



Product Service

**TEST REPORT**  
**IEC 60884-1**  
**Plugs and socket-outlets for household and similar purposes**  
**Part 1: General requirements**

**Report Number**..... : 704102001219-01

**Date of issue**..... : 2021.08.24

**Total number of pages** ..... : 74

**Name of Testing Laboratory preparing the Report** ..... : TüV Süd Certification and Testing (China) Co., Ltd. Shanghai Branch  
No.151, Heng Tong Road 200070 Shanghai P.R. China

**Applicant's name** ..... : Etman Electric (Changzhou) Co., Ltd.

**Address**..... : 6 Miaoban Road, Lijia District, 213165 Changzhou, Jiangsu Prov., PEOPLE'S REPUBLIC OF CHINA

**Test specification:**

**Standard** ..... : IEC 60884-1:2002, AMD1:2006, AMD2:2013

**Test procedure**..... : TUV MARK

**Non-standard test method** ..... : N/A

**Test Report Form No.** ..... : IEC60884\_1G

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

**Master TRF** ..... : Dated 2019-05-07

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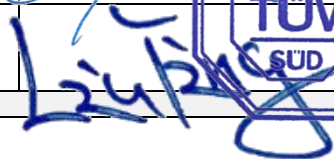
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<b>Test item description</b> ..... :		Fixed socket-outlet
<b>Trade Mark</b> ..... :		 <b>EGANT</b> or
<b>Manufacturer</b> .....		Same as applicant
<b>Model/Type reference</b> .....		ETM703PQ, ETM703BQ, ETM703UQ, ETM703XQ, ETM703EQ, B703Q, U703Q, E703Q
<b>Ratings</b> .....		250V~, 16A
<b>Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):</b>		
<input checked="" type="checkbox"/>	<b>Testing Laboratory:</b>	TüV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
<b>Testing location/ address</b> ..... :		No. 1999, Duhui Road, Shanghai, 201108, P. R. China
<b>Tested by (name, function, signature)</b> .....		Ziyan CAI (Project Handler) 
<b>Approved by (name, function, signature)</b> .... :		Ying LIU (Mandatory reviewer) 
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name, function, signature)</b> .....		
<b>Approved by (name, function, signature)</b> .... :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name + signature)</b> .....		
<b>Witnessed by (name, function, signature) .:</b>		
<b>Approved by (name, function, signature)</b> .... :		
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
<b>Testing location/ address</b> ..... :		
<b>Tested by (name, function, signature)</b> .....		
<b>Witnessed by (name, function, signature) .:</b>		
<b>Approved by (name, function, signature)</b> .... :		
<b>Supervised by (name, function, signature) :</b>		

<b>List of Attachments (including a total number of pages in each attachment):</b> N/A	
<b>Summary of testing:</b> 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.	
<b>Tests performed (name of test and test clause):</b> The samples submitted are deemed to meet the requirement of IEC 60884-1:2002 (Third Edition) + A1:2006 + A2:2013 The test results presented in this report are positive.	<b>Testing location:</b> TüV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch No. 1999, Duhui Road, Shanghai, 201108, P. R. China
<b>Summary of compliance with National Differences (List of countries addressed):</b>  N/A	
<b>Copy of marking plate:</b> Refer CDF	

<b>Test item particulars.....:</b>	
<b>Standard Sheet</b> .....	CEE7 sheet III (16A socket)
<b>Rated current (A) / Rated voltage (V)</b> .....	16A/250V~
<b>Degree of protection against access to hazardous parts and against harmful ingress of solid foreign objects</b> .....	IP2X / <del>IP4X</del> / <del>IP5X</del>
<b>Degree of protection against harmful ingress of water</b> .....	IPX0 / <del>IPX4</del> / <del>IPX5</del> / IPX6
<b>Provision for earthing</b> .....	<del>without earthing contact</del> / with earthing contact
<b>Method of connecting the cable</b> .....	rewirable / <del>non-rewirable</del>
<b>Type of cable</b> .....	N/A
<b>Nominal cross-sectional areas (mm<sup>2</sup>)</b> .....	N/A
<b>Type of terminals</b> .....	<del>screw type</del> / screwless (rigid) / <del>screwless (rigid and flexible)</del>
<b>Type of connections</b> .....	<del>soldered</del> / <del>welded</del> / <del>crimped</del> / other
<b>Socket-outlets:</b>	
<b>Degree of protection against electric shock</b> :	normal protection / <del>increased protection</del>
<b>Existence of shutters</b> .....	<del>without shutters</del> / with shutters
<b>Method of application / mounting of the socket-outlet</b> .....	<del>surface type</del> / <del>flush-type</del> / <del>semi-flush-type</del> / <del>panel type</del> / <del>architrave type</del> / <del>portable type</del> / <del>table type (single/multiple)</del> / <del>floor recessed type</del> / <del>appliance type</del>
<b>Method of installation</b> .....	design A / <del>design B</del>
<b>Intended for circuits where</b> .....	a single earthing circuit provides protective earthing / <del>electrical noise immunity is desired for the earthing circuit</del>
<b>Plugs:</b>	<del>Two pole with earth contact</del>
<b>Class of equipment</b> .....	0 / I / II
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object.....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
<b>Testing.....:</b>	
<b>Date of receipt of test item</b> .....	2019-10-26, 2021-07-08
<b>Date (s) of performance of tests</b> .....	2019-10-26 to 2020-04-07, 2021-07-09 to 2021-08-24
<b>General remarks:</b>	

"(See Enclosure #)" refers to additional information appended to the report.  
 "(See appended table)" refers to a table appended to the report.

**Throughout this report a  comma /  point is used as the decimal separator.**

This test report replaces the previous version 704102001219-00 issued on 2020-04-07 due to add model.

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

- .Test report IEC 60884-1:2002, AMD1:2006, AMD2:2013 (Report No.: 704102001219-01)
- .Annex Nordic (FI, NO, SE, DE) deviations (Report No.: 704102001219-01)
  - SFS 5610:2015+A11:2016
  - NEK 502:2016
  - SS 4280834:2013+R1:2017+R1:2018
  - DS 60884-2-D1:2017
- .Test report EN 62368-1:2014/A11:2017 (Report No.: .48.420.19.1922.00)
- .Photo documentation
- .Data form for electrical equipment and machinery

**Manufacturer’s Declaration per sub-clause 4.2.5 of IEC 60884-1:**

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....


- Yes**
- Not applicable**


**When differences exist; they shall be identified in the General product information section.**

**Name and address of factory (ies) .....** : Etman Electric (Changzhou) Co., Ltd.  
 6 Miaoban Road, Lijia District, 213165 Changzhou, Jiangsu Prov., PEOPLE'S REPUBLIC OF CHINA

**General product information and other remarks:**

Socket-outlet for fixed installation, flush-type, IP20, with screwless (rigid) type terminals, with shutter, with USB charger.  
 USB parts:  
 Input: 230 V~, 50Hz, 0.4A  
 Output: Output Single A-port or Output Single C-port: 5.0V DC 3.0A, 15.0W; 9.0V 2.0A, 18.0W; 12.0V 1.5A, 18.0W;  
 Output A-port + Output C-port: 5.0V DC 3.0A, 15.0W (3.0A in total);  
 All models with same construction except enclosure design and colour.

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>8</b>	<b>MARKING</b>		
8.1	Accessories marked as follows:		P
	- rated current (A) .....	16	P
	- rated voltage (V) .....	250	P
	- symbol for nature of supply .....	~	P
	- manufacturer's or responsible vendor's name .....	 or <b>EGANT</b>	P
	- type reference .....	See page 2	P
	- degree of protection (first characteristic numeral) if higher than 2 .....	IP2X	N/A
	- degree of protection (second characteristic numeral) if higher than 0 .....	IPX0	N/A
	- degree of protection (first characteristic numeral) higher than 4 for fixed socket outlet in which case the second characteristic numeral shall also be marked .....		N/A
	- degree of protection (second characteristic numeral) higher than 2 for fixed socket outlet in which case the first characteristic numeral shall also be marked .....		N/A
	Socket-outlets with screwless terminals marked with the following:		P
	- the length of insulation to be removed .....	11mm	P
	- an indication of the suitability to accept rigid conductors only (if any) .....	r	P
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:		P
	- 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		P
	- indication of the suitability to accept rigid conductors only for screwless terminals for those socket-outlets having this restriction		N/A
	- type reference		P

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Clause	Requirement + Test	Result - Remark	Verdict
	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
	IP code, if applicable: marked so as to be easily discernible		N/A
	Fixed socket-outlets classified according to item b) of 7.2.5: identified by a triangle visible after installation unless they have an interface configuration different from that used in normal circuits .....		N/A
8.4	Plugs and portable socket-outlets: marking specified in 8.1, other than the type reference, easily discernible		N/A
	Plugs and portable socket-outlets for equipment of class II not marked with the symbol for class II construction		N/A
8.5	Neutral terminals: N .....	N	P
	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 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 such terminals may be achieved by:		-
	- their being marked with graphical symbols according to IEC 60417-2 or colours and/or alphanumeric system, or		N/A
	- their being marked with their physical dimensions or relative location		N/A
8.6	Surface-type mounting boxes forming an integral part of socket-outlets having an IP code higher than IP4X, or higher than IPX2, the IP code marked on the outside of its associated enclosure so as to be easily discernible		N/A
8.7	Indication of which position or with which special provision the declared IP of flush-type and semi-flush-type fixed socket-outlets having IP>X0 is ensured		N/A
8.8	Marking durable and clearly legible with normal or corrected vision, without additional magnification. Test: 15 s with water and 15 s with petroleum spirit		P
<b>9</b>	<b>CHECKING OF DIMENSIONS</b>		

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Clause	Requirement + Test	Result - Remark	Verdict
9.1	Accessories and surface-type mounting boxes comply with the appropriate standard sheets and corresponding gauges, if any	See Annex	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	See Annex	P
9.2	It is not possible to engage a plug with:		P
	- a socket-outlet having a higher voltage rating or a lower current rating;		P
	- a socket-outlet with a different number of live poles (exception admitted provided that no dangerous situation can arise);		P
	- a socket-outlet with earthing contact, if the existing plug of the present national system is a plug for class 0 equipment;		P
	Engagement of an existing plugs on the present national system for equipment of class 0 or of class I with a socket-outlet exclusively designed to accept plugs for class II equipment		N/A
	Impossibility of insertion checked by applying a gauge, for 1 min, with a force of:		P
	- 150 N (rated current $\leq$ 16A);		P
	- 250 N (rated current $>$ 16A)		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2)$ °C		P
9.3	Deviations from standard sheets made only if they provide technical advantage and do not affect the purpose and safety of accessories complying with standard sheet		N/A
<b>10</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		
10.1	Live parts not accessible, even after removal of parts which can be removed without the use of a tool for:		P
	Fixed socket-outlets		P
	Plugs when the plug is in partial or complete engagement with a socket-outlet		P
	Test with test probe B of IEC 61032		P
	Accessories with elastomeric or thermoplastic material: additional test carried out at $(35 \pm 2)$ °C with test probe 11 of IEC 61032 (75 N for 1 min)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	During the test: accessories 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 8: specimens not show deformation		N/A
10.2	Accessible parts (with exception of small screws and the like for fixing main parts and covers or cover plates): made of insulating material		P
	Cover or cover plates of fixed socket-outlets and accessible parts of portable socket-outlets: made of metal if the requirements of 10.2.1 or 10.2.2 are fulfilled		N/A
10.2.1	Accessible metal parts or accessible metal parts 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, accessories 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	Accessible metal parts are reliably connected, through a low-resistance connection, to the earth during fixing		N/A
10.3	Contact between a pin of a plug and a live socket-contact of a socket-outlet not possible while any other pin is accessible		P
	Compliance checked by manual test and by means of gauges with tolerances as specified in table 2		P
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		P
	Socket-outlets with enclosure or bodies of rubber or polyvinyl chloride: test carried out with a force of 75 N for 1 min		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 (mm) .....		N/A
10.4	External parts of plugs made of insulating material		N/A
	Overall dimensions of rings around pins not exceed 8 mm concentric with respect to the pin		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
10.5	Shuttered socket-outlets: live parts not accessible, without a plug in engagement, with the gauges shown in figure 9 and 10		P
	Live contacts automatically screened when the plug is withdrawn		P
	Shutters so designed that a plug is inserted with the same movement in a socket outlet with shutters as in a socket-outlet without shutters		P
	Means cannot easily be operated by anything other than a plug and not depend upon parts which are liable to be lost		P
	Gauge of figure 9, applied to the entry holes corresponding to live contacts with a force of 20 N, for approximately 5 s, successively in three directions, does not touch live parts		P
	Steel gauge of figure 10, applied to the entry holes corresponding to live contacts with a force of 1 N for approximately 5 s, in three directions, does not touch live parts		P
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		P
10.6	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		P
	Test plug inserted into the socket-outlet with a force of 150 N for 1 min		P
10.6	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		P
	After this test: socket-outlet still comply with the requirements of clause 9		P
10.7	Socket-outlet with or without lid with increased protection: live parts not accessible		N/A
	Test wire of 1 mm diameter (figure 10) applied with a force of 1 N on all accessible surfaces does not touch live parts		N/A
	Accessories with elastomeric or thermoplastic material: test carried out at $(35 \pm 2) ^\circ\text{C}$		N/A
	Socket-outlet tested without a plug inserted with the lid, if any, open		N/A
<b>11</b>	<b>PROVISION FOR EARTHING</b>		
11.1	Earth connection made before the current-carrying contacts of the plug become live		P
	Current-carrying pins are separated before the earth connection is broken		P

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Clause	Requirement + Test	Result - Remark	Verdict
11.2	Earthing terminals of rewirable accessories comply with clause 12		P
	Earthing terminals of the same size as the corresponding terminals for the supply conductors		P
	Earthing terminals of rewirable accessories: 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
	- 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	Riveting	P
11.3	Accessible metal parts of fixed socket-outlets: permanently and reliably connected to the earthing terminal		N/A
11.4	Socket-outlets, having an IP>X0, with enclosure of insulating material and more than one cable inlet, provided with:		N/A
	- an internal fixed earthing terminal, or		N/A
	- adequate space for a floating terminal (test connection using the type of terminal specified by the manufacturer), unless		N/A
	- earthing terminal of socket-outlet itself allows the connection of an incoming and an outgoing earthing conductor		N/A
11.5	Connection between earthing terminal and accessible metal parts: of low resistance		P
	Test current equal to 1,5 times the rated current or 25 A (A) .....	25	—
	Resistance not exceed 0,05 $\Omega$ ( $\Omega$ ) .....	0,03 $\Omega$	P
11.6	Fixed socket-outlets according to item b) of 7.2.5: earthing socket contact and its terminal electrically separated from any metal mounting means or other exposed conductive parts which may be connected to the protective earthing circuit of the installation		N/A
<b>12</b>	<b>TERMINALS AND TERMINATIONS</b>		
	All the test on terminals, with the exception of the tests of 12.3.11 and 12.3.12, made after the test of clause 16		P
<b>12.1</b>	<b>General</b>		P

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Clause	Requirement + Test	Result - Remark	Verdict
12.1.1	Rewirable fixed socket-outlets provided with screw-type terminals or with screwless terminals .....	screwless 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 clamp area of screw-type terminals		N/A
	Clamping means of terminals: not serve to fix any other components		P
12.1.2	Non-rewirable accessories provided with soldered, welded, crimped or equally effective permanent connections (termination) .....	rewirable	N/A
	Screwed or Snap-On connections not used		N/A
	Connections made by crimping a pre-soldered flexible conductor not permitted		N/A
<b>12.2</b>	<b>Terminals with screw clamping for external copper conductors</b>		<b>N/A</b>
12.2.1	Accessories provided with terminals which allows the proper connection of copper conductors as shows in table 3		N/A
	Rated current (A); Type of accessories .....		—
	Type of conductor (rigid / flexible) .....		—
	Smallest / largest cross-sectional area (mm <sup>2</sup> ) .....		—
	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	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		

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Clause	Requirement + Test	Result - Remark	Verdict
12.2.7	Terminals designed or placed that the conductor cannot slip out while the clamping screws or nuts are tightened		N/A
	After the test: no wire of the conductor escaped from the clamping unit		N/A
12.2.8	Terminals not work loose from their fixing to accessories		N/A
	Torque test (screws and nuts tightened and loosened 5 times):		N/A
	- rated current (A) .....		—
	- copper conductor of the largest cross-sectional area (mm <sup>2</sup> ) (table 3) .....		—
	- type of conductor (solid or stranded) .....		—
	- torque (Nm) (table 6 or appropriate figures 2, 3 or 4) .....		—
	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
	The body is a part of a frame or enclosure of aluminium alloy: precautions are taken to avoid the risk of corrosion		N/A
12.2.11	Pillar terminals: distance <i>g</i> no less than the value specified in figure 2: required (mm); measured (mm) .....		N/A
	Mantle terminals: distance <i>g</i> no less than the value specified in figure 5: required (mm); measured (mm) .....		N/A
<b>12.3</b>	<b>Screwless terminals for external copper conductors</b>		<b>P</b>
12.3.1	Screwless terminals of the type suitable for:		P
	- for rigid copper conductors only, or		P
	- 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 <sup>2</sup> (table 7)		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Two conductors to be connected: each conductor introduced in a separate clamping unit		P
12.3.3	Screwless terminals allow the conductor to be connected without special preparation		P
12.3.4	Parts of screwless terminals intended for carrying current of materials as specified in 26.5		P
12.3.5	Screwless terminals clamp specified conductors with sufficient contact pressure without undue damage to the conductor		P
	Conductor clamped between metal surfaces		P
12.3.6	It is clear how the connection and disconnection of the conductors is to be made		P
	Disconnection of a conductor require an operation, other than a pull, so that can be made manually with or without a general-purpose tool		P
	It is not possible to confuse the opening intended for the use of a tool with the opening intended for the conductor		P
12.3.7	Screwless terminals intended for the interconnection of two or more conductors:		N/A
	- the clamping of one of the conductors is independent of the clamping of the other conductor(s)		N/A
	- during the connection or disconnection the conductors can be connected or disconnected either at the same time or separately		N/A
	- each conductor introduced in a separate clamping unit.		N/A
	- it is possible to clamp securely any number of conductors up to the maximum as designed. Number of conductors; Nominal cross-sectional area (mm <sup>2</sup> ) .....		N/A
12.3.8	Screwless terminals of fixed socket-outlets: adequate insertion obvious and over-insertion prevented		P
12.3.9	Screwless terminals properly fixed to the socket-outlets		P
	Not work loose when conductors are connected or disconnected		P
	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	See appended table 12.3.10	P

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Clause	Requirement + Test	Result - Remark	Verdict
	During application of the pull conductor not come out of the terminal		P
	Additional test with apparatus shown in figure 11	See appended table 12.3.10	P
	During the test: conductors not moved noticeably in the clamping unit		P
	After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration		P
12.3.11	Screwless terminals withstand electrical and thermal stresses occurring in normal use	See appended table 12.3.11	P
	After the test: inspection show no changes		P
	Repetition of mechanical strength test according to 12.3.10	See appended table 12.3.11	P
	During application of the pull conductor not come out of the terminal		P
	Additional test with apparatus shown in figure 11	See appended table 12.3.11	P
	During the test: conductors not moved noticeably in the clamping unit		P
	After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration		P
12.3.12	Screwless terminals: connected rigid solid conductor remains clamped, even when deflected during normal installation	See appended table 12.3.12	P
<b>13</b>	<b>CONSTRUCTION OF FIXED SOCKET-OUTLETS</b>		
13.1	Socket-contact assembly have sufficient resilience to ensure adequate contact pressure on plug pins		P
	Part of socket-contact assembly ensure metallic opposing contacts at least on two sides of each pins		P
13.2	Socket-contact and pin(s) of socket-outlet which are made of copper or copper alloy, as specified in 26.5, are considered as complying with this requirement		P
	The pin(s) of socket-outlets so constructed in such a way that the mechanical strength of the pin(s) does not depend on the plastic material		N/A
	Compliance is checked by inspection and in case of doubt by the tests of 14.2 and Clause 21 on a new set of specimens without plastic		P
13.3	Insulating linings, barriers and the like: adequate mechanical strength		P
13.4	Socket-outlets constructed as to permit		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- easy introduction into the terminal and reliable connection of the conductors in the terminals, except for lead wires of pilot lights		P
	- easy fixing of the main part to a wall or in a mounting box		P
	- correct positioning of the conductors		P
	- adequate space between the underside of the main part and the surface on which the main part is mounted;		P
	- adequate space between the sides of the main part and the enclosure (cover or box);		N/A
	Socket-outlets having screwless terminals, constructed that the connecting and/or disconnecting means of the screwless terminals cannot be activated by the conductors during and after installation		P
	Compliance is checked by inspection and in case of doubt by the following test	Checked by inspection	P
	The test is carried out with a solid copper conductor having the smallest cross-sectional area, as specified in 12.3.2. (mm <sup>2</sup> ).....:		N/A
	If it is not possible to exert a force onto the connecting/disconnecting device, the product is deemed to comply with the requirements without further tests.		N/A
	During the application of the pull, the conductor do not come out of the screwless terminal		N/A
	In addition socket-outlets classified as design A: permit easy positioning and removal of the cover or cover plate, without displacing the conductors or activating the connecting and/or disconnecting means of screwless terminals.		P
	Compliance is checked by inspection and by an installation test with conductors of the largest nominal cross-sectional area specified in Table 3 (mm <sup>2</sup> ).....:	2,5mm <sup>2</sup>	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

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Clause	Requirement + Test	Result - Remark	Verdict
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		N/A
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		N/A
	- fixed by means of a single fixing, for example, by a screw, provided that they are located by another means (for example, by a shoulder)		N/A
	Fixings of covers or cover-plates of socket-outlets of design A serve to fix the main parts: there are means to maintain the base in position, even after removal of the covers or cover-plates		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:		N/A
	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 parts of insulating material, or earthed metal parts, or metal parts separated from live parts in such a way that creepage distances and clearances have twice the values shown in table 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 the fixing of which is not dependent on screws and whose removal is obtained by using a tool, in accordance with the manufacturer's instructions given in an instruction sheet or in other documentation:		N/A
	Compliance checked, when their removal may give access, with the standard test finger:		N/A
	to live parts: by the test of 24.14 (verification of the non-removal only)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 parts of insulating material, or earthed metal parts, or metal parts separated from live parts in such a way that creepage distances and clearances have twice the values shown in table 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	Cover-plate intended for a socket-outlet with earthing contact: not interchangeable with a cover-plate intended for a socket-outlet without earthing contact		P
13.9	Surface-type socket-outlets: no free openings in their enclosures		N/A
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 from the connection of the supply wires		N/A
13.12	Multiple socket-outlets, comprising separate bases: correct position of each base ensured		N/A
	Fixing of each base independent of the fixing of the combination to the mounting surface		N/A
13.13	Mounting plate of surface-type socket-outlets: adequate mechanical strength		N/A
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°, 5 N for 1 min (device shown in fig. 13)		P
	During the test: device not become disengaged from the socket-outlet		P
	After the test:		P
	- no damage		P
	- socket-outlets comply with clause 22		P

