



<p><b>TEST REPORT</b>  <b>IEC 60320-1</b>  <b>Appliance couplers for household and similar general purposes</b>  <b>Part 1: General requirements</b></p>		
Report Number .....	SZES140710175401	
Date of issue .....	2014-08-20	
Total number of pages .....	25 Pages	
Testing Laboratory .....	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab	
Address .....	No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China 518057	
Applicant's name .....	GlobTek, Inc.	
Address .....	186 Veterans Dr. Northvale NJ 07647 USA	
<b>Test specification:</b>		
Standard .....	IEC 60320-1:2001 (2 <sup>nd</sup> Edition) + A1:2007	
Test procedure .....	Commission testing	
Non-standard test method .....	N/A	
Test Report Form No. ....	IEC60320_1A	
Test Report Form(s) Originator .....	IMQ	
Master TRF .....	Dated 2008-10	
<p><b>Copyright © 2008 Worldwide System for Conformity Testing and Certification of Electrical Equipment and Components (IECEE), Geneva, Switzerland. All rights reserved.</b></p> <p>This publication may be reproduced in whole or in part for non-commercial purposes as long as the IECEE is acknowledged as copyright owner and source of the material. IECEE takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.</p>		
Test item description .....	Connector used in switching adapter	
Trade Mark .....	 (for switching adapter)	
Manufacturer .....	Same as applicant	
Model/Type reference .....	R-EU-2 (for switching adapter)	
Ratings .....	250 V, 2,5 A (for connector)	

<b>Testing procedure and testing location:</b>	
<input checked="" type="checkbox"/> <b>Testing Laboratory:</b>	SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch E&E Lab
Testing location/ address..... :	No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China 518057
<input type="checkbox"/> <b>Associated Laboratory:</b>	
Testing location/ address..... :	
Tested by (name + signature) ..... :	Megan Xue
Approved by (+ signature) ..... :	Rocky Wang
 	
	
<input type="checkbox"/> Testing procedure: TMP	
Testing location/ address..... :	
Tested by (name + signature) ..... :	
Approved by (+ signature) ..... :	
<input type="checkbox"/> Testing procedure: WMT	
Testing location/ address..... :	
Tested by (name + signature) ..... :	
Witnessed by (+ signature) ..... :	
Approved by (+ signature) ..... :	
<input type="checkbox"/> Testing procedure: SMT	
Testing location/ address..... :	
Tested by (name + signature) ..... :	
Approved by (+ signature) ..... :	
Supervised by (+ signature) ..... :	
<input type="checkbox"/> Testing procedure: RMT	
Testing location/ address..... :	
Tested by (name + signature) ..... :	
Approved by (+ signature) ..... :	
Supervised by (+ signature) ..... :	

**Summary of testing:**

The sample(s) tested complies with the requirements of IEC 60320-1:2001 (2<sup>nd</sup> Edition) + A1:2007.

These tests fulfil the requirements of standard ISO/IEC 17025.

When determining the test conclusion, the Measurement Uncertainty of test has been considered.

**Tests performed (name of test and test clause):**

**Testing location:**

- 8. Marking
- 9. Dimensions and compatibility
- 10. Protection against electric shock
- 11. Provision for earthing
- 12. Terminals and terminations
- 13. Construction
- 14. Moisture resistance
- 15. Insulation resistance and electric strength
- 16. Forces necessary to insert and to withdraw the connector
- 17. Operation of contacts
- 18. Resistance to heating of appliance couplers for hot conditions or very hot conditions
- 19. Breaking capacity
- 20. Normal operation
- 21. Temperature rise
- 22. Cords and their connection
- 23. Mechanical strength
- 24. Resistance to heat and ageing
- 25. Screws, current-carrying parts and connections
- 26. Creepage distances, clearance and distance through insulation
- 27. Resistance of insulating material to heat, fire and tracking
- 28. Resistance to rusting
- 29. Electromagnetic compatibility (EMC) requirements

**Summary of compliance with National Differences:**

**N/A**

**Copy of marking plate:**

N/A

**Test item particulars:**

Connector .....:  Yes     No  
 ... which is .....:  integrated     incorporated  
 Appliance inlet .....:  Yes     No  
 ... which is .....:  integrated     incorporated     N/A  
 For .....:  cold     hot     very hot conditions  
 For .....:  class I equipment     class II equipment  
 Earthing contact.....:  with     without  
 Type of terminal or terminations.....: N/A  
 Type of cord.....: N/A  
 Cross-sectional areas (mm<sup>2</sup>) .....: N/A  
 Voltage (V).....: 250 V  
 Current (A).....: 2,5 A  
 Standard Sheet .....: C7

**Possible test case verdicts:**

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

**Testing** .....

Date of receipt of test item.....: 2014-07-15  
 Date (s) of performance of tests.....: 2014-07-15 to 2014-08-20

**General remarks:**

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

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

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

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

This document is issued by the Company subject to its General Conditions of Service, available on request or accessible at [www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm) and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at [www.sgs.com/terms\\_e-document.htm](http://www.sgs.com/terms_e-document.htm).

Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be produced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

**General product information:**

The connector used in a detachable direct plug portion of switching adapter.

**Material list:**

object/part No.	manufacturer / trademark	type/model	technical data	mark(s) of conformity <sup>1)</sup>
Plastic material necessary to retain live parts	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, V-0	UL(E45329)
Plastic material of enclosure	SABIC INNOVATIVE PLASTICS B V	HF500R	PC, V-0	UL(E45329)
Metal materials of live parts	Yuyao Yonghai Hardware Product Co., Ltd.	H62	Contain 60,5%-63,5% copper	--

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>8</b>	<b>MARKING</b>		N/A
8.1	Connectors are marked with:		N/A
	- rated current (A).....:		N/A
	- rated voltage (V) .....		N/A
	- symbol for nature of supply .....		N/A
	- name, trademark or identification mark of the maker or responsible vendor.....:		N/A
	- type reference .....		N/A
	- marking as specified in subclause 7.5 of IEC 60999-1 to identify the type of conductors suitable for screwless terminals .....		N/A
8.2	Appliance inlets are marked with:		N/A
	- name, trademark or identification mark of the maker or responsible vendor.....:		N/A
	- type reference (not visible) .....		N/A
8.3	Connectors and appliance inlets for class II are not marked with the symbol for class II construction		N/A
8.4	Correct symbols are used		N/A
8.5	Marking is easily discernible		N/A
8.6	Contacts in non-reversible connectors are disposed as follows:		N/A
	- earthing contact: upper central position		N/A
	- line contact: lower right-hand position		N/A
	- neutral contact: lower left-hand position		N/A
	Terminals in rewirable, non-reversible connectors are indicated as follows:		N/A
	- earthing terminal: [earth symbol] .....		N/A
	- neutral terminal: N .....		N/A
	Cores in non-rewirable, non-reversible connectors are connected as specified in 22.1		N/A
	Appliance inlets, other than those integrated or incorporated in an appliance or equipment, for use with connectors according to this subclause, have terminal markings to correspond with this subclause		N/A
	Marking symbol or letters are not placed on removable parts		N/A
	Rewirable connectors are supplied with the following instruction:		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict

	- method of connection of conductors .....		N/A
	- full-scale diagram .....		N/A
	- sizes and types of cords suitable .....		N/A
8.7	Marking is easily legible and durable		N/A
8.8	Test: 15 s with water, 15 s with petroleum spirit		N/A

<b>9</b>	<b>DIMENSIONS AND COMPATIBILITY</b>		P
9.1	Appliance couplers comply with relevant Standard Sheet.....	C7	P
9.2	Retaining device comply with Standard Sheet C 25		N/A
9.3	Single-pole connections between connectors and appliance inlets are not possible		P
	Appliance inlets do not allow improper connections with portable socket-outlets complying with IEC 60083		N/A
	Connectors do not allow improper connections with plugs complying with IEC 60083		P
9.4	Engagement impossible of:		P
	- connectors for Class II with appliance inlets for other equipment		P
	- 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/A
	- connectors in appliance inlets having a higher rated current		P
9.5	Pin ends do not protrude beyond the limiting surface of the shroud		N/A
9.6	Non-standardized appliance couplers provide a technical advantage and do not adversely affect the purpose and safety of standardized appliance couplers		N/A
	Non-standardized appliance couplers comply with all other requirements of the standard		N/A
	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/A

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	There are no changes which adversely affect the contact-making ability		N/A
	It is not possible to engage a non-standardized accessory with:		N/A
	- a standardized complementary accessory, but of a different current rating;		N/A
	- a standardized complementary accessory, of the same rating, if live parts are rendered any more accessible or if the combination fails to comply with the requirements of the standard other than the dimensions in the standard sheets;		N/A
	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		N/A
<b>10</b>	<b>PROTECTION AGAINST ELECTRIC SHOCK</b>		P
10.1	Live parts of appliance inlets are not accessible when the connector is in partial or complete engagement		N/A
	Live parts, earthing contact and parts connected thereto of connectors are not accessible		P
	Connectors with enclosures or bodies of elastomeric or thermoplastic material: test made at 35 °C ± 2 °C with the standard test finger shown in figure 10 applied for 30 s with a force of 20 N		P
10.2	Connection between a pin of an appliance inlet and a contact of a connector is not possible as long as any of the pins is accessible		P
10.3	It is not possible to remove parts preventing access