



TESTING
TL-1021



澳美检测研究院
AUA Testing Ltd

TEST REPORT

Test Report No. : AUA20240014

Sample Name : Cord Set

Model : D09A+QT5, others see model list

Date (s) of tests : 2024-01-09—2024-01-30

Applicant : Ningbo Qiaopu Electric Co., Ltd.

AUA TESTING LTD.



TEST REPORT

BS EN IEC 60799

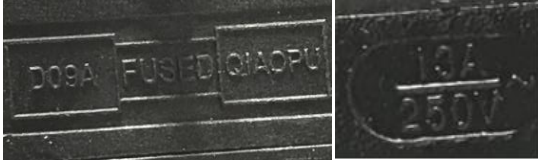
Electrical accessories - Cord sets and interconnection cord sets

Report Reference No.....	AUA20240014
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Testing Laboratory.....	AUA Testing Ltd.
Address.....	Second floor, Building 1, No.58 Jidian Road, Hangzhou Bay New District, Ningbo City, Zhejiang Province, P.R. China
Applicant's name.....	Ningbo Qiaopu Electric Co., Ltd.
Address.....	Xiaoluxia Village, Simen Town, Yuyao City, Zhejiang 315472, P. R. China
Manufacturer.....	Same as applicant
Address.....	Same as applicant
Test specification:	
Standard.....	BS EN IEC 60799:2021 BS EN IEC 60320-2-3:2021 for use in conjunction with BS EN 60320-1:2015
Test procedure.....	UKCA
Non-standard test method.....	N/A
Test Report Form No.....	TRF_IEC60799_2018A1
Test Report Form(s) Originator.....	AUA
Master TRF.....	Dated 2022-10-27
Test item description.....	
Trade Mark.....	QIAOPU
Manufacturer.....	Ningbo Qiaopu Electric Co., Ltd.
Model/Type reference.....	D09A+QT5, others see model list
Ratings.....	250V~ 10A
Verdict.....	Pass

Test item particulars..... :	
Plug / Plug connector..... :	BS 1363-1 fused plug
Connector..... :	IP-A of IEC 60320-3
Cord set / interconnection cord set for..... :	Cold condition / hot condition / very hot condition
Cord set / interconnection cord set for..... :	Class I equipment / Class II equipment
Earthing contact..... :	With / without
Type of cable or cord..... :	H05VV-F
Cross sectional areas (mm²)..... :	3x1.0mm ²
Possible test case verdicts:	
- test case does not apply to the test object..... : N/A	
- test object does meet the requirement..... : P (Pass)	
- test object does not meet the requirement..... : F (Fail)	
Testing..... :	
Date of receipt of test item..... :	2024-01-09
Date (s) of performance of tests..... :	2024-01-01 to 2024-01-30
General remarks:	
<p>"(See Enclosure #)" refers to additional information appended to the report.</p> <p>"(See appended table)" refers to a table appended to the report.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p>	

General product information and other remarks:

D09A+QT5, CSC06/ CSC062, CSSJ10/ CSSJ102, CSM10/ CSM102 are of the same construction, except for the colour and length of cords.

Copy of marking plate:**Plug****Connector****Model list:**

Model Number	Brand/Trade Name	Electrical Rating
D09A+QT5	QIAOPU	Cable and connector: 250V/10A, black Plug: 13A BS plug with fuse 5A,7A,10A,13A
CSC06/ CSC062		Cable and connector: 250V/10A, yellow, 6m length, dia. 1mm ² Plug: 13A BS plug with fuse 5A,7A,10A,13A
CSSJ10/ CSSJ102		Cable and connector: 250V/10A, red, 10m length, dia. 1mm ² Plug: 13A BS plug with fuse 5A,7A,10A,13A
CSM10/ CSM102		Cable and connector: 250V/10A, blue, 10m length, dia. 1mm ² Plug: 13A BS plug with fuse 5A,7A,10A,13A

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Clause	Requirement + Test	Result - Remark	Verdict
4	GENERAL REQUIREMENTS		P
	Cord sets and interconnection cord are so designed and constructed that in normal use their performance is reliable and without danger to the user or surroundings		P
5	REQUIREMENTS		P
5.1	Plug of cord set complies with the requirements of IEC 60884-1		P
	Connector of cord set or interconnection cord set complies with the requirements of IEC 60320-1		P
	Plug connector of interconnection cord set complies with the requirements of IEC 60320-1		N
	Connector, with a degree of protection higher than IPX0, of a cord set or an interconnection cord set complies with the requirements of IEC 60320-2-3		P
	Plug connector, with a degree of protection higher than IPX0, of an interconnection cord set complies with the requirements of IEC 60320-2-3		N
	Cord of cord set or interconnection cord set complies with the requirements of relevant IEC standards	EN 50525-2-11	P
5.2.1	Rated voltage of connector and cord not less than rated voltage of plug		P
	Rated voltage of plug.....[V]:	250V	
	For interconnection cord set, rated voltage of connector and plug connector is the same		N
	Rated voltage of plug connector.....[V]:		
5.2.2	Rated current of plug or plug connector not less than rated current of connector		P
	Rated current of connector[A]:	10A	
5.2.3	Plug and connector intended for the connection of the same class of equipment	Cord set	P
5.2.4	Markings:		P
	Rated current [A]:	10A of connector	P
	Rated voltage.....[V]:	250V	P
	Symbol for nature of supply	~	P

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Clause	Requirement + Test	Result - Remark	Verdict
	Maker's or responsible vendor's name or trademark	QIAOPU	P
	Type reference		P
	Marking easily discernible, durable and easily legible		P
	Not marked with the symbol for Class II		P
5.2.5	Type of cord:		
	Rated current [A]:	10A	
	Class of equipment..... :	I	
	For condition..... :	Cold / hot / very hot	
	Flexible cable not lighter than specified..... :	Ordinary duty	
	Specified type..... :		
	Flexible cable has a cross-sectional area not less than specified..... :		
	Specified cross-sectional area [mm ²):	Min. 0,75mm ²	
	Length of cord not more than 2 m, if it has a cross-sectional area of 0,5 mm ²		N
6	CONTINUITY AND POLARITY		
	In cord sets and interconnection cord sets for use in polarized systems, the continuity between corresponding pins of plugs / plug connectors and contacts of connectors are maintained correctly in each pole		P
7	EMC REQUIREMENTS		
7.1	Immunity		
	Cord sets and interconnection cord sets not incorporating electronic components are not sensitive to normal electromagnetic disturbances and therefore no immunity tests are required.		
7.2	Emission		
	Cord sets and interconnection cord sets not incorporating electronic components are not generating electromagnetic disturbances, consequently no emission tests are necessary.		