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Clause	Requirement + Test	Result - Remark	Verdict
13.15	Socket-outlets are not an integral part of lampholders		P
13.16	Surface-type socket-outlets having IP>20 are according to their IP classification when fitted with conduits or with sheathed cables and without a plug in engagement		N/A
	Surface-type socket-outlets having IPX4 and IPX6 have provision for opening a drain hole		N/A
	Socket-outlets with a drain hole: drain hole is not less than 5 mm in diameter, or 20 mm <sup>2</sup> in area with a width and a length of not less than 3 mm .....		N/A
	Drain hole: effective		N/A
	Lid springs (if any): of corrosion-resistant material (bronze or stainless steel) .....		N/A
13.17	Earthing pins: adequate mechanical strength		N/A
	Not solid pins: compliance checked by inspection and by the test of 14.2 made after the tests of clause 21		N/A
13.18	Earthing contacts, phase contacts and neutral contacts :		P
	- locked against rotation;		P
	- when the product is ready for the wiring do not possible to be removed without the use of a tool		P
13.19	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		P
13.21	Inlet openings: allow the introduction of the conduit or the sheath of the cable		N/A
	Surface-type socket-outlets:		N/A
	the conduit or sheath of the cable can enter at least 1 mm into the enclosure		N/A
	inlet opening for conduit entries, or at least two of them if there are more than one, capable of accepting conduit sizes of 16, 20, 25 or 32 according to IEC 60423 or a combination of at least two of any of these sizes		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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) .....		N/A
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 accessories		N/A
	Accessories placed at $(40 \pm 2)$ °C for 2 h. Force of 30 N applied for 5 s by test probe 11 of IEC 61032. During the test: no deformation		N/A
	Membranes likely to be subjected to an axial pull: axial pull of 30 N applied for 5 s. During the test: membranes not become detached		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
	Test repeated with membranes not subjected to any treatment		N/A
13.23	Membranes in inlet openings: introduction of the cables into the accessory permitted when the ambient temperature is low		N/A
	Test on membranes not subjected to the ageing treatment specified in 16.1 and assembled in the accessories		N/A
	Accessories kept at $(-15 \pm 2)$ °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
<b>14</b>	<b>CONSTRUCTION OF PLUGS AND PORTABLE SOCKET-OUTLETS</b>		
14.1	Non-rewirable portable accessories:		N/A
	flexible cable cannot be separated from the accessory without making it permanently useless		N/A
	Accessory cannot be opened by hand or by using a general purpose tool, for example a screwdriver used as such		N/A
14.2	Pins of portable accessories: adequate mechanical strength		N/A
	Test for pins not solid (made after clause 21): force of 100 N exerted on the pin, according to figure 14, for 1 min by means of a steel rod $\varnothing$ 4,8 mm		N/A
	During the application of the force: reduction of the dimension of the pin not exceed 0,15 mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	After removal of the rod: dimensions of the pin not changed by more than 0,06 mm		N/A
14.3	Pin(s) and contacts of portable accessories :		N/A
	- locked against rotation;		N/A
	- not removable without dismantling the plug;		N/A
	- adequately fixed in the body of the plug		N/A
	Earthing or neutral pins or contacts of plugs: not possible to arrange in an incorrect position		N/A
	The pin(s) of portable accessories constructed in such a way that the mechanical strength of the pin(s) does not depend on the plastic material		N/A
	Compliance is checked by inspection and in case of doubt by the tests of 14.2 and Clause 21 on a new set of specimens without plastic		N/A
	Surfaces of plug pin(s) smooth and free from burrs or sharp edges and other irregularities which could cause damage or excessive wear to corresponding socket contacts or shutters		N/A
14.4	Earthing contacts, phase contacts and neutral contacts of portable socket-outlets :		N/A
	- locked against rotation		N/A
	- removable only with the aid of a tool, after dismantling the socket-outlet		N/A
	In addition, for single portable socket-outlets compliance is checked by the test of 24.2		N/A
14.5	Socket-contact assemblies: sufficient resilience		N/A
	Parts of socket-contact assemblies:		N/A
	- are not of insulating material except ceramic, or other material with no less suitable characteristics		N/A
	- ensure metallic contacts at least on two opposing sides of each pin		N/A
	Contact pressure of the contact tube does not depend on soldered connection only		N/A
14.6	Pins and socket-contacts: resistant to corrosion and abrasion		N/A
	Socket contacts and pin(s) of socket-outlets, which are made of copper or copper alloy, as specified in 26.5, are considered as complying with this requirement.		N/A
14.7	Enclosures of rewirable portable accessories: completely enclose terminals and ends of flexible cable		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Construction is unlikely that:		N/A
	- cores not pressed against each other causing damage		N/A
	- cores of live conductor not pressed against accessible metal parts		N/A
	- core of earthing conductor not pressed against live parts		N/A
14.8	Rewirable portable accessories: 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 portable accessories with earthing contact: ample space for slack of earthing (test)		N/A
	Non-rewirable non-moulded-on accessories with earthing contact: current-carrying conductors stressed before the earthing conductor if the flexible cable slips in its anchorage		N/A
14.10	Terminals of rewirable portable accessories and terminations of non-rewirable portable accessories: located and shielded that loose wires not present a risk of electric shock		N/A
	Non-rewirable moulded-on portable accessories: provided with means to prevent loose wires of a conductor from reducing the minimum isolation distance requirements		N/A
14.10.1	Rewirable accessories: test with 6 mm free wire		N/A
	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 accessories: test with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm		N/A
	free wire of a conductor connected to a live termination not touch any accessible metal part or reduce creepage distance and clearance below 1,5 mm to the external surface		N/A
	free wire of a conductor connected to an earth termination not touch any live part		N/A
14.10.3	Non-rewirable, moulded-on accessories:		N/A
	Verification of means to prevent stray wires reducing the minimum distance through insulation to external accessible surface below 1,5 mm		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
14.11	Rewirable portable accessories:		N/A
	- 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 securely fixed to one of the component parts of the plug or portable socket-outlet		N/A
	- makeshift methods not used		N/A
	- cord anchorage suitable for the different types of flexible cable which may be connected to it; screws, if any: not serve to fix any other component		N/A
	- cord anchorages: of insulating material or provided with an insulating lining fixed to the metal parts		N/A
	- metal parts of cord anchorages, including clamping screws: insulated from the earthing circuit		N/A
14.12	Rewirable portable accessories and non-rewirable non-moulded on portable accessories: it is not possible to remove covers, cover-plates or parts of them intended to ensure protection against electric shock without the use of a tool		N/A
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	Portable accessories of IP>20: enclosed according to their IP classification		N/A
	Plugs having IP>20: adequately enclosed with the exception of the engagement face		N/A
	Portable socket-outlets having IP>20: 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: means for suspension from a wall or other mounting surfaces not allow access to live parts		N/A
	No free openings between space intended for suspension means by which the socket-outlet is fixed to the wall, or other mounting surface and live parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
14.19	Combinations of portable accessories and switches, circuit-breakers or other devices comply with relevant individual IEC standards, if relevant combined product standard does not exist .....		N/A
14.20	Portable accessories: not integral part of lampholders		N/A
14.21	Plugs for equipment of class II:		N/A
	- rewirable or non-rewirable		N/A
	- if part of a cord set: provided with a connector for equipment of class II		N/A
	- if part of a cord extension set: provided with a portable socket-outlet for equipment of class II		N/A
14.22	Components (switches and fuses) incorporated in accessories: comply with the relevant IEC standard as far as it applies		N/A
	Components incorporated in portable accessories so rated, or so protected, that overloading of either the component or the plug or the socket-outlet portion cannot occur in normal use		N/A
	Requirements for switches incorporated in portable accessories are detailed in Annex D		N/A
	For portable socket-outlets and rewirable plugs the incorporated overcurrent protective device in the accessory shall have a rated current equal to or less than the rated current of the accessory		N/A
	Any other component(s), such as switches or control devices, have a rated current not less than (rated current referred to resistive load):		N/A
	- the rated current of the accessory or		N/A
	- the rated current of the incorporated overcurrent protective device, if any		N/A
	For non-rewirable plugs, any other incorporated component(s), such as switches or control devices, have a rated current not less than:		N/A
	- the test current for the combination of the accessory and the cable as indicated in Table 20, for Clause 21, or		N/A
	- the rated current of the incorporated overcurrent protective device, if any		N/A
	Any incorporated component(s) have a rated voltage not less than the rated voltage of the accessory		N/A
	Compliance is checked by inspection and, if necessary, by testing the component according to the relevant IEC standard		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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):		N/A
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 in order to maintain the engagement face in the vertical plane not exceed 0,25 Nm (Nm) .....		N/A
14.24	Plugs can easily be withdrawn by hand from the relevant socket-outlets		N/A
	Gripping surfaces are so designed that the plug can be withdrawn without having to pull the flexible cable		N/A
14.25	Membranes in inlet openings of portable accessories: meet the requirements of 13.22 and 13.23		N/A
14.26	Rewirable portable socket-outlets which can be assembled and wired for normal use after their rear part has been fixed onto a surface comply both with the requirements for portable socket-outlets and with the following additional requirements for surface fixed socket-outlets:		N/A
	- provision for earthing: 11.2, 11.3, 11.6;		N/A
	- terminals and terminations: 12.2.1;		N/A
	- construction of fixed socket-outlets: Clause 13;		N/A
	- resistance to ageing, protection provided by enclosures, and resistance to humidity: 16.2.1, 16.2.2;		N/A
	- temperature rise: Clause 19;		N/A
	- mechanical strength: Clause 24;		N/A
	- resistance to heat: Clause 25;		N/A
	- creepage distances, clearances and distances through sealing compound: Clause 27;		N/A
	- resistance of insulating material to abnormal heat, to fire and to tracking: 28.1.1, glow-wire test		N/A
<b>15</b>	<b>INTERLOCKED SOCKET-OUTLETS</b>		
	Socket-outlet interlocked with a switch:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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
<b>16</b>	<b>RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES, AND RESISTANCE TO HUMIDITY</b>		
<b>16.1</b>	<b>Resistance to ageing</b>		P
	Accessories are resistant to ageing		P
	For accessories having a lid, the lid is closed during the test		N/A
	Portable socket-outlets: the plug of the same system having the same rated current as the socket-outlet inserted into the socket-outlet during the test		N/A
	Accessories subjected to a test in a heating cabinet at $(70 \pm 2)$ °C for seven days (168 h)		P
	After the tests, the specimens show:		P
	- no crack visible with normal or corrected vision without additional magnification		P
	- no sticky or greasy material		P
	- no trace of cloth (forefinger pressed with 5 N)		P
	- no damage		P
	Portable socket-outlets: contact pressure of the contact assembly checked as specified in subclause 22.2 with the single-pin gauge		N/A
<b>16.2</b>	<b>Protection provided by enclosures</b>		P
	Enclosures provide a degree of protection in accordance with the IP designation of the accessory	IP20	P
<b>16.2.1</b>	<b>Protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects</b>		P
	Accessories and their enclosures provide a degree of protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects	IP20	P
	Fixed socket-outlets: mounted as in normal use on a vertical surface		P
	Flush-type and semi-flush type socket-outlets: mounted in an appropriate box according to the manufacturer's instructions		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Accessories with screwed glands or membranes fitted with flexible cables within the range specified in table 3:		N/A
	- largest cross-sectional area (mm <sup>2</sup> ); type of cable (table 17) .....		—
	- smallest cross-sectional area (mm <sup>2</sup> ); type of cable (table 17) .....		—
	Glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6 (Nm) .....		—
	Screws of the enclosure tightened with a torque equal to 2/3 of the torque given in table 6 (Nm) ...:		—
<b>16.2.1.1</b>	<b>Protection against access to hazardous parts</b>		<b>P</b>
	Appropriate test performed as specified in IEC 60529 (see also clause 10)	IP20	P
<b>16.2.1.2</b>	<b>Protection against harmful effects due to ingress of solid foreign objects</b>		<b>P</b>
	Appropriate test performed as specified in IEC 60529	IP20	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		N/A
	Test on accessories with IP6X (considered to be of category 1): dust do not penetrate		N/A
<b>16.2.2</b>	<b>Protection against harmful effects due to ingress of water</b>		<b>N/A</b>
	Accessories and their enclosures provide a degree of protection against harmful effects due to ingress of water in accordance with their IP classification		N/A
	Appropriate test performed as specified in IEC 60529 under the following conditions:		N/A
	Flush-type and semi-flush type socket-outlets: fixed in a vertical test wall using an appropriate box according to the manufacturer's instructions		N/A
	Accessory suitable to be installed on a rough wall: test wall according to figure 15 is used		N/A
	Surface-type socket-outlets mounted as for normal use in a vertical position and fitted with cables (having conductors of the largest and smallest nominal cross-sectional area given in table 3) or conduits or both in accordance with the manufacturer's instructions:		N/A
	- largest cross-sectional area (mm <sup>2</sup> ); type of cable (table 17) .....		—
	- smallest cross-sectional area (mm <sup>2</sup> ); type of cable (table 17) .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Portable socket-outlets tested on a plain, horizontal surface in a position as in normal use and fitted with flexible cables (having conductors of the largest and smallest nominal cross-sectional area given in table 3) according to table 17:		N/A
	- largest cross-sectional area (mm <sup>2</sup> ); type of cable (table 17) .....		—
	- smallest cross-sectional area (mm <sup>2</sup> ); type of cable (table 17) .....		—
	Screws of enclosure 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) .....		—
	Accessory with drain holes opened during the test: any accumulation of water proved by inspection		N/A
	Socket-outlets tested without a plug in engagement		N/A
	Plugs tested when in full engagement with:		N/A
	- a fixed socket-outlets		N/A
	- a portable socket-outlets		N/A
	of the same system and with the same degree of protection against harmful effects due to ingress of water		—
	Specimens withstand an electric strength test specified in 17.2 which is started within 5 min of completion of the IP test		N/A
<b>16.3</b>	<b>Resistance to humidity</b>		<b>P</b>
	Accessories proof against humidity which may occur in normal use		P
	Compliance checked by a humidity treatment carried out in a humidity cabinet containing air with relative humidity maintained between 91 % and 95 %		P
	Specimens kept in the cabinet for:		-
	- two days (48 h) for accessories having IPX0		P
	- seven days (168 h) for accessories having IP>X0		N/A
	After this treatment the specimens show no damage		P
<b>17</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH</b>		
17.1	Insulation resistance measured 1 min after application of 500 V d.c.	See appended table 17.1	P
17.2	Electric strength: a.c. test voltage applied for 1 min	See appended table 17.2	P
<b>18</b>	<b>OPERATION OF EARTHING CONTACTS</b>		

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Clause	Requirement + Test	Result - Remark	Verdict
	Earthing contacts provide adequate contact pressure and not deteriorate in normal use		P
	Compliance checked by the tests of clauses 19 and 21		P
<b>19</b>	<b>TEMPERATURE RISE</b>		
	Accessories constructed that they comply with the following temperature rise test		P
	Non-rewirable accessories are tested as delivered		N/A
	In the case of multiple socket-outlets, the test is carried out on one socket-outlet of each type and current rating with the test current as specified in Table 20 passed through that one socket-outlet		N/A
	The temperature rise of the terminals, terminations and clamping units according to Figure 44 determined by means of thermocouples do not exceed 45 K	See appended tables	N/A
19.1	Socket-outlets and plugs are tested as follows:		N/A
	Socket-outlets tested using a test plug with brass pins having the minimum specified dimensions		N/A
	For this test the temperature rise is measured on the terminals and terminations.		N/A
	Plugs tested with clamping units having dimensions specified in Figure 44 fitted on each live pin and earthing pin, if any		N/A
	Plugs having lateral earthing contacts and resilient earthing contacts tested using a fixed socket-outlet complying with the standard and having as near to-average characteristics as can be selected, but with minimum size of the earthing pin, if any		N/A
19.2	Fixed socket-outlets of a socket-outlet and fused plug system are tested as follows:		P
	a) For a single socket-outlet the plug is inserted into the socket-outlet and 70 % of the test current is passed through the plug	See appended table 19.2	P
	The balance of the total test current is passed, simultaneously through a looped connection, connected to the socket-outlet terminals		P
	The total nominal load on the supply cable is passed for 60 min		P
	b) For a multiple socket-outlet a plug is inserted into one socket-outlet and 70 % of the test current is passed		N/A
	A second plug is inserted into another socket-outlet and the balance of the total test current is passed simultaneously through this plug.....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	The total nominal load on the supply cable is passed for 60 min.	See appended table 19.2	N/A
19.3	Portable socket-outlets and rewirable plugs with incorporated components are tested by the following two tests:		N/A
	– with a current which is equal to the test current as indicated in Table 20, for Clause 19		N/A
	– with a current which is equal to the rated current of the portable accessory or the rated current of the component(s), whichever is the lower		N/A
	Non-rewirable plugs with incorporated components are tested by the following two tests:		N/A
	– with a current which is equal to the test current for the combination of the plug and the cable as indicated in Table 20, for Clause 19		N/A
	– with a current which is equal to the test current for the combination of the plug and the cable as indicated in Table 20, for Clause 21, or the rated current of the component(s), whichever is the lower		N/A
<b>20</b>	<b>BREAKING CAPACITY</b>		
	Accessories have adequate breaking capacity		P
	Compliance checked by testing:		-
	- socket-outlets;	See appended table 20	P
	- plugs with pins which are not solid	See appended table 20	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:		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
<b>21</b>	<b>NORMAL OPERATION</b>		
	Accessories withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use		P
	Compliance checked by testing:		-
	- socket-outlets;	See appended table 21	P
	- plugs with resilient earthing socket-contacts;	See appended table 21	N/A
	- plugs with pins which are not solid	See appended table 21	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Test performed according to the procedure specified in Figure 43; point of Figure 43 at which the test program has begun (1, 2, 3) .....		—
	Test current passed:		-
	- during each insertion and withdrawal of the plug ( $I_n \leq 16A$ )		P
	- during alternate insertion and withdrawal, the other insertion and withdrawal being made without current flowing ( $I_n > 16A$ )		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 do 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: gauges of figure 9 and 10 applied to the entry holes corresponding to live contacts do 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
	Electric strength (sub-clause 17.2)	See appended table 21	P
	Pins which are not solid: test according to 14.2		N/A
<b>22</b>	<b>FORCE NECESSARY TO WITHDRAW THE PLUG</b>		
	Construction of accessory does allow the easy insertion and withdrawal of the plug, and prevent the plug from working out of the socket-outlet in normal use		P
<b>22.1</b>	<b>Verification of the maximum withdrawal force</b>	See appended table 22	P
<b>22.2</b>	<b>Verification of the minimum withdrawal force</b>	See appended table 22	P
<b>23</b>	<b>FLEXIBLE CABLES AND THEIR CONNECTIONS</b>		
23.1	Rewirable plugs and rewirable portable socket-outlets are provided with a cord anchorage		N/A
	Sheath of flexible cable is clamped within the cord anchorage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	In non-rewirable plugs and non-rewirable portable socket-outlets the cable is maintained in position and the terminations are relieved from strain and twisting		N/A
	Sheath of flexible cable is maintained inside the accessory		N/A
23.2	Pull and torque test		-
	Non-rewirable accessories:		-
	After the test: displacement $\leq 2$ mm		N/A
	No break in the electrical connections		N/A
	Rewirable accessories:		-
	After the test: displacement $\leq 2$ mm		N/A
	End of conductors not have moved noticeably in the terminals		N/A
	Rewirable accessories having rated current up to and including 16 A:		N/A
	Suitable for fitting with the appropriate cable as shown in table 19		N/A
	Type of flexible cable; number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) .....		—
23.3	Non-rewirable plugs and non-rewirable portable socket-outlets are provided with a flexible cable complying with IEC 60227 or IEC 60245		N/A
	Flexible cables have the same number of conductors as there are poles in the plug or socket-outlet		N/A
	Conductor connected to the earthing contact is identified by the colour combination green/yellow		N/A
23.4	Non-rewirable plugs and non-rewirable portable socket-outlets: designed that the flexible cable is protected against excessive bending		N/A
	Guards of insulating material and fixed in reliable manner		N/A
	Flexing test (10.000 flexings)		-
	During the test: no interruption of the test current and no short-circuit between conductors		N/A
	After the test: guard no separated from the body, insulation shows no sign of abrasion or wear, broken strands become no accessible		N/A
<b>24</b>	<b>MECHANICAL STRENGTH</b>		

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Clause	Requirement + Test	Result - Remark	Verdict
	Accessories, surface mounting boxes, screwed glands and shrouds have adequate mechanical strength		P
24.1	Fixed socket-outlets, portable multiple socket-outlets and surface-type mounting boxes: hammer test described in IEC 60068-2-75 (test EHA), equivalent mass of 250 g	See appended table 24.1	P
	After the test: no damage, live parts no become accessible		P
24.2	Portable single socket-outlets and plugs: subjected to test Ec: Rough handling shocks, primarily for equipment-type specimens, procedure 2 of IEC 60068-2-31 (tumbling barrel); number of falls.....:		N/A
	After the test:		N/A
	- no part become detached or loosened;		N/A
	- pins no become so deformed that the plug cannot be introduced into a socket-outlet and also fails to comply with the requirements of 9.1 and 10.3;		N/A
	- pins no turn when a torque of 0,4 Nm is applied for 1 min in each direction		N/A
	The shutters of socket-outlets tested again according to Clause 21, from paragraph 19 up to paragraph 24 (only the tests of shutters)		N/A
24.3	Main parts of surface-type socket-outlets: first fixed to a cylinder of rigid steel sheet and then fixed to a flat steel sheet		N/A
	During and after the tests: no damage		N/A
24.4	Portable single socket-outlets, multiple socket-outlets and plugs (elastomeric or thermoplastic material): impact test, weight (1000 ± 2) g, height 100 mm (apparatus shown in fig. 27)		N/A
	Specimens placed in a freezer at (-15 °C ± 2) °C for at least 16 h. 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, position a) and b) (apparatus shown in fig. 8)		N/A
	After the test: no damage		N/A
24.6	Screwed glands of accessories having IP>20: torque test (1 min)		N/A
	- diameter of test rod (mm) .....		—
	- type of material (metal / moulded) .....		—
	- torque (Nm) .....		—
	After the test: no damage of glands and enclosures of the specimens		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.7	Plug pins provided with insulating sleeves: 20000 movements, 4 N (apparatus shown in fig. 28)		N/A
	After the test: no damage of pins, insulating sleeve not have punctured or rucked up		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 (40 N / 75 N) applied for 1 min against the shutter of an entry hole by means of one pin (N) .:	40N	—
	Pin did not come in contact with live parts		P
	After the test: no damage		P
24.9	Mechanical test for multiple portable socket-outlet: 8 falls on concrete floor with the specimens arranged as shown in figure 29		N/A
	Rewirable multiple socket-outlets: flexible cable of the smallest cross-sectional area specified in table 3 .....		—
	After the test: no damage, no part have become detached or loosened		N/A
	Accessories having IP>X0 submitted again to the tests as specified in 16.2		N/A
	The shutters of multiple socket-outlets tested again according to Clause 21, from paragraph 19 up to paragraph 24 (only the tests of shutters)		N/A
24.10	Plugs: pull test to verify the fixation of pins in the body of the plug (new specimens)		N/A
	Maximum withdrawal force (table 16) applied for 1 min on each pin in turn, after the specimen has been placed at (70 ± 2) °C for 1 h (N) .....		—
	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 mounting surface:		N/A
	Force applied for 10 s against the barrier by means of a cylindrical steel rod (1,5 times the maximum plug withdrawal force in 22.1, table 16) (N) .....		—
	Rod did not pierce the barrier		N/A
24.12	Portable socket-outlets having means for suspension on a mounting surface (pull test):		N/A
	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 mounting surface		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
24.13	Portable socket-outlets having means for suspension on a mounting surface (pull test):		N/A
	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 mounting surface		N/A
24.14	Forces necessary to retain or remove covers, cover-plates or parts of them (accessibility with the test finger to live parts)		N/A
24.14.1	Verification of the retention of covers or cover-plates (fixed socket-outlets)		N/A
	Force (40 N / 80 N) applied for 1 min perpendicular to the mounting surface (N) .....		—
	Covers or cover-plates did not come off		N/A
	Test repeated on new specimens with a sheet of hard material, (1 ± 0,1) mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates did not come off		N/A
	After the test: no damage		N/A
24.14.2	Verification of the removal of covers or cover-plates (fixed socket-outlets)		N/A
	Force not exceeding 120 N applied 10 times perpendicular to the mounting / supporting surface: covers or cover-plates came off		N/A
	Test repeated on new specimens with a sheet of hard material, (1 ± 0,1) mm thick, fitted around the supporting frame (fig. 31): covers or cover-plates came off		N/A
	After the test: no damage		N/A
24.14.3	Verification of the retention of covers or cover-plates (plugs and portable socket-outlets)		N/A
	Force 80 N applied for 1 min perpendicular to the mounting surface: covers, cover-plates or parts of them did not come off		N/A
	Test repeated with a force of 120 N:		N/A
	Rewirable plugs and rewirable portable socket-outlets: covers, cover-plates or parts of them came off but the specimen showed no damage		N/A
	Non-rewirable, non-moulded-on accessories: covers, cover-plates or parts of them came off but the accessories were permanently useless according to 14.1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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 (10 N / 20 N) applied for 1 min in direction perpendicular to the mounting surface (N) .....		—
	Covers or cover-plates did 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. 31): covers or cover-plates did 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 came 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. 31): covers or cover-plates came 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 ≤ 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 did 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. 31): covers or cover-plates did 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 came 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. 31): covers or cover-plates came off		N/A
	After the test: no damage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	Shroud of portable socket-outlets: compression test (20 ± 2) N at (25 ± 5) °C by means of the apparatus shown in figure 38		N/A
	After 1 min and while the shrouds are still under pressure the dimensions did comply with the appropriate standard sheet		N/A
	Test repeated with the specimen rotated 90 °		N/A
<b>25</b>	<b>RESISTANCE TO HEAT</b>		
25.1	Specimens kept for 1 h in a heating cabinet at (100 ± 2) °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:		P
	- no access to live parts with probe B of IEC 61032 applied with a force not exceeding 5 N		P
	- markings still legible		P
25.2	Parts of insulating material necessary to retain current-carrying parts and parts of the earthing circuit in position, as well as parts of the front surface zone, 2 mm wide, surrounding the phase and neutral pin entry holes: ball-pressure test at (125 ± 2)°C for 1 h	See appended table 25.2	P
25.3	Parts of insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)	See appended table 25.3	P
25.4	Portable accessories: compression test (20 N) at (80 ± 2)°C for 1 h by means of the apparatus shown in figure 38		P
	After the test: no damage		P
<b>26</b>	<b>SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS</b>		
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

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Clause	Requirement + Test	Result - Remark	Verdict
	Screws or nuts which transmit contact pressure made of metal and in engagement with a metal thread		P
	Threaded part torque test	See appended table 26.1	P
26.2	Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured		N/A
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 (including earthing terminals) have mechanical strength, electrical conductivity and resistance to corrosion adequate:		-
	- 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;	H62 >59%	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): service condition ISO no. (1/2/3); IP (X0/X4/X5); thickness (µm) .....		N/A
	- steel with electroplated coating of nickel and chromium (ISO 1456): service condition ISO no. (2/3/4); IP (X0/X4/X5); thickness (µm) .....		N/A
	- steel with electroplated coating of tin (ISO 2093): service condition ISO no. (2/3/4); IP (X0/X4/X5); thickness (µm) .....		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 are of metal resistant to corrosion		P
26.7	Thread-forming screws and thread-cutting screws are not used for the connection of current-carrying parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Thread-forming screws and thread-cutting screws used to provide earthing connection: it is not necessary to disturb the connection and at least two screws are used for each connection		N/A
<b>27</b>	<b>CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND</b>		
27.1	Creepage distances, clearances and distances through sealing compound are not less than the values shown in table 23	See appended table 27.1	P
27.2	Insulating sealing compound does not protrude above the edge of the cavity in which it is contained		N/A
27.3	Surface-type socket-outlets do not have bare current-carrying strips at the back		N/A
<b>28</b>	<b>RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING</b>		
<b>28.1</b>	<b>Resistance to abnormal heat and to fire</b>		<b>P</b>
<b>28.1.1</b>	<b>Glow-wire test according to IEC 60695-2-10 and IEC 60695-2-11</b>	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 40 at $(120 \pm 5) ^\circ\text{C}$ / $(180 \pm 5) ^\circ\text{C}$ .....		—
	Impact test according to sub-clause 30.4 (mass 100 g, height 100 mm, 4 impacts): no cracks of the insulating sleeves		N/A
<b>28.2</b>	<b>Resistance to tracking</b>		<b>N/A</b>
	Parts of insulating material retaining live parts in position of accessories having $\text{IP}>\text{X0}$ : of material resistant to tracking		N/A
	Tracking test at 175 V with solution A of IEC 60112		N/A
<b>29</b>	<b>RESISTANCE TO RUSTING</b>		
	Ferrous parts protected against rusting		P
	Test made after having removed all grease using a suitable degreasing agent: 10 min 10 % solution of ammonium chloride, 10 min in a box with air saturated with moisture and 10 min at $(100 \pm 5) ^\circ\text{C}$ :		P
	No signs of rust		P
<b>30</b>	<b>ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES</b>		
<b>30.1</b>	<b>Pressure test at high temperature</b>		N/A
	Apparatus shown in figure 41, with the test specimen in position, maintained for 2 h at $(200 \pm 5) ^\circ\text{C}$ . Force applied through the blade: 2,5 N		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Thickness of the insulation measured: before the test (mm); after the test (mm) .....		—
	Thickness remaining at the point of impression is not reduced by more than 50 % of its original value measured at the start of the test: percentage value (%) .....		N/A
<b>30.2</b>	<b>Static damp heat test</b>		N/A
	Set of 3 specimens submitted to two damp heat cycles in accordance with IEC 60068-2-30 (variant 2 with a temperature of 40 °C).		N/A
	After the test:		N/A
	- insulation resistance and electric strength test (clause 17)		N/A
	- abrasion test (sub-clause 24.7)		N/A
<b>30.3</b>	<b>Test at low temperature</b>		N/A
	Set of 3 specimens maintained at (-15 °C ± 2) °C for 24 h		N/A
	After the test:		N/A
	- insulation resistance and electric strength test (clause 17)		N/A
	- abrasion test (sub-clause 24.7)		N/A
<b>30.4</b>	<b>Impact test at low temperature</b>		N/A
	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 42 rotating the specimen through 90 ° between impacts		N/A
	After the test: no crack of the insulating sleeves		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

12.2.5	TABLE: test with apparatus shown in figure 11 (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 <sup>2</sup> ) .....	:		—
	number of conductors .....	:		—
	nominal diameter of thread (mm); torque per table 6 (Nm) .....	:		—
Cross-sectional area (mm <sup>2</sup> )	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 <sup>2</sup> ) .....	:		—
	nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) .....	:		—
Cross-sectional area (mm <sup>2</sup> )	Number of conductors	Type of conductors (rigid solid / rigid stranded / flexible)	Pull per table 4 applied for 1 min (N)	Remarks
supplementary information:				

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Clause	Requirement + Test	Result - Remark	Verdict

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 <sup>2</sup> )	Permissible number of conductors <sup>(1)</sup>	Type of conductors (rigid solid / rigid stranded / flexible)	Number of wires and nominal diameter of wires per table 5	Remarks
supplementary information:				
<sup>(1)</sup> terminals intended for looping-in 2 or 3 conductors				

12.3.10	TABLE: mechanical strength test (screwless-type terminals)			P	
	rated current (A) .....	:	16A	—	
	largest/smallest cross-sectional area per table 7 (mm <sup>2</sup> ) .....	:	1,5/2,5	—	
Number of connection (after that conductor subjected to a pull of 30 N for 1 min) / disconnection	Type of conductor (solid / rigid stranded / flexible)	Cross-sectional area (mm <sup>2</sup> )	Remarks		
1	solid	1,5	OK		
2	solid	2,5	OK		
TABLE: test with apparatus shown in figure 11				P	
Cross-sectional area (mm <sup>2</sup> )	Type of conductor (solid / rigid stranded / flexible)	Diameter of bushing hole per table 9 (mm)	Height H per table 9 (mm)	Mass (kg)	Remarks
1,5	solid	6,5	260	0,4	OK
2,5	solid	9,5	280	0,7	OK
supplementary information:					

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Clause	Requirement + Test	Result - Remark				Verdict	
12.3.11	<b>TABLE: electrical and thermal strength test (screwless-type terminals)</b>					<b>P</b>	
Test a)	<b>Test carried out for 1 h connecting rigid solid conductors:</b>					<b>P</b>	
	test current per table 10 (A) .....	22				—	
	nominal cross-sectional area (mm <sup>2</sup> ) .....	2,5				—	
	Screwless terminal number	Voltage drop (mV)			Required voltage drop (mV)		
	1	8.0			≤ 15		
	2	7.8			≤ 15		
	3	8.2			≤ 15		
	4	8.0			≤ 15		
	5	8.2			≤ 15		
Test b)	<b>Temperature cycles test carried out on terminals subjected to Test a):</b>					<b>P</b>	
	test current per table 10 (A) .....	22				—	
	nominal cross-sectional area (mm <sup>2</sup> ) .....	2,5				—	
	allowed voltage drop (mV) .....	≤ 22,5 mV or 2 times 24 <sup>th</sup> cycle value (mV)				—	
	<b>Screwless terminal number</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>Remarks</b>
	voltage drop after 24 <sup>th</sup> cycle	20.3	20.6	20.2	20.4	20.8	OK
	voltage drop after 48 <sup>th</sup> cycle	21.3	20.5	21.3	20.1	20.3	OK
	voltage drop after 72 <sup>nd</sup> cycle	21.4	20.9	20.7	20.6	20.7	OK
	voltage drop after 96 <sup>th</sup> cycle	21.3	20.6	20.6	21.3	21.1	OK
	voltage drop after 120 <sup>th</sup> cycle	20.9	21.1	21.3	21.4	21.3	OK
	voltage drop after 144 <sup>th</sup> cycle	20.7	21.2	20.9	21.5	20.6	OK
	voltage drop after 168 <sup>th</sup> cycle	20.6	20.9	21.1	21.6	20.7	OK
	voltage drop after 192 <sup>nd</sup> cycle	20.7	20.4	21.3	21.4	20.9	OK
12.3.10	<b>TABLE: mechanical strength test (screwless-type terminals)</b>					<b>P</b>	
	rated current (A) .....	16A				—	
	largest/smallest cross-sectional area per table 7 (mm <sup>2</sup> ) .....	1,5/2,5				—	
	<b>Number of connection (after that conductor subjected to a pull of 30 N for 1 min) / disconnection</b>	<b>Type of conductor (solid / rigid stranded / flexible)</b>			<b>Cross-sectional area (mm<sup>2</sup>)</b>	<b>Remarks</b>	
	1	solid			1,5	OK	
	2	solid			2,5	OK	
	<b>TABLE: test with apparatus shown in figure 11</b>						

