 24.4, 24.5		N/A
	- multi way portable socket outlets with enclosure not from elastomer or thermoplast, acc. 24.1 and 24.9		N/A
	- multi way portable socket outlets with enclosure from elastomer or thermoplast, acc. 24.1, 24.4, 24.9		N/A
	- plugs with enclosure not from elastomer or thermoplast, acc. 24.2, 24.10		N/A

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Clause	Requirement – Test	Measuring result – Remark	Verdict
	- plugs with enclosure from elastomer or thermoplast, acc. 24.2, 24.4, 24.5, 24.10		N/A
	-glands for for plugs and portable socket outlets other than ordinary degree of protection, acc.24.6		N/A
	- plug pins with insulating sleeves, acc. 24.7		N/A
	- portable socket outlets with shutter, acc. 24.8		N/A
	- portable socket outlets with provision for wall suspension, acc. 24.11, 24.12, 24.13		N/A
	- shrouds of portable socket outlets, acc. 24.19		N/A
	- portable socket outlets with flap, acc. 24.20		N/A
	- portable socket outlets with stopper, acc. 24.21		N/A
24.1	Portable multiple socket-outlets tested similar to fixed socket-outlets, mounted to the plywood wall: impact test (apparatus shown in fig. 22, 23, 24 and 25)		N/A
	Testing performed	See appended table 24.1	N/A
	After the test: no damage, no live parts become accessible		N/A
24.2	Portable single socket-outlets and plugs: tumbling barrel test; number of falls:		N/A
	mass of sample ≤ 100 g: 1000: (g) :.....:		N/A
	mass of sample > 100 ≤ 200 g: (g) :.....:		N/A
	mass of sample > 200 g: 100: (g) :.....:		N/A
	Terminal screws or nuts tightened with a torque equal to 2/3 of that specified in 12.2.8 (Nm) .....:		—
	After the test:		-
	No part become detached or loosened;		N/A
	Pins not so deformed that the plug cannot be introduced into a socket-outlet and also fails to comply with the requirements of 9.1 and 10.3;		N/A
	Pins not turn when a torque of 0,4 Nm is applied for 1 min in each direction		N/A
	Socket-outlets with shutters shall be tested again with the shutter test in Clause 21		N/A
24.3	not relevant		N/A
24.4	Portable single socket-outlets, multiple socket-outlets and plugs (elastomeric or thermoplastic material): impact test, weight 1000 g, height 100 mm (apparatus shown in fig. 28)		N/A
	Specimens placed in a refrigerator at –15°C ± 2°C for at least 16 h		N/A

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Clause	Requirement – Test	Measuring result – Remark	Verdict
	After the test: no damage		N/A
24.5	Portable single socket-outlets and plugs (elastomeric or thermoplastic material): compression test, 300 N for 1 min, at 23°C ± 2°C, position a) and b) (apparatus shown in fig. 8)		N/A
	After the test: no damage		N/A
24.6	Screwed glands of connectors other than ordinary: torque test (1 min)		-
	- diameter of test rod (mm) .....:		—
	- type of material .....:		—
	- torque (Nm) .....:		—
	- type of material .....:		—
	After the test: no damage of glands and enclosure of the specimens		N/A
24.7	Plug pins provided with insulating sleeves: 20000 movements, 4 N (apparatus shown in fig. 29)		N/A
	After the test: no damage of pins, insulating sleeve not have punctured or rucked up		N/A
24.8	Shuttered portable socket-outlets: mechanical test carried out on specimens previously submitted to the normal operation test according to clause 21		-
	Force applied for 1 min against the shutter of an entry hole by means of one pin .....:		—
	Pin not come in contact with live parts		N/A
	After the test: no damage		N/A
24.9	Multiple portable socket-outlet: mechanical test		-
	Rewirable multiple socket-outlets: flexible cable of the smallest cross-sectional area specified in table 3 .....:		—
	Perform 8 (eight) falls on concrete floor with the specimens arranged as shown in figure 30		N/A
	After the test: no damage, no part have become detached or loosened		N/A
	Connectors other than ordinary submitted again to the test as specified in 16.2		N/A
	Socket-outlets with shutters shall be tested again with the shutter test in Clause 21		N/A
24.10	Plugs: pull test to verify the fixation of pins in the body of the plug (performed on new specimens)		-
	Maximum withdrawal force (table 16) applied for 1 min on each pin in turn, after the specimen has been placed at 70 °C for 1 h .....:		—