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Clause	Requirement + Test	Result - Remark	Verdict
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Object/part No.	Manufacturer/trademark	Type/model	Technical data	Compliance to standard	Mark(s) of conformity ⁽¹⁾
PLUG	QIAOPU	D09A	250V~ 13A	BS 1363-1: 2016 +A1: 2018	ASTA LICENCE No. 930
Cable	QIAOPU	H05VV-F Ordinary Duty	3x1mm ²	EN 50525-2-11:2011	TUV R 50279805
Cable of connector	QIAOPU	H05VVH2-F	2x0.75-1.0mm ²	EN 50525-2-11:2011	TUV R 50279805
		H05VV-F	2x0.75-1.5mm ²	EN 50525-2-11:2011	TUV R 50279805

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Clause	Requirement + Test	Result - Remark	Verdict
8	MARKING		P
8.1	General		P
	Appliance coupler are marked with:		P
	- name, trade mark or identification mark of the manufacturer or responsible vendor..... :	QIAOPU	P
	- type reference..... :		P
8.2	Additional markings		P
	Connector/plug connector are additionally marked with:		P
	- rated current (A)..... :		P
	- rated voltage (V)..... :		P
	- symbol for nature of supply..... :		~
	- marking to identify the type of conductors suitable for screwless terminal..... :		N
	- IP rating..... :	IP44	P
8.3	Appliance coupler for class II equipment		P
	Appliance coupler for class II are not marked with the symbol for class II construction		P
8.4	Symbol or alphanumeric notations		P
	Correct symbols are used		P
	Marking for the nature of supply placed next to the marking for rated current and rated voltage		P
8.5	Legibility of marking		P
	Connector/plug connector: marking according to 8.1, is still easily discernible		P
8.6	Terminal markings and wiring instructions		P
	Terminals, in rewirable non-reversible connectors/plug connectors, are indicated as follow:		N
	- earthing terminal: [earth symbol or PE]..... :		N
	- neutral terminal: N..... :		N
	Conductor, in non-rewirable polarized connectors/plug connectors are connected as specified in 22.1		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Appliance inlets, other than those integrated or incorporated in an appliance or equipment, have terminal markings to correspond with this subclause		N
	Rewirable connectors/plug connector are supplied with the following instruction:		N
	- method of connection of the conductors..... :		N
	- method of the operation of the cord anchorage..... :		N
	- length of sleeving and insulation to be stripped back..... :		N
	- sizes and types of cable or cords suitable..... :		N
8.7	Durability		P
	Markings are easily legible and durable		P
	Markings are not placed on screws or other removable parts		P
8.8	Test and inspection		P
	Test: 15 s with water, 15 s with petroleum spirit		N
	Marking made by..... :	Moulded.	P
8.101	Colours of outdoor cables		N
	Cords of non-rewirable accessories for outdoor use shall not be coloured black, green, white or brown		N
8.102	Instructions for retail sale		N
	For couplers intended for retail sale the supplier shall include an instruction leaflet, on or inside the sales package, with each coupler or accessory, clearly describing the extent of its suitability for use outdoors		N
	Information regarding weather resistance shall be clearly visible to the purchaser and a recommendation shall be made that the cord to be fitted to the accessory should not be coloured black, green, white or brown		N
	The instruction sheet shall include information stating that the plug connector shall be connected to the equipment and the connector to the mains supply side		N

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Clause	Requirement + Test	Result - Remark	Verdict
	If the coupler or accessory is non-rewirable with a cord attached, each free end shall be marked for connection to the appliance or mains supply as appropriate, with guidance on the danger of an incorrect connection or of a connection to an appliance requiring the protection of an earth continuity conductor		N
	Except when a plug connector or appliance inlet fitted with a cord is supplied direct to a manufacturer for incorporation in other equipment, the free end of such an assembly shall have a label attached stating: "The cord of this accessory must be properly connected to a piece of equipment before the appliance is energized."		N
	If the coupler or accessory is rewirable, instructions shall be provided on the following: a) stripping lengths for sheath and insulation; b) identity of accessories to be connected to appliance or mains cord, as appropriate; c) connection of brown wire to terminal marked L and blue wire to terminal marked N; d) importance of correct assembly of cord anchorage including need for at least 3 mm of sheath to protrude beyond the clamping device; e) suitable for use with circular type cords only.		N

9	DIMENSIONS AND COMPATIBILITY		P
9.1	General		P
	Appliance coupler are designed that unintended or improper connection is prevented		P
9.2	Single-pole connection		P
	Single-pole connections between connectors/ appliance outlets and appliance inlets/plug connectors are not possible		P
9.3	Compatibility		P
	It is not possible to engage (using a force of 60 N for 60 s):		P
	- connectors for class II equipment in appliance inlets/plug connector for class I equipment		P
	- plug connectors for devices of protection class I in appliance outlets for devices of protection class II		M

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Clause	Requirement + Test	Result - Remark	Verdict
	- connectors for cold conditions in appliance inlets for hot or very hot conditions		P
	- connectors for hot conditions in appliance inlets for very hot conditions		N
	- connectors in appliance inlets/plug connector having a higher rated current than the connector		P
	- plug connectors for in appliance outlets having a lower rated than plug connector		N
	During the test: no contact of the pins		P
9.4	Dimensions for standardized appliance couplers		P
	Appliance couplers shall comply with the relevant standard sheets according to IEC 60320-3.....:		P
9.5	Dimensions for non-standardized appliance couplers		N
	Non-standardized appliance couplers are acceptable if do not adversely affect the purpose and safety of standardized appliance couplers		N
	There are no small deviations from the dimensions as specified in the standard sheets which give the impression of a standardized coupler and lead to confusion with standardized appliance couplers		N
	No changes which adversely affect the contact-making ability		N
	It is not possible to engage a part of a non-standard appliance coupler with a complementary part of a standardized appliance couplers		N
	It is not possible to make improper connections other than the intended position or partial connections causing deformation which can impair the further use of the appliance for:		N
	- a connectors and associated appliance inlet		N
	- an appliance outlet with the associated plug connector		N
9.101	Retaining devices		P
	For standardized appliance couplers the provision for retaining the connector in the plug connector or appliance inlet shall comply with the relevant standard sheets		P