IEC 60884-1					
Clause	Requirement + Test			Result - Remark	Verdict
Cross-sectional area (mm <sup>2</sup> )	Type of conductor (solid / rigid stranded / flexible)	Diameter of bushing hole per table 9 (mm)	Height H per table 9 (mm)	Mass (kg)	Remarks
1,5	solid	6,5	260	0,4	OK
2,5	solid	9,5	280	0,7	OK
supplementary information:					

12.3.12	TABLE: deflection test (principle of test apparatus shown in figure 12a)						P
	Test carried out connecting rigid solid copper conductors:						P
	test current (A) (equal rated current) ..... : 16A					—	
	required voltage drop (mV) ..... : ≤ 25 mV					—	
Type of conductor	Smallest			Largest			Remarks
cross-sectional area per table 11 (mm <sup>2</sup> )	1,5			2,5			OK
force per table 12 (N)	0,5			1,0			OK
screwless terminal number	1	2	3	1	2	3	
starting point (X = deflection original point)	X	X+10°	X+20°	X	X+10°	X+20°	
voltage drop 1 <sup>st</sup> deflection (mV)	20.3	20.6	20.2	20.4	20.8	20.3	OK
voltage drop 2 <sup>nd</sup> deflection (mV)	21.3	20.5	21.3	20.1	20.3	21.3	OK
voltage drop 3 <sup>rd</sup> deflection (mV)	21.4	20.9	20.7	20.6	20.7	21.4	OK
voltage drop 4 <sup>th</sup> deflection (mV)	21.3	20.6	20.6	21.3	21.1	21.3	OK
voltage drop 5 <sup>th</sup> deflection (mV)	20.9	21.1	21.3	21.4	21.3	20.9	OK
voltage drop 6 <sup>th</sup> deflection (mV)	20.7	21.2	20.9	21.5	20.6	20.7	OK
voltage drop 7 <sup>th</sup> deflection (mV)	20.6	20.9	21.1	21.6	20.7	20.6	OK
voltage drop 8 <sup>th</sup> deflection (mV)	20.7	20.4	21.3	21.4	20.9	20.7	OK
voltage drop 9 <sup>th</sup> deflection (mV)	20.3	20.6	20.2	20.4	20.8	20.3	OK
voltage drop 10 <sup>th</sup> deflection (mV)	21.0	20.5	21.3	21.4	20.3	21.3	OK
voltage drop 11 <sup>th</sup> deflection (mV)	21.4	20.5	20.7	20.6	20.7	21.4	OK
voltage drop 12 <sup>th</sup> deflection (mV)	21.3	20.6	20.6	21.3	21.1	20.3	OK
supplementary information:							

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict

<b>14.22</b>	<b>TABLE: Components (refer to CDF)</b>		<b>P</b>
<b>Supplementary information:</b>			
1) <b>Provided evidence ensures the agreed level of compliance.</b>			

<b>17.1</b>	<b>TABLE: insulation resistance</b>			<b>P</b>
Item per 17.1	test voltage applied between:	measured (MΩ)	required (MΩ)	
a)	between all poles connected together and the body, with a plug in engagement	>6,5	5	
b)	between each pole in turn and all others connected to the body, with a plug in engagement	>6,5	5	
supplementary information:				

<b>17.2</b>	<b>TABLE: electric strength</b>			<b>P</b>
	rated voltage (V) .....	250	—	
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	2000	No	
b)	between each pole in turn and all others connected to the body, with a plug in engagement	2000	No	
supplementary information:				

<b>19.1</b>	<b>TABLE: temperature rise test for socket-outlets and plugs</b>			<b>N/A</b>
	rated current of accessory (A) .....		—	
	type of accessory (non-rewirable / rewirable) ....		—	
	nominal cross-sectional area per table 15 (mm <sup>2</sup> ) :		—	
	type of conductors (rigid solid / rigid stranded / flexible).....		—	
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm .....		—	

IEC 60884-1							
Clause	Requirement + Test					Result - Remark	Verdict
specimen	type of flexible cable <sup>(1)</sup>	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) <sup>(1)</sup>	test circuit (L-L/L-N/L-E)	test current (table 20) for 1 h (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts of insulating material (25.3)(K)
<b>supplementary information:</b>							
<sup>(1)</sup> Non-rewirable accessories							

<b>19.2</b>	<b>TABLE: temperature rise test for fixed socket-outlets of a socket-outlet and fused plug system</b>								<b>P</b>
	rated current of accessory (A) .....					16			—
	type of accessory (non-rewirable / rewirable) ....					rewirable			—
	nominal cross-sectional area per table 15 (mm <sup>2</sup> ) :					2,5			—
	type of conductors (rigid solid / rigid stranded / flexible) .....					rigid solid			—
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm .....					-			—
	<b>Test a) single socket-outlet</b>								
specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) (1)	test circuit (L-L/L-N/L-E)	70% of test current (table 20) for 1 h (socket-outlet) (A)	30% of test current (table 20) for 1 h (looped) (A)	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)
-	-	-	L-N/L-E	15,4	6,6	22	Max.39	45	Max.15
<b>supplementary information:</b>									
<sup>(1)</sup> Non-rewirable accessories									
	<b>Test b) multiple socket-outlet</b>								
specimen	type of flexible cable <sup>(1)</sup>	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) <sup>(1)</sup>	test circuit (L-L/L-N/L-E)	70% of test current (table 20) for 1 h (1 <sup>st</sup> socket-outlet) (A)	30% of test current (table 20) for 1 h (2 <sup>nd</sup> socket) (A)	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)

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
supplementary information: (1) Non-rewirable accessories			

19.3	<b>TABLE: temperature rise test for plugs and portable socket-outlets with incorporated components</b>							N/A
	rated current of accessory (A) .....						—	
	type of accessory (non-rewirable / rewirable) ....						—	
	nominal cross-sectional area per table 15 (mm <sup>2</sup> ) :						—	
	type of conductors (rigid solid / rigid stranded / flexible).....						—	
	nominal diameter of thread (mm); torque 2/3 of that specified in 12.2.8 (Nm .....						—	
<b>Test for Portable socket-outlets and rewirable plugs with incorporated components</b>								
specimen	type of flexible cable <sup>(1)</sup>	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) <sup>(1)</sup>	test circuit (L-L/L-N/L-E)	Test current (table 20), Clause 19 for 1 h (components short circuited) (A)	Test current is rated current of the portable accessory or the rated current of the component (s), whichever is the lower (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts (25.3)(K) <sup>(2)</sup>
supplementary information: (1) Non-rewirable accessories ; (2) Metal parts 30 K ; non-metallic parts 40 K								
<b>Test for non-rewirable plugs with incorporated components</b>								
specimen	type of flexible cable (1)	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) (1)	test circuit (L-L/L-N/L-E)	Test current is equal to the test current for the combination of the plug and the cable as indicated in Table 20, for Clause 19. (components short circuited) (A)	Test current is equal to the test current for the combination of the plug and the cable as indicated in Table 20, for Clause 21 or the rated current of the component (s), whichever is the lower (A)	measured ΔT (K)	allowed ΔT (K)	ΔT of external parts (25.3)(K) <sup>(2)</sup>

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
supplementary information: ( <sup>1</sup> ) Non-rewirable accessories; ( <sup>2</sup> ) Metal parts 30 K ; non-metallic parts 40 K			

20	TABLE: breaking capacity							P	
	rating of accessory (A/V) .....		16/250					—	
	type of accessory (non-rewirable / rewirable) ....		rewirable					—	
	type of flexible cable (non-rewirable accessories) .....		-					—	
	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) (non-rewirable accessories) .....		-					—	
	nominal cross-sectional area per table 15 (mm <sup>2</sup> ) :		2,5					—	
	type of conductors (rigid solid / rigid stranded / flexible).....		Rigid solid					—	
	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 V <sub>n</sub> ) (V)	test current (1,25 I <sub>n</sub> ) cos φ 0,6 (A)	number of strokes (plugs only)	number of strokes, with shutters – with current ( <sup>1</sup> )	number of strokes, without shutters – with current ( <sup>2</sup> )	remarks	
	pin dimensions (mm)	pin spacing (mm)							
-	4,83	19,02	275	20	-	100	-	-	P
supplementary information: ( <sup>1</sup> ) starting point 1 or 3 of Figure 43 ( <sup>2</sup> ) starting point 2 of Figure 43									

21	TABLE: normal operation							P
	rating of accessory (A/V) .....		16A/250V					—
	type of accessory (non-rewirable / rewirable) ....		rewirable					—
	type of flexible cable (non-rewirable accessories) .....		-					—
	number of conductors and nominal cross-sectional area (mm <sup>2</sup> ) (non-rewirable accessories) .....		-					—

IEC 60884-1									
Clause	Requirement + Test					Result - Remark			Verdict
	nominal cross-sectional area per table 15 (mm <sup>2</sup> ) :					2,5			—
	type of conductors (rigid solid / rigid stranded / flexible)..... :					Rigid solid			—
	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 (Vn) (V)	test current (table 20), cos φ 0,8 (A)	number of strokes (plugs only)	number of strokes, with shutters – with current <sup>(1)</sup>	number of strokes, without shutters – with current <sup>(2)</sup>	number of strokes, with shutters – without current <sup>(3)</sup>	
	pin dimensions (mm)	pin spacing (mm)							
-	4,83	19,02	250	16	-	10000	-	-	P
<b>TABLE: test for shuttered socket-outlets</b>									
specimen	Gauge of figure 9, applied with a force of 20 N, for approximately 5 s, successively in three directions				Steel gauge of figure 10, applied with a force of 1 N for approximately 5 s, in three directions				
	OK				OK				P
<b>19</b>	<b>TABLE: temperature rise test</b>								
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.31		45		P
-	L-E		16		Max.38		45		P
<b>17.2</b>	<b>TABLE: electric strength</b>								
specimen	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			1500		No		

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Clause	Requirement + Test		Result - Remark	Verdict
-	b)	between each pole in turn and all others connected to the body, with a plug in engagement	1500	No
<b>supplementary information:</b> (1) starting point 1 or 3 of Figure 43 (2) starting point 2 of Figure 43 (3) starting point 1 or 2 of Figure 43				

22	<b>TABLE: force necessary to withdraw the plug</b>				<b>P</b>
	Rated current (A) .....		16		—
	Number of poles .....		2P+E		—
22.1	<b>Verification of the maximum withdrawal force</b>				
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
22.2	<b>Verification of the minimum withdrawal force</b>				
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
<b>supplementary information:</b>					

23.2	<b>TABLE: pull and torque test</b>					<b>N/A</b>
	rating of accessory (A) .....					—
	type of accessory (non-rewirable / rewirable) ....					—
	smallest/largest cross-sectional area per table 17 (mm <sup>2</sup> ) (rewirable accessories) .....		-			—
	nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) (rewirable accessories) .....		-			—
specimen	type of flexible cable	number of conductors and nominal cross-sectional area (mm <sup>2</sup> )	pull (100 times) (N)	torque (1 min) as specified in table 18 (Nm)	displacement (mm)	

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict


supplementary information:

23.4	TABLE: flexing test				N/A
	rated current (A) .....				—
specimen	type of flexible cable	number of conductors and nominal cross-sectional area (mm <sup>2</sup> )	test current (A)	mass (N)	

supplementary information:

24.1	TABLE: impact test			N/A
part of enclosure tested per table 21 (A, B, C, D)	blows per part	height of fall (mm)	comments	

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	1,1		
Shutter box	125	1,0		

supplementary information:

25.3	TABLE: ball pressure test of insulating materials			P
	allowed impression diameter (mm) .....			≤ 2 mm
part under test	test temperature (°C) <sup>(1)</sup>	impression diameter (mm)		
Shutter body	70	0,8		
Enclosure	70	0,8		

supplementary information:

<sup>(1)</sup> (70 ± 2) °C / (40 ± 2) °C + highest temperature rise determined during the test of clause 19

26.1	TABLE: threaded part torque test	P
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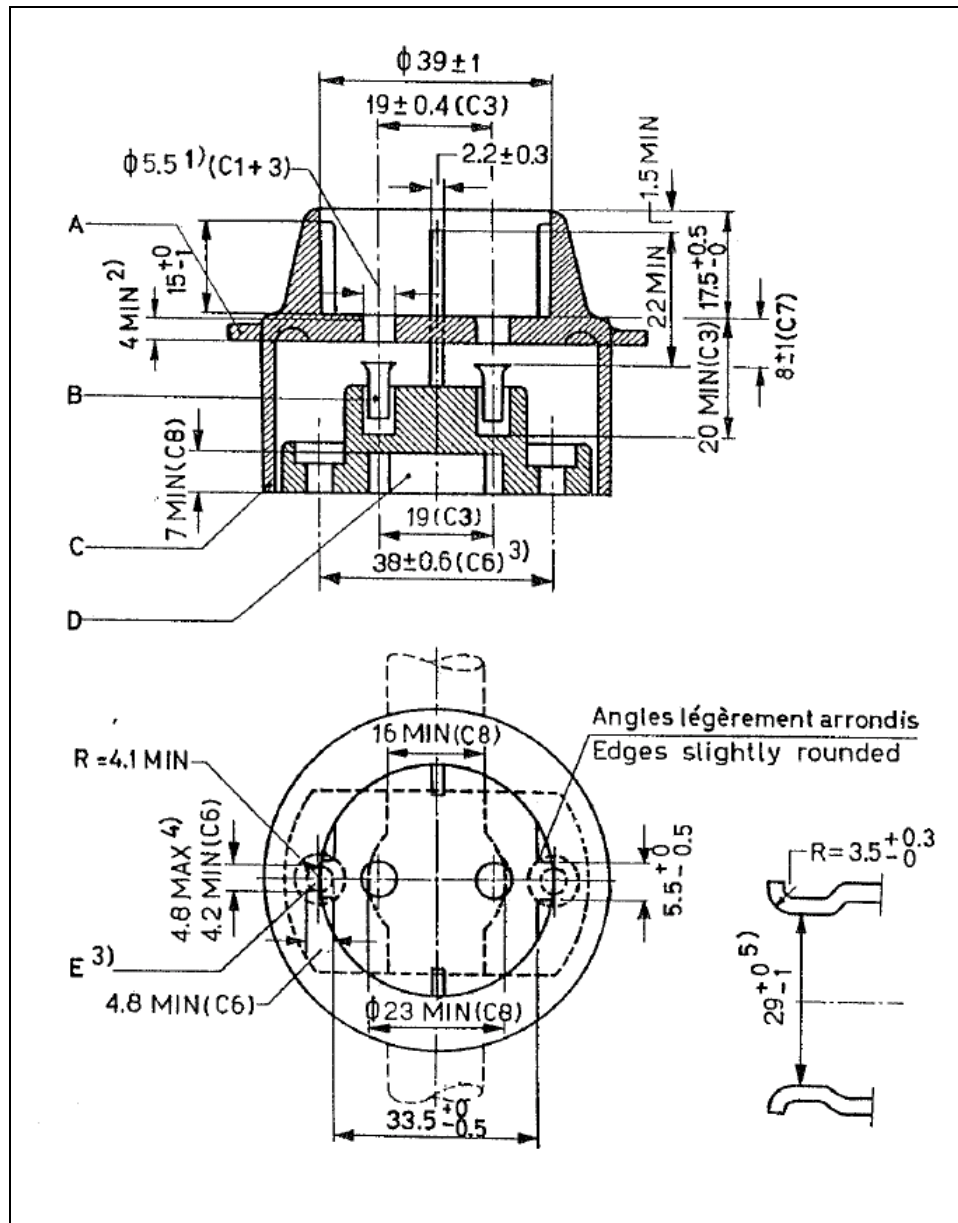
IEC 60884-1					
Clause	Requirement + Test			Result - Remark	Verdict
<b>threaded part identification</b>	<b>diameter of thread (mm)</b>	<b>column number (1, 2 or 3)</b>	<b>applied torque (Nm)</b>	<b>times (5/10)</b>	<b>no damage</b>
Screw	2,9	2	0,5	5	no damage
<b>supplementary information:</b>					

<b>27.1</b>	<b>TABLE: creepage distances, clearances and distances through sealing compound</b>						<b>P</b>
	rated voltage (V) ..... : 250					—	
<b>item per table 23</b>	<b>creepage distance dcr, clearance cl and distance through sealing compound dtsc at/of:</b>	<b>require d cl (mm)</b>	<b>cl (mm)</b>	<b>require d dcr (mm)</b>	<b>dcr (mm)</b>	<b>require d dtsc (mm)</b>	<b>dtsc (mm)</b>
1);6)	between live parts of different polarity	≥ 3	>4 (by gauge)	≥ 3	>4 (by gauge)	≥	-
2);7)	between live parts and accessible surface of parts of insulating material	≥ 3	>4 (by gauge)	≥ 3	>4 (by gauge)	≥	-
	between live parts and earthed metal parts including parts of earthing circuit	≥ 3	>4 (by gauge)	≥ 3	>4 (by gauge)	≥	-
<b>supplementary information:</b>							

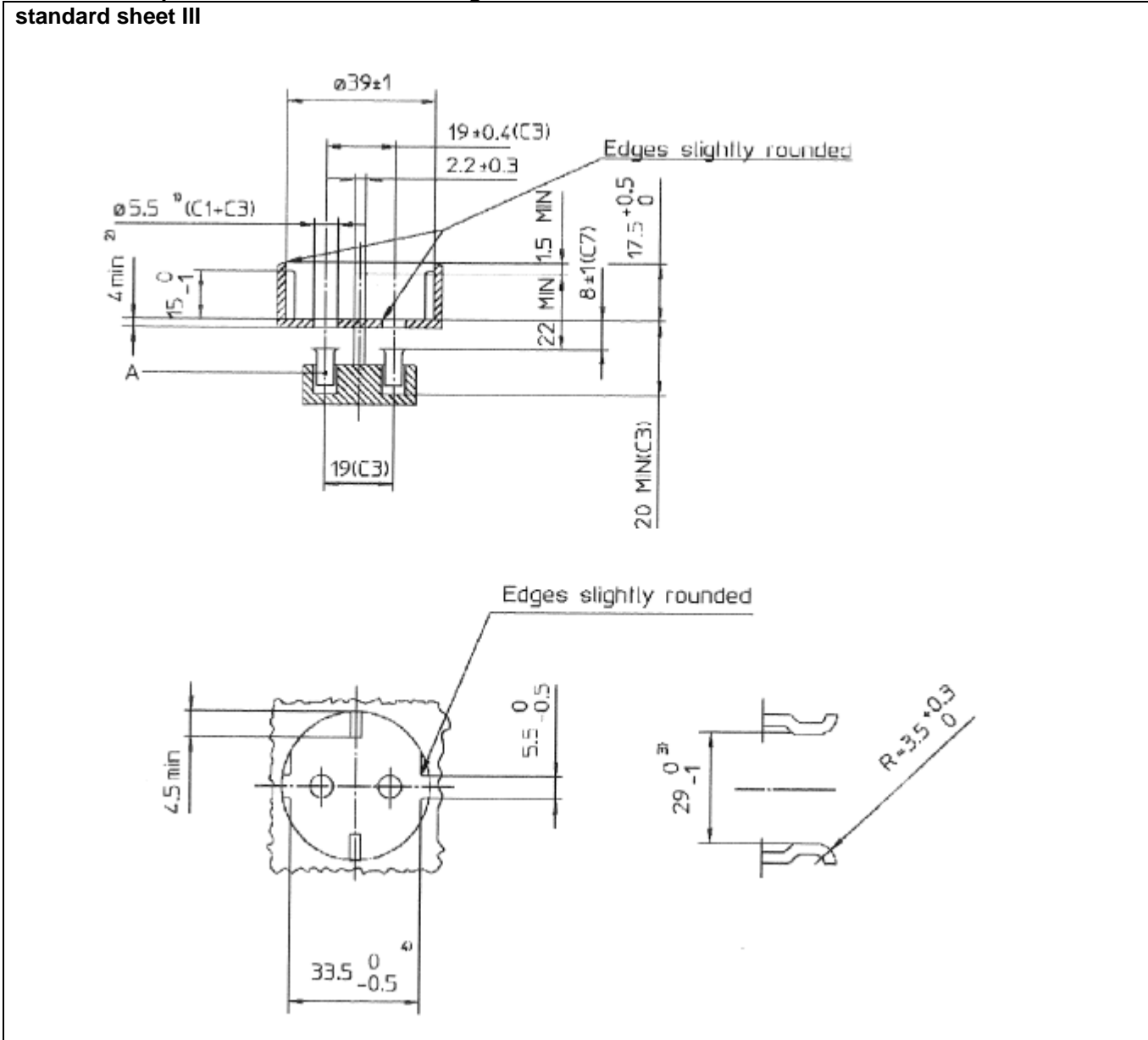
<b>28.1.1</b>	<b>TABLE: glow-wire test</b>					<b>P</b>
<b>part under test</b>	<b>material designation</b>	<b>test temperature (°C)</b>	<b>visible flame and sustained glowing (Y/N)</b>	<b>flame and glowing extinction time</b>	<b>ignition of the tissue paper (Y/N)</b>	
Socket base	PC	850	N	No	N	
Shutter box	PC	850	N	No	N	
Shutter body	PBT	650	N	No	N	
Enclosure	PC	650	N	No	N	
<b>supplementary information:</b>						

<b>28.2</b>	<b>TABLE: resistance to tracking</b>			<b>N/A</b>
	number of drops ..... :			—
<b>part under test</b>	<b>material designation</b>		<b>test voltage (V)</b>	<b>flashover / breakdown (Yes/No)</b>
<b>supplementary information:</b>				

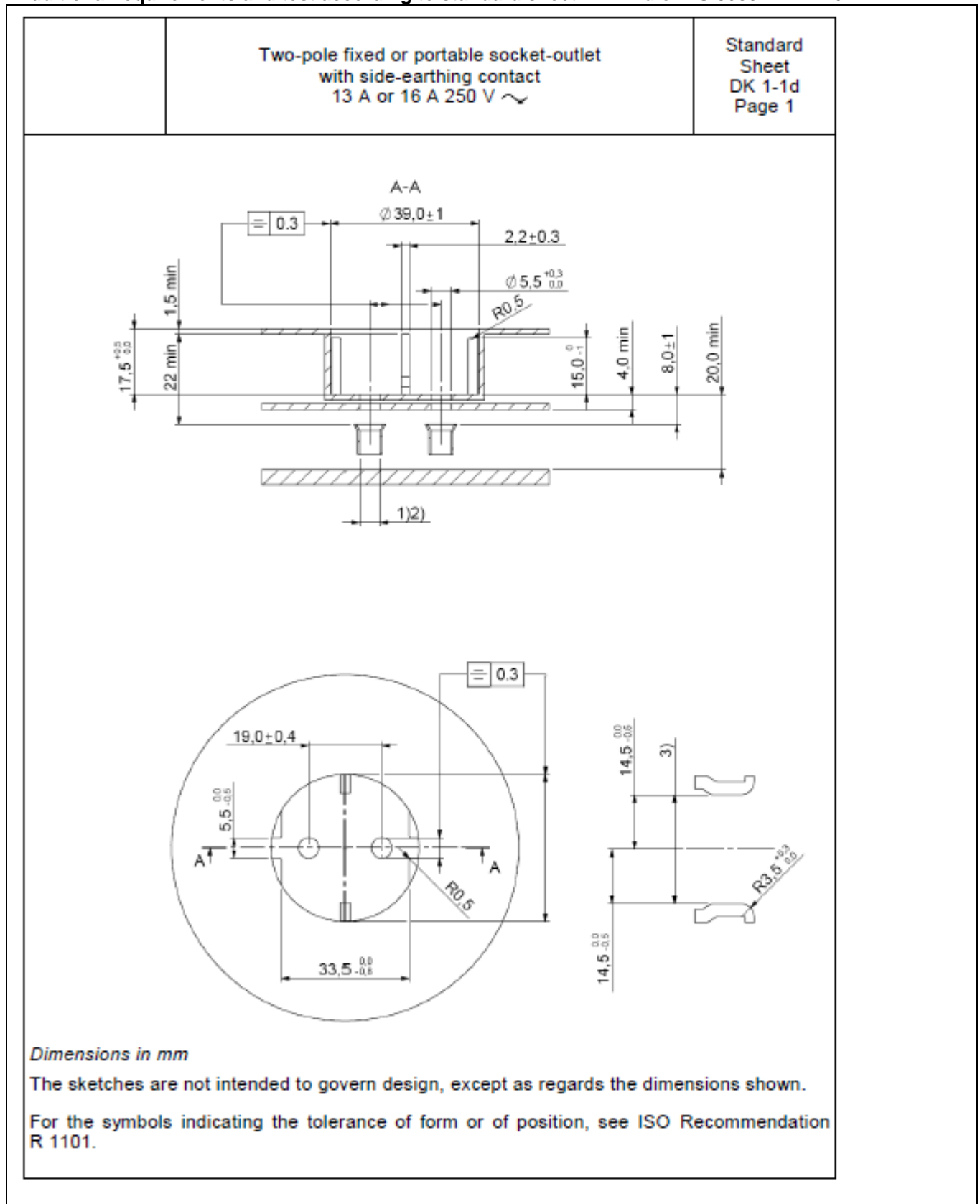
Annex: 16A/250V~ two-pole socket-outlet with side earthing-contact(CEE7 III)



**Additional requirements and test according to standard sheet III of SS 4280834:2013+ R1:2017+T1:2018 standard sheet III**



## Additional requirements and test according to standard sheet DK 1-1d of DS 60884-2-D1:2017



**Annex : additional requirements and test according to CEE 7**

Clause	Gauges and Figures CEE7	Test of / Test	Verdict
9.1	C1	Socket-outlets / <i>Size of the entry holes for the plug pin.</i>	P
	C2A	Socket-outlets / <i>Minimum opening of contact tubes.</i>	P
	C2B	Plugs / <i>Minimum opening of earthing contact tubes.</i>	N/A
	C3	Socket-outlets / <i>Acceptance of two pole plugs.</i>	P
	C4	Socket- outlets with side earthing contacts / <i>Acceptance of two pole plugs with side earthing contacts.</i>	P
	C6	Fixed socket outlet of surface type. If applicable	N/A
	C7	Socket-outlets / <i>Distance to point of first contact</i>	P
	C9	Plugs and for socket outlets with pin type earthing contact / <i>Pin diameter</i>	N/A
	C10	Plugs / <i>Pin space.</i>	N/A
	C11	Socket-outlets and plugs with pin type earthing contact / <i>Max. opening of contact tubes</i>	P
	C12	Plug with side earthing contacts / <i>Interchangeability</i>	N/A
		Fig.13	2,5A plugs according to Standard sheet XVI / <i>Interchangeability</i>
9.2 (8b)	Fig. 15	2p plugs without earthing contacts / <i>non- interchangeability with two-pole plugs with earthing contact</i>	N/A
	Fig. 16	2p socket-outlets with side earthing contacts/ <i>non-acceptance of two-pole plugs without earthing contact</i>	P
10.3 (9b)	Fig. 18	16 A socket-outlets / <i>impossibility of single-pole insertion of plugs</i>	P
	Fig. 19	Plugs / <i>Checking impossibility of single pole insertion</i>	N/A
10.6 (9d)	Fig. 19a	Checking deformation of side earthing contact for socket outlets / <i>150N 1min</i>	P
13.4 (8a)	C8	Fixed socket outlet of surface type. / <i>Wiring channel if applicable</i>	N/A
18	<b>Socket outlets with side earthing.</b> Measuring the force exerted by the earthing contacts by means of the device CEE7/Figure 23		
	Test by measuring the force exerted by the earthing contacts (min 5N)	14N/14N	P
	After the tests of 19, 20 and 21 the contacts are separated to the maximum distance possible, max 35 mm for 48 h. After this treatment, the socket outlet is subjected to the test of Temperature Rise		
	The force exerted measured in side earthing contacts. Not less than 60% or 5 N	12N/12N	P
	For other accessories, compliance is checked by the tests of Temperature Rise and Normal Operation		

**Annex: Nordic (FI, NO, SE, DE)****Additional requirements and tests for plugs and socket-outlets according Nordic agreement.****Following national standards are considered**