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Clause	Requirement – Test	Measuring result – Remark	Verdict
	After the test: displacement of pins in the body of the plug ≤ 1 mm (mm) .....:		N/A
24.11	Barriers of portable socket-outlets having means for suspension on a wall:		-
	Force applied for 10 s against the barrier by means of a cylindrical steel rod (1,5 times the maximum plug withdrawal force specified in table 16) (N) .....:		—
	Rod does not pierce the barrier		N/A
24.12	Portable socket-outlets having means for suspension on a wall (pull test):		-
	Pull applied to the supply flexible cable for 10 s (force prescribed in 23.2 for checking the flexible cable anchorage) (N) .....:		—
	During the test: no break of the means for suspension on a wall		N/A
24.13	Portable socket-outlets having means for suspension on a wall (pull test):		-
	Pull applied to the engagement face of the socket-outlet for 10 s (maximum withdrawal force specified, for the corresponding plug, in table 16) (N) .....:		—
	During the test: no break of the means for suspension on a wall		N/A
24.14	not relevant		N/A
24.15	not relevant		N/A
24.16	not relevant		N/A
24.17	not relevant		N/A
24.18	not relevant		N/A
24.19	portable socket-outlets with shroud		N/A
	The shroud of a socket-outlet is subjected to a compression test at an ambient temperature of 25 °C ± 5°C with the fixture shown in Figure 37b The force applied by flanges is 20N +/- 2N		N/A
	After 1 min and still under force the dimensions still have to be in line with the standard sheets.		N/A
	The test will be repeated after a 90° rotation.		N/A
24.20	portable socket-outlets with flap		-
	In order to secure a degree of protection greater or equal to IP 44 for socket-outlets with flaps the flap is subjected to a motion test.		P
	After successful assembly, same as for intended use, the flap is opened 5,000 times to a minimum of 5° before contact point.		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Any springs that may be present or other devices to close the flap may not get lost or rendered useless.		P
24.21	portable socket-outlets with stopper		N/A
	To test the captivity of the stopper, the stopper is subjected to a pull test for 30 sec. in the most unfavorable direction, without jerking, using a force of 50 N		N/A
	The stopper may not loosen and/or break away.		N/A
25	RESISTANCE TO HEAT		-
	Plugs and portable socket outlets shall be resistant to heat.		-
	Testing performed at samples following table 23		P
25.1	Test samples stored in heating cabinet at 100 °C for 1 h		-
	During the test: no change impairing their further use and sealing compound, if any, not flow		P
	After the test: markings still legible		P
25.2	Parts of insulating material necessary to retain current-carrying parts and parts of the earthing circuit in position, and parts of the front surface zone of 2 mm width surrounding the phase and neutral pin entry holes: ball-pressure test (1 h, 125 °C)		-
	Testing performed	See appended table 25.2	P
	After the test: diameter of impression ≤ 2 mm .....:	Max. 1,2 mm	P
25.3	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)		-
	Testing performed	See appended table 25.3	P
	After the test: diameter of impression ≤ 2 mm .....:	Max. 1,0 mm	P
25.4	Tests amples subjected to compression test (20 N, 1 h, 80 °C) by means of the apparatus shown in figure 37a		-
	After the test: no damage		N/A
26	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		-
26.1	Connections 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
	Screws and nuts which transmit contact pressure: in engagement with a metal thread		P