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Clause	Requirement + Test	Result - Remark	Verdict
	For non-standardized appliance couplers the provision for retaining the connector in the plug connector or appliance inlet shall comply with the manufacturer's specifications		N
10	PROTECTION AGAINST ELECTRIC SHOCK		P
10.1	Accessibility of live parts		P
	Live parts of appliance coupler are not accessible when in partial or complete engagement		P
	Live parts of connectors/appliance outlets are not accessible with the cover open		P
	Connectors with enclosures or bodies of elastomeric or thermoplastic material: test made with the standard test probe B of IEC 61032 applied for 30 s with a force of 20 N		P
10.2	Protection against single pole connection		P
	Connection between a pin of an appliance inlet/plug connector and a contact of a connector/appliance outlet is not possible as long as any of the pins is accessible		P
10.3	Protection against access to live parts		P
	It is not possible to remove parts preventing access to live parts without the aid of a tool		P
	Bushes are adequately fixed and it is not possible to remove them without dismantling the connector/appliance outlet		N
10.4	External parts		P
	Insulating material for external parts of connectors, appliance outlets and plug connectors		P
10.5	Shrouds		N
	Insulating material for shroud and base of appliance inlets without earthing contact and those of 2,5 A appliance inlets with earthing contact		N
11	PROVISION FOR EARTHING		N

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Clause	Requirement + Test	Result - Remark	Verdict
	Appliance coupler with protective earthing contact, constructed that the protective earthing contact is first make and last break relative to any other contact		N

12	TERMINAL AND TERMINATIONS		P
12.1	General		P
	Requirements in the appropriate IEC standard apply for the terminal and terminations		P
	Clamping means of terminals do not serve to fix any other components		P
12.2	Rewirable appliance couplers		N
	They are provided with screw-type/screwless clamping units according to IEC 60999-1		N
12.3	Non-rewirable appliance couplers		P
	They are provided with soldered, welded, crimped or equally effective screwless connections.....:	Crimped.	P
	The possibility to disconnect the conductor is not allow		P

13	CONSTRUCTION		P
13.1	Risk of accidental contact		P
	There is no risk of accidental contact between earthing contact of appliance inlet/plug connector and current-carrying contacts of the connector/appliance outlet		P
13.2	Contact positions		P
	Contacts in non-reversible connectors are disposed as follows:		P
	- earthing contact: in a symmetrical arrangement		P
	- line contact: lower right-hand position		P
	- neutral contact: lower left-hand position		P
	Contacts in non-reversible plug connector are disposed as follows:		N
	- earthing contact: in a symmetrical arrangement		N
	- line contact: lower left-hand position		N
	- neutral contact: lower right-hand position		N

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Clause	Requirement + Test	Result - Remark	Verdict
	Verify the correct polarization in non-reversible appliance couplers, which do not comply with the standard sheets		N
13.3	Parts covering live parts		P
	They have adequately locked against loosening		P
13.4	Pin construction		P
13.4.1	Prevention of rotation		P
	Pins and contacts adequately locked against rotation		P
13.4.2	Pin retention		N
	Pins of appliance inlets/plug connectors:		N
	- are securely retained		N
	- have adequate mechanical strength		N
	- it is not possible to remove them without the aid of a tool		N
	- are surrounded by a shroud		N
	- are not protrude beyond the rim of the shroud		N
	Test for security of pin retention (1 h); each pin subjected to a force of 60 N for 1 min; test temperature (°C)..... :		—
	During the test on any pin there is no movement exceeding 2,5 mm..... :		N
	After removal of test force, pins remain within:		N
	- for standardized appliance couplers, the tolerances of the standard sheet		N
	- for non-standardized appliance couplers, as specified by the manufacturer		N
13.4.3	Non-solid pins		N
	A force of 100 N applied for 1 min by means of a steel rod having a diameter of 4,8 mm		N
	After the test, no significant alteration in the shape of the pin		N
13.5	Contact pressure		P
	Contacts of connectors/appliance outlets are self-adjusting so as to provide adequate contact pressure		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Self-adjustment of the contacts in connectors/ appliance outlets other than 0,2 A, does not depend upon the resiliency of insulating material		P
13.6	Enclosure		P
13.6.1	General		P
	Parts of the body of connectors/plug connectors are reliably fixed to one another		P
13.6.2	Rewirable connectors/plug connectors		N
	Parts of the body of connectors/plug connectors are reliably fixed to one another		N
	It is not possible dismantle the connector/plug connector without the aid of a tool		N
	Terminals and the ends of cord, are completely enclosed by the enclosure		N
	Construction is such that conductors can be properly connected and is unlikely that:		N
	- cores are not pressed against each other causing damage		N
	- cores of live conductor not pressed against accessible metal parts		N
	- core of earthing conductor not pressed against live parts		N
	It is not possible to assemble the rewirable connector in such a way that terminals are enclosed and contacts accessible		N
	Separate independent means for fixing and locating parts of the body with respect to each other are present in rewirable connectors/plugs connectors		N
	Thread-cutting screws are not used		N
	Resiliency of the contacts does not depend upon the assembly of the parts of the body		N
	Partial loosening of assembly screws does not allow the detachment of parts providing protection against electric shock		N
13.6.3	Non-rewirable connectors/plug connectors		P
	Accessories are such that:		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- flexible cable cannot be separated from the accessory without making it permanently useless		P
	- accessory cannot be opened by hand or by using a general purpose tool		P
13.7	Earth connection		N
	Earthing contact/earthing pin of connectors/plug connectors is fixed to the body		N
	Various parts of earthing contact/earthing pin and earthing terminal which are not in one piece are fixed together by riveting, welding or similar reliable manner		N
	Metal part of appliance coupler, designed that corrosion do not impair safety		N
	Connection between earthing contact/earthing pin and earthing terminal is of metal resistant to corrosion		N
13.8	Location of terminals and terminations		P
13.8.1	General		P
	Terminals of rewirable accessories and terminations of non-rewirable accessories are located or shielded that loose wires will not present a risk of electric shock		P
	Non-rewirable moulded-on accessories are provided with means to prevent loose wires of a conductor from reducing the minimum isolation distance requirements		P
13.8.2	Free wire test for rewirable accessories		N
	Test with 6 mm free wire of in every possible direction		N
	Free wire of a conductor connected to a live terminal does not touch any accessible metal part or is not able to emerge from the enclosure		N
	Free wire of a conductor connected to an earthing terminal does not touch a live part		N
13.8.3	Free wire test for non-rewirable non-moulded-on accessories		N
	Test with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm		N