<b>Finland:</b>	<b>SFS 5610:2015+A11:2016</b>
<b>Norway:</b>	<b>NEK 502:2016</b>
<b>Sweden:</b>	<b>SS 4280834:2013+R1:2017+T1:2018</b>
<b>Denmark:</b>	<b>DS 60884-2-D1:2017</b>

**Tests according to IEC 60884-1:2002+A1:2006+A2:2013 and CEE 7 (Annex CEE/7) with below Nordic additions to IEC 60884-1:2002+A1:2006+A2:2013 and CEE 7**

Clause	Tests	Verdict		
<b>7.2.4</b> SE/NO/FI	Design B is not used	N/A		
<b>8</b>	The rated current for class II socket-outlets (2,5A/250V) for fixed installation shall be marked 16A/2,5A.	N/A		
<b>8.1/8.6</b> NO	For fixed socket outlet the requirements for IP rating is only applicable socket outlets with the IP rating higher than IP43	N/A		
<b>8.101</b>	Socket-outlets and plugs according to standard sheets VIII and IX, the poles (terminals) shall be marked with L1, L2, L3 and N and be positioned as indicated in the standard sheets.	N/A		
	- socket-outlet is allowed to be installed only into a box including the PE-conductor	N/A		
	- there shall be at least one class I socket-outlet in that room where class II socket-outlet (2,5A/250V) is to be installed	N/A		
<b>8.102</b>	Socket-outlets and plugs according to standard sheets VIII and IX, the poles (terminals) shall be marked with L, N and PE and be positioned as indicated in the standard sheets.	P		
<b>9.1</b>	Standardsheets if applicable	Standardsheet	CEE7 sheet III+ SS 4280834/III+ DS 60884-2-D1:2017/ DK 1-1d	P

**Add standard sheet if different from Annex CEE 7**

<b>9.1</b>	Socket outlets for 16A 250V.		
	C2A (400G) FI	Socket-outlets / <i>Minimum opening of contact tubes.</i>	P
	C2A (2N) SE, NO	Socket-outlets / <i>Minimum opening of contact tubes.</i>	P
<b>9.1</b> SE/NO/FI	Socket outlets for 2,5A 250V. SS 428 08 34 sheet Xa , SFS5610/ XVIA , NEK 502/XVIa Test with gauges		
	C1/C1A	Socket-outlets / <i>Size of the entry holes for the plug pin</i>	N/A
	C2/C2A	Socket-outlets / <i>Minimum opening of contact tubes.</i>	N/A
	C3/C3A	Socket-outlets / <i>Acceptance of two pole plugs.</i>	N/A


	C4/C7A	Socket-outlets / Distance to point of first contact		N/A
<b>9.101</b> SE/NO	Standard sheet IIIa	Socket-outlets/ impossible to insert a plug (A pin with a diameter of $3,85 \pm 0,05$ mm ) according to EN 50075 to a socket outlet (sheet III a.) Test with 75N, 1min . Ambient temperature 35°C		N/A
<b>9.102</b> NO	For 25A 250V 2P+E plugs and socket-outlets compliance with Standard Sheets X and XI -are checked by measurements only			N/A
<b>9.102</b> SE	For 25A 250V 2P+E plugs and socket-outlets compliance with Standard Sheets VIII and IX -are checked by measurements only			N/A
<b>10.1</b> SE/NO/FI	Socket outlets for 2,5A 250V. Single pole insertion gauge fig 6			N/A
<b>10.1</b> SE	Portable socket-outlets with suspension means, not possible to touch live part through the space intended for suspension means			N/A
<b>10.2</b> SE	Fixed socket-outlets with covers or cover plates of metal, requirements given in 10.2.1 or 10.2.2 are full-filled. Portable socket-outlets and plugs with accessible parts of metal, the requirements given in 10.2.1 are full-filled.			N/A
<b>10.3</b> SE/NO	C18	16 A socket-outlets / impossibility of single-pole insertion of plugs.		P
<b>10.2.2</b> SE/FI/NO	This subclause is applicable only for fixed socket outlets			N/A
<b>12.1.101</b>	Socket-outlets provided with screw-type terminals, screwless terminals, male tab of flat quickconnect terminations, soldered connections or welded connections (terminations).			P
<b>12.2.1</b> <b>Table. 3</b>	Current and type of the accessory	Rigid (solid or stranded) copper conductors	Flexible copper conductor	
		Cross-sectional area mm <sup>2</sup>	Cross-sectional area mm <sup>2</sup>	
	16 A 2P +  (fixed accessory)	from 1,5 up to 2 x 2,5 inclusive (Diameter 2,2 mm HD 383)		P
	16 A 2P +  (fixed accessory)		from 1,5 up to 2 x 2,5 inclusive if applicable (Diameter 2,2 mm HD 383)	N/A
SE	16 A 2P +  (portable socket-outlets)		from 1 up to 1,5 inclusive (Diameter 1,8 mm HD 383)	N/A
SE	16 A 2P +  (plugs)		from 0,75 up to 1,5 inclusive ( Diameter 1,8 mm HD 383)	N/A
SE	2.5 A 2P Socket-outlets integrated in appliances or equipment	From 0.5 up to 1.0 inclusive (Ø 1,4 mm HD 383)	From 0.5 up to 1 inclusive (Ø 1,5 mm HD 383)	N/A
SE	2.5 A 2P Portable socket-outlets		From 0.5 up to 1 inclusive (Ø 1,5 mm HD 383)	N/A
SE	25A 2P + (portable accessory)		From 2,5 up to 6 inclusive (Ø 3,05 mm)	N/A
NO	25A (fixed accessories)	From 4 up to 6 inclusive (Ø 3,3 mm HD 383)		N/A
NO	25A (plugs)		From 2.5 up to 4 inclusive (Ø 3,2 mm HD 383)	N/A

<b>12.2.6</b> SE/FI/NO	For fixed socket-outlets an additional test with one rigid solid conductor and one rigid stranded conductor with the same cross-sectional area connected at the same time is required for terminals allowing the connection of two conductors.	P
<b>13.1</b> SE/NO/FI	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:	
	-shall not be of insulating material, except ceramic, or other material with no less suitable characteristics, and	P
	-shall ensure metallic opposing contacts at least on two sides of each pin	P
<b>13.8</b> SE	For socket-outlets according to standard sheet VIII, it must not be possible to mount the cover or cover plate in the wrong position e.g. turned 180°.	N/A
<b>13.8.101</b> SE/NO/FI	It shall not be possible to fix the cover or cover plate of class I socket-outlet to class II socket-outlet of the same manufacturer.	P
<b>13.9</b> SE/NO/FI	Socket outlets for surface mounting with degree of protections of IP 20 or higher shall be provided with a protective plate to provide insulation against the mounting surface	N/A
<b>13.10</b> NO	Claw fixing is not permitted	N/A
<b>13.14</b>	Socket-outlets with rating up to and including 16 A and 250 V, shall withstand lateral strain imposed by equipment likely to be introduced into them. Compliance is checked by means of the device shown in Fig. 13. Test performed with 15 N.	P
<b>13.20</b> NO	After all the conductors are terminated the socket outlet shall fit easily into the gauge according to Figure NO 24a	P
<b>13.23</b> SE/FI	Test at -15°C	P
<b>14.21</b>	Plugs for class II equipments shall be non-rewirable	N/A
<b>14.22</b>	Components incorporated in portable accessories shall be so rated or so protected, that unintentional overloading of either the component or the plug- or socket outlet portion can not occur in normal use or in fault condition. Tests for Switches and Surge arresters See annexes	N/A
<b>14.101</b>	For plugs according to standard sheet IX, the pins shall be floating (self-adjusting).	N/A
<b>14.102</b>	For plugs according to standard sheet IX, with side cable entry hole, the cable entry hole shall be affixed to the side of the connector body, opposite the (7 mm wide ) tab.	N/A
<b>17.1</b>	Add: The insulation resistance between live parts and SELV-circuits shall not be less than 7 MΩ.	N/A
<b>17.2</b>	Add to second paragraph: – 3750 V between live parts and SELV-circuits.	N/A

<b>18.1</b> SE/NO/FI	Socket outlets with side earthing. Measuring the force exerted by the earthing contacts by means of the device CEE7/Figure 23 Test by measuring the force exerted by the earthing contacts (min 5N)  After the tests of 19, 20 and 21 the contacts are separated to the maximum distance possible, max 35 mm for 48 h. After this treatment, the socket outlet is subjected to the test of Temperature Rise  The force exerted measured in side earthing contacts. Not less than 60% or 5 N  For other accessories, compliance is checked by the tests of Temperature Rise and Normal Operation		P
<b>18.2</b> SE/NO	Plugs with side earthing contacts. Test equipment according to Fig. 25 (SS 428 08 34)  Contact pressure of side earthing contacts in a plug, 168h with 50 N at 35 °C , max deformation 1 mm		P
<b>19</b> SE/NO/FI	Temperature rise test for non rewirable portable socket outlets The test current for 1,0 and 1,5 mm <sup>2</sup> shall be 16A for socket outlets with rated current 16A and 4A for socket outlet with rated current 2,5A  Cross section of the cable: mm <sup>2</sup>  Rated current: Test current:  Rated current: Test current:		N/A  N/A  N/A
<b>19</b> NO	Additional long-term temperature rise 150 days (3600h)test for fixed socket outlets with screwless terminals. Three new specimens are used . The specimens are connected in series by interconnecting conductors and shall not passed through the socket –outlets.  For surface mounted socket outlets Rigid solid conductors : mm <sup>2</sup> For flush mounted socket outlets Rigid stranded conductors: 2,5 mm <sup>2</sup> Test current 1,45x rated current Current: : 23.2 A Temperature rise after 150days Measured : : 36.2 °C (max 45°C)		N/A  P  P
<b>20</b> SE/NO/FI	Breaking capacity for 2,5A socket outlets 50 times with 3A / 275VAC cos φ= 0.6		N/A
<b>21</b>	Normal operation test for non rewirable portable socket outlets The test current for 1,0 and 1,5 mm <sup>2</sup> shall be 16A for socket outlets with rated current 16A and 2,5A for socket outlet with rated current 2,5A  Cross section of the cable: mm <sup>2</sup>  Rated current: Test current:  Rated current: Test current:		N/A  N/A  N/A
<b>22.1</b>	Maximum withdrawal force for 16 A socket outlets. Gauge SE 26(SS 428 08 34)/ NA24(SFS5610)/ NO26(NEK502)  Maximum withdrawal force for 2,5 A socket outlets Gauge Fig 8B (SS428 08 34)/ NO27(NEK502)		P  N/A

<b>22.2</b> SE/FI	Minimum force for 16 A and 2,5A socket outlets. (Pin diameter: $3.8 \pm 0,05$ , Mass: 200 g) Gauge Fig SE2/C2A (SS 428 08 34) / NA2/C2A (SFS5610) / D2/C2 (107-2-D1)	P
<b>22.2</b> NO	Minimum force for 16 A and 2,5A socket outlets. (Pin diameter: $3.8 \pm 0,05$ , Mass: 200 g) Gauge NO2/C2A For portable multiple socket outlets and adaptors the rails are removed from the socket outlets	P
<b>23</b> SE	See Table 17 – External dimensions of flexible cables to be accommodated by cord anchorages. See Table 20 – Relationship between rating of accessories, nominal cross-sectional areas of test conductors and test currents for the tests of temperature rise (Clause 19) and normal operation (Clause 21).	N/A
	In addition, for rewirable accessories having a rated current up to and including 25 A, it shall be checked by a manual test that they are suitable for fitting with the appropriate cable, as shown in table 19.	N/A
<b>23.3</b> <b>Table 20</b> SE/NO	For none rewirable portable socket outlets with rating above 10A up to and incl 16A a cross sectional area of $1,0 \text{ mm}^2$ are only allowed in flexible lengths up to 2 m	
	Cable length: < 2m;      Cross sectional area: $\text{mm}^2$	N/A
<b>23.3</b> <b>Table 20</b> FI	For none rewirable portable socket outlets with earthing contacts the cable-size shall be min $1,5 \text{ mm}^2$ . For none rewirable portable socket outlets for class 0 or II equipments the cable size shall be min $1 \text{ mm}^2$	
	Cross sectional area: $1,5 \text{ mm}^2$	N/A
<b>24.101</b> SE	Blows applied with a spring hammer to all accessible surfaces	N/A
<b>26.7</b> FI	Thread cutting screws are not allowed as screws that are operated during installation.	N/A
<b>27</b> SE	Socket-outlets for appliances are tested with the metal frame, if any, placed in the most unfavourable positions if this frame, acting as a support, is movable.	N/A
	For fixed socket outlets of flush type the box according to CEE7 /Standard sheet XIII is used when measured the distances.	P
	Clearances and creepage distances between live parts of different polarity	N/A
	-are reduced to 1 mm between the lead wires in the pinch of an indicator lamp with external resistor	N/A
	For socket outlets the max. ring diameter 8 mm of the pin of the plug according to 10.4 is considered.	P
<b>28</b> SE	For the purpose of this test, socket-outlets for appliances are tested as fixed socket-outlets.	

### Switches incorporated in portable socket outlets. (additions in Annex D of SS 4280834:2013+R1:2017+T1:2018)

Clause	Requirements /Tests	Verdict
SE	Stand-by switches shall be marked "stand-by" or with the symbol 	N/A
	Table D1 Minimum switch ratings	N/A
<b>14.22</b> SE/NO	The rated values of the switch shall not be lower than the lowest rating of the socket outlet or the incorporated protected device	N/A

	Switches marked with OFF-state position shall be of normal gap construction and shall disconnect all the poles		N/A
	Complies with EN 60 669-1 Rating:		N/A
	Complies with EN 61058-1 ( Min requirements See SS4280834 Annex B1) Rating:		N/A
	Switches marked with Off position shall be of normal gap and shall disconnect all the poles		N/A

**Annexes SS 4280834/B2, SFS 5610/NC and NEK 502/NO-3-3****Surge protective devices incorporated in socket outlets****Test according to EN 61643-11 with following SE and FI additions:**

<b>Clause/NO</b>	<b>Test</b>	<b>Verdict</b>
<b>6.1.2</b>	Raitings	
	e ) Uc :	N/A
	f ) Type 2 / I <sub>max</sub> or Type 3 / U <sub>oc</sub> for each mode	N/A
	g) I <sub>n</sub> (for type 2)	N/A
	h) U <sub>p</sub> for each protection level ( mode)	N/A
	i) Rated current if required	N/A
	l) Max recommended ratings of overcurrent protection (if applicable)	N/A
	m) Indication of disconnecter operation (if any)	N/A
<b>6.2.6</b> SE/NO	SPD connected between phase to earth For type 2 I <sub>n</sub> min 2,0kA For typ 3 U <sub>oc</sub> min 4,0kV	N/A
	SPD connected between phase and phase or phase to neutral in portable accessories For type 2 I <sub>n</sub> min 1,25kA For typ 3 U <sub>oc</sub> min 2,5kV	N/A
	SPD connected between phase and phase or phase to neutral in fixed accessories For type 2 I <sub>n</sub> min 2,5kA For typ 3 U <sub>oc</sub> min 4kV	N/A

<b>6.2.6</b> FI	SPD connected between phase to earth For type 2 In min 2,5kA For typ 3 Uoc min 5,0kV		N/A
	SPD connected between phase and phase or phase to neutrale For type 2 In min 2,5kA For typ 3 Uoc min 5kV		N/A
<b>6.5</b>	In portable accessories between phase and neutral to earth min two components in series Uc for each component shall be att least 1,1x U supply volatage	MOV Uc:	N/A
		GDT/MOV Uc :	N/A
	Circuits comprising surge protective components connected to telecommunication network complies with EN 41003 (se incl. test report)		N/A
<b>6.5.4</b>	Residual current max 0,5 mA. .Each one of the components connected between live parts and earth short- circuit one at a time		N/A
<b>6.5.5</b> SE/NO	The value for UT shall be based on TN- systems		N/A

**Annex NB: Cord extension sets**

Clause	Tests	Verdict
SE	Cord extension sets shall comply with SS-IEC 60884-2-7 (IEC 60884-2-7:2011+A1:2013)	N/A
<b>8</b> SE	Cord extension sets exclusively for use in industrial application, construction sites or other locations where children are not present shall be accompanied by an information of the limited area of use	N/A
<b>10.2</b> SE	Cord extension sets shall be so designed and constructed that after they are wired and assembled as for normal use, live parts are not accessible, even after removal of parts which can be removed without the use of a tool	N/A
	Compliance is checked by inspection and by applying with a test wire of 1,0 mm diameter (see Figure 10 of Part 1) a force of 1 N in every possible position	N/A
	During this test, it shall not be possible to touch live parts with the gauge	N/A
<b>14.1</b> SE	Socket-outlets in cord extension sets for general use shall have shutters	N/A
	Flexible cables shall comply with the SS-EN 50525-series	N/A
<b>14.2</b> SE	The type, length of the flexible cable and nominal cross-sectional area of the conductors of cord extension sets shall comply with Table 101 NOTE – Cord extension sets intended for outdoor use should be provided with cable type H05RR-F or equivalent	N/A
<b>14.21</b> SE	Cord extension sets exclusively for class II equipment shall be non-rewirable	N/A
<b>14.19.101</b>	Cord extension set provided with surge protective devices See Annex NC	N/A
<b>14.201</b>	The IP-class of plug at least the same as for the portable socket outlet	N/A
<b>14.202</b>	Protection class of the plug and the portable socket outlet shall be the same except if the plug is intended connect equipment for class I the portable socket-outlet can be also be of class II	N/A
<b>14.203</b> <b>14.204</b> FI	Plugs and socket outlets shall comply with the standardsheets shown in Annex NA	N/A
<b>23.3</b> FI	For non-rewirable portable socket outlets with earthing contacts the cable-size shall be min 1,5 mm <sup>2</sup> . For none rewirable portable socket outlets for class 0 or II equipments the cable size shall be min 1 mm <sup>2</sup>	
	Cross sectional area:	N/A

<b>ATTACHMENT TO TEST REPORT IEC60884-1</b> <b>DANISH NATIONAL DIFFERENCES</b> Plugs and socket-outlets for household and similar purposes Differences according to DS 60884-2-D1:2017
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<b>Particular requirements for Danish systems</b>		
<b>Test item particular (Select from table D1a)</b>		
<b>Description of type</b>	<b>Rated values</b>	<b>Standard sheet</b>
Portable socket outlet with/without earthing contact	16A 250V	DK 1-1d

Mechanical strength of accessories. ....	Ordinal construction	x
	Rough service	
Socket-outlets ( <i>Some of the socket-outlets must be provided with shutters. See standard sheets.</i> ):		
Degree of protection against electric chocks.	Normal protection	x
	Increased protection	

<b>8</b>	<b>MARKING</b>		
8.1	Added		
	First characteristic numeral for the degree of protection against access to hazardous parts and against harmful effects due to ingress of solid foreign objects ,for fixed socket-outlets higher than 4 in which case the second characteristic numeral shall also be marked.	IP20	N/A
	Second characteristic numeral for the degree of protection against harmful effects due to ingress of water, for fixed socket-outlets higher than 2 in which case the first characteristic numeral shall also be marked.	IP20	N/A
	Added		
	Plugs with earthing pin and fixed socket-outlets with earthing contact tube or earthing pin, the terminal for neutral conductor shall be marked with the latter N in compliance with relevant standard sheet..... :		N/A
	Only accessories for rough service shall be identified by colour combination red/green. This colour combination shall not be used on any other accessory covered by this standard..... :		N/A
8.3	Added		
	An indication of the suitability to accept rigid conductors only for screwless terminals for those socket-outlets having this restriction.		N/A
8.5	Added		
	Rewirable accessories with earthing contact intended for sale to ordinary consumers shall be delivered with an instruction, which in a comprehensible way explains how to achieve proper connections .....		P

8.6	Added new clause		
	For surface-type mounting boxes forming an integral part of socket-outlets having an IP, code higher than IP4X, or higher than IPX2, The IP code shall be marked on the outside of its associated enclosure so as to be easily discernible when the socket-outlet is mounted and wired as in normal use		N/A
8.9	Added new clause		
	The information sheet for flush mounted socket-outlets for fixed installation shall give information about the correct type of installation box to be used, if any .....		P
8.10	Added new clause		
	Socket-outlets for fixed installation shall give information about the greatest rated current of the upstream short-circuit protective device.....		N/A

9	<b>CHECKING OF DIMENSIONS</b>		P
9.1	Replaced (replace Table 1a with Table D1a)		
	Socket-outlets are tested after being subjected to ten insertions and ten withdrawals of a plug complying with the corresponding standard sheet and having the maximum dimensions of the pins.		P
	Accessories shall comply with the dimension of the appropriate standard sheet.....	DK 1-1d	P
	Added		
	For two-pole plugs and two-pole socket-outlets with or without earthing pin or earthing contact compliance of the different parts is checked consecutively as shown in Table D2 by means of the gauges of figures D1 to D42.		P
	<b>Table D 2 - Gauges for plugs and socket-outlets:</b>		
	<b>2.5 A plugs:</b>		
	Pin diameter (Gauge).....	C 9A	N/A
	Interchange ability (Gauge). .....	C 13	N/A
	Single-pole insertion (Gauge). .....	C 19A	N/A
	<b>Phase and neutral for 10 A, 13 A, 16 A plugs (excl. flat pins) and the earthing pins in socket-outlets according to DK 1-1c:</b>		
	Pin diameter (Gauge).....	C 10A / C 9B	N/A
	Single-pole insertion (Gauge). .....	C 19B / D 19B	N/A
	Pin spacing (Gauges).....	C 10A / C 10B	N/A
	<b>Phase and neutral for socket-outlets (excl. entry holes for flat pins) and earthing contacts in plugs:</b>		
	Entry hols (Gauge).....	C 1	P
	Distance between entry holes (Gauge). .....	C 3	P
	Distance from engagement face to bottom of hole for socket-contacts (Gauge) .....	C 3	P

	Distance from engagement face to point of first contact with socket-contacts (Gauge)..... :	D 7	P
	Maximum opening in socket-contacts (Gauge).... :	C 11	P
	Minimum opening in socket-contacts (Gauge)..... :	C 2	P
	Single-pole insertion (Gauge)..... :	D 18	P
	<b>Special for plugs and socket-outlets with side-earth:</b>		
	Acceptance of two pole plugs with side-earth (Gauge):	C 4	P
	Non-acceptance of two-pole plug without side-earth (Gauge) .....	C 16	P
	Checking deformation of side-earth contact (Gauge) :	C 19a	P
	Checking the resistance to lateral strain (Gauge) .....	C 21	P
	Checking side-earth contact pressures of socket outlet (Gauge) .....	C 23	P
	Checking side-earth contact pressures of plugs (Gauge) .....	C 25	P
	Checking the maximum withdrawal force (Gauge)..... :	C 26	P
	<b>Phase and neutral for IT socket-outlets and phase for hospital socket-outlets:</b>		
	Distance from engagement face to point of first contact with socket-contacts (Gauge)..... :	<del>D 7</del>	N/A
	Impossibility of inserting flat plugs 2.5 A/250 V (Gauge). .....	<del>D 42 (Pin diameter 3.94mm /7.5kg)</del>	N/A
	Add		
	For dimensions which are not checked according to table D 2 or for tests carried out in accordance with this table which is considered not to be complete, the dimensions are checked by measurement.		N/A
9.2	Replaced		
	It shall not be possible to engage a plug with – a socket-outlet having a higher voltage rating or a lower current rating, except that it is possible to insert a 13 A and a 16 A plug into both 10 A and 13 A socket-outlets, and it shall be possible to insert 2.5 A 250 V two-pole plugs for Class II appliances into two-pole socket-outlets with or without earthing contact. - A socket-outlet with different number - Plug Class 0 or Class 1 to socket-outlets class II..... :		P
	Add		
	It shall not be possible to engage a plug having round pins in an IT socket-outlet or a hospital socket-outlet..... :		N/A
	For testing of IT socket-outlets and hospital socket-outlets, gauge D 42 is used. This test is always carried out, independent of the material of the socket-outlet .....		N/A
<b>10</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		<b>P</b>
10.1	Replaced		

	NOTE: The requirement of protection against direct contact during insertion need not be complied with for fixed socket-outlets according to standard sheets DK 1-1a, DK 1-8a and DKA 1-1a.		N/A
10.2	Added		
	NOTE: In this clause 10.2.1 and 10.2.2 accessible parts shall be understood as including covers and coverplates of fixed socket-outlets.		P
10.2.2	Replaced Note 2. Except for fixed socket-outlets in accordance to standard-sheet DK 1-1a, DK 1-1b, DK 1-1c and DK 1-1d		
	- this alternative is not allowed for IPX0 equipment due to the lack of protective earth in many existing installations		N/A
10.3	Added. Portable socket-outlets with accessible metal parts shall also comply with this requirement:		
	Single-pole insertion is checked by the gauges shown in figures D 18 and D 19.	D18 and D19	P
	Replaced		
	NOTE 2: In this clause covers and cover plates of fixed socket-outlets shall be understood as all accessible parts.		N/A
10.5	Added		
	Socket-outlets shall be provided with shutters in compliance with the standard sheets.		P
	In addition, the gauge shall be applied to dummy holes and entry holes for earthing pins, if any, and shall not touch live parts.		N/A
10.6	Added		
	Compliance is checked by the following test in 10.6.1 and 10.6.2.		P
10.6.1	Added		
	For this test a new set of samples shall be used.		P
	The socket-outlet is placed with the contact bushings of the socket -outlet in vertical position.		P
	The gauge shown in Figure D 19a is inserted in the socket-outlet and a force of 150 0/-5 N is applied for 1 min.		P
	After this test the socket-outlet shall show no damage impairing the safety and shall be in according with clause 9		P
10.6.2	Added		
	The two side-earth contacts shall one after the other be tested with the equipment according to fig D 19b( equivalent to Bild 43 in VDE 620-1), a torque of 100 0/-5 Ncm shall be applied for 1min. Two sample are tested clockwise and one sample is tested counter clockwise.		P
	After the test shall it be possible to insert gauge D 4 in the socket- outlet.		P

10.7	Deleted		
	NOTE In the following countries the increased protection is considered fulfilled when the lid (spring loaded) is closed: CH, DE.		N/A
	Added		
	In addition, the gauge shall be applied to all openings including dummy holes and entry holes for earthing pins, if any, and shall not touch live parts.		N/A

<b>12</b>	<b>TERMINALS AND TERMINATIONS</b>		N/A
12.2.1	Modification of Table 3		
	Some countries require the looping-in of three conductors of 2,5 mm <sup>2</sup> , or two conductors of 4 mm <sup>2</sup> Not required in Denmark		N/A

<b>13</b>	<b>CONSTRUCTION OF FIXED SOCKET-OUTLETS</b>		P
13.2	Replaced		
	Compliance of resistance to abrasion is checked after the test of 20 and 21.		P
13.8	Replaced the first paragraph		
	A cover-plate intended for a socket-outlet in accordance to standard sheet DK 1-1c and DK 1-1d with earthing contact		
	- shall not be interchangeable with a cover-plate intended for a socket-outlet without earthing contact, if such interchange results in a change of the classification of the socket-outlet according to 7.1.3..... ;		P
13.14	Replaced the second paragraph For socket-outlets having ratings up to and including 16 A and 250 V,		
	- compliance is checked by means of the device shown in figure 13		P
	For socket outlets with side-earthing contacts,		
	- the gauge D 21 is used instead of the device shown in figure 13		P
13.23	Replaced the first paragraph		
	It is required that membranes in inlet openings be so designed and made of such material that the introduction of the cables into the accessory is permitted when the ambient temperature is low.		P

<b>14</b>	<b>CONSTRUCTION OF PLUGS AND PORTABLE SOCKET-OTLETS</b>		N/A
14.4	Deleted note		
	Added In accessories with a dummy hole and with no contact being marked with an N,		
	- neither contact is considered to be a neutral contact according to this sub-clause		N/A
14.21	Added		
	Rewirable plugs for class II equipment with a rated current of less than 10 A are not allowed .....		N/A

	Cord extension sets for class II equipment only are not allowed .....		N/A
14.26	Deleted note		
14.27	Added		
	Multiple adaptors shall not have more than two outlets.....		N/A
14.28	Added		
	Multiple socket outlets shall have at least one outlet for round plugs. .....		N/A
14.29	Added		
	Accessories for rough service shall be of splash-proof construction (IPX4), plugs according to standard sheet DK 2-1a and socket-outlets according to standard sheet DK 1-3a .....		N/A

16	<b>RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURE, AND RESISTANCE TO HUMIDITY</b>		N/A
16.2.2	Deleted Note 4		
	Added		
	Socket-outlets are also tested with the plug of the same system and with the same degree of protection in engagement.		N/A
16.3	Deleted Note 1		