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Test:		-
	- 10 times for screws in engagement with a thread of insulating material and for screws of insulating material	Screws used for assembly and cord anchorage	P
	- 5 times for all other cases	Screws used for terminal	P
	Testing performed	See appended table 26.1	P
	During the test: no damage impairing the further use of the screwed connectons		P
26.2	Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured		P
26.3	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
	Connections made by insulation piercing of tinsel cord reliable		N/A
26.4	Screws and rivets locked against loosening and/or turning		P
26.5	Current-carrying parts of metal having mechanical strength, electrical conductivity and resistance to corrosion adequate:		P
	- copper;		N/A
	- alloy with at least 58 % copper for parts made from cold-rolled sheet or with at least 50 % copper for other parts;	>58%	P
	- stainless steel with at least 13 % chromium and not more than 0,09 % carbon		N/A
	- steel with electroplated coating of zinc (ISO 2081), with thickness of at least:		-
	5 µm, service condition ISO no. 1, for ordinary equipment		N/A
	12 µm, service condition ISO no. 2, for splash-proof equipment		N/A
	25 µm, service condition ISO no. 3, for jet-proof equipment		N/A
	- steel with electroplated coating of nickel and chromium (ISO 1456), with thickness of at least:		-
	20 µm, service condition ISO no. 2, for ordinary equipment		N/A
	30 µm, service condition ISO no. 3, for splash-proof equipment		N/A
	40 µm, service condition ISO no. 4, for jet-proof equipment		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- steel with electroplated coating of tin (ISO 2093), with thickness of at least:		-
	12 µm, service condition ISO no. 2, for ordinary equipment		N/A
	20 µm, service condition ISO no. 3, for splash-proof equipment		N/A
	30 µm, service condition ISO no. 4, for jet-proof equipment		N/A
	Current-carrying parts subjected to mechanical wear: not of steel with electroplated coating		P
	Metals having a great difference of electrochemical potential: not used in contact with each other		N/A
26.6	Contacts subjected to a sliding action: of metal resistant to corrosion		P
26.7	Thread-forming screws and thread-cutting screws not used for the connection of current-carrying parts		P
	Thread-forming screws and thread-cutting screws used to provide earthing connection: not necessary to disturb the connection and at least two screws are used for each connection		N/A
26.8	Inner connections of plugs and portable socket outlets:Connections different from screw or screwless terminals shall be soldered, welded, crimped or similar efficient connections.		P
	Non rewireable plugs and portable socket outlets and their inner connections: no screw terminals used.		N/A
	Screwless terminals acting similar to insulation displacement terminals only used on solid conductors.		N/A
	Tested following 12.3 using the inner conductor in use.		N/A
27	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND		-
27.1	Creepage distances, clearances and distances through sealing compound no less than the values shown in table 24		P
	Creepage distances (cr):		-
	1) between live parts of different polarity ≥ 4(3) mm .....:	>3,0 (measured by gauge)	P
	2) between live parts and:		-