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Clause	Requirement + Test	Result - Remark	Verdict
	Free wire of a conductor connected to a live termination does not touch any accessible metal part or does not reduce creepage distance and clearance below 1,5 mm to the external surface		N
	Free wire of a conductor connected to an earth termination does not touch any live part		N
13.8.4	Free wire verification for non-rewirable moulded-on accessories		P
	Verification of means to prevent stray wires reducing the minimum distance through insulation to external accessible surface below 1,5 mm		P
13.9	Connectors/plug connectors without earthing contact		P
	Connectors/plug connectors without earthing contact and 2,5 A connectors/plug connectors with earthing contact are part of a cord set or an interconnection cord set		P
13.10	Fuses, relays, thermostats, thermal cut-outs and switches		N
	Fuses, relays, thermostats and thermal cut-outs are not incorporated in connectors and plug connectors complying with the standard sheets of IEC 60320-3	There are no such parts.	N
	Fuses, relays, thermostats and thermal cut-outs incorporated in appliance inlets and appliance outlet comply with the relevant IEC standards	There are no such parts.	N
	Switches comply with IEC 61058-1	There are no such parts.	N
	Energy regulators comply with IEC 60730-2-11	There are no such parts.	N
13.101	Protection against ingress of water when in engagement		P
	Appliance couplers shall incorporate means for ensuring the required degree of protection against ingress of water when both parts of the appliance couplers are fully engaged		P
	Compliance is checked by inspection and by the test of 14.101		P
13.102	Protection against ingress of water when not in engagement		P
	A connector or plug connector, when fitted with a cord for normal use and when not in engagement with the complementary accessory, shall comply with Clause 10 and 14.101		P

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Clause	Requirement + Test	Result - Remark	Verdict
13.103	Covers for protection against ingress of water when not in engagement		P
	Connectors and appliance outlets shall be provided with a cover to achieve the required degree of protection against moisture when the complementary accessory is not in position		P
	The cover of a standardized appliance coupler shall be self-closing and shall be securely fixed to the connector or appliance outlet		P
13.104	Protection against ingress of water for integrated appliance couplers		N
	Appliance inlets and appliance outlets integrated or incorporated in the electrical appliance or equipment shall incorporate means of ensuring the required degree of protection against ingress of water, from the open interface to the terminals or terminations		N
13.105	Requirements for cover springs		P
	The cover spring(s), if any, of connectors and appliance outlets shall be sufficiently strong to rapidly close the cover when the complementary accessory is not engaged, and to withstand opening and closing in normal operation to an angle of not less than 90° and not more than 100°		P
	The cover and associated spring(s), if any, shall withstand damage when opened to the fullest extent and shall be of corrosion-resistant materials		P
	This test is not applicable to couplers without retaining device, classified in 7.102		—
	The cover shall be opened to its fullest extent and allowed to close under the influence of the associated spring(s), in sequence, 4 000 times at a rate of 15 ± 2 times per minute		P
	At the end of the test the cover shall close as required by this document		P
14	MOISTURE RESISTANCE		P
	The specimens are kept in a humidity cabinet, containing air with relative humidity maintained between 91 % and 95 %, for 168 h (7 days)	93%RH	P

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Clause	Requirement + Test	Result - Remark	Verdict
	After this treatment the test sample show no damage		P
14.101	Accessories shall have a degree of protection higher than IPX0 according to IEC 60529		P
	Accessories shall withstand the electric strength test and inspection shall show that water has not entered the samples to any appreciable extent and has not reached current-carrying parts		P
	Accessories designed for attachment by cord are tested as follows:		P
	a) for non-rewirable accessories, with the cord supplied		P
	b) for 6 A rewirable accessories, with 0,75 mm ² cord		N
	c) for 10 A rewirable accessories, with 0,75 mm ² and 1 mm ² cord		N
	d) for 16 A rewirable accessories, with 1 mm ² and 1,5 mm ² cord		N
	Appliance inlets and appliance outlets are tested when mounted in or on a suitable water tighten closure, in accordance with the manufacturer's instructions for mounting		—
	Fixing screws of enclosures and covers are tightened with a torque equal to two-thirds of the appropriate torque given in Clause 25		—
	The accessories are placed in the most unfavourable position		—
	Connectors and appliance outlets are tested with and also without the complementary accessory in engagement, the means for ensuring the required degree of protection against moisture (as specified in 13.102) being positioned as in normal use		—

15	INSULATING RESISTANCE AND ELECTRIC STRENGTH		P
15.1	General		P
	Adequate insulation resistance and dielectric strength for appliance coupler		P
15.2	Insulation resistance		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The insulation resistance measured 60 s ± 5 s after application of 500 + 50 V d.c.	See appended table 15.2	P
15.3	Dielectric strength		P
	Electric strength: a.c. test voltage applied for 60 s ± 5 s	See appended table 15.3	P
16	FORCES NECESSARY TO INSERT AND TO WITHDRAW THE CONNECTOR/APPLIANCE OUTLET		P
16.1	General		P
	The construction of appliance couplers shall allow the easy insertion and withdrawal of the connector/appliance outlet, and prevent the connector/appliance outlet from working out of the appliance inlet/plug connector in normal use.		P
16.2	Verification of the maximum withdrawal force		
	For standardized types: gauge is used		—
	For non-standardized types: the counterpart as specified by the manufacturer is used		—
	The connector/appliance outlet did not remain in the appliance inlet/plug connector	See appended table 16	P
16.3	Verification of the minimum withdrawal force		P
	For standardized types: test pin gauge is used		—
	For non-standardized types: test pin with minimum dimensions as specified by the manufacturer is used		—
	The test pin did not fall from the contact assembly within 3 s	See appended table 16	P
16.101	A retaining device shall be provided to prevent inadvertent disconnection of the accessories when engaged		P
	The retaining catch shall operate correctly		P
	It shall be possible to insert or withdraw the connector and operate the retaining catch with two hands without difficulty		P
	This test is not applicable to couplers without retaining device, classified in 7.101 b)		—

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Clause	Requirement + Test	Result - Remark	Verdict
	The maximum and minimum forces necessary to separate the coupler are determined by means of an apparatus as shown in Figure 101		—
	For rewirable appliance couplers using cord anchorages with clamping screws, these screws are tightened with a torque as given in 25.1		—
	During this test the connection between the accessories shall be maintained during the application of the principal weight and shall disconnect when the supplementary weight is applied		P

17	OPERATION OF CONTACT		P
	Contacts and pins of appliance couplers make connection with a sliding action		P
	Contacts of connectors/appliance outlet provide adequate contact pressure and do not deteriorate in normal use		P
	Effectiveness of pressure between contacts and pins and earthing contacts and earthing pins does not depend upon the resiliency of the insulating material		P

18	RESISTANCE TO HEATING OF APPLIANCE COUPLERS FOR HOT CONDITIONS OR VERY HOT CONDITIONS		N
18.1	General		N
	Appliance couplers as classified according to 7.1 shall withstand the heating to which they may be subjected by an appliance or other equipment		N
	Connectors/plug connectors shall be so constructed that the insulation of the conductors is not subjected to excessive heating		N
	Compliance is checked, for connectors/plug connectors, by the test of 18.2, and, for appliance inlets/appliance outlets, by the test of 18.3		—
18.2	Heating test for connectors		N
	Connector is inserted in a suitable appliance inlet and then placed in a heating cabinet for 96 h at a temperature of (°C).....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
	After this test the test sample show:		N
	- no damage		N
	- no loosening of electrical or mechanical connections		N
	- no cracks		N
18.3	Heating test for appliance inlets		N
	Appliance inlets kept in a heating cabinet for 96 h at a temperature of (°C).....:		—
	After this test, the test sample show no damage		N