18	<b>OPERATION OF EARTHING CONTACTS</b>		P
	Added		
	For socket-outlets with side-earthing contacts compliance is checked by the tests of clauses 18.1, 19 and 21.		P
	For plugs with side-earthing contacts compliance is checked by the tests of clause 18.2.		P
18.1	Added		
	For socket-outlets with side-earthing contacts, compliance is checked by measuring the force exerted by the earthing contacts by means of the device shown in D 23.		P
	The device is inserted into the recess of the socket-outlet, the device is positioned by means of spacing pieces as shown in the figure.		P
	A force is applied to each of the hooks in turn and the value of the force is noted when the marker lines are in line. The test is then repeated, the device being turned through 180 degrees in the recess.		P
	The average value of the forces necessary to move each contact to the indicated position shall not be less than 5N.		P

18.2	Added Plugs with side-earthing contact shall be so designed that any resiliency of the bodies cannot deteriorate the contact pressure of the side earthing contacts during normal use. Compliance is checked by inspection and by the following test:		
	The side-earthing contacts are subjected for 168 h to a force of 50 N, at a temperature of 35±2°C.		P
	The specimen as well as the test equipment shall have reached the prescribed temperature before the test is carried out.		P
	The deformation of the earthing contacts is measured 30 s after removal of the force.		P
	The total deformation of the side-earthing contacts must not be more than 1 mm.		P
<b>19</b>	<b>TEMPERATURE RISE</b>		P
	Replaced Table 15 to Table D 15		P
<b>21</b>	<b>NORMAL OPERATION</b>		P
	Added		
	The gauge shown in figure 9 is applied to dummy holes, if any.		P
	For socket-outlets with side-earthing contacts the side-earthing contacts are separated to the maximum distance possible,		
	- but not more than 35 mm; they are held in this position for 48 hours		P
	The force exerted is again measured as described in clause 18.		P
	The average value of the forces for each contact shall not be less than 60 % of the average value measured during the test of clause 18.		P
	The force exerted by each contact shall, however not be less than 5 N.		P
<b>22</b>	<b>FORCE NECESSARY TO WITHDRAW THE PLUG</b>		P
22.1.2	Added		
	The dimension of the test plug is given in figure D 26.		P
	The earthing contacts of the test plug shall be of hardened steel, and have a surface roughness equal to that of the pin of the test plug.		P
22.2	Replaced Table 16 to Table D 16		P
<b>23</b>	<b>FLEXIBLE CABLES AND THEIR CONNECTION</b>		N/A
23.2	Added		
	The effectiveness of the retention is checked by the following test by means of an apparatus as shown in figure 20.		N/A

	Non-rewirable accessories are tested as delivered; the tests are made on new samples.		N/A
	Rewirable accessories are tested with the types of cable or cord complying with EN 50525-2-11 or -2-21 which are specified in table D 17.		P
	Flat plugs and flat socket-outlets for sheathed flexible cords (see the table) are		
	- first tested with a flexible cord type H03VV-F and then with a flexible cord type H03VH-H.....:		N/A
	Table 17 replaced by Table D 17 ..... :		N/A
	Deleted Table 19		
23.3	Replaced		
	EN 50525-2-11 or -2-21 replace the references to IEC 60227 and IEC 60245 respectively. .... :		N/A
	Table 20 replaced by Table D 20..... :		N/A

<b>24</b>	<b>MECHANICAL STRENGTH</b>		N/A
	Added. Accessories for rough service:		
24.2	Replaced		
	The specimens are individually subjected to the test Ec: Rough handling shocks, primarily for equipment-type specimens, procedure 2 of IEC 60068-2-31.		N/A
24.4	The tests of accessories for rough service are made on 3 new samples.		
	The steel intermediate piece shown in figure 27 is removed, and the samples are subjected to an impact test on the plane surface.		N/A
	The height of fall is set at 200 mm, and 200 impacts are applied to the weakest point of the sample.		N/A
24.20	Added. Accessories for rough service:		
	Accessories are tested in compliance with 24.20.1 and 24.20.2.		N/A
	The tests are carried out at a temperature equal to that of the tests in 24.4.		N/A
	Prior to the tests for fixing of sockets and covers the screws are tightened with 2/3 of the torque indicated in 12.2.8, table 6..... :		N/A
24.20.1	Added new clause		
	The accessory shall be resistant to static forces.		N/A
	Compliance is checked by subjecting a static pressure force which is gradually increased from 0 to 750 N, within 10 s; by a cylindrical mandrel having a diameter of 10 mm.		N/A
	The mandrel is applied to the weakest points.		N/A
	After the test, the samples shall show no visible cracks or other deformation.		N/A
24.20.2	Added new clause		
	The accessory for rough service should be resistant to the impact test.		

	Compliance is checked by mount the accessory as shown in figure D40 with the heaviest supply cord specified in 23.2 and subjected it to 500 falls. .... :		N/A
	After each 100 falls the screws are tightened with the torque indicated in 24.19. .... :	Nm	N/A
	After the test, the samples shall show no damage within the meaning of this section. In particular, live parts shall not be accessible.		N/A
	Small broken off pieces and bent pins are neglected under the precondition that the pins can be readjusted.		N/A
24.21	Added. Socket outlet fixed to the box with other means than screw fixing shall withstand following additionally test.		
	Pull test with a force 200 N during 1 min in direction perpendicular to the mounting surface.		N/A
	The test is then repeated with the force applied in direction 45 degree to the mounting surface rotated 360 degree.		N/A
	After the test the socket outlet shall not displaced more than 0,5 mm from the box.		N/A
<b>26</b>	<b>SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS</b>		N/A
26.1	Added		
	Thread-cutting screws are not allowed if they are used during mounting of the equipment.		N/A

-End of test report-



**TEST REPORT**  
**IEC 62368-1**  
**Audio/video, information and communication technology equipment**  
**Part 1: Safety requirements**

**Report Number** .....: 48.420.19.1922.00

Date of issue .....: 2020-03-30

Total number of pages.....: 53

**Applicant's name**.....: Etman Electric(Changzhou)Co., Ltd.

Address.....: 6 Miaoban Road, Lijia District, 213165 Changzhou, Jiangsu Prov.,  
PEOPLE'S REPUBLIC OF CHINA

**Test specification:**

Standard .....: IEC 62368-1:2014 (Second Edition)

Test procedure .....: TÜV SÜD Mark

Non-standard test method .....: N/A

**Test Report Form No.**.....: IEC62368\_1B

Test Report Form(s) Originator .....: UL(US)

Master TRF .....: 2014-03

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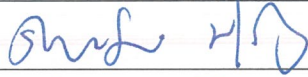
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**General disclaimer:**

The test results presented in this report relate only to the object tested.

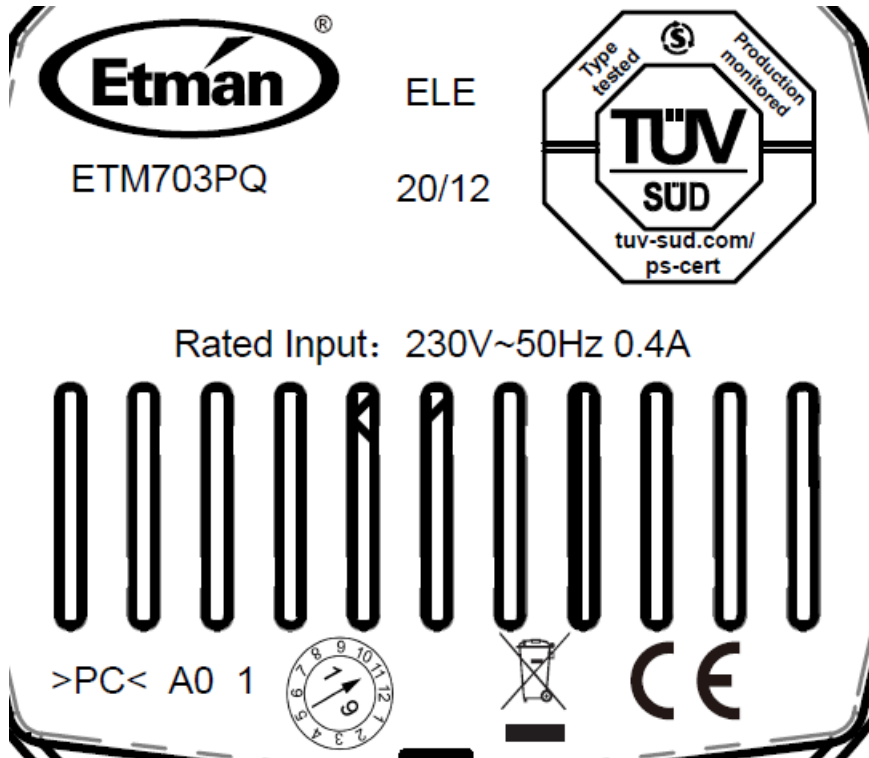
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Test Item description .....	SO with 2 USB ports	
Trade Mark .....	 or <b>EGANT</b>	
Manufacturer .....	Etman Electric(Changzhou)Co., Ltd. 6 Miaoban Road, Lijia District, 213165 Changzhou, Jiangsu Prov., PEOPLE'S REPUBLIC OF CHINA	
Model/Type reference .....	ETM703PQ	
Ratings .....	USB parts: Input: 230 V~, 50Hz, 0.4A Output: Output Single A-port or Output Single C-port: 5.0V===3.0A, 15.0W; 9.0V===2.0A, 18.0W; 12.0V===1.5A, 18.0W; Output A-port + Output C-port: 5.0V===3.0A, 15.0W (3.0A in total);	
Testing procedure and testing location:		
<input checked="" type="checkbox"/> Testing Laboratory:	TÜV SÜD Certification and Testing (China) Co., Ltd.	
Testing location/ address .....	10 Huaxia Road (M), Dongting, Wuxi 214100, Jiangsu, P.R. China	
<input type="checkbox"/> Associated Testing Laboratory:		
Testing location/ address .....		
Tested by (name, function, signature) .....	Shaogao Hong Project Handler	
Approved by (name, function, signature) .....	Yang Yang Designated Reviewer	 
<input type="checkbox"/> Testing procedure: TMP/CTF Stage 1		
Testing location/ address .....		
Tested by (name + signature) .....		
Approved by (name + signature) .....		
<input type="checkbox"/> Testing procedure: WMT/CTF Stage 2		
Testing location/ address .....		
Tested by (name + signature) .....		
Witnessed by (name + signature) .....		
Approved by (name + signature) .....		
<input type="checkbox"/> Testing procedure: SMT/CTF Stage 3 or 4		
Testing location/ address .....		
Tested by (name + signature) .....		

Approved by (name + signature) .....		
Supervised by (name + signature) .....		

<b>List of Attachments (including a total number of pages in each attachment):</b>	
Attachment No. 1: ATTACHMENT TO TEST REPORT IEC 62368-1 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES. (9 pages); Attachment No. 2: Photographs of the item tested. (11 pages).	
<b>Summary of testing:</b>	
<b>Tests performed (name of test and test clause):</b>  Complete Tests.  The test results comply with the requirements.	<b>Testing location:</b>  TÜV SÜD Certification and Testing (China) Co., Ltd.  10 Huaxia Road (M), Dongting, Wuxi 214100, Jiangsu, P.R. China
<b>Summary of compliance with National Differences:</b>	
<b>List of countries addressed</b>	
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES.	
<input checked="" type="checkbox"/> The product fulfils the requirements of EN 62368-1:2014+A11:2017.	

Copy of marking plate:



Output Single A-port or

Output Single C-port:

5.0V $\overline{=}$ 3.0A, 15.0W; 9.0V $\overline{=}$ 2.0A, 18.0W;12.0V $\overline{=}$ 1.5A, 18.0W;

Output A-port + Output C-port:

5.0V $\overline{=}$ 3.0A, 15.0W (3.0A in total);

Remark:

As declared by the applicant, the importer (and manufacturer, if it is different)'s name, registered trade name or registered trade mark and the postal address will be marked on the products before being place on the market. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

<b>TEST ITEM PARTICULARS:</b>	
Classification of use by.....:	<input checked="" type="checkbox"/> Ordinary person <input checked="" type="checkbox"/> Instructed person <input checked="" type="checkbox"/> Skilled person <input checked="" type="checkbox"/> Children likely to be present
Supply Connection.....:	<input checked="" type="checkbox"/> AC Mains <input type="checkbox"/> DC Mains <input type="checkbox"/> External Circuit - not Mains connected - <input type="checkbox"/> ES1 <input type="checkbox"/> ES2 <input type="checkbox"/> ES3
Supply % Tolerance .....	<input checked="" type="checkbox"/> +10%/-10% <input type="checkbox"/> +20%/-15% <input type="checkbox"/> +____%/ -____% <input type="checkbox"/> None
Supply Connection – Type .....	<input type="checkbox"/> pluggable equipment type A - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input type="checkbox"/> direct plug-in <input type="checkbox"/> mating connector <input type="checkbox"/> pluggable equipment type B - <input type="checkbox"/> non-detachable supply cord <input type="checkbox"/> appliance coupler <input checked="" type="checkbox"/> permanent connection <input type="checkbox"/> mating connector <input type="checkbox"/> other:_____
Considered current rating of protective device as part of building or equipment installation .....	16A Installation location: <input checked="" type="checkbox"/> building; <input type="checkbox"/> equipment
Equipment mobility .....	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable <input type="checkbox"/> stationary <input checked="" type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in <input type="checkbox"/> rack-mounting <input type="checkbox"/> wall-mounted
Over voltage category (OVC) .....	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input checked="" type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input type="checkbox"/> other: _____
Class of equipment .....	<input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III
Access location .....	<input type="checkbox"/> restricted access location <input checked="" type="checkbox"/> N/A
Pollution degree (PD) .....	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
Manufacturer's specified maximum operating ambient:	35°C
IP protection class .....	<input type="checkbox"/> IPX0 <input checked="" type="checkbox"/> IP_20_
Power Systems .....	<input checked="" type="checkbox"/> TN <input type="checkbox"/> TT <input type="checkbox"/> IT - ____ V <sub>L-L</sub>
Altitude during operation (m) .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> Up to 5000 m
Altitude of test laboratory (m) .....	<input checked="" type="checkbox"/> 2000 m or less <input type="checkbox"/> ____ m
Mass of equipment (kg) .....	<input checked="" type="checkbox"/> 0.11kg
<b>POSSIBLE TEST CASE VERDICTS:</b>	
- test case does not apply to the test object .....	N/A
- test object does meet the requirement .....	P (Pass)

- test object does not meet the requirement..... :	F (Fail)
<b>TESTING:</b>	
Date of receipt of test item .....	2019-11-19
Date (s) of performance of tests..... :	2019-11-22 to 2019-12-11
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	<input type="checkbox"/> <b>Yes</b> <input checked="" type="checkbox"/> <b>Not applicable</b>
<b>When differences exist; they shall be identified in the General product information section.</b>	
<b>Name and address of factory (ies)..... :</b>	Etman Electric(Changzhou)Co., Ltd. 6 Miaoban Road, Lijia District, 213165 Changzhou, Jiangsu Prov., PEOPLE'S REPUBLIC OF CHINA
<b>GENERAL PRODUCT INFORMATION:</b>	
<p><b>Product Description –</b>  This TEST REPORT evaluates the USB parts only.</p> <p>The appliance is a socket with USB ports, electronic components mounted on V-0 PCB, then housed with V-0 plastic enclosure. The appliance needs to be building-in in a concrete wall and installed with skilled person. Circuit breaker with a rated current of 16A shall be provided as part of the building installation.</p> <p>The appliance used indoor for general purpose under dry condition.</p> <p>Maximum ambient temperature (Tma) permitted by the manufacturer's specification is 35°C.</p>	
<p><b>Model Differences –</b>  N/A</p>	
<p><b>Additional application considerations –</b></p> <ul style="list-style-type: none"> <li>- normal conditions <b>N.C.</b> - single fault conditions <b>S.F.C</b></li> <li>- functional insulation <b>FI</b> - basic insulation <b>BI</b></li> <li>- double insulation <b>DI</b> - supplementary insulation <b>SI</b></li> <li>- between parts of opposite polarity BOP - reinforced insulation RI</li> <li>- short circuit <b>SC</b> - open circuit <b>OC</b></li> <li>- overload <b>O/L</b></li> </ul>	

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

### ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:

(Note 1: Identify the following six (6) energy source forms based on the origin of the energy.)

(Note 2: The identified classification e.g., ES2, TS1, should be with respect to its ability to cause pain or injury on the body or its ability to ignite a combustible material. Any energy source can be declared Class 3 as a worse case classification e.g. PS3, ES3.

#### Electrically-caused injury (Clause 5):

(Note: Identify type of source, list sub-assembly or circuit designation and corresponding energy source classification)

Example: +5 V dc input

ES1

Source of electrical energy	Corresponding classification (ES)
-----------------------------	-----------------------------------

All primary circuits	ES3
----------------------	-----

AC Socket	ES3
-----------	-----

USB terminals	ES1
---------------	-----

Plastic enclosure	ES1
-------------------	-----

#### Electrically-caused fire (Clause 6):

(Note: List sub-assembly or circuit designation and corresponding energy source classification)

Example: Battery pack (maximum 85 watts):

PS2

Source of power or PIS	Corresponding classification (PS)
------------------------	-----------------------------------

Primary circuits	PS3
------------------	-----

AC Socket	PS3
-----------	-----

All USB terminals	PS2
-------------------	-----

#### Injury caused by hazardous substances (Clause 7)

(Note: Specify hazardous chemicals, whether produces ozone or other chemical construction not addressed as part of the component evaluation.)

Example: Liquid in filled component

Glycol

Source of hazardous substances	Corresponding chemical
--------------------------------	------------------------

N/A	N/A
-----	-----

#### Mechanically-caused injury (Clause 8)

(Note: List moving part(s), fan, special installations, etc. & corresponding MS classification based on Table 35.)

Example: Wall mount unit

MS2

Source of kinetic/mechanical energy	Corresponding classification (MS)
-------------------------------------	-----------------------------------

N/A	N/A
-----	-----

#### Thermal burn injury (Clause 9)

(Note: Identify the surface or support, and corresponding energy source classification based on type of part, location, operating temperature and contact time in Table 38.)

Example: Hand-held scanner – thermoplastic enclosure

TS1

Source of thermal energy	Corresponding classification (TS)
--------------------------	-----------------------------------

Enclosure surface accessible	TS1
------------------------------	-----

#### Radiation (Clause 10)

(Note: List the types of radiation present in the product and the corresponding energy source classification.)

Example: DVD – Class 1 Laser Product

RS1

Type of radiation	Corresponding classification (RS)
-------------------	-----------------------------------

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

ENERGY SOURCE IDENTIFICATION AND CLASSIFICATION TABLE:	
N/A	N/A

ENERGY SOURCE DIAGRAM
Indicate which energy sources are included in the energy source diagram. Insert diagram below
<p>The diagram shows a central rectangular box representing the device. On the left side, two horizontal lines are labeled 'Line' and 'Neutral'. An upward-pointing arrow connects the 'Line' line to a box labeled 'AC socket (ES3, PS3)'. A downward-pointing arrow connects the 'Neutral' line to a box labeled 'Power supply (ES3, PS3)'. From the bottom of the 'Power supply' box, a large downward-pointing arrow leads to a box labeled 'USB terminal (ES1, PS2)'. To the left of the 'Power supply' box, a box labeled 'Plastic enclosure (TS1)' is shown. Below the diagram, there are five checkboxes, each followed by a label: <input checked="" type="checkbox"/> ES, <input checked="" type="checkbox"/> PS, <input checked="" type="checkbox"/> MS, <input checked="" type="checkbox"/> TS, and <input checked="" type="checkbox"/> RS.</p>
<p><input checked="" type="checkbox"/> ES    <input checked="" type="checkbox"/> PS    <input checked="" type="checkbox"/> MS    <input checked="" type="checkbox"/> TS    <input checked="" type="checkbox"/> RS</p> <p>Remark: All primary circuits were considered as ES3 and PS3</p>

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

OVERVIEW OF EMPLOYED SAFEGUARDS				
Clause	Possible Hazard			
5.1	Electrically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (ES3: Primary Filter circuit)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
Ordinary person Instructed person Skilled person Children likely to be present	ES3: All primary circuits	N/A	N/A	Enclosure, Transformer, Y1-capacitor capacitor; Opto-coupler;
Ordinary person Instructed person Skilled person Children likely to be present	ES1: Terminals, V-0 Plastic enclosure	N/A	N/A	N/A
6.1	Electrically-caused fire			
Material part (e.g. mouse enclosure)	Energy Source (PS2: 100 Watt circuit)	Safeguards		
		Basic	Supplementary	Reinforced
All combustible materials	PS3: All primary circuits PS1: USB port and other terminals	1. No ignition occurred. 2. No parts exceedin g 90% of its spontane ous ignition temperat ure.	1. PCB is complied with V-0 material. 2. All other components: at least V-2 except for mounted on Min. V-1 material or small parts of combustible material. 3. V-0 Plastic enclosure provided.	N/A
7.1	Injury caused by hazardous substances			
Body Part (e.g., skilled)	Energy Source (hazardous material)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
8.1	Mechanically-caused injury			
Body Part (e.g. Ordinary)	Energy Source (MS3: High Pressure Lamp)	Safeguards		
		Basic	Supplementary	Reinforced (Enclosure)
N/A	N/A	N/A	N/A	N/A
9.1	Thermal Burn			
Body Part (e.g., Ordinary)	Energy Source (TS2)	Safeguards		
		Basic	Supplementary	Reinforced

IEC 62368-1				
Clause	Requirement + Test	Result - Remark		Verdict
Ordinary person Instructed person Skilled person Children likely to be present	Enclosure surface accessible (TS1)	N/A	N/A	N/A
10.1	Radiation			
Body Part (e.g., Ordinary)	Energy Source (Output from audio port)	Safeguards		
		Basic	Supplementary	Reinforced
N/A	N/A	N/A	N/A	N/A
Supplementary Information:				
(1) See attached energy source diagram for additional details.				
(2) "N" – Normal Condition; "A" – Abnormal Condition; "S" Single Fault				

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>GENERAL REQUIREMENTS</b>		P
4.1.1	Acceptance of materials, components and subassemblies	(See appended table 4.1.2)	P
4.1.2	Use of components	(See appended table 4.1.2)	P
4.1.3	Equipment design and construction		P
4.1.15	Markings and instructions .....		P
4.4.4	Safeguard robustness		P
4.4.4.2	Steady force tests.....	(See Annex T.5)	P
4.4.4.3	Drop tests.....		N/A
4.4.4.4	Impact tests.....	(See Annex T.6)	P
4.4.4.5	Internal accessible safeguard enclosure and barrier tests .....		N/A
4.4.4.6	Glass Impact tests .....		N/A
4.4.4.7	Thermoplastic material tests .....	(See Annex T.8)	P
4.4.4.8	Air comprising a safeguard .....		P
4.4.4.9	Accessibility and safeguard effectiveness		P
4.5	Explosion		P
4.6	Fixing of conductors		P
4.6.1	Fix conductors not to defeat a safeguard		P
4.6.2	10 N force test applied to .....	Components.	P
4.7	Equipment for direct insertion into mains socket - outlets		N/A
4.7.2	Mains plug part complies with the relevant standard .....		N/A
4.7.3	Torque (Nm).....		N/A
4.8	Products containing coin/button cell batteries	No such components	N/A
4.8.2	Instructional safeguard		N/A
4.8.3	Battery Compartment Construction		N/A
	Means to reduce the possibility of children removing the battery.....		—
4.8.4	Battery Compartment Mechanical Tests .....		N/A
4.8.5	Battery Accessibility		N/A
4.9	Likelihood of fire or shock due to entry of conductive object.....		P

<b>5</b>	<b>ELECTRICALLY-CAUSED INJURY</b>		P
5.2.1	Electrical energy source classifications .....	(See appended table 5.2)	P
5.2.2	ES1, ES2 and ES3 limits	Primary circuits considered as ES3 according to sub-clause 4.2.3	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
5.2.2.2	Steady-state voltage and current .....	(See appended table 5.2)	P
5.2.2.3	Capacitance limits.....	(See sub-clause table 5.5.2.2)	P
5.2.2.4	Single pulse limits .....	No single pulse introduced	N/A
5.2.2.5	Limits for repetitive pulses .....	No repetitive pulses introduced	N/A
5.2.2.6	Ringing signals .....	No means for connection to telephone network and no ringing signal generated	N/A
5.2.2.7	Audio signals .....		N/A
5.3	Protection against electrical energy sources		P
5.3.1	General Requirements for accessible parts to ordinary, instructed and skilled persons		P
5.3.2.1	Accessibility to electrical energy sources and safeguards		P
5.3.2.2	Contact requirements		P
	a) Test with test probe from Annex V .....	Checked by V.1.2 (Figure V.1) and V.1.3 (Figure V.1)	P
	b) Electric strength test potential (V).....		N/A
	c) Air gap (mm) .....	>10.0mm	P
5.3.2.4	Terminals for connecting stripped wire		P
5.4	Insulation materials and requirements		P
5.4.1.2	Properties of insulating material		P
5.4.1.3	Humidity conditioning .....	Comply with 5.4.8	P
5.4.1.4	Maximum operating temperature for insulating materials .....	(See appended table 5.4.1.4)	P
5.4.1.5	Pollution degree .....	Pollution degree 2	—
5.4.1.5.2	Test for pollution degree 1 environment and for an insulating compound		N/A
5.4.1.5.3	Thermal cycling		N/A
5.4.1.6	Insulation in transformers with varying dimensions		N/A
5.4.1.7	Insulation in circuits generating starting pulses		N/A
5.4.1.8	Determination of working voltage		P
5.4.1.9	Insulating surfaces		P
5.4.1.10	Thermoplastic parts on which conductive metallic parts are directly mounted		P
5.4.1.10.2	Vicat softening temperature .....		N/A
5.4.1.10.3	Ball pressure .....	(See appended table 5.4.1.10.3)	P
5.4.2	Clearances		P
5.4.2.2	Determining clearance using peak working voltage	(See appended table 5.4.2.2)	P
5.4.2.3	Determining clearance using required withstand voltage .....	(See appended table 5.4.2.3)	P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) a.c. mains transient voltage..... :	2500Vpeak	—
	b) d.c. mains transient voltage ..... :	No such transient voltage	—
	c) external circuit transient voltage ..... :	No such transient voltage	—
	d) transient voltage determined by measurement .. : :	No need to conduct this test	—
5.4.2.4	Determining the adequacy of a clearance using an electric strength test		N/A
5.4.2.5	Multiplication factors for clearances and test voltages..... :	Assessed for up to 2000m	P
5.4.3	Creepage distances ..... :	(See appended table 5.4.3)	P
5.4.3.1	General		P
5.4.3.3	Material Group ..... :	Material group IIIb is assumed to be used	—
5.4.4	Solid insulation		P
5.4.4.2	Minimum distance through insulation ..... :	T1: Transformer bobbin 0.6mm	P
5.4.4.3	Insulation compound forming solid insulation		P
5.4.4.4	Solid insulation in semiconductor devices	Approved optocoupler used in approved power supply	P
5.4.4.5	Cemented joints		N/A
5.4.4.6	Thin sheet material		P
5.4.4.6.1	General requirements		P
5.4.4.6.2	Separable thin sheet material		P
	Number of layers (pcs) ..... :	Insulation tape wrapped T1: 3 layers	P
5.4.4.6.3	Non-separable thin sheet material		N/A
5.4.4.6.4	Standard test procedure for non-separable thin sheet material..... :		N/A
5.4.4.6.5	Mandrel test		N/A
5.4.4.7	Solid insulation in wound components		N/A
5.4.4.9	Solid insulation at frequencies >30 kHz..... :	No such components	P
5.4.5	Antenna terminal insulation	No such terminal	N/A
5.4.5.1	General		N/A
5.4.5.2	Voltage surge test		N/A
	Insulation resistance (M $\Omega$ ) ..... :		—
5.4.6	Insulation of internal wire as part of supplementary safeguard ..... :		N/A
5.4.7	Tests for semiconductor components and for cemented joints	Approved optocoupler used in power supply	P
5.4.8	Humidity conditioning		P
	Relative humidity (%)..... :	93	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Temperature (°C) .....	25	—
	Duration (h) .....	48	—
5.4.9	Electric strength test .....	(See appended table 5.4.9)	P
5.4.9.1	Test procedure for a solid insulation type test		P
5.4.9.2	Test procedure for routine tests		N/A
5.4.10	Protection against transient voltages between external circuit	No transient voltage from external circuit	N/A
5.4.10.1	Parts and circuits separated from external circuits		N/A
5.4.10.2	Test methods		N/A
5.4.10.2.1	General		N/A
5.4.10.2.2	Impulse test.....		N/A
5.4.10.2.3	Steady-state test .....		N/A
5.4.11	Insulation between external circuits and earthed circuitry.....		N/A
5.4.11.1	Exceptions to separation between external circuits and earth		N/A
5.4.11.2	Requirements		N/A
	Rated operating voltage $U_{op}$ (V) .....		—
	Nominal voltage $U_{peak}$ (V) .....		—
	Max increase due to variation $U_{sp}$ .....		—
	Max increase due to ageing $\Delta U_{sa}$ .....		—
	$U_{op} = U_{peak} + \Delta U_{sp} + \Delta U_{sa}$ .....		—
5.5	Components as safeguards		
5.5.1	General		P
5.5.2	Capacitors and RC units	Approved capacitors were used	P
5.5.2.1	General requirement		P
5.5.2.2	Safeguards against capacitor discharge after disconnection of a connector .....	(See appended table 5.5.2.2)	P
5.5.3	Transformers	Transformer comply with G.5.3	P
5.5.4	Optocouplers	Approved optocoupler was used	P
5.5.5	Relays	No such components	N/A
5.5.6	Resistors	No such components	N/A
5.5.7	SPD's	No such components	N/A
5.5.7.1	Use of an SPD connected to reliable earthing		N/A
5.5.7.2	Use of an SPD between mains and protective earth		N/A
5.5.8	Insulation between the mains and external circuit consisting of a coaxial cable .....		N/A
5.6	Protective conductor		