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	- accessible insulating and earthed metal parts ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	- parts of earthing circuit ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	- metal frames supporting the base of flush-type socket-outlets ≥ 3 mm .....:		N/A
	- screws or devices for fixing bases, covers or cover-plates of fixed socket-outlets ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	- external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	3) between pins of plugs and metal parts connected to them, when fully engaged, and a socket-outlet of the same system having accessible unearthed metal parts ≥ 6(4,5) mm .....:		N/A
	4) between the accessible unearthed metal parts of a socket-outlet and a fully engaged plug of the same system having pins and metal parts connected to them ≥ 6(4,5) mm .....:		N/A
	5) between live parts of a portable socket-outlet (without a plug) and its accessible unearthed metal parts ≥ 6(4,5) mm .....:		N/A
	Measurements	See appended table 27.1	P
	Clearances (cl):		-
	6) between live parts of different polarity ≥ 3 mm ..:	>3,0 (measured by gauge)	P
	7) between live parts and:		-
	- accessible insulating and earthed metal parts not mentioned under 8 ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	- parts of earthing circuit ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	- external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit ≥ 3 mm .....:	>3,0 (measured by gauge)	P
	8) between live parts and:		-
	- metallic accessible parts not connected with protective conductor or parts with functional earth of plugs and portable socket outlets ≥ 6 (4,5) mm .....:		N/A
	9) not relevant		N/A
	10) not relevant		N/A
	11) between live parts of a portable socket outlet (no plug inserted) or a plug and their accessible metallic parts not connected with protective circuit ≥ 6 (4,5) mm .....:		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	12) not relevant		N/A
	13) not relevant		N/A
	Measurements	See appended table 27.1	N/A
	Distance through insulation:		-
	14) between accessible surfaces and live parts of non rewireable moulded portable socket outlets (no plug inserted) or plugs: ≥ 1,5 mm		N/A
	Measurements	See appended table 27.1	N/A
27.2	not relevant		N/A
27.3	not relevant		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	Glow-wire test		P
	For parts of portable Connectors necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 750 °C Note 5: The outer material by moulded plugs is totally removed when testing the supporting parts		-
	No visible flame and no sustained glowing		N/A
	Flame and glowing extinguish within 30 s .....:	850 °C, flame extinguish within 3 s	P
	No ignition of the tissue paper		P
	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: test temperature 650 °C		-
	No visible flame and no sustained glowing	No visible flame	P
	Flame and glowing extinguish within 30 s .....:		N/A
	No ignition of the tissue paper		P
	Testing	See appended table 28.1.1	P
28.1.2	Plugs with pins provided with insulating sleeves:		N/A
	Test temperature maintained for 3 h by means of the apparatus shown in figure 39 .....:		—
	Impact test according to sub-clause 30.4 (mass 100 g, height 100 mm, 4 impacts) at room temperature: no cracks of the insulating sleeves		N/A
28.2	Resistance to tracking		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Parts of insulating material retaining live parts in position of plugs and portable socket outlets other than ordinary: test voltage 175 V, 50 drops, solution A of IEC 112		N/A
	Testing		N/A
	No flashover or breakdown		N/A
29	RESISTANCE TO RUSTING		-
	Ferrous parts protected against rusting		P
	No signs of rust after 10 min in carbon tetrachloride, trichloroethane or equivalent degreasing agent, 10 min 10 % solution of ammonium chloride, 10 min in a box with air saturated with moisture and 10 min at 100 °C		P
30	ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES		-
30.1	Pressure test at high temperature		-
	Apparatus shown in figure 40, with the test specimen in position, maintained for 2 h at 200 °C. Force applied through the blade: 2,5 N		N/A
	Thickness of insulation measured: before the test (mm); after the test (mm) .....:		—
	Thickness within the area of impression ≥ 50 % of the thickness measured before the test: percent value (%) .....:		N/A
30.2	Static damp heat test		-
	Set of 3 specimens submitted to two damp heat cycles in accordance with IEC 68-2-30		N/A
	After the test:		-
	Insulation resistance and electric strength test (clause 17)		N/A
	Abrasion test (sub-clause 24.7)		N/A
30.3	Test at low temperature		-
	Set of 3 specimens maintained at –15 °C ± 2 °C for 24 h		N/A
	After the test:		-
	Insulation resistance and electric strength test (clause 17)		N/A
	Abrasion test (sub-clause 24.7)		N/A
30.4	Impact test at low temperature		-

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict
	Specimens maintained at –15 °C ± 2 °C for 24 h subjected to 4 impacts (mass 100 g, height 100 mm) by means of the apparatus shown in figure 30 rotating the specimen through 90° between impacts		N/A
	After the test: no crack of the insulating sleeves		N/A

31	EMC		-
	No requirements except when the accessories contain electronic parts Neon lamps are not electronic parts.		N/A
	Accessories with electronic parts must comply with the relevant EMC requirements		N/A

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict

12.2.5	**TABLE: test with apparatus shown in figure 9 (screw-type terminals)**		N/A
	rated current (A) .....:		—
	type of conductors .....:	**rigid solid / rigid stranded / flexible**	—
	smallest/largest cross-sectional area per table 3 (mm^2) .....:		—
	number of conductors.....:		—
	nominal diameter of thread (mm); torque per table 6 (Nm) .....:		—

Cross-sectional area (mm^2)	Diameter of bushing hole per table 9 (mm)	Height H per table 9 (mm)	Mass (kg)	Remarks

supplementary information:

12.2.6	**TABLE: pull test (screw-type terminals)**		N/A
	rated current (A) .....:		—
	smallest/largest cross-sectional area per table 3 (mm^2) .....:		—
	nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) .....:		—

Cross-sectional area (mm^2)	Number of conductors	Type of conductors (rigid solid / rigid stranded / flexible)	Pull per table 4 applied for 1 min (N)	Remarks

supplementary information:

12.2.7	**TABLE: tightening test (screw-type terminals)**		N/A
	rated current (A) .....:		—
	nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) .....:		—

Largest cross-sectional area per table 3 (mm^2)	Permissible number of conductors (1)	Type of conductors (rigid solid / rigid stranded / flexible)	Number of wires and nominal diameter of wires per table 5	Remarks

supplementary information:
(1) **terminals intended for looping-in 2 or 3 conductors**

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict

14.22	**TABLE: Components**				P
Object / part No.	**Manufacturer/ trademark**	**Type / model**	**Technical data**	**Standard**	**Mark(s) of conformity[1)]**
Refer to CDF					
Supplementary information: **[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.**					

17.1.1	**TABLE: insulation resistance**		N/A
Item per 17.1.1	test voltage applied between:	measured (MΩ)	required (MΩ)
a)	between all poles connected together and the body, with a plug in engagement		
b)	between each pole in turn and all others connected to the body, with a plug in engagement		
supplementary information:			

17.1.2	**TABLE: insulation resistance**		N/A
Item per 17.1.2	test voltage applied between:	measured (MΩ)	required (MΩ)
supplementary information:			

17.2	**TABLE: electric strength**		N/A
	rated voltage (V) ..... :		—
item per 17.1	test voltage applied between:	test voltage (V)	flashover / breakdown (Yes/No)
a)	between all poles connected together and the body, with a plug in engagement		
b)	between each pole in turn and all others connected to the body, with a plug in engagement		
supplementary information:			

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict

19.2.1	**TABLE: temperature rise test for portable socket outlets without accessories**						**N/A**
	rated current of accessory (A) .....:						**—**
	type of accessory (non-rewirable / rewirable) ....:						**—**
	nominal cross-sectional area per table 15 (mm^2) :						**—**
	type of conductors (rigid solid / rigid stranded / flexible) .....:						**—**
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:						**—**
							N/A
specimen	**type of flexible cable (1)**	**number of conductors and nominal cross-sectional area (mm^2) (1)**	**test circuit (L-L/L-N/L-E)**	**test current (table 20) for 1 h (supply cable) (A)**	**measured ΔT (K)**	**allowed ΔT (K)**	**ΔT of external parts of insulating material (25.3)(K)**

supplementary information:
(1) Non-rewirable accessories

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict

19.2.2	**TABLE: temperature rise test for portable socket-outlets with accessories**		**N/A**
	rated current of accessory (A) .....:		**—**
	type of accessory (non-rewirable / rewirable) ....:		**—**
	nominal cross-sectional area per table 15 (mm^2) :		**—**
	type of conductors (rigid solid / rigid stranded / flexible) .....:		**—**
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:		**—**

specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm^2) (1)	test circuit (L-L/L-N/L-E)	rated current for 1 h or tripping (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)

specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm^2) (1)	test circuit (L-L/L-N/L-E)	test current (table 20) for 1 h or tripping (A)	test current 95% of tripping current for 1 h (A)	test current 150% rated fuse current (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)

supplementary information:

Product Service

Clause	Requirement – Test	Measuring result – Remark	Verdict

Measurement:

measuring-point-Nr.	Measuring point./ Description	specified value max.	measurement °C	temp-diff. K	result	specified value max.	measurement °C	temp-diff. K	result
	Measuring point								
Remark: Above recoad is Max. Temperture of all samples.									