19	BREAKING CAPACITY		P
	Test conditions applied to connectors/appliance outlets (for up to 0,2 A not tested) 100 strokes at a rate of 28 to 30 strokes per min		P
	- test voltage 1,1 In (V)	275	—
	- test current 1,25 In (A)	12,5	—
	- power factor (cos Φ)	0,95	—
	During the test: no flashover and any sustained arcing	See appended table 19	P
	After the test, the test sample show no damage		P

20	NORMAL OPERATION		P
	Appliance coupler withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use		P
	Compliance checked by testing	See appended table 20	P
	After the test, the specimens withstand an electric strength test as specified in 15.3 with the test voltage reduced to 50 % of the value of Table 4	See appended table 20	P
	Test sample does not show any:		P
	- wear impairing its further use		P
	- deterioration of enclosures or barriers		P
	- damage to the entry holes for the pins		P
	- loosening of electrical or mechanical connections		P
	- seepage of sealing compound		P

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Clause	Requirement + Test	Result - Remark	Verdict
	The electrical safety, not impaired		P
21	TEMPERATURE RISE		P
	Temperature rise test	See appended table 21	P
	After the test, the test samples withstand the test of clause 16		P
22	CORDS AND THEIR CONNECTION		P
22.1	Cords for non-rewirable connector/plug connectors		P
	Non-rewirable connectors are provided with cord complying with Table 9 or equivalent.....:		P
	Type of cord complying with standard indicated in Table 9).....:		P
	Cord have a nominal cross-sectional area not less than that specified in Table 9 (mm ²)..... :	0.75-1.5mm ²	P
	Non-rewirable connectors/plug connector with earthing contact are provided with a three-core cord		N
	Connections to the contacts in non-rewirable, non-reversible connectors/plug connectors:		P
	- green/yellow core: to the earthing contact		P
	- brown core: to the line contact		P
	- light blue core: to the neutral contact		P
22.1	Cord anchorage		P
22.2.1	General		P
	Connectors are provided with a cord anchorage		P
22.2.2	Additional requirements for rewirable connectors/plug connectors		N
	Additional requirements are:		N
	- it is clear how to relief from strain and prevention of twisting is intended to be effected		N
	- it is integral with or fixed to the plug connector		N
	- makeshift methods is not used		N
	- it is suitable for the different types of cord and its effectiveness does not depend upon the assembly		N

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Clause	Requirement + Test	Result - Remark	Verdict
	- it is of insulating material or provided with insulating lining		N
	- it is not possible for the cord to touch the clamping screws, if accessible		N
	- its metal parts are insulated from earthing circuit		N
22.2.3	Pull test for cable anchorage		P
	Non rewirable connector/plug connector: tested with the cord as delivered	See appended table 22.2.3	P
	Rewirable connector/plug connector: tested first with one and then with the other of cord, as specified in Table 10	See appended table 22.2.3	N
	During the tests: cord not damaged		P
	After the test:		P
	- cord not displaced by more than 2 mm		P
	- rewirable connectors: ends of conductors have not moved noticeably in the terminals		N
	- non-rewirable connectors: there was no break in the electrical connections		P
22.3	Flexing test		P
	Guards are of insulating material and are fixed in reliable manner		P
	During the test: no interruption of the current and no short-circuit between conductors	See appended table 22.3	P
	After the test:		P
	- test sample show no damage		P
	- guard, if any, not separated from the body		P
	- insulation of the cord show no sign of abrasion or wear		P
	- non-rewirable connector/plug connector: broken strands not pierced the insulation as to become accessible		P

23	MECHANICAL STRENGTH		P
23.1	General		P
	Appliance couplers have adequate mechanical strength		P

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Clause	Requirement + Test	Result - Remark	Verdict
23.2	Free fall test		P
	Test samples are subjected to free fall test: procedure 2 of IEC 60068-2-31:		P
	Number of falls	500 /-4000	—
	After the test:		P
	- test sample show no damage		P
	- no part become detached or loosened		P
23.3	Lateral pull test		P
	Pulling test for connector/plug connector with rating exceeding 0,2 A (carried out after the test of 23.2):		P
	- rated current (A)	10	—
	- pull (N).....	35	—
	After the test:		P
	- connector/plug connector show no damage		P
	- test sample comply with test of 16.3	See appended table 23.3	P
23.4	Impact test		N
	Appliance inlets for surface-mounting and the shroud of insulating material of plug connector and appliance outlets are tested by means of vertical hammer or spring hammer according to IEC 60068-2-75 (12 blows at 1 J \pm 0,05 J)		N
	Before commencing the test, the appliance inlets/plug connectors with their bases or cords, are placed in a refrigerator at a temperature of -5 °C \pm 2 °C for at least 16 h		—
	Before commencing the test, the appliance inlets/plug connectors with their bases or cords, are placed in a refrigerator at a temperature of -5 °C \pm 2 °C for at least 16 h		—
	After the test, the test sample show no damage	See appended 23.4	N
23.5	Deformation test		P
	2,5 A connectors class II equipment, standard sheet C 7: deformation test at 70 °C \pm 2 °C for 2 h, blade A with a force of 10 N, blade B with a force of 5 N		P
	Difference between thickness values measured at the point of impression before and after the test is not more than 0,2 mm (mm).....		P
23.6	Torque and pull test		P

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Clause	Requirement + Test	Result - Remark	Verdict
	External parts of connectors/plug connector with a separate front part: front part and rear part are securely fixed		P
	For all connectors/plug connector, compliance checked by:		P
	A pull test with a force as specified in table 12 for 1 min, followed by a torque as specified in table 12 applied twice for 1 min is applied on two parts of the connectors/plug connectors:		P
	- rated current (A)	10	—
	- pull (N)	100	—
	- torque (Nm)	0,5	—
	For connectors for hot and very hot conditions, the test is performed immediately after the test of 18.2		—
	After the test:		P
	- not detached		P
	- parts providing protection against electric shock not loosened		P
	- live parts not become accessible		P