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Clause	Requirement + Test	Result - Remark	Verdict
5.6.2	Requirement for protective conductors	Class I equipment	P
5.6.2.1	General requirements		P
5.6.2.2	Colour of insulation	Metal plate	P
5.6.3	Requirement for protective earthing conductors		P
	Protective earthing conductor size (mm <sup>2</sup> ) .....		—
5.6.4	Requirement for protective bonding conductors		N/A
5.6.4.1	Protective bonding conductors		N/A
	Protective bonding conductor size (mm <sup>2</sup> ). .....		—
	Protective current rating (A) .....		—
5.6.4.3	Current limiting and overcurrent protective devices		N/A
5.6.5	Terminals for protective conductors		N/A
5.6.5.1	Requirement		N/A
	Conductor size (mm <sup>2</sup> ), nominal thread diameter (mm). .....		N/A
5.6.5.2	Corrosion		N/A
5.6.6	Resistance of the protective system		P
5.6.6.1	Requirements		P
5.6.6.2	Test Method Resistance ( $\Omega$ ) .....	(See appended table 5.6.6.2)	P
5.6.7	Reliable earthing		N/A
5.7	Prospective touch voltage, touch current and protective conductor current		P
5.7.2	Measuring devices and networks		P
5.7.2.1	Measurement of touch current .....	(See appended table 5.2)	P
5.7.2.2	Measurement of prospective touch voltage	(See appended table 5.7.2.2)	P
5.7.3	Equipment set-up, supply connections and earth connections		P
	System of interconnected equipment (separate connections/single connection) .....	Single equipment	—
	Multiple connections to mains (one connection at a time/simultaneous connections) .....	Single connection	—
5.7.4	Earthed conductive accessible parts .....	Class I equipment	N/A
5.7.5	Protective conductor current		N/A
	Supply Voltage (V) .....		—
	Measured current (mA) .....		—
	Instructional Safeguard .....		N/A
5.7.6	Prospective touch voltage and touch current due to external circuits		N/A
5.7.6.1	Touch current from coaxial cables		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
5.7.6.2	Prospective touch voltage and touch current from external circuits		N/A
5.7.7	Summation of touch currents from external circuits		N/A
	a) Equipment with earthed external circuits Measured current (Ma) .....		N/A
	b) Equipment whose external circuits are not referenced to earth. Measured current (Ma) .....		N/A

<b>6</b>	<b>ELECTRICALLY- CAUSED FIRE</b>		P
6.2	Classification of power sources (PS) and potential ignition sources (PIS)		P
6.2.2	Power source circuit classifications		P
6.2.2.1	General	Internal primary circuits considered as PS3 without test.	P
6.2.2.2	Power measurement for worst-case load fault ... :	(See appended table 6.2.2)	P
6.2.2.3	Power measurement for worst-case power source fault .....	(See appended table 6.2.2)	P
6.2.2.4	PS1 .....		N/A
6.2.2.5	PS2 .....	(See appended table 6.2.2)	P
6.2.2.6	PS3 .....	Internal primary circuits considered as PS3 without test.	P
6.2.3	Classification of potential ignition sources		P
6.2.3.1	Arcing PIS .....	(See appended table 6.2.3.1)	P
6.2.3.2	Resistive PIS .....	(See appended table 6.2.3.2)	P
6.3	Safeguards against fire under normal operating and abnormal operating conditions		P
6.3.1 (a)	No ignition and attainable temperature value less than 90 % defined by ISO 871 or less than 300 °C for unknown materials .....	(See appended table 5.4.1.4, 6.3.2, 9.0, B.2.6)	P
6.3.1 (b)	Combustible materials outside fire enclosure		N/A
6.4	Safeguards against fire under single fault conditions		P
6.4.1	Safeguard Method	Control fire spread.	P
6.4.2	Reduction of the likelihood of ignition under single fault conditions in PS1 circuits		N/A
6.4.3	Reduction of the likelihood of ignition under single fault conditions in PS2 and PS3 circuits		N/A
6.4.3.1	General		N/A
6.4.3.2	Supplementary Safeguards		N/A
	Special conditions if conductors on printed boards are opened or peeled		N/A
6.4.3.3	Single Fault Conditions .....		N/A
	Special conditions for temperature limited by fuse		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.4.4	Control of fire spread in PS1 circuits		N/A
6.4.5	Control of fire spread in PS2 circuits		P
6.4.5.2	Supplementary safeguards .....		N/A
6.4.6	Control of fire spread in PS3 circuit	- Wire and tubing comply with IEC 60332-1 and IEC 60695-11-21; - PCB: V-0 material used; - Fire enclosure: V-0 plastic	P
6.4.7	Separation of combustible materials from a PIS	No combustible materials	N/A
6.4.7.1	General.....		N/A
6.4.7.2	Separation by distance		N/A
6.4.7.3	Separation by a fire barrier		N/A
6.4.8	Fire enclosures and fire barriers		P
6.4.8.1	Fire enclosure and fire barrier material properties	V-0 Plastic enclosure	P
6.4.8.2.1	Requirements for a fire barrier		N/A
6.4.8.2.2	Requirements for a fire enclosure	V-0 Plastic enclosure	P
6.4.8.3	Constructional requirements for a fire enclosure and a fire barrier		P
6.4.8.3.1	Fire enclosure and fire barrier openings	See below	P
6.4.8.3.2	Fire barrier dimensions		N/A
6.4.8.3.3	Top Openings in Fire Enclosure: dimensions (mm) .....	No opening after installation	P
	Needle Flame test		N/A
6.4.8.3.4	Bottom Openings in Fire Enclosure, condition met a), b) and/or c) dimensions (mm) .....	No opening after installation	P
	Flammability tests for the bottom of a fire enclosure .....		N/A
6.4.8.3.5	Integrity of the fire enclosure, condition met: a), b) or c) .....	No door or cover	N/A
6.4.8.4	Separation of PIS from fire enclosure and fire barrier distance (mm) or flammability rating .....	The fire enclosure is made of V-0 plastic material	P
6.5	Internal and external wiring		P
6.5.1	Requirements		P
6.5.2	Cross-sectional area (mm <sup>2</sup> ) .....	(See appended table 4.1.2)	—
6.5.3	Requirements for interconnection to building wiring .....		N/A
6.6	Safeguards against fire due to connection to additional equipment	(See appended table Annex Q.1)	P
	External port limited to PS2 or complies with Clause Q.1	(See appended table Annex Q.1)	P
<b>7</b>	<b>INJURY CAUSED BY HAZARDOUS SUBSTANCES</b>		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.2	Reduction of exposure to hazardous substances		N/A
7.3	Ozone exposure		N/A
7.4	Use of personal safeguards (PPE)		N/A
	Personal safeguards and instructions .....		—
7.5	Use of instructional safeguards and instructions		N/A
	Instructional safeguard (ISO 7010) .....		—
7.6	Batteries..... :		N/A

<b>8</b>	<b>MECHANICALLY-CAUSED INJURY</b>		N/A
8.1	General		N/A
8.2	Mechanical energy source classifications		N/A
8.3	Safeguards against mechanical energy sources		N/A
8.4	Safeguards against parts with sharp edges and corners		N/A
8.4.1	Safeguards		N/A
8.5	Safeguards against moving parts	No such components	N/A
8.5.1	MS2 or MS3 part required to be accessible for the function of the equipment		N/A
8.5.2	Instructional Safeguard .....		—
8.5.4	Special categories of equipment comprising moving parts		N/A
8.5.4.1	Large data storage equipment		N/A
8.5.4.2	Equipment having electromechanical device for destruction of media		N/A
8.5.4.2.1	Safeguards and Safety Interlocks .....		N/A
8.5.4.2.2	Instructional safeguards against moving parts		N/A
	Instructional Safeguard .....		—
8.5.4.2.3	Disconnection from the supply		N/A
8.5.4.2.4	Probe type and force (N) .....		N/A
8.5.5	High Pressure Lamps		N/A
8.5.5.1	Energy Source Classification		N/A
8.5.5.2	High Pressure Lamp Explosion Test .....		N/A
8.6	Stability		N/A
8.6.1	Product classification		N/A
	Instructional Safeguard .....		—
8.6.2	Static stability		N/A
8.6.2.2	Static stability test		N/A
	Applied Force .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
8.6.2.3	Downward Force Test		N/A
8.6.3	Relocation stability test		N/A
	Unit configuration during 10° tilt .....		—
8.6.4	Glass slide test		N/A
8.6.5	Horizontal force test (Applied Force) .....		N/A
	Position of feet or movable parts.....		—
8.7	Equipment mounted to wall or ceiling		N/A
8.7.1	Mounting Means (Length of screws (mm) and mounting surface) .....		N/A
8.7.2	Direction and applied force .....		N/A
8.8	Handles strength		N/A
8.8.1	Classification		N/A
8.8.2	Applied Force .....		N/A
8.9	Wheels or casters attachment requirements		N/A
8.9.1	Classification		N/A
8.9.2	Applied force .....		—
8.10	Carts, stands and similar carriers		N/A
8.10.1	General		N/A
8.10.2	Marking and instructions		N/A
	Instructional Safeguard .....		—
8.10.3	Cart, stand or carrier loading test and compliance		N/A
	Applied force .....		—
8.10.4	Cart, stand or carrier impact test		N/A
8.10.5	Mechanical stability		N/A
	Applied horizontal force (N) .....		—
8.10.6	Thermoplastic temperature stability (°C) .....		N/A
8.11	Mounting means for rack mounted equipment		N/A
8.11.1	General		N/A
8.11.2	Product Classification		N/A
8.11.3	Mechanical strength test, variable <i>N</i> .....		N/A
8.11.4	Mechanical strength test 250N, including end stops		N/A
8.12	Telescoping or rod antennas .....		N/A
	Button/Ball diameter (mm).....		—
<b>9</b>	<b>THERMAL BURN INJURY</b>		<b>P</b>
9.2	Thermal energy source classifications	TS1	P
9.3	Safeguard against thermal energy sources		P

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Clause	Requirement + Test	Result - Remark	Verdict
9.4	Requirements for safeguards		P
9.4.1	Equipment safeguard	Enclosure provided to limit the transfer of thermal energy of internal parts under normal operating conditions and abnormal operating conditions.	P
9.4.2	Instructional safeguard .....		N/A


<b>10</b>	<b>RADIATION</b>		N/A
10.2	Radiation energy source classification		N/A
10.2.1	General classification		N/A
10.3	Protection against laser radiation		N/A
	Laser radiation that exists equipment:		—
	Normal, abnormal, single-fault .....		N/A
	Instructional safeguard .....		—
	Tool.....		—
10.4	Protection against visible, infrared, and UV radiation		N/A
10.4.1	General		N/A
10.4.1.a)	RS3 for Ordinary and instructed persons .....		N/A
10.4.1.b)	RS3 accessible to a skilled person.....		N/A
	Personal safeguard (PPE) instructional safeguard .....		—
10.4.1.c)	Equipment visible, IR, UV does not exceed RS1. :		N/A
10.4.1.d)	Normal, abnormal, single-fault conditions .....		N/A
10.4.1.e)	Enclosure material employed as safeguard is opaque .....		N/A
10.4.1.f)	UV attenuation .....		N/A
10.4.1.g)	Materials resistant to degradation UV .....		N/A
10.4.1.h)	Enclosure containment of optical radiation .....		N/A
10.4.1.i)	Exempt Group under normal operating conditions.....		N/A
10.4.2	Instructional safeguard .....		N/A
10.5	Protection against x-radiation		N/A
10.5.1	X- radiation energy source that exists equipment :		N/A
	Normal, abnormal, single fault conditions		N/A
	Equipment safeguards.....		N/A
	Instructional safeguard for skilled person .....		N/A
10.5.3	Most unfavourable supply voltage to give maximum radiation .....		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Abnormal and single-fault condition .....		N/A
	Maximum radiation (Pa/kg) .....		N/A
10.6	Protection against acoustic energy sources		N/A
10.6.1	General		N/A
10.6.2	Classification		N/A
	Acoustic output, Db(A) .....		N/A
	Output voltage, unweighted r.m.s. ....		N/A
10.6.4	Protection of persons		N/A
	Instructional safeguards .....		N/A
	Equipment safeguard prevent ordinary person to RS2 .....		—
	Means to actively inform user of increase sound pressure .....		—
	Equipment safeguard prevent ordinary person to RS2 .....		—
10.6.5	Requirements for listening devices (headphones, earphones, etc.)		N/A
10.6.5.1	Corded passive listening devices with analog input		N/A
	Input voltage with 94 Db(A) $L_{Aeq}$ acoustic pressure output .....		—
10.6.5.2	Corded listening devices with digital input		N/A
	Maximum Db(A) .....		—
10.6.5.3	Cordless listening device		N/A
	Maximum Db(A) .....		—

<b>B</b>	<b>NORMAL OPERATING CONDITION TESTS, ABNORMAL OPERATING CONDITION TESTS AND SINGLE FAULT CONDITION TESTS</b>		P
B.2	Normal Operating Conditions		P
B.2.1	General requirements .....	(See general product information and appended test tables)	P
	Audio Amplifiers and equipment with audio amplifiers .....		N/A
B.2.3	Supply voltage and tolerances		P
B.2.5	Input test .....	(See appended table B.2.5)	P
B.3	Simulated abnormal operating conditions		N/A
B.3.1	General requirements .....		N/A
B.3.2	Covering of ventilation openings		N/A
B.3.3	D.C. mains polarity test	A.C. mains supply only	N/A
B.3.4	Setting of voltage selector .....	No such voltage selector	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
B.3.5	Maximum load at output terminals .....	(See appended table B.3.5)	P
B.3.6	Reverse battery polarity	No such components	N/A
B.3.7	Abnormal operating conditions as specified in Clause E.2.		N/A
B.3.8	Safeguards functional during and after abnormal operating conditions		N/A
B.4	Simulated single fault conditions		P
B.4.2	Temperature controlling device open or short-circuited .....	(See appended table B.4)	P
B.4.3	Motor tests	No such components	N/A
B.4.3.1	Motor blocked or rotor locked increasing the internal ambient temperature .....		N/A
B.4.4	Short circuit of functional insulation		P
B.4.4.1	Short circuit of clearances for functional insulation	(See appended table B.4)	P
B.4.4.2	Short circuit of creepage distances for functional insulation	(See appended table B.4)	P
B.4.4.3	Short circuit of functional insulation on coated printed boards		P
B.4.5	Short circuit and interruption of electrodes in tubes and semiconductors	(See appended table B.4)	P
B.4.6	Short circuit or disconnect of passive components	(See appended table B.4)	P
B.4.7	Continuous operation of components	(See appended table B.4)	N/A
B.4.8	Class 1 and Class 2 energy sources within limits during and after single fault conditions		P
B.4.9	Battery charging under single fault conditions .....		P
<b>C</b>	<b>UV RADIATION</b>		N/A
C.1	Protection of materials in equipment from UV radiation	No UV within the equipment	N/A
C.1.2	Requirements		N/A
C.1.3	Test method		N/A
C.2	UV light conditioning test		N/A
C.2.1	Test apparatus		N/A
C.2.2	Mounting of test samples		N/A
C.2.3	Carbon-arc light-exposure apparatus		N/A
C.2.4	Xenon-arc light exposure apparatus		N/A
<b>D</b>	<b>TEST GENERATORS</b>		N/A
D.1	Impulse test generators		N/A
D.2	Antenna interface test generator		N/A
D.3	Electronic pulse generator		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
<b>E</b>	<b>TEST CONDITIONS FOR EQUIPMENT CONTAINING AUDIO AMPLIFIERS</b>		N/A
E.1	Audio amplifier normal operating conditions		N/A
	Audio signal voltage (V)..... :		—
	Rated load impedance ( $\Omega$ ) ..... :		
E.2	Audio amplifier abnormal operating conditions		N/A
<b>F</b>	<b>EQUIPMENT MARKINGS, INSTRUCTIONS, AND INSTRUCTIONAL SAFEGUARDS</b>		P
F.1	General requirements		P
	Instructions – Language ..... :	English	—
F.2	Letter symbols and graphical symbols		P
F.2.1	Letter symbols according to IEC60027-1		P
F.2.2	Graphic symbols IEC, ISO or manufacturer specific		P
F.3	Equipment markings		P
F.3.1	Equipment marking locations	Located on the external enclosure surface	P
F.3.2	Equipment identification markings		P
F.3.2.1	Manufacturer identification ..... :	See copy of marking plate	—
F.3.2.2	Model identification ..... :	See copy of marking plate	—
F.3.3	Equipment rating markings	See copy of marking plate	P
F.3.3.1	Equipment with direct connection to mains		P
F.3.3.2	Equipment without direct connection to mains		N/A
F.3.3.3	Nature of supply voltage..... :	AC	—
F.3.3.4	Rated voltage..... :	See copy of marking plate	—
F.3.3.4	Rated frequency..... :	See copy of marking plate	—
F.3.3.6	Rated current or rated power..... :	See copy of marking plate	—
F.3.3.7	Equipment with multiple supply connections	No multiple supply connection	N/A
F.3.4	Voltage setting device	No such features	N/A
F.3.5	Terminals and operating devices		P
F.3.5.1	Mains appliance outlet and socket-outlet markings ..... :	See copy of marking plate	P
F.3.5.2	Switch position identification marking ..... :	No such features	N/A
F.3.5.3	Replacement fuse identification and rating markings ..... :	Non-replaceable	P
F.3.5.4	Replacement battery identification marking..... :		N/A
F.3.5.5	Terminal marking location	See copy of marking plate	P
F.3.6	Equipment markings related to equipment classification		P
F.3.6.1	Class I Equipment	Class I Equipment	P

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Clause	Requirement + Test	Result - Remark	Verdict
F.3.6.1.1	Protective earthing conductor terminal	 used	P
F.3.6.1.2	Neutral conductor terminal		N/A
F.3.6.1.3	Protective bonding conductor terminals	No marking	P
F.3.6.2	Class II equipment (IEC60417-5172)	No such features	N/A
F.3.6.2.1	Class II equipment with or without functional earth		N/A
F.3.6.2.2	Class II equipment with functional earth terminal marking	No such features	N/A
F.3.7	Equipment IP rating marking .....		—
F.3.8	External power supply output marking	See copy of marking plate	P
F.3.9	Durability, legibility and permanence of marking		P
F.3.10	Test for permanence of markings	The marking withstands required tests.	P
F.4	Instructions		P
	a) Equipment for use in locations where children not likely to be present – marking	Children likely to be present	N/A
	b) Instructions given for installation or initial use		P
	c) Equipment intended to be fastened in place		P
	d) Equipment intended for use only in restricted access area		N/A
	e) Audio equipment terminals classified as ES3 and other equipment with terminals marked in accordance F.3.6.1		N/A
	f) Protective earthing employed as safeguard	Permanent connection	N/A
	g) Protective earthing conductor current exceeding ES2 limits		N/A
	h) Symbols used on equipment		N/A
	i) Permanently connected equipment not provided with all-pole mains switch		P
	j) Replaceable components or modules providing safeguard function	Non-replaceable	N/A
F.5	Instructional safeguards		N/A
	Where “instructional safeguard” is referenced in the test report it specifies the required elements, location of marking and/or instruction		N/A
<b>G</b>	<b>COMPONENTS</b>		P
<b>G.1</b>	<b>Switches</b>		N/A
G.1.1	General requirements	No such components	N/A
G.1.2	Ratings, endurance, spacing, maximum load		N/A
<b>G.2</b>	<b>Relays</b>		N/A
G.2.1	General requirements	No such components	N/A
G.2.2	Overload test		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.2.3	Relay controlling connectors supply power		N/A
G.2.4	Mains relay, modified as stated in G.2		N/A
<b>G.3</b>	<b>Protection Devices</b>		P
G.3.1	Thermal cut-offs	No such components	N/A
G.3.1.1a) &b)	Thermal cut-outs separately approved according to IEC 60730 with conditions indicated in a) & b)		N/A
G.3.1.1c)	Thermal cut-outs tested as part of the equipment as indicated in c)		N/A
G.3.1.2	Thermal cut-off connections maintained and secure		N/A
G.3.2	Thermal links		N/A
G.3.2.1a)	Thermal links separately tested with IEC 60691	No such components	N/A
G.3.2.1b)	Thermal links tested as part of the equipment		N/A
	Aging hours (H) .....		—
	Single Fault Condition .....		—
	Test Voltage (V) and Insulation Resistance ( $\Omega$ ) ..		—
G.3.3	PTC Thermistors		N/A
G.3.4	Overcurrent protection devices		N/A
G.3.5	Safeguards components not mentioned in G.3.1 to G.3.5		P
G.3.5.1	Non-resettable devices suitably rated and marking provided	Fuse resistor FR1 2W 4.7R	P
G.3.5.2	Single faults conditions.....	(See append table B.4)	P
<b>G.4</b>	<b>Connectors</b>		P
G.4.1	Spacings		P
G.4.2	Mains connector configuration .....	Permanently connection	P
G.4.3	Plug is shaped that insertion into mains socket-outlets or appliance coupler is unlikely		P
<b>G.5</b>	<b>Wound Components</b>		P
G.5.1	Wire insulation in wound components.....		P
G.5.1.2 a)	Two wires in contact inside wound component, angle between 45° and 90°	Protection against mechanical stress was provided	P
G.5.1.2 b)	Construction subject to routine testing		N/A
G.5.2	Endurance test on wound components		N/A
G.5.2.1	General test requirements		N/A
G.5.2.2	Heat run test		N/A
	Time (s) .....		—
	Temperature (°C) .....		—
G.5.2.3	Wound Components supplied by mains		N/A
<b>G.5.3</b>	<b>Transformers</b>		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.5.3.1	Requirements applied (IEC61204-7, IEC61558-1/-2, and/or IEC62368-1)..... :	EN 62368-1 requirements followed	P
	Position..... :	T1 used in equipment	—
	Method of protection ..... :	See G.5.3.3 & G5.3.2	—
G.5.3.2	Insulation		P
	Protection from displacement of windings ..... :	Fixed by bobbin and insulation tape	—
G.5.3.3	Overload test..... :	(See append table B.4)	P
G.5.3.3.1	Test conditions		P
G.5.3.3.2	Winding Temperatures testing in the unit		P
G.5.3.3.3	Winding Temperatures – Alternative test method		N/A
<b>G.5.4</b>	<b>Motors</b>		N/A
G.5.4.1	General requirements		N/A
	Position ..... :	No such components	—
G.5.4.2	Test conditions		N/A
G.5.4.3	Running overload test		N/A
G.5.4.4	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
G.5.4.5	Running overload test for d.c. motors in secondary circuits		N/A
G.5.4.5.2	Tested in the unit		N/A
	Electric strength test (V) ..... :		—
G.5.4.5.3	Tested on the Bench – Alternative test method; test time (h) ..... :		N/A
	Electric strength test (V) ..... :		—
G.5.4.6	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
G.5.4.6.2	Tested in the unit		N/A
	Maximum Temperature ..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.6.3	Tested on the bench – Alternative test method; test time (h)..... :		N/A
	Electric strength test (V) ..... :		N/A
G.5.4.7	Motors with capacitors		N/A
G.5.4.8	Three-phase motors		N/A
G.5.4.9	Series motors		N/A
	Operating voltage ..... :		—
<b>G.6</b>	<b>Wire Insulation</b>		P
G.6.1	General		P

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.6.2	Solvent-based enamel wiring insulation		N/A
<b>G.7</b>	<b>Mains supply cords</b>		N/A
G.7.1	General requirements		N/A
	Type .....		—
	Rated current (A).....		—
	Cross-sectional area (mm <sup>2</sup> ), (AWG).....		—
G.7.2	Compliance and test method		N/A
G.7.3	Cord anchorages and strain relief for non-detachable power supply cords		N/A
G.7.3.2	Cord strain relief		N/A
G.7.3.2.1	Requirements		N/A
	Strain relief test force (N).....		—
G.7.3.2.2	Strain relief mechanism failure		N/A
G.7.3.2.3	Cord sheath or jacket position, distance (mm) ... :		—
G.7.3.2.4	Strain relief comprised of polymeric material		N/A
G.7.4	Cord Entry.....		N/A
G.7.5	Non-detachable cord bend protection		N/A
G.7.5.1	Requirements		N/A
G.7.5.2	Mass (g) .....		—
	Diameter (m) .....		—
	Temperature (°C) .....		—
G.7.6	Supply wiring space		N/A
G.7.6.2	Stranded wire		N/A
G.7.6.2.1	Test with 8 mm strand		N/A
<b>G.8</b>	<b>Varistors</b>		N/A
G.8.1	General requirements	No such components	N/A
G.8.2	Safeguard against shock		N/A
G.8.3	Safeguard against fire		N/A
G.8.3.2	Varistor overload test .....		N/A
G.8.3.3	Temporary overvoltage.....		N/A
<b>G.9</b>	<b>Integrated Circuit (IC) Current Limiters</b>		N/A
G.9.1 a)	Manufacturer defines limit at max. 5A.	No such components	N/A
G.9.1 b)	Limiters do not have manual operator or reset		N/A
G.9.1 c)	Supply source does not exceed 250 VA .....		—
G.9.1 d)	IC limiter output current (max. 5A) .....		—
G.9.1 e)	Manufacturers' defined drift .....		—
G.9.2	Test Program 1		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
G.9.3	Test Program 2		N/A
G.9.4	Test Program 3		N/A
<b>G.10</b>	<b>Resistors</b>		N/A
G.10.1	General requirements	No such components	N/A
G.10.2	Resistor test		N/A
G.10.3	Test for resistors serving as safeguards between the mains and an external circuit consisting of a coaxial cable		N/A
G.10.3.1	General requirements		N/A
G.10.3.2	Voltage surge test		N/A
G.10.3.3	Impulse test		N/A
<b>G.11</b>	<b>Capacitor and RC units</b>		P
G.11.1	General requirements		P
G.11.2	Conditioning of capacitors and RC units	Approved CY1, CY2 used	P
G.11.3	Rules for selecting capacitors		P
<b>G.12</b>	<b>Optocouplers</b>		P
	Optocouplers comply with IEC 60747-5-5:2007 Spacing or Electric Strength Test (specify option and test results)..... :	Approved U2 used	P
	Type test voltage $V_{ini}$ .....	(See appended table 4.1.2)	—
	Routine test voltage, $V_{ini,b}$ .....	(See appended table 4.1.2)	—
<b>G.13</b>	<b>Printed boards</b>		P
G.13.1	General requirements		P
G.13.2	Uncoated printed boards		P
G.13.3	Coated printed boards		N/A
G.13.4	Insulation between conductors on the same inner surface		N/A
	Compliance with cemented joint requirements (Specify construction)..... :		—
G.13.5	Insulation between conductors on different surfaces		N/A
	Distance through insulation .....		N/A
	Number of insulation layers (pcs) .....		—
G.13.6	Tests on coated printed boards		N/A
G.13.6.1	Sample preparation and preliminary inspection		N/A
G.13.6.2a)	Thermal conditioning		N/A
G.13.6.2b)	Electric strength test		N/A
G.13.6.2c)	Abrasion resistance test		N/A
<b>G.14</b>	<b>Coating on components terminals</b>		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
G.14.1	Requirements .....	No such components	N/A
<b>G.15</b>	<b>Liquid filled components</b>		N/A
G.15.1	General requirements	No such components	N/A
G.15.2	Requirements		N/A
G.15.3	Compliance and test methods		N/A
G.15.3.1	Hydrostatic pressure test		N/A
G.15.3.2	Creep resistance test		N/A
G.15.3.3	Tubing and fittings compatibility test		N/A
G.15.3.4	Vibration test		N/A
G.15.3.5	Thermal cycling test		N/A
G.15.3.6	Force test		N/A
G.15.4	Compliance		N/A
<b>G.16</b>	<b>IC including capacitor discharge function (ICX)</b>		N/A
a)	Humidity treatment in accordance with sc5.4.8 – 120 hours	No such components	N/A
b)	Impulse test using circuit 2 with $U_c =$ to transient voltage .....		N/A
C1)	Application of ac voltage at 110% of rated voltage for 2.5 minutes		N/A
C2)	Test voltage .....		—
D1)	10,000 cycles on and off using capacitor with smallest capacitance resistor with largest resistance specified by manufacturer		N/A
D2)	Capacitance .....		—
D3)	Resistance .....		—
<b>H</b>	<b>CRITERIA FOR TELEPHONE RINGING SIGNALS</b>		N/A
H.1	General	No such features	N/A
H.2	Method A		N/A
H.3	Method B		N/A
H.3.1	Ringling signal		N/A
H.3.1.1	Frequency (Hz) .....		—
H.3.1.2	Voltage (V) .....		—
H.3.1.3	Cadence; time (s) and voltage (V) .....		—
H.3.1.4	Single fault current (Ma): .....		—
H.3.2	Tripping device and monitoring voltage.....		N/A
H.3.2.1	Conditions for use of a tripping device or a monitoring voltage complied with		N/A
H.3.2.2	Tripping device		N/A
H.3.2.3	Monitoring voltage (V) .....		—