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Clause	Requirement + Test	result – Remark	Verdict

19.3.1	**TABLE: temperature rise test for plugs without accessories**		**N/A**
	rated current of accessory (A) .....:		**—**
	type of accessory (non-rewirable / rewirable) ....:		**—**
	nominal cross-sectional area per table 15 (mm^2) :		**—**
	type of conductors (rigid solid / rigid stranded / flexible) .....:		**—**
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:		**—**
	Test portable socket-outlet		

specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm^2) (1)	test circuit (L-L/L-N/L-E)	test current (table 20) for 1 h (supply cable) (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)

supplementary information:
(1) Non-rewirable accessories

Product Service

Clause	Requirement + Test	result – Remark	Verdict

19.3.2	**TABLE: temperature rise test for plugs with accessories**								**N/A**
	rated current of accessory (A) .....:								**—**
	type of accessory (non-rewirable / rewirable) ....:								**—**
	nominal cross-sectional area per table 15 (mm^2) :								**—**
	type of conductors (rigid solid / rigid stranded / flexible) .....:								**—**
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:								**—**
	rewireable plugs:								
specimen	**type of flexible cable (1)**	**number of conductors and nominal cross-sectional area (mm^2) (1)**	**test circuit (L-L/L-N/L-E)**	**rated current for 1 h or tripping (A)**	**measured ΔT (K)**	**allowed ΔT (K)**	**ΔT of external parts of insulating material (25.3)(K)**		
	non-rewireable plugs:								
specimen	**type of flexible cable (1)**	**number of conductors and nominal cross-sectional area (mm^2) (1)**	**test circuit (L-L/L-N/L-E)**	**test current table 20 for 1 h or tripping (A)**	**measured ΔT (K)**	**allowed ΔT (K)**	**ΔT of external parts of insulating material (25.3)(K)**		
	rewireable plugs and non-rewireable plugs:								
specimen	**type of flexible cable (1)**	**number of conductors and nominal cross-sectional area (mm^2) (1)**	**test circuit (L-L/L-N/L-E)**	**test current (table 20) for 1 h or tripping (A)**	**test current 95% of tripping current for 1 h (A)**	**test current 150% rated fuse current (A)**	**measured ΔT (K)**	**allowed ΔT (K)**	**ΔT of external parts of insulating material (25.3)(K)**
supplementary information: (1) Non-rewirable accessories									

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Clause	Requirement + Test	result – Remark	Verdict

19.4.1	TABLE: temperature rise test for adaptors without accessories		N/A
	rated current of accessory (A) .....:		—

specimen	test circuit (L-L/L-N/L-E)	test current (table 20) for 1 h (supply cable) (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)

supplementary information:

19.4.2	TABLE: temperature rise test adaptors with accessories		N/A
	rated current of accessory (A) .....:		—
	type of accessory (non-rewirable / rewirable) ....:		—
	nominal cross-sectional area per table 15 (mm^2) :		—
	type of conductors (rigid solid / rigid stranded / flexible) .....:		—
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:		—

specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm^2) (1)	test circuit (L-L/L-N/L-E)	rated current for 1 h or tripping (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)

Product Service

Clause	Requirement + Test	result – Remark	Verdict

specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm^2) (1)	test circuit (L-L/L-N/L-E)	test current (table 20) for 1 h or tripping (A)	test current 95% of tripping current for 1 h (A)	test current 150% rated fuse current (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)

supplementary information:

20	TABLE: breaking capacity		P
	rating of accessory (A/V) .....:	16/250	—
	type of accessory (non-rewirable / rewirable) .....:	-	—
	type of flexible cable (non-rewirable accessories) .....:	-	—
	number of conductors and nominal cross-sectional area (mm2) (non-rewirable accessories) .....:	-	—
	nominal cross-sectional area per table 15 (mm2) .....:	-	—
	type of conductors (rigid solid / rigid stranded / flexible) .....:	-	—
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:	-	—
	rate of operation (strokes per minute) .....:	30	—

specimen	test plug (for each type and current rating of socket-outlet)		test voltage (1,1 Vn) (V)	test current (1,25 In) cos φ 0,6 (A)	number of strokes (plugs only)	number of strokes, with shutters	number of strokes, with shutters by hand	remarks	
	pin dimensions (mm)	pin spacing (mm)							
	4,83	19,02	275	20	-	100	-	-	P

supplementary information:

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Clause	Requirement + Test	result – Remark	Verdict
21	**TABLE: normal operation**		**P**
	rating of accessory (A/V) .....:	16/250	—
	type of accessory (non-rewirable / rewirable) ....:	-	—
	type of flexible cable (non-rewirable accessories) .....:	-	—
	number of conductors and nominal cross-sectional area (mm^2) (non-rewirable accessories) .....:	-	—
	nominal cross-sectional area per table 15 (mm^2) :	-	—
	type of conductors (rigid solid / rigid stranded / flexible) .....:	-	—
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm) .....:	-	—
	rate of operation (strokes per minute) .....:	30	—

specimen	test plug (for each type and current rating of socket-outlet)		test voltages (Vn) (V)	test current (table 20), cos φ 0,8 (A)	number of strokes (plugs only)	number of strokes, with shutters – with current	number of strokes, with shutters – with current (hand)	
	pin dimensions (mm)	pin spacing (mm)						
	4,83	19,02	250	16	-	10000	-	P

	TABLE: test for shuttered socket-outlets		
specimen	Gauge of figure 15, applied with a force of 20 N, for approximately 5 s, successively in three directions	Steel gauge of figure 13, applied with a force of 1 N for approximately 5 s, in three directions	
	OK	OK	P

	TABLE: temperature rise test (cl.19)				
specimen	test circuit (L-L/L-N/L-E)	test current (table 20 for clause 21) for 1 h (A)	measured dT (K)	allowed dT (K)	
	L-N	16	Max.39,6	45	P
	L-E	16	Max.41,3	45	P

	TABLE: electric strength (cl. 17.2)				**P**
specimen	item per 17.1	test voltage applied between:	test voltage (V)	flashover / breakdown (Yes/No)	

Clause	Requirement + Test	result – Remark	Verdict

	a)	between all poles connected together and the body, with a plug in engagement	1500	No
	b)	between each pole in turn and all others connected to the body, with a plug in engagement	1500	No

22	**TABLE: force necessary to withdraw the plug**				**P**
	Rated current (A) .....:		**16**		**—**
	Number of poles .....:		**2P+E**		**—**
22.1	**Verification of the maximum withdrawal force**				**P**
specimen	**socket-outlets (multi-pin gauge)**		**plugs with resilient earthing contact assemblies (single-pin gauge)**		
	maximum withdrawal force (N)	**the test plug did not remain in the socket-outlet (Y/N)**	**maximum withdrawal force (N)**	**the test pin gauge did not remain in the contact assembly**	
	54	Y	-	-	P
supplementary information:					
22.2	**Verification of the minimum withdrawal force**				**P**
specimen	**socket-outlets (single-pin gauge)**		**plugs with resilient earthing contact assemblies (single-pin gauge)**		
	minimum withdrawal force (N)	**the test pin gauge did not fall from each individual contact-assembly within 30 s (Y/N)**	**minimum withdrawal force (N)**	**the test pin gauge did not fall from each individual earthing contact-assembly within 30 s (Y/N)**	
-	2	Y	-	-	P
supplementary information:					

23.2	**TABLE: pull and torque test**		**P**
	rating of accessory (A) ..... :	16	**—**
	type of accessory (non-rewirable / rewirable) ... :	rewirable	**—**
	smallest/largest cross-sectional area per table 17 (mm^2) (rewirable accessories) ..... :	-	**—**
	nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) (rewirable accessories) ..... :	-	**—**

Clause	Requirement + Test	result – Remark	Verdict

specimen	type of flexible cable	number of conductors and nominal cross-sectional area (mm^2)	pull (100 times) (N)	torque (1 min) as specified in table 18 (Nm)	displacement (mm)	
-	H05VV-F	3G1.5mm^2	60	0,25Nm	Max.0,4mm	P
supplementary information:						

23.4	**TABLE: flexing test**				**P**
	rated current (A) .....:	**16**			**—**
specimen	**type of flexible cable**	**number of conductors and nominal cross-sectional area (mm^2)**	**test current (A)**	**mass (N)**	
-	H05VV-F	3G1.5mm^2	16	20	P
supplementary information:					