24	RESISTANCE TO HEAT AND AGEING		P
24.1	Resistance to heat		P
	Compliance is checked using the ball pressure test according to IEC 60695-10-2		P
	After the test: diameter of impression ≤ 2 mm	See appended table 24.1	P
24.2.2	Ageing test for elastomeric materials		N
	Connectors/plug connector of elastomeric material are kept for 240 h (10 days) in a heating cabinet at $70\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$		N
24.2.3	Ageing test for thermoplastic materials		P
	Connectors/plug connector of thermoplastic material are kept for 168 h (7 days) in a heating cabinet at $80\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$		P
24.2.4	Ageing test assessment		P
	After the tests, samples show:		P
	- no crack visible after test with normal or corrected vision without additional magnification		P

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Clause	Requirement + Test	Result - Remark	Verdict
	- no sticky or greasy material as a result of heat		P
	- no trace of cloth (forefinger pressed with 5 N)		P
	- no other damage as a result of heat		P
25	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
25.1	General		P
	Connections, electrical or mechanical, shall withstand the mechanical stresses occurring in normal use		P
	Screws and nuts for the connection of conductors shall be in engagement with a metal thread		N
	Screws for mounting parts of appliance couplers shall not be a thread - cutting type		N
	Screws or nuts for fixing the base of the appliance inlet/appliance outlet on an appliance can be any type		N
	Screws of insulating material shall not be used in cases when the replacement with metal screws could impair the insulation of the appliance coupler		N
	Screws and nuts are tightened and loosened:		N
	- 10 times for metal screws in engagement with a thread of insulating material and for screws of insulating material		—
	- 5 times in all other cases		—
	Threaded part torque test	See appended table 25	N
	During the test:		N
	- not work loose		N
	- no damage		N
25.2	Electrical connections		P
	Contact pressure is not transmitted via the insulating material other than ceramic, or pure mica unless there is sufficient resiliency in the metallic parts		P
25.3	Securement connections		P
	Screws and rivets are locked against loosening or turning		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Connections between terminals and other parts do not work loose in normal use		P
25.4	Metallic parts		P
	Current-carrying parts and earthing contacts: metal having adequate mechanical strength and resistance to corrosion		P
	Material used	Copper alloy	P
	Checked by inspection or by chemical analysis		P
	Under moist conditions, metals having a great difference of electro-chemical potential with respect to each other shall not be used in contact with each other		P

26	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		P
26.1	General		P
	Appliance couplers shall be constructed so that the clearances, creepage distances and solid insulation are adequate to withstand the electrical, mechanical and thermal stresses under the environmental influences that may occur during the anticipated life of the appliance couplers and interconnection couplers		P
26.2	Clearances		P
26.2.1	Dimensioning		P
	Clearances: dimensioned to withstand the minimum rated impulse voltage of 2500 V	See appended table 26	P
26.2.2	Minimum values for clearances		P
	Clearances for basic, supplementary and functional insulation: not less than the value specified in table 15	See appended table 26	P
	Clearance for reinforced insulation: not less the value specified for basic insulation, using the next higher step for rated impulse withstand voltage in table 14	See appended table 26	P
26.3	Creepage distances		P
26.3.1	Dimensioning		P
	Creepage distances: dimensioned for the voltage, taking into account pollution degree 2 and the material group	See appended table 26	P

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Clause	Requirement + Test	Result - Remark	Verdict
26.3.2	Minimum creepage distances		P
	Creepage distances for basic, supplementary and functional insulation: not less than the value specified in table 16	See appended table 26	P
	Creepage distances for reinforced insulation: not less than double the values specified for basic insulation in table 16	See appended table 26	P
26.4	Solid insulation		P
	Solid insulation: capable of durably withstanding electrical and mechanical stresses		P
	Distance through accessible supplementary solid insulation: $\geq 0,8$ mm..... :		P
	Distance through accessible reinforced solid insulation:		P
	- $\geq 0,8$ mm for rated impulse voltage 1500 V..... :		N
	- $\geq 1,5$ mm for rated impulse voltage 2500 V..... :	2,05	P
27	RESISTANCE OF INSULATING MATERIAL TO HEAT, FIRE AND TRACKING		P
27.1	Resistance to heat and fire		P
27.1.1	General		P
	Parts made of insulating material of accessories with a rated current exceeding 0,2 A subjected to glow-wire test	See appended table 27.1	P
27.2	Resistance to tracking		N
	Insulating parts supporting, or in contact with, live parts of appliance couplers shall be of material resistant to tracking, minimum PTI 175 V. (according to Annex A)	See appended table Annex A	N
28	RESISTANCE TO RUSTING		N
	No sign of rust on ferrous parts after 10 min in 10% solution of ammonium chloride, 10 min in box with air saturated with moisture and 10 min at $100 \text{ }^{\circ}\text{C} \pm 2 \text{ }^{\circ}\text{C}$		N
29	ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS		N
29.1	Immunity – Accessories not incorporating electronic components		N

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Clause	Requirement + Test	Result - Remark	Verdict
	These accessories are not sensitive to normal electromagnetic disturbances and therefore no immunity tests are required		N
29.2	Emission – Accessories not incorporating electronic components		N
	These accessories do not generate electromagnetic disturbances; consequently no emission tests are necessary		N

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Clause	Requirement + Test	Result - Remark	Verdict
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15.2	TABLE: insulation resistance		P
Insulation tested	Measured (MΩ)	Required (MΩ)	
between the current-carrying contacts connected together and the body	>100	≥ 5 MΩ	
between each contact in turn and the others connected together	>100	≥ 5 MΩ	
Supplementary information:			

15.3	TABLE: Dielectric strength		P
Insulation or disconnection tested	Test voltage (V)	Flashover/ breakdown (Yes/No)	
between the current-carrying contacts connected together and the body	3000	No	
between each contact in turn and the others connected together	1500	No	
Supplementary information:			

16	TABLE: Force necessary to withdraw the plug		P
	Type of connector/appliance outlet (A)	10A	—
	Standard sheet.....	IP-A	—
16.2	Verification of the maximum withdrawal force		P
sample N°	maximum withdrawal force (multi-pin gauge) (N)	the connector did not remain in the appliance inlet (Y/N)	
	50	Y	
	50	Y	
	50	Y	
16.3	Verification of the minimum withdrawal force		P
sample N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)	
	1,5	Y	
	1,5	Y	

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Clause	Requirement + Test	Result - Remark	Verdict
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	1,5	Y	
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Supplementary information:

19	TABLE: Breaking capacity		P
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	Rated current (A).....:	10	—
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	Rated voltage (V).....:	250	—
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sample N°	Test voltage (V)	Test current (A)	Power factor (cos Φ)
	275	12,5	0.95

Supplementary information:

20	TABLE: Normal operation			P
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	Rated current (A).....:	10	—
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	Rated voltage (V).....:	250	—
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sample N°	Test voltage (V)	Test current (A)	Power factor (cos Φ)	Number of strokes
	250	10	0,95	2000
	-	No current	-	6000