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
<b>J</b>	<b>INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION</b>		P
	General requirements	UL approved.	P
<b>K</b>	<b>SAFETY INTERLOCKS</b>		N/A
K.1	General requirements		N/A
K.2	Components of safety interlock safeguard mechanism .....		N/A
K.3	Inadvertent change of operating mode		N/A
K.4	Interlock safeguard override		N/A
K.5	Fail-safe		N/A
	Compliance.....:		N/A
K.6	Mechanically operated safety interlocks		N/A
K.6.1	Endurance requirement		N/A
K.6.2	Compliance and Test method.....:		N/A
K.7	Interlock circuit isolation		N/A
K.7.1	Separation distance for contact gaps & interlock circuit elements (type and circuit location) .....		N/A
K.7.2	Overload test, Current (A) .....		N/A
K.7.3	Endurance test		N/A
K.7.4	Electric strength test .....		N/A
<b>L</b>	<b>DISCONNECT DEVICES</b>		N/A
L.1	General requirements		N/A
L.2	Permanently connected equipment		N/A
L.3	Parts that remain energized		N/A
L.4	Single phase equipment		N/A
L.5	Three-phase equipment		N/A
L.6	Switches as disconnect devices		N/A
L.7	Plugs as disconnect devices		N/A
L.8	Multiple power sources		N/A
<b>M</b>	<b>EQUIPMENT CONTAINING BATTERIES AND THEIR PROTECTION CIRCUITS</b>		N/A
M.1	General requirements		N/A
M.2	Safety of batteries and their cells		N/A
M.2.1	Requirements		N/A
M.2.2	Compliance and test method (identify method) .. :		N/A
M.3	Protection circuits		N/A
M.3.1	Requirements		N/A
M.3.2	Tests		N/A
	- Overcharging of a rechargeable battery		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
M.3.3	Compliance ..... :		N/A
M.4	Additional safeguards for equipment containing secondary lithium battery		N/A
M.4.1	General		N/A
M.4.2	Charging safeguards		N/A
M.4.2.1	Charging operating limits		N/A
M.4.2.2a)	Charging voltage, current and temperature..... :		—
M.4.2.2 b)	Single faults in charging circuitry ..... :		—
M.4.3	Fire Enclosure		N/A
M.4.4	Endurance of equipment containing a secondary lithium battery		N/A
M.4.4.2	Preparation		N/A
M.4.4.3	Drop and charge/discharge function tests		N/A
	Drop		N/A
	Charge		N/A
	Discharge		N/A
M.4.4.4	Charge-discharge cycle test		N/A
M.4.4.5	Result of charge-discharge cycle test		N/A
M.5	Risk of burn due to short circuit during carrying		N/A
M.5.1	Requirement		N/A
M.5.2	Compliance and Test Method (Test of P.2.3)		N/A
M.6	Prevention of short circuits and protection from other effects of electric current		N/A
M.6.1	Short circuits		N/A
M.6.1.1	General requirements		N/A
M.6.1.2	Test method to simulate an internal fault		N/A
M.6.1.3	Compliance (Specify M.6.1.2 or alternative method) ..... :		N/A
M.6.2	Leakage current (Ma) ..... :		N/A
M.7	Risk of explosion from lead acid and NiCd batteries		N/A
M.7.1	Ventilation preventing explosive gas concentration		N/A
M.7.2	Compliance and test method		N/A
M.8	Protection against internal ignition from external spark sources of lead acid batteries		N/A

IEC 62368-1			
Clause	Requirement + Test	Result - Remark	Verdict
M.8.1	General requirements		N/A
M.8.2	Test method		N/A
M.8.2.1	General requirements		N/A
M.8.2.2	Estimation of hypothetical volume $V_z$ (m <sup>3</sup> /s) ..... :		—
M.8.2.3	Correction factors..... :		—
M.8.2.4	Calculation of distance $d$ (mm) ..... :		—
M.9	Preventing electrolyte spillage		N/A
M.9.1	Protection from electrolyte spillage		N/A
M.9.2	Tray for preventing electrolyte spillage		N/A
M.10	Instructions to prevent reasonably foreseeable misuse (Determination of compliance: inspection, data review; or abnormal testing) ..... :		N/A
<b>N</b>	<b>ELECTROCHEMICAL POTENTIALS</b>		<b>P</b>
	Metal(s) used..... :	Iron	—
<b>O</b>	<b>MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES</b>		<b>P</b>
	Figures O.1 to O.20 of this Annex applied ..... :	Considered	—
<b>P</b>	<b>SAFEGUARDS AGAINST ENTRY OF FOREIGN OBJECTS AND SPILLAGE OF INTERNAL LIQUIDS</b>		<b>P</b>
P.1	General requirements	Consider as P.2.2	P
P.2.2	Safeguards against entry of foreign object		P
	Location and Dimensions (mm) ..... :	No opening after installation	—
P.2.3	Safeguard against the consequences of entry of foreign object		N/A
P.2.3.1	Safeguards against the entry of a foreign object		N/A
	Openings in transportable equipment	Not transportable equipment	N/A
	Transportable equipment with metalized plastic parts ..... :		N/A
P.2.3.2	Openings in transportable equipment in relation to metallized parts of a barrier or enclosure (identification of supplementary safeguard) ..... :	Not transportable equipment	N/A
P.3	Safeguards against spillage of internal liquids		N/A
P.3.1	General requirements		N/A
P.3.2	Determination of spillage consequences		N/A
P.3.3	Spillage safeguards		N/A
P.3.4	Safeguards effectiveness		N/A
P.4	Metallized coatings and adhesive securing parts		N/A
P.4.2 a)	Conditioning testing		N/A
	T <sub>c</sub> (°C)..... :		—
	T <sub>r</sub> (°C)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Ta (°C)..... :		—
P.4.2 b)	Abrasion testing .....		N/A
P.4.2 c)	Mechanical strength testing..... :		N/A
<b>Q</b>	<b>CIRCUITS INTENDED FOR INTERCONNECTION WITH BUILDING WIRING</b>		<b>P</b>
Q.1	Limited power sources		P
Q.1.1 a)	Inherently limited output		N/A
Q.1.1 b)	Impedance limited output		P
	- Regulating network limited output under normal operating and simulated single fault condition	USB port (See appended table Annex Q.1)	P
Q.1.1 c)	Overcurrent protective device limited output		N/A
Q.1.1 d)	IC current limiter complying with G.9		N/A
Q.1.2	Compliance and test method		N/A
Q.2	Test for external circuits – paired conductor cable		N/A
	Maximum output current (A) .....		—
	Current limiting method .....		—
<b>R</b>	<b>LIMITED SHORT CIRCUIT TEST</b>		<b>N/A</b>
R.1	General requirements		N/A
R.2	Determination of the overcurrent protective device and circuit		N/A
R.3	Test method Supply voltage (V) and short-circuit current (A). .....		N/A
<b>S</b>	<b>TESTS FOR RESISTANCE TO HEAT AND FIRE</b>		<b>N/A</b>
S.1	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power does not exceed 4 000 W		N/A
	Samples, material .....		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	- Material not consumed completely		N/A
	- Material extinguishes within 30s		N/A
	- No burning of layer or wrapping tissue		N/A
S.2	Flammability test for fire enclosure and fire barrier integrity		N/A
	Samples, material .....		—
	Wall thickness (mm)..... :		—
	Conditioning (°C)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Test flame according to IEC 60695-11-5 with conditions as set out		N/A
	Test specimen does not show any additional hole		N/A
S.3	Flammability test for the bottom of a fire enclosure		N/A
	Samples, material .....		—
	Wall thickness (mm).....		—
	Cheesecloth did not ignite		N/A
S.4	Flammability classification of materials		N/A
S.5	Flammability test for fire enclosures and fire barrier materials of equipment where the steady state power exceeding 4 000 W		N/A
	Samples, material .....		—
	Wall thickness (mm).....		—
	Conditioning (test condition), (°C).....		—
	Test flame according to IEC 60695-11-20 with conditions as set out		N/A
	After every test specimen was not consumed completely		N/A
	After fifth flame application, flame extinguished within 1 min		N/A
<b>T</b>	<b>MECHANICAL STRENGTH TESTS</b>		P
T.1	General requirements		P
T.2	Steady force test, 10 N .....	(See appended table T.2)	P
T.3	Steady force test, 30 N .....		N/A
T.4	Steady force test, 100 N .....		N/A
T.5	Steady force test, 250 N .....	(See appended table T.5)	P
T.6	Enclosure impact test	(See appended table T.6)	P
	Fall test		P
	Swing test		P
T.7	Drop test .....		N/A
T.8	Stress relief test .....	(See appended table T.8)	P
T.9	Impact Test (glass)		N/A
T.9.1	General requirements		N/A
T.9.2	Impact test and compliance		N/A
	Impact energy (J).....		—
	Height (m) .....		—
T.10	Glass fragmentation test .....		N/A
T.11	Test for telescoping or rod antennas		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Torque value (Nm) .....		—
<b>U</b>	<b>MECHANICAL STRENGTH OF CATHODE RAY TUBES (CRT) AND PROTECTION AGAINST THE EFFECTS OF IMPLOSION</b>		N/A
U.1	General requirements		N/A
U.2	Compliance and test method for non-intrinsically protected CRTs		N/A
U.3	Protective Screen .....		N/A
<b>V</b>	<b>DETERMINATION OF ACCESSIBLE PARTS (FINGERS, PROBES AND WEDGES)</b>		P
V.1	Accessible parts of equipment		P
V.2	Accessible part criterion		P

4.1.2	TABLE: List of critical components					P
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Standard	Mark(s) of conformity <sup>1</sup>	
Plastic enclosure	CHI MEI CORPORATION	PC-6600(Y)(a)	Min. 1.5mm, V-0, 120°C	UL 94 UL 746	UL E56070	
Insulation Barrier	CHI MEI CORPORATION	PC-6600(Y)(a)	Min. 1.0mm, V-0, 120°C	UL 94 UL 746	UL E56070	
Fusing resistor (FR1)	Shenzhen Great Electronics Co. Ltd.	RXF	4.7ohm, 2W	DIN EN 60065 (VDE 0860):2015-11 clause 14.2 b); EN 60065:2014 ANSI/UL 1412 EN 62368-1	VDE 40026608 UL E301541 Test with equipment	
L1	Changzhou Feiyang Electronic Tech-electron co.,LTD	T9X5X3	220uH	EN 62368-1	Test with equipment	
- Magnet wire	DONGGUAN YIDA INDUSTRIAL CO LTD	xUEW/155, QA- x/155	155°C	UL 1446	UL E344055	
-Alt.	ZHEJIANG HONGBO TECHNOLOGY CO LTD	xUEW/155, QA- x/155	155°C	UL 1446	UL E221719	
-Triple insulation wire	SUZHOU YUSHENG ELECTRONIC CO LTD	TIW-B	Reinforced 130°C	UL 2353	UL E332529	
-Alt.	SHENZHEN KAIZHONG HEDONG NEW MATERIALS CO LTD	TIW-B	Reinforced 130°C	UL 2353	UL E357240	
Transformer (T1)	CHANGXING HUAQIANG ELECTRON CO LTD	ELE703AX 18W HQ	Class B	EN 62368-1	Test with equipment	
- Insulation System	CHANGXING HUAQIANG ELECTRON CO LTD	HQ-130	Class B	UL 1446	UL E491669	
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375HF	Min. thickness: 0.43mm, V-0, 150°C	UL 746C UL 94	UL E59481	
-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (c)(g)	130°C	UL 510A	UL E165111	

-Varnish	YUEYANG GREEN TECHNOLOGY CO LTD	JX-1150	130°C	UL 1446	UL E328930
-Magnet wire	CHANGZHOU NEW DISTRICT DAYI ELECTRICAL MATERIAL CO LTD	xUEW	155°C	UL 1446	UL E314752
-Insulation tube	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-S	600V, 200°C	UL 224	UL E180908
-Triple insulation secondary winding wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C; Reinforced	UL 2353	UL E206440
-Alt. Transformer (T1)	HY TECHNOLOGY CO., LTD.	ELE763AX	Class B	EN 62368-1	Test with equipment
-Bobbin	SUMITOMO BAKELITE CO LTD	PM-9820	Min. thickness: 0.51mm, V-0, 150°C	UL 746C UL 94	UL E41429
-Insulation tape	3M COMPANY ELECTRICAL MARKETS DIV (EMD)	1350F-1	130°C	UL 510A	UL E17385
-Varnish	JOHN C DOLPH CO	BC-346A	130°C	UL 1446	UL E317427
-Magnet wire	SHANGHAI ASIA PACIFIC ELECTRIC CO LTD	UEW	155°C (MW 79-C)	UL 1446	UL E214423
-Insulation tube	GREAT HOLDING INDUSTRIAL CO LTD	TFS	600V, 200°C	UL 224	UL E156256
-Triple insulation secondary winding wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C; Reinforced	UL 2353	UL E206440
-Alt. Transformer (T1)	Changzhou Feiyang Electronic Tech-electron co., LTD	ELE703AX 18W HQ	Class B	EN 62368-1	Test with equipment
- Insulation System	CHANGZHOU FEIYANG ELECTRONIC TECHNOLOGY CO LTD	FY-01	Class B	UL 1446	UL E491778
-Bobbin	CHANG CHUN PLASTICS CO LTD	T375HF	Min. thickness: 0.43mm, V-0, 150°C	UL 746C UL 94	UL E59481

-Insulation tape	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	CT* (c)(g)	130°C	UL 510A	UL E165111
-Alt.	JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO LTD	WF* (c)(h)	130°C	UL 510A	UL E165111
-Varnish	YUEYANG GREEN TECHNOLOGY CO LTD	JX-1150*	130°C	UL 1446	UL E303754
-Magnet wire	CHANGZHOU NEW DISTRICT DAYI ELECTRICAL MATERIAL CO LTD	xUEW	155°C	UL 1446	UL E344055
-Insulation tube	CHANGYUAN ELECTRONICS GROUP CO LTD	CB-TT-S	600V, 200°C	UL 224	UL E180908
-Triple insulation secondary winding wire	FURUKAWA ELECTRIC CO LTD	TEX-E	130°C; Reinforced	UL 2353	UL E206440
Y capacitor (CY1, CY2)	JYH HSU (JEC) ELECTRONICS LTD	JD	Max. 470pF; 250VAC, Y1, 125°C	IEC 60384- 14:2013/AMD1: 2016	VDE 40038642
Optocoupler (U2)	Everlight Electronics Co., Ltd.	EL101XV	Double protection, Maximum transient isolation voltage 8000Vac. Maximum operating temperature 110°C. External creepage and clearance Input- output: ≥ 8.1 mm; dT <sub>i</sub> measured > 0.4 mm	IEC 60747-5- 5:2007/AMD1:2 013 DIN EN 60747- 5-5 (0884- 5):2015-11; EN 60747-5- 5:2011; A1:2015	VDE 40028391
Insulation sheet	SUZHOU OMAI OPTICAL MATERIALS CO LTD	SE42B	80°C, V-0, Min 0.25mm thickness	UL 94 UL 746	UL E249605
Silicone Rubber	DAEHEUNG CHEMICAL CO LTD	SR-9000	105°C, V-0, Min 3.0mm thickness	UL 94 UL 746	UL E239734
PCB	SHENZHEN JIA LI CHUANG TECHNOLOGY DEVELOPMENT CO LTD	JLC-1	V-0, 130°C	UL 94, UL 796	UL E479892

-Alt.	JIANGXI ZHONG XIN HUA ELECTRONICS INDUSTRY CO LTD	ZXH-1	V-0, 130°C	UL 94, UL 796	UL E331298
-Alt.	SHENZHEN PINGTAI CIRCUIT BOARD CO LTD	PT-M	V-0, 130°C	UL 94, UL 796	UL E344059
-Alt.	Interchangeable	Interchangeable	Min. V-0, 130°C	UL 94, UL 796	UL
Supplementary information:					
1) Provided evidence ensures the agreed level of compliance. See OD-CB2039.					
2) Description line content is optional. Main line description needs to clearly detail the component used for testing					

4.8.4, 4.8.5	<b>TABLE: Lithium coin/button cell batteries mechanical tests</b>			N/A
<b>(The following mechanical tests are conducted in the sequence noted.)</b>				
4.8.4.2	<b>TABLE: Stress Relief test</b>			—
	<b>Part</b>	<b>Material</b>	<b>Oven Temperature (°C)</b>	<b>Comments</b>
4.8.4.3	<b>TABLE: Battery replacement test</b>			—
	Battery part no..... :			—
	Battery Installation/withdrawal		Battery Installation/Removal Cycle	Comments
			1	
			2	
			3	
4.8.4.4	<b>TABLE: Drop test</b>			—
	<b>Impact Area</b>	<b>Drop Distance</b>	<b>Drop No.</b>	<b>Observations</b>
			1	
4.8.4.5	<b>TABLE: Impact</b>			—
	<b>Impacts per surface</b>	<b>Surface tested</b>	<b>Impact energy (Nm)</b>	<b>Comments</b>
4.8.4.6	<b>TABLE: Crush test</b>			—
	<b>Test position</b>	<b>Surface tested</b>	<b>Crushing Force (N)</b>	<b>Duration force applied (s)</b>
Supplementary information:				

4.8.5	<b>TABLE: Lithium coin/button cell batteries mechanical test result</b>			N/A
	<b>Test position</b>	<b>Surface tested</b>	<b>Force (N)</b>	<b>Duration force applied (s)</b>
Supplementary information:				

5.2	<b>Table: Classification of electrical energy sources</b>						P
5.2.2.2 – Steady State Voltage and Current conditions							
No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				U (Vrms or Vpk)	I (Apk or Arms)	Hz	
1	253VAC	All primary circuits	Normal	--	--	--	ES3 (Declaration)
2	253VAC	Plastic enclosure	Normal	--	0.013mApk	--	ES1

3	253VAC	Plastic enclosure	FR1 opened	--	0.013mApk	--	ES1
4	253VAC	USB port	Normal	144Vpk	0.040mApk	--	ES1
5	253VAC	USB port	FR1 opened	232Vpk	0.043mApk	--	ES1
6	253VAC	USB port	CY1 SC	168Vpk	0.079mApk	--	ES1

## 5.2.2.3 – Capacitance Limits

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters		ES Class
				Capacitance, Nf	Upk (V)	
--	--	--	Normal	--	--	--
			Abnormal	--	--	
			Single fault – SC/OC	--	--	

## 5.2.2.4 – Single Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Duration (ms)	Upk (V)	Ipk (Ma)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

## 5.2.2.5 – Repetitive Pulses

No.	Supply Voltage	Location (e.g. circuit designation)	Test conditions	Parameters			ES Class
				Off time (ms)	Upk (V)	Ipk (Ma)	
--	--	--	Normal	--	--	--	--
			Abnormal	--	--	--	
			Single fault – SC/OC	--	--	--	

## Test Conditions:

Normal – Test with rated output current.

Abnormal – Test with max. output current.

Supplementary information: SC=Short Circuit, OC=Open Circuit

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P	
	Supply voltage (V) .....	207V 50Hz	207V 50Hz	253V 50Hz	253V 50Hz	—	
	Ambient T <sub>min</sub> (°C) .....	-	-	-	-	—	
	Ambient T <sub>max</sub> (°C) .....	See below	See below	See below	See below	—	
	T <sub>ma</sub> (°C) .....	See below	See below	See below	See below	—	
Maximum measured temperature T of part/at:	T (°C)					Allowed T <sub>max</sub> (°C)	
	Plug holder	64.2	76.6	64.3	76.4	120	
L1 coil	74.0	86.4	73.2	85.3	130		
PCB near Q5	102.3	114.7	105.9	118.0	130		
CE1 body	73.3	85.7	72.3	84.4	105		
T1 coil	95.7	108.1	97.3	109.4	110		
T1 core	90.4	102.8	91.9	104.0	110		
CY2 body	66.5	78.9	67.2	79.3	125		
U2 body	81.2	93.6	82.3	94.4	110		
PCB near Q1	90.7	103.1	92.4	104.5	130		
Internal plastic enclosure under T1	67.5	79.9	68.5	80.6	120		
External plastic enclosure	31.1	33.5 (Adjust to 25°C)	31.0	33.1 (Adjust to 25°C)	77		
Ambient	24.8	Shift= 35.0	22.9	35.0	-		
Supplementary information: The limit value of the winding was reduced by 10°C since the temperature was measured by thermocouples. The product transmits data by Ethernet port continuously. Test loaded: 12Vdc, 1.5A; Socket out: 16A							
Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
Supplementary information: Note 1: T <sub>ma</sub> should be considered as directed by applicable requirement Note 2: T <sub>ma</sub> is not included in assessment of Touch Temperatures (Clause 9)							

5.4.1.4, 6.3.2, 9.0, B.2.6	TABLE: Temperature measurements					P	
	Supply voltage (V) .....	207V 50Hz	207V 50Hz	253V 50Hz	253V 50Hz	—	
	Ambient T <sub>min</sub> (°C) .....	-	-	-	-	—	
	Ambient T <sub>max</sub> (°C) .....	See below	See below	See below	See below	—	
	T <sub>ma</sub> (°C) .....	See below	See below	See below	See below	—	
Maximum measured temperature T of part/at:		T (°C)				Allowed T <sub>max</sub> (°C)	
Plug holder		66.1	78.3	66.3	78.7	120	
L1 coil		75.1	87.3	74.1	86.5	130	
PCB near Q5		104.3	116.5	108.5	120.9	130	
CE1 body		74.7	86.9	73.4	85.8	105	
T1 coil		88.6	100.8	91.3	103.7	110	
T1 core		86.4	98.4	88.7	101.1	110	
CY2 body		69.5	81.7	70.1	82.5	125	
U2 body		84.4	96.6	85.4	97.8	100	
PCB near Q1		97.3	109.5	99.0	111.4	130	
Internal plastic enclosure under T1		69.9	82.1	70.5	82.9	120	
External plastic enclosure		33.5	35.7 (Adjust to 25°C)	33.4	35.8 (Adjust to 25°C)	77	
Ambient		22.8	Shift= 35.0	22.6	35.0	-	
Supplementary information: The limit value of the winding was reduced by 10°C since the temperature was measured by thermocouples. The product transmits data by Ethernet port continuously. Test loaded: 9Vdc, 2.0A; Socket out: 16A							
Temperature T of winding:	t <sub>1</sub> (°C)	R <sub>1</sub> (Ω)	t <sub>2</sub> (°C)	R <sub>2</sub> (Ω)	T (°C)	Allowed T <sub>max</sub> (°C)	Insulation class
Supplementary information: Note 1: T <sub>ma</sub> should be considered as directed by applicable requirement Note 2: T <sub>ma</sub> is not included in assessment of Touch Temperatures (Clause 9)							

5.4.1.10.3	TABLE: Ball pressure test of thermoplastics			P
Allowed impression diameter (mm) .....	≤ 2 mm			—
Object/Part No./Material	Manufacturer/trademark	Test temperature (°C)	Impression diameter (mm)	
Bottom enclosure	CHI MEI CORPORATION	125	0.9mm	
Supplementary information: N/A				

5.4.2.2, 5.4.2.4 and 5.4.3	TABLE: Minimum Clearances/Creepage distance						P
Clearance (cl) and creepage distance (cr) at/of/between:	Up (V)	U r.m.s. (V)	Frequency (kHz) <sup>1</sup>	Required cl (mm)	cl (mm) <sup>2</sup>	Required <sup>3</sup> cr (mm)	cr (mm)
Across mains Fuse resistor ( BI)	326	230	50Hz	1.3	4.4	3.0	4.4
Across Line and Neutral( BI)	326	230	50Hz	1.3	7.6	3.0	7.6
CY1 ( BI / SI)	505	244	<30	1.3	3.3	3.0	3.3
CY2 ( SI / BI)	505	244	<30	1.3	4.3	3.0	>4.3
Optocoupler primary to secondary( RI)	505	244	<30	2.6	7.2	5.5	7.2
Primary to Secondary under PCB( RI)	505	244	<30	2.6	5.7	5.5	5.7
T1 Primary to Secondary under PCB ( RI)	505	244	<30	2.6	>8.0	5.5	>8.0
T1 core to Secondary under PCB ( RI)	505	244	<30	2.6	5.6	5.5	5.6
Supplementary information: Minimum Clearances distances in table 5.4.2.3 should also be met. Note 1: BI: basic insulation; SI: supplementary insulation; DI: double insulation; RI: reinforced insulation; Note 2: Ferrite core of transformer considered as primary live part.							

5.4.2.3	TABLE: Minimum Clearances distances using required withstand voltage			P
	Overvoltage Category (OV):			III
	Pollution Degree:			2
Clearance distanced between:	Required withstand voltage	Required cl (mm)	Measured cl (mm)	
Across mains Fuse resistor ( BI)	4000Vpeak	3.0	4.4	
Across Line and Neutral( BI)	4000Vpeak	3.0	7.6	
CY1 ( BI / SI)	4000Vpeak	3.0	3.3	
CY2 ( SI / BI)	4000Vpeak	3.0	4.3	
Optocoupler primary to secondary( RI)	4000Vpeak	5.5	7.2	
Primary to Secondary under PCB( RI)	4000Vpeak	5.5	5.7	
T1 Primary to Secondary under PCB ( RI)	4000Vpeak	5.5	>8.0	
T1 core to Secondary under PCB ( RI)	4000Vpeak	5.5	5.6	
Supplementary information: Note 1: BI: basic insulation; SI: supplementary insulation; DI: double insulation; RI: reinforced insulation; Note 2: Ferrite core of transformer considered as primary live part.				

5.4.2.4	TABLE: Clearances based on electric strength test			N/A
Test voltage applied between:	Required cl	Test voltage (kV)	Breakdown	

	(mm)	peak/ r.m.s. / d.c.	Yes / No
Supplementary information:			

5.4.4.2, 5.4.4.5 c) 5.4.4.9	TABLE: Distance through insulation measurements					P
Distance through insulation di at/of:	Peak voltage (V)	Frequency (kHz)	Material	Required DTI (mm)	DTI (mm)	
T1 bobbin of power supply board	505	<30	plastic	Min. 0.4	0.6	
Supplementary information: N/A						

5.4.9	TABLE: Electric strength tests			P
Test voltage applied between:	Voltage shape (AC, DC)	Test voltage (V)	Breakdown Yes / No	
Basic:				
Line to neutral( Without Fuse resistor)	DC	4000	No	
L/N – Earth Pin	DC	4000	No	
Reinforced:				
L/N – Secondary circuits	DC	6000	No	
T1 Primary and secondary pin	DC	6000	No	
T1 Secondary pin and core	DC	6000	No	
Triple insulation wire	DC	6000	No	
Supplementary information:				

5.5.2.2	TABLE: Stored discharge on capacitors					N/A
Supply Voltage (V), Hz	Test Location	Operating Condition (N, S)	Switch position On or off	Measured Voltage (after 2 seconds)	ES Classification	
--	--	--	--	--	--	
Supplementary information:						
X-capacitors installed for testing are:						
<input type="checkbox"/> bleeding resistor rating:						
<input type="checkbox"/> ICX:						
Notes:						
A. Test Location:						
Phase to Neutral; Phase to Phase; Phase to Earth; and/or Neutral to Earth						
B. Operating condition abbreviations:						
N – Normal operating condition (e.g., normal operation, or open fuse);						
S –Single fault condition						

5.6.6.2	TABLE: Resistance of protective conductors and terminations				P
Accessible part	Test current (A)	Duration (min)	Voltage drop (V)	Resistance ( $\Omega$ )	
Earthing entry terminal to farthest earthing Pin	32A	2	0.128V	0.004 $\Omega$	
Supplementary information:					

5.7.2.2, 5.7.4	TABLE: Earthed accessible conductive part		P
Supply voltage .....			—
Location	Test conditions specified in 6.1 of IEC 60990 or Fault Condition No in IEC 60990 clause 6.2.2.1 through 6.2.2.8, except for 6.2.2.7		Touch current (mA)
Earthing Pin	1		0.056mA <sub>p</sub> k
	2*		-
	3		-
	4		-
	5		-
	6		-
	8		-
Supplementary Information:			
Notes:			
[1] Supply voltage is the anticipated maximum Touch Voltage			
[2] Earthed neutral conductor [Voltage differences less than 1% or more]			
[3] Specify method used for measurement as described in IEC 60990 sub-clause 4.3			
[4] IEC60990, sub-clause 6.2.2.7, Fault 7 not applicable.			
[5] (*) IEC60990, sub-clause 6.2.2.2 is not applicable if switch or disconnect device (e.g., appliance coupler) provided.			