24	**TABLE: impact test**			**P**
part of enclosure tested per table 21 (A, B, C, D)	**blows per part**	**height of fall (mm)**	**comments**	
A	5	100	P	
D	4	200	P	
supplementary information:				

25.2	**TABLE: ball pressure test of insulating materials**		**P**
	allowed impression diameter (mm) .....:	**≤ 2 mm**	**—**
part under test	**test temperature (°C)**	**impression diameter (mm)**	
Socket base	125	1,2	
Shutter box	125	1,2	
supplementary information: enclosure parts also contact carrying parts			

25.3	**TABLE: ball pressure test of insulating materials**		**P**
	allowed impression diameter (mm) .....:	**≤ 2 mm**	**—**
part under test	**test temperature (°C) (1)**	**impression diameter (mm)**	

Product Service

Clause	Requirement + Test	result – Remark	Verdict
Enclosure		70	1,0
Shutter		70	1,0
supplementary information: **(1) (70 ± 2) °C / (40 ± 2) °C + highest temperature rise determined during the test of clause 19**			

26.1	**TABLE: threaded part torque test**				**N/A**
threaded part identification	**diameter of thread (mm)**	**column number (1, 2 or 3)**	**applied torque (Nm)**	**times (5/10)**	**no damage**
supplementary information:					

27.1	**TABLE: creepage distances, clearances and distances through insulation**						**P**
	rated voltage (V) ..... :	**250**					**—**
item per table 23	**creepage distance dcr, clearance cl and distance through insulation dti at/of:**	**required cl (mm)**	**cl (mm)**	**required dcr (mm)**	**dcr (mm)**	**required dti (mm)**	**dti (mm)**
1);6)	between live parts of different polarity	≥ 3	>3,0 (by gauge)	≥ 3	>3,0 (by gauge)	≥	-
2);7)	between live parts and accessible surface of parts of insulating material	≥ 3	>3,0 (by gauge)	≥ 3	>3,0 (by gauge)	≥	-
	between live parts and parts of earthing circuit	≥ 3	>3,0 (by gauge)	≥ 3	>3,0 (by gauge)	≥	-
	between live parts and external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit	≥ 3	>3,0 (by gauge)	≥ 3	>3,0 (by gauge)	≥	-
supplementary information:							

Clause	Requirement + Test	result – Remark	Verdict

28.1	**Table: Glow wire test**								-
Object/Material	**Manufacturer/ trademark**	**(°C)**						**Verdict**
		650		**750**		**850**		
		te	**ti**	**te**	**ti**	**te**	**ti**	
Socket base / Refer to CDF	Refer to CDF	-	-	ni	ni	33	1	P
shutter box / Refer to CDF	Refer to CDF	-	-	ni	ni	33	1	P
Enclosure / Refer to CDF	Refer to CDF	ni	ni	-	-	-	-	P
Shutter / Refer to CDF	Refer to CDF	ni	ni	-	-	-	-	P
The test specimen passed the glow wire test with no ignition (~~Yes/~~No) ……..:								P
Ignition of the side paper lying below the test item (~~Yes/~~No) .....:								P
- ni bedeutet: keine Entzündung ~~ ni means: no ignition								
DIN EN 60695-2-11: *ti* : die Dauer *ti* (gerundet auf volle Sekunden) vom Beginn des Einwirkens der Spitze bis zum Zeitpunkt, *ti* : the duration ti (rounded to full seconds) from the beginning of the action of the tip to the point in time on which the test item or the underlying solid surface ignites *t*E : the duration (rounded to the nearest full second) from the point at which the tip is acted to the point at which any flames are extinguished; applies to the exposure time of the tip								
Supplementary information:								

28.2	**TABLE: resistance to tracking**		**P**
	number of drops .....:	50	—

part under test	**material designation**	**test voltage (V)**	**flashover / breakdown (Yes/No)**
Socket base, shutter box	Refer to CDF	175	No
supplementary information:			