Supplementary information:

15.3	TABLE: Dielectric strength		P
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Insulation or disconnection tested	Test voltage (V)	Flashover/ breakdown (Yes/No)
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between the current-carrying contacts connected together and the body	1500	No
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between each contact in turn and the others connected together	750	No
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Supplementary information:

21	TABLE: Temperature rise		P
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	Type and cross-sectional area of cord fitted to rewirable connector/appliance outlet.....:	H05VV -F 2X0.75mm ²	—
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Clause	Requirement + Test	Result - Remark	Verdict
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sample N°	Test circuit (L-N / L-E)	Test current (A)	measured dT (K)	allowed dT (K)	Verdict
		12,5	26,1	45	—

Supplementary information:

16	TABLE: Force necessary to withdraw the plug			P
	Type of connector/appliance outlet (A)	10		—
	Standard sheet.....	IP-A		—

16.2 Verification of the maximum withdrawal force		Verdict
sample N°	maximum withdrawal force (multi-pin gauge) (N)	the connector did not remain in the appliance inlet (Y/N)
	50	Y
	50	Y
	50	Y

16.3 Verification of the minimum withdrawal force		Verdict
sample N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)
	1,5	Y
	1,5	Y
	1,5	Y

Supplementary information:

22.2.3 TABLE: Pull test for cable anchorage		Verdict			
sample N°	Type of cord	Nominal cross-sectional area (mm ²)	Pull (100 times) (N)	Torque (1 min) (Nm)	Displacement of cord (mm)
	H05VVH2-F	2x0,75	60	0,15	<1mm
	H05VVH2-F	2x1,0	60	0,25	<1mm

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Clause	Requirement + Test			Result - Remark		Verdict
	H05VV-F	2x0,75	60	0,15	<1mm	
	H05VV-F	2x1,0	60	0,25	<1mm	
	H05VV-F	2x1,5	60	0,25	<1mm	
Supplementary information:						

22.3	TABLE: Flexing test					P
	Before the test: ageing for rewirable connector/plug connector according to 24.2.2 (70 °C ± 2 °C / 240 h) or 24.2.3 (80 °C ± 2 °C / 168 h)..... :					—
sample N°	Type of cord	Nominal cross-sectional area (mm²)	Test current (A)	Force (N)	Number of flexings	
	H05VVH2-F	2x0,75	10	10	10000	
	H05VVH2-F	2x1,0	10	20	10000	
	H05VV-F	2x0,75	10	10	10000	
	H05VV-F	2x1,0	10	20	10000	
	H05VV-F	2x1,5	10	20	10000	
Supplementary information:						

23.3	TABLE: Lateral pull test		P
	After the test: comply with 16.3		—
16.3	Verification of the minimum withdrawal force		P
sample N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)	
	1,5	Y	
	1,5	Y	
	1,5	Y	
Supplementary information:			

23.4	TABLE: Impact test			N
Impacts per surface	Surface tested	Impact energy (Nm)	Comments	

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Clause	Requirement + Test	Result - Remark	Verdict
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Supplementary information:

24.1	TABLE: Resistance to heat – ball pressure test			P
	Allowed impression diameter (mm).....:			—
Part under test	Material designation	Test temperature (°C)	Impression diameter (mm)	
Enclosure	PVC	125	0,8	
Insert	PC	125	0,8	

Supplementary information:

25	TABLE: Screws, current-carrying parts and connections - Threaded Part Torque Test			N
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	

Supplementary information:

26	TABLE: Clearance, creepage distance and solid insulation					P
	Requirements clearance, creepage distance met					
	Rated voltage (V)		250			—
	Overvoltage category.....		II			—
	Rated impulse voltage (V).....		2500			—
	Pollution degree.....		2			—
	Material group.....		III			—
Type of insulation	Nominal voltage (V)	Required CI (mm)	Measured CI (mm)	Required Cd (mm)	Measured Cd (mm)	
L-N	250	≥1,5	10,9	≥2,5	14,7	
L/N-accessible parts	250	≥3	>7,3	≥5	>20	

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Clause	Requirement + Test	Result - Remark	Verdict
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Supplementary information:					

27.1	TABLE: Resistance to heat and fire – glow-wire test					P
Part under test	Material designation	Test temperature (°C)	Visible flame and sustained glowing (Y/N)	Flame and glowing extinction time	Ignition of the tissue paper (Y/N)	
Enclosure	PVC	650	N	N	N	
Insert	PC	750	N	N	N	
Supplementary information:						

Annex A	TABLE: Proof tracking test - material group of used insulating materials				N
	Number of drops..... :				—
Part under test	Material designation	Test voltage (V)	flashover / breakdown (Y/N)	Material group (I / II / IIIa / IIIb)	
Supplementary information:					

Photos:

D09A+QT5



Photos:

D09A+QT5



Photos:

D09A+QT5

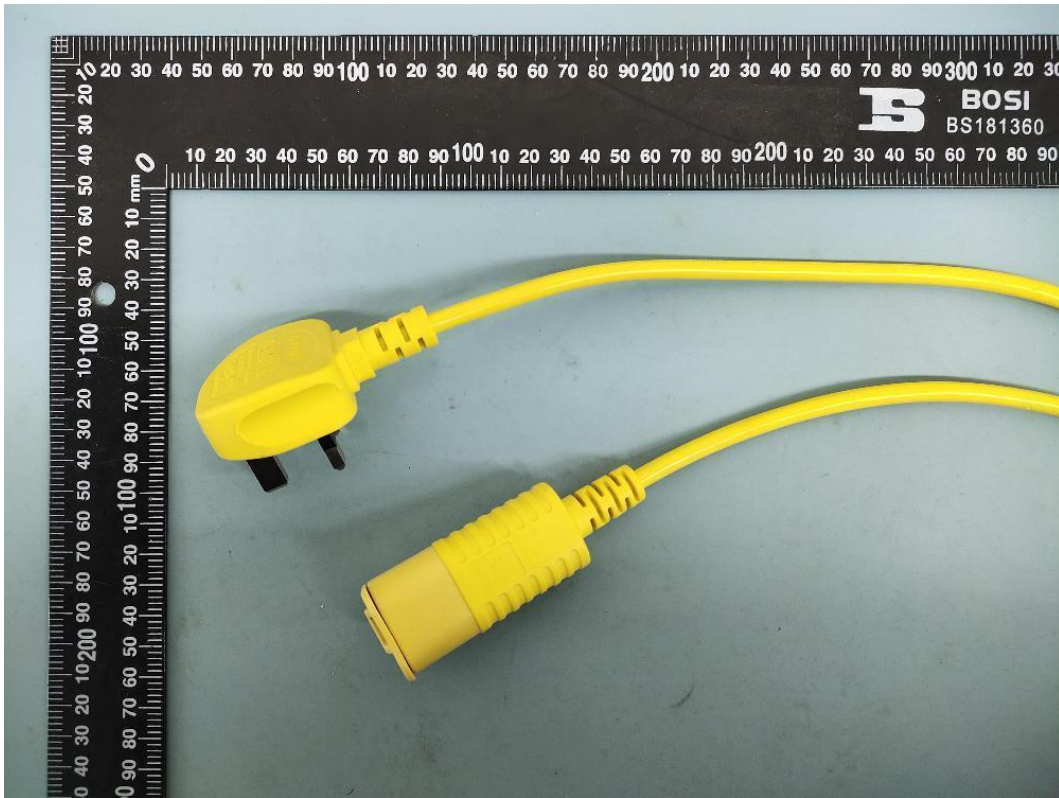


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Photos:

CSC06/ CSC062

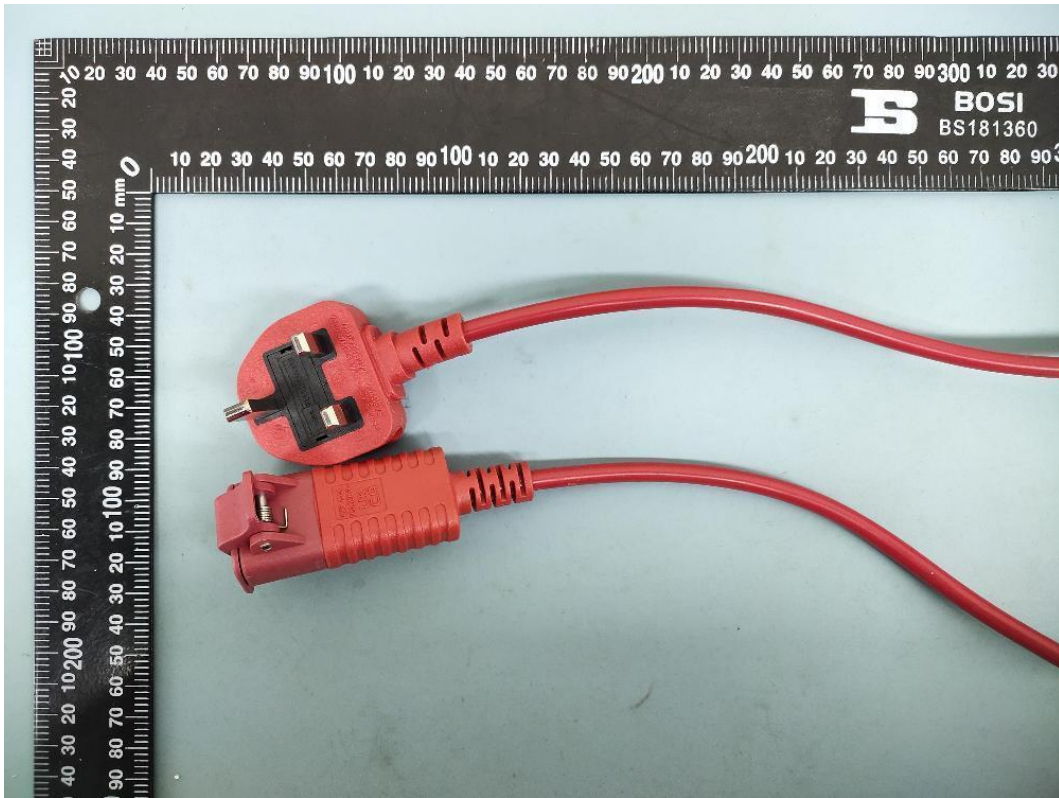


CSSJ10/ CSSJ102



Photos:

CSSJ10/ CSSJ102

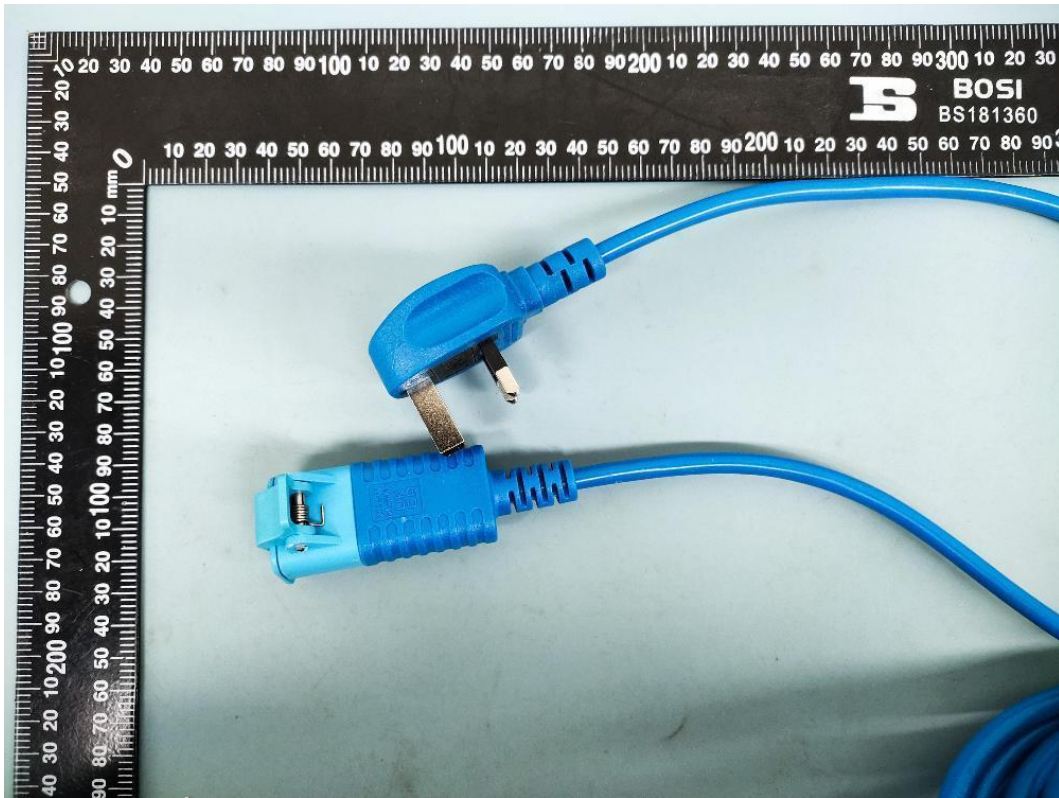


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Photos:

CSM10/ CSM102



-----End of Test Report-----