6.2.2	Table: Electrical power sources (PS) measurements for classification				P
Source	Description	Measurement	Max Power after 3 s	Max Power after 5 s <sup>*</sup> )	PS Classification
A	All primary and AC outlet circuits	Power (W) :	--	--	PS3 (Declaration)
		V <sub>A</sub> (V) :	--	--	
		I <sub>A</sub> (A) :	--	--	
		V <sub>A</sub> (V) :	--	--	
		I <sub>A</sub> (A) :	--	--	
B	USB port (5Vdc output) (Normal)	Power (W) :	--	16.08W	PS2
		V <sub>A</sub> (V) :	--	5.24Vd.c.	
		I <sub>A</sub> (A) :	--	3.46A	

		V <sub>A</sub> (V) :	--	--	
		I <sub>A</sub> (A) :	--	--	
C	USB port (9Vdc output) (Normal)	Power (W) :	--	23.21W	PS2
		V <sub>A</sub> (V) :	--	9.14Vd.c.	
		I <sub>A</sub> (A) :	--	2.7A	
		V <sub>A</sub> (V) :	--	--	
		I <sub>A</sub> (A) :	--	--	
D	USB port (12Vdc output) (Normal)	Power (W) :	--	24.03W	PS2
		V <sub>A</sub> (V) :	--	12.14Vd.c.	
		I <sub>A</sub> (A) :	--	2.05A	
		V <sub>A</sub> (V) :	--	--	
		I <sub>A</sub> (A) :	--	--	
E	USB port (Single fault**)	Power (W) :	--	--	PS1
		V <sub>A</sub> (V) :	0	--	
		I <sub>A</sub> (A) :	--	--	
		V <sub>A</sub> (V) :	--	--	
		I <sub>A</sub> (A) :	--	--	

Supplementary Information:

(\*) Measurement taken only when limits at 5 seconds exceed PS2 limits

**Single fault\*\*:** U2 pin1-2 shorted, U2 pin3-4 shorted, U2 pin1 opened, U2 pin3 opened, R7 shorted, R23 shorted, R26 shorted: Unit shutdown.

6.2.3.1	Table: Determination of Potential Ignition Sources (Arcing PIS)				P
Location	Open circuit voltage After 3 s (V <sub>p</sub> )	Measured r.m.s current (I <sub>rms</sub> )	Calculated value (V <sub>p</sub> × I <sub>rms</sub> )	Arcing PIS? Yes / No	
All circuits	--	--	--	Yes	

Supplementary information:

An Arcing PIS requires a minimum of 50 V (peak) a.c. or d.c. An Arcing PIS is established when the product of the open circuit voltage (V<sub>p</sub>) and normal operating condition rms current (I<sub>rms</sub>) is greater than 15.

6.2.3.2	Table: Determination of Potential Ignition Sources (Resistive PIS)				P
Circuit Location (x-y)	Operating Condition (Normal / Describe Single Fault)	Measured wattage or VA During first 30 s (W / VA)	Measured wattage or VA After 30 s (W / VA)	Protective Circuit, Regulator, or PTC Operated? Yes / No (Comment)	Resistive PIS? Yes/No
All circuits	--	--	--	--	Yes

## Supplementary Information:

A combination of voltmeter, VA and ammeter IA may be used instead of a wattmeter.

If a separate voltmeter and ammeter are used, the product of (VA x IA) is used to determine Resistive PIS classification.

A Resistive PIS: (a) dissipates more than 15 W, measured after 30 s of normal operation, or (b) under single fault conditions has either a power exceeding 100 W measured immediately after the introduction of the fault if electronic circuits, regulators or PTC devices are used, or has an available power exceeding 15 W measured 30 s after introduction of the fault.

8.5.5	TABLE: High Pressure Lamp		N/A
Description	Values	Energy Source Classification	
Lamp type.....:		—	
Manufacturer.....:		—	
Cat no.....:		—	
Pressure (cold) (MPa) .....		MS_	
Pressure (operating) (MPa) .....		MS_	
Operating time (minutes) .....		—	
Explosion method.....:		—	
Max particle length escaping enclosure (mm) .:		MS_	
Max particle length beyond 1 m (mm) .....		MS_	
Overall result .....			
Supplementary information:			

B.2.5	TABLE: Input test						P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status
207V/50Hz	16.18	--	3330.5	--	FR1	--	USB loaded 5Vdc, 3.0A; Socket out: 16A
230V/50Hz	16.17	16	3698.4	--	FR1	--	USB loaded 5Vdc, 3.0A; Socket out: 16A
253V/50Hz	16.16	--	4066.4	--	FR1	--	USB loaded 5Vdc, 3.0A; Socket out: 16A
207V/50Hz	16.20	--	3332.7	--	FR1	--	USB loaded 9Vdc, 2.0A; Socket out: 16A
230V/50Hz	16.19	16	3700.7	--	FR1	--	USB loaded 9Vdc, 2.0A; Socket out: 16A
253V/50Hz	16.18	--	4068.7	--	FR1	--	USB loaded 9Vdc, 2.0A; Socket out: 16A
207V/50Hz	16.20	--	3332.6	--	FR1	--	USB loaded 12Vdc, 1.5A; Socket out: 16A
230V/50Hz	16.18	16	3700.6	--	FR1	--	USB loaded 12Vdc, 1.5A; Socket out: 16A
253V/50Hz	16.17	--	4068.6	--	FR1	--	USB loaded 12Vdc, 1.5A; Socket out: 16A

<b>B.2.5</b>	<b>TABLE: Input test</b>							P
U (V)	I (A)	I rated (A)	P (W)	P rated (W)	Fuse No	I fuse (A)	Condition/status	
Supplementary information: The product normal operation.								

<b>B.3</b>	<b>TABLE: Abnormal operating condition tests</b>							P
Ambient temperature (°C) .....					See below		—	
Power source for EUT: Manufacturer, model/type, output rating ...:					--		—	
Component No.	Abnormal Condition	Supply voltage, (V)	Test time (h)	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
USB output: 9Vdc	Overload	253	4h27min	FR1	--	--	T1 coil: 132.8°C, T1 core: 122.5°C, CY2 body: 90.5°C, U2 body: 111.4°C, External plastic enclosure: 37.6°C, Ambient: 22.8°C.	USB output shutdown when USB output current increase to 2.65A, no damaged, no hazards. Max. Input current: 16.22A
USB output: 12Vdc	Overload	253	4hr53min	FR1	--	--	T1 coil: 126.8°C, T1 core: 118.1°C, CY2 body: 84.7°C, U2 body: 105.7°C, External plastic enclosure: 35.6°C, Ambient: 23.0°C.	USB output shutdown when USB output current increase to 2.05A, no damaged, no hazards. Max. Input current: 16.23A
USB output	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.02A
Supplementary information: - overload <b>O/L</b> Test table is provided to record abnormal and fault conditions for all applicable energy sources including Thermal burn injury. Column "Abnormal/Fault." Specify if test condition by indicating "Abnormal" then the condition for a Clause B.3 test or "Single Fault" then the condition for Clause B.4.								

<b>B.4</b>	<b>TABLE: Fault condition tests</b>	P
------------	-------------------------------------	---

Ambient temperature (°C) .....					See below			—
Power source for EUT: Manufacturer, model/type, output rating ..					--			—
Component No.	Fault Condition	Supply voltage, (V)	Test time	Fuse no.	Fuse current, (A)	T-couple	Temp. (°C)	Observation
T1 Pin OUT+ to LB	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
T1 Pin 2-4	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
T1 Pin 3-5	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
Q1 Pin G-S	Shorted	253	10min	FR1	--	--	--	Normal operation, no damaged, no hazards. Input current: 16.17A
U2 Pin1-2	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
U2 Pin3-4	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
U2 Pin1	Opened	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
U2 Pin3	Opened	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A

R7	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
Q5 Pin G-S	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
Q5 Pin D-S	Shorted	253	1s	FR1	--	--	--	Fuse resistor* opened immediately, no hazards. Input current: 16.0A
Q5 Pin G-D	Shorted	253	10min	FR1	--	--	--	USB output shutdown, no damaged, no hazards. Input current: 16.01A
BD1 pin 2 to pin 1	Shorted	253	1s	FR1	--	--	--	Fuse resistor* opened immediately, no hazards. Input current: 16.0A
CE1	Shorted	253	1s	FR1	--	--	--	Fuse resistor* opened immediately, no hazards. Input current: 16.0A

Supplementary information:  
 - short circuit SC; - open circuit OC; - overload O/L  
 Fuse resistor\*: Fuse resistor, test repeated for 10 times obtain with same result.

<b>Annex M</b>	<b>TABLE: Batteries</b>								N/A	
The tests of Annex M are applicable only when appropriate battery data is not available										
Is it possible to install the battery in a reverse polarity position?..... :										
	Non-rechargeable batteries			Rechargeable batteries						
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging		
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	
--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	
Test results:								Verdict		
- Chemical leaks										

- Explosion of the battery		
- Emission of flame or expulsion of molten metal		
- Electric strength tests of equipment after completion of tests		
Supplementary information:		

Annex M.4		Table: Additional safeguards for equipment containing secondary lithium batteries				N/A
Battery/Cell No.	Test conditions	Measurements			Observation	
		U	I (A)	Temp (C)		
	Normal					
	Abnormal					
	Single fault –SC/OC					
Supplementary Information:						
Battery identification	Charging at T <sub>lowest</sub> (°C)	Observation	Charging at T <sub>highest</sub> (°C)	Observation		
Supplementary Information:						

Annex Q.1		TABLE: Circuits intended for interconnection with building wiring (LPS)				P
Note: Measured UOC (V) with all load circuits disconnected:						
Output Circuit	Components	U <sub>oc</sub> (V)	I <sub>sc</sub> (A)		S (VA)	
			Meas.	Limit	Meas.	Limit
USB port (5Vdc output)	--	5.24Vdc	3.46	8	16.09	100
USB port (9Vdc output)	--	9.14Vdc	2.70	8	23.21	100
USB port (12Vdc output)	--	12.14Vdc	2.05	8	24.03	100
USB port	Single fault**	0	0	8	0	100
Supplementary Information: SC=Short circuit, OC=Open circuit <b>Single fault**:</b> U2 pin1-2 shorted, U2 pin3-4 shorted, U2 pin1 opened, U2 pin3 opened, R7 shorted, R23 shorted, R26 shorted: Unit shutdown.						

T.2, T.3, T.4, T.5		TABLE: Steady force test				P
Part/Location	Material	Thickness (mm)	Force (N)	Test Duration (sec)	Observation	

Enclosure	Plastic	1.5mm	250	5	Intact, no creaking
Internal components	--	--	10	5	Intact, no creaking
Supplementary information:					

<b>T.6, T.9</b>	<b>TABLE: Impact tests</b>				<b>P</b>
Part/Location	Material	Thickness (mm)	Vertical distance (mm)	Observation	
Enclosure	Plastic	1.5mm	1300	Intact, no creaking	
Supplementary information:					

<b>T.7</b>	<b>TABLE: Drop tests</b>				<b>N/A</b>
Part/Location	Material	Thickness (mm)	Drop Height (mm)	Observation	
--	--	--	--	--	
Supplementary information: N/A					

<b>T.8</b>	<b>TABLE: Stress relief test</b>				<b>P</b>
Part/Location	Material	Thickness (mm)	Oven Temperature (°C)	Duration (h)	Observation
Whole unit	Plastic	1.5mm	92.9	7	Intact, no creaking
Supplementary information: N/A					



# Attachment No. 1

IEC62368_1B - ATTACHMENT																																							
Clause	Requirement + Test	Result - Remark	Verdict																																				
<b>ATTACHMENT TO TEST REPORT</b> <b>IEC 62368-1</b> <b>EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES</b> (Audio/video, information and communication technology equipment - Part 1: Safety requirements)																																							
<b>Differences according to</b> .....: EN 62368-1:2014+A11:2017																																							
<b>Attachment Form No</b> .....: EU_GD_IEC62368_1B_II																																							
<b>Attachment Originator</b> .....: Nemko AS																																							
<b>Master Attachment</b> .....: Date 2017-09-22																																							
<b>Copyright © 2017 IEC System for Conformity Testing and Certification of Electrical Equipment (IECEE), Geneva, Switzerland. All rights reserved.</b>																																							
<b>CENELEC COMMON MODIFICATIONS (EN)</b>																																							
	Clauses, subclauses, notes, tables, figures and annexes which are additional to those in IEC 62368-1:2014 are prefixed "Z".		P																																				
CONTENTS	<b>Add</b> the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations Annex ZD (informative) IEC and CENELEC code designations for flexible cords		P																																				
	<b>Delete</b> all the "country" notes in the reference document (IEC 62368-1:2014) according to the following list: <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 15%;">0.2.1</td> <td style="width: 15%;">Note</td> <td style="width: 15%;">1</td> <td style="width: 15%;">Note 3</td> <td style="width: 15%;">4.1.15</td> <td style="width: 15%;">Note</td> </tr> <tr> <td>4.7.3</td> <td>Note 1 and 2</td> <td>5.2.2.2</td> <td>Note</td> <td>5.4.2.3.2.2 Table 13</td> <td>Note c</td> </tr> <tr> <td>5.4.2.3.2.4</td> <td>Note 1 and 3</td> <td>5.4.2.5</td> <td>Note 2</td> <td>5.4.5.1</td> <td>Note</td> </tr> <tr> <td>5.5.2.1</td> <td>Note</td> <td>5.5.6</td> <td>Note</td> <td>5.6.4.2.1</td> <td>Note 2 and 3</td> </tr> <tr> <td>5.7.5</td> <td>Note</td> <td>5.7.6.1</td> <td>Note 1 and 2</td> <td>10.2.1 Table 39</td> <td>Note 2, 3 and 4</td> </tr> <tr> <td>10.5.3</td> <td>Note 2</td> <td>10.6.2.1</td> <td>Note 3</td> <td>F.3.3.6</td> <td>Note 3</td> </tr> </tbody> </table>		0.2.1	Note	1	Note 3	4.1.15	Note	4.7.3	Note 1 and 2	5.2.2.2	Note	5.4.2.3.2.2 Table 13	Note c	5.4.2.3.2.4	Note 1 and 3	5.4.2.5	Note 2	5.4.5.1	Note	5.5.2.1	Note	5.5.6	Note	5.6.4.2.1	Note 2 and 3	5.7.5	Note	5.7.6.1	Note 1 and 2	10.2.1 Table 39	Note 2, 3 and 4	10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3	P
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10.5.3	Note 2	10.6.2.1	Note 3	F.3.3.6	Note 3																																		
	For special national conditions, see Annex ZB.		P																																				
1	<b>Add</b> the following note: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2011/65/EU.		N/A																																				



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
4.Z1	<p><b>Add</b> the following new subclause after 4.9:</p> <p>To protect against excessive current, short-circuits and earth faults in circuits connected to an a.c. <b>mains</b>, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of B.3.1 and B.4 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for <b>pluggable equipment type B</b> or <b>permanently connected equipment</b>, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for <b>pluggable equipment type A</b> the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A
5.4.2.3.2.4	<p><b>Add</b> the following to the end of this subclause:</p> <p>The requirement for interconnection with <b>external circuit</b> is in addition given in EN 50491-3:2009.</p>		N/A
10.2.1	<p>Add the following to <sup>c)</sup> and <sup>d)</sup> in table 39:</p> <p>For additional requirements, see 10.5.1.</p>		N/A
10.5.1	<p><b>Add</b> the following after the first paragraph:</p> <p><i>For RS 1 compliance is checked by measurement under the following conditions:</i></p> <p><i>In addition to the normal operating conditions, all controls adjustable from the outside by hand, by any object such as a tool or a coin, and those internal adjustments or presets which are not locked in a reliable manner, are adjusted so as to give maximum radiation whilst maintaining an intelligible picture for 1 h, at the end of which the measurement is made.</i></p> <p>NOTE Z1 Soldered joints and paint lockings are examples of adequate locking.</p> <p><i>The dose-rate is determined by means of a radiation monitor with an effective area of 10 cm<sup>2</sup>, at any point 10 cm from the outer surface of the</i></p>		N/A



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p><i>apparatus.</i></p> <p><i>Moreover, the measurement shall be made under fault conditions causing an increase of the high-voltage, provided an intelligible picture is maintained for 1 h, at the end of which the measurement is made.</i></p> <p><i>For RS1, the dose-rate shall not exceed 1 <math>\mu</math>Sv/h taking account of the background level.</i></p> <p>NOTE Z2 These values appear in Directive 96/29/Euratom of 13 May 1996.</p>		
10.6.1	<p><b>Add</b> the following paragraph to the end of the subclause:</p> <p>EN 71-1:2011, 4.20 and the related tests methods and measurement distances apply.</p>		N/A
10.Z1	<p><b>Add</b> the following new subclause after 10.6.5.</p> <p><b>10.Z1 Non-ionizing radiation from radio frequencies in the range 0 to 300 GHz</b></p> <p>The amount of non-ionizing radiation is regulated by European Council Recommendation 1999/519/EC of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz).</p> <p>For intentional radiators, ICNIRP guidelines should be taken into account for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). For hand-held and body-mounted devices, attention is drawn to EN 50360 and EN 50566</p>		N/A
G.7.1	<p><b>Add</b> the following note:</p> <p>NOTE Z1 The harmonized code designations corresponding to the IEC cord types are given in Annex ZD.</p>		N/A
Bibliography	<p><b>Add</b> the following standards:</p> <p><b>Add</b> the following notes for the standards indicated:</p> <p>IEC 60130-9           NOTE Harmonized as EN 60130-9.</p> <p>IEC 60269-2           NOTE Harmonized as HD 60269-2.</p> <p>IEC 60309-1           NOTE Harmonized as EN 60309-1.</p> <p>IEC 60364             NOTE some parts harmonized in HD 384/HD 60364 series.</p> <p>IEC 60601-2-4         NOTE Harmonized as EN 60601-2-4.</p> <p>IEC 60664-5           NOTE Harmonized as EN 60664-5.</p> <p>IEC 61032:1997       NOTE Harmonized as EN 61032:1998 (not modified).</p> <p>IEC 61508-1           NOTE Harmonized as EN 61508-1.</p> <p>IEC 61558-2-1         NOTE Harmonized as EN 61558-2-1.</p> <p>IEC 61558-2-4         NOTE Harmonized as EN 61558-2-4.</p> <p>IEC 61558-2-6         NOTE Harmonized as EN 61558-2-6.</p> <p>IEC 61643-1           NOTE Harmonized as EN 61643-1.</p> <p>IEC 61643-21          NOTE Harmonized as EN 61643-21.</p>		P



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	IEC 61643-311 NOTE Harmonized as EN 61643-311. IEC 61643-321 NOTE Harmonized as EN 61643-321. IEC 61643-331 NOTE Harmonized as EN 61643-331.		
<b>ZB</b>	<b>ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)</b>		
4.1.15	<p><b>Denmark, Finland, Norway and Sweden</b></p> <p>To the end of the subclause the following is added:  <b>Class I pluggable equipment type A</b> intended for connection to other equipment or a network shall, if safety relies on connection to reliable earthing or if surge suppressors are connected between the network terminals and <b>accessible</b> parts, have a marking stating that the equipment shall be connected to an earthed <b>mains</b> socket-outlet.            The marking text in the applicable countries shall be as follows:</p> <p>In <b>Denmark</b>: "Apparatets stikprop skal tilsluttes en stikkontakt med jord som giver forbindelse til stikproppens jord."            In <b>Finland</b>: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan"            In <b>Norway</b>: "Apparatet må tilkoples jordet stikkontakt"            In <b>Sweden</b>: "Apparaten skall anslutas till jordat uttag"</p>		N/A
4.7.3	<p><b>United Kingdom</b></p> <p>To the end of the subclause the following is added:            The torque test is performed using a socket-outlet complying with BS 1363, and the plug part shall be assessed to the relevant clauses of BS 1363. Also see Annex G.4.2 of this annex</p>		P
5.2.2.2	<p><b>Denmark</b></p> <p>After the 2nd paragraph add the following:            A warning (marking <b>safeguard</b>) for high <b>touch current</b> is required if the <b>touch current</b> exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.4.11.1 and Annex G	<p><b>Finland and Sweden</b></p> <p>To the end of the subclause the following is added:            For separation of the telecommunication network from earth the following is applicable:            If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> <li>• two layers of thin sheet material, each of which shall pass the electric strength test below, or</li> <li>• one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below.</li> </ul>		N/A



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that clearances and creepage distances do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> <li>• passes the tests and inspection criteria of 5.4.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 5.4.9 shall be performed using 1,5 kV), and</li> <li>• is subject to routine testing for electric strength during manufacturing, using a test voltage of 1,5kV.</li> </ul> <p>It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> <li>• the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in 5.4.11;</li> <li>• the additional testing shall be performed on all the test specimens as described in EN 60384-14;</li> </ul> <p>the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.</p>		
5.5.2.1	<p><b>Norway</b></p> <p>After the 3rd paragraph the following is added: Due to the IT power system used, capacitors are required to be rated for the applicable line-to-line voltage (230 V).</p>		N/A
5.5.6	<p><b>Finland, Norway and Sweden</b></p> <p>To the end of the subclause the following is added: Resistors used as <b>basic safeguard</b> or bridging <b>basic insulation in class I pluggable equipment type A</b> shall comply with G.10.1 and the test of G.10.2.</p>		N/A
5.6.1	<p><b>Denmark</b></p> <p><b>Add</b> to the end of the subclause Due to many existing installations where the socket-outlets can be protected with fuses with higher rating than the rating of the socket-outlets the protection for pluggable equipment type A shall be an integral part of the equipment.</p> <p><i>Justification:</i></p>		N/A



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	In Denmark an existing 13 A socket outlet can be protected by a 20 A fuse.		
5.6.4.2.1	<p><b>Ireland and United Kingdom</b></p> <p>After the indent for <b>pluggable equipment type A</b>, the following is added:</p> <p>– the <b>protective current rating</b> is taken to be 13 A, this being the largest rating of fuse used in the <b>mains</b> plug.</p>		N/A
5.6.5.1	<p>To the second paragraph the following is added:</p> <p>The range of conductor sizes of flexible cords to be accepted by terminals for equipment with a rated current over 10 A and up to and including 13 A is: 1,25 mm<sup>2</sup> to 1,5 mm<sup>2</sup> in cross-sectional area.</p>		N/A
5.7.5	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added:</p> <p>The installation instruction shall be affixed to the equipment if the <b>protective conductor current</b> exceeds the limits of 3,5 mA a.c. or 10 mA d.c.</p>		N/A
5.7.6.1	<p><b>Norway and Sweden</b></p> <p>To the end of the subclause the following is added:</p> <p>The screen of the television distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation needs to be isolated from the screen of a cable distribution system.</p> <p>It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by a retailer, for example.</p> <p>The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in:</p> <p>“Apparatus connected to the protective earthing of the building installation through the mains connection or through other apparatus with a connection to protective earthing – and to a television distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a television distribution system therefore has to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)”</p> <p>NOTE In Norway, due to regulation for CATV-installations, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength</p>		N/A



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min.</p> <p>Translation to Norwegian (the Swedish text will also be accepted in Norway):</p> <p>“Apparater som er koplet til beskyttelsesjord via nettplogg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et koaksialbasert kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av apparater til kabel-TV nett installeres en galvanisk isolator mellom apparatet og kabel-TV nettet.”</p> <p>Translation to Swedish:</p> <p>”Apparater som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av apparaten till kabel-TV nät galvanisk isolator finnas mellan apparaten och kabel-TV nätet.”.</p>		
5.7.6.2	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added:</p> <p>The warning (marking safeguard) for high touch current is required if the touch current or the protective current exceed the limits of 3,5 mA .</p>		N/A
B.3.1 and B.4	<p><b>Ireland and United Kingdom</b></p> <p>The following is applicable:</p> <p>To protect against excessive currents and short-circuits in the primary circuit of <b>direct plug-in equipment</b>, tests according to Annexes B.3.1 and B.4 shall be conducted using an external miniature circuit breaker complying with EN 60898-1, Type B, rated 32A. If the equipment does not pass these tests, suitable protective devices shall be included as an integral part of the <b>direct plug-in equipment</b>, until the requirements of Annexes B.3.1 and B.4 are met</p>		P
G.4.2	<p><b>Denmark</b></p> <p>To the end of the subclause the following is added:</p> <p>Supply cords of single phase appliances having a rated current not exceeding 13 A shall be provided with a plug according to DS 60884-2-D1:2011.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If a single-phase equipment having a RATED CURRENT exceeding 13 A or if a poly-phase equipment is provided with a supply cord with a plug, this plug shall be in</p>		N/A



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	<p>accordance with the standard sheets DK 6-1a in DS 60884-2-D1 or EN 60309-2.</p> <p>Mains socket outlets intended for providing power to Class II apparatus with a rated current of 2,5 A shall be in accordance DS 60884-2-D1:2011 standard sheet DKA 1-4a.</p> <p>Other current rating socket outlets shall be in compliance with Standard Sheet DKA 1-3a or DKA 1-1c.</p> <p>Mains socket-outlets with earth shall be in compliance with DS 60884-2-D1:2011 Standard Sheet DK 1-3a, DK 1-1c, DK1-1d, DK 1-5a or DK 1-7a</p> <p><i>Justification:</i> Heavy Current Regulations, Section 6c</p>		
G.4.2	<p><b>United Kingdom</b></p> <p>To the end of the subclause the following is added: The plug part of direct plug-in equipment shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16, and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.</p>		P
G.7.1	<p><b>United Kingdom</b></p> <p>To the first paragraph the following is added: Equipment which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord shall be fitted with a 'standard plug' in accordance with the Plugs and Sockets etc (Safety) Regulations 1994, Statutory Instrument 1994 No. 1768, unless exempted by those regulations.</p> <p>NOTE "Standard plug" is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.</p>		N/A
G.7.1	<p><b>Ireland</b></p> <p>To the first paragraph the following is added: Apparatus which is fitted with a flexible cable or cord shall be provided with a plug in accordance with Statutory Instrument 525: 1997, "13 A Plugs and Conversion Adapters for Domestic Use Regulations: 1997. S.I. 525 provides for the recognition of a standard of another Member State which is equivalent to the relevant Irish Standard</p>		N/A
G.7.2	<p><b>Ireland and United Kingdom</b></p> <p>To the first paragraph the following is added: A power supply cord with a conductor of 1,25 mm<sup>2</sup></p>		N/A



## Attachment No. 1

IEC62368_1B - ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	is allowed for equipment which is rated over 10 A and up to and including 13 A.		
<b>ZC</b>	<b>ANNEX ZC, NATIONAL DEVIATIONS (EN)</b>		
10.5.2	<p><b>Germany</b></p> <p>The following requirement applies:</p> <p>For the operation of any cathode ray tube intended for the display of visual images operating at an acceleration voltage exceeding 40 kV, authorization is required, or application of type approval (Bauartzulassung) and marking.</p> <p><i>Justification:</i></p> <p>German ministerial decree against ionizing radiation (Röntgenverordnung), in force since 2002-07-01, implementing the European Directive 96/29/EURATOM.</p> <p><b>NOTE</b> Contact address:            Physikalisch-Technische Bundesanstalt, Bundesallee 100,            D-38116 Braunschweig,            Tel.: Int +49-531-592-6320,            Internet: <a href="http://www.ptb.de">http://www.ptb.de</a></p>		N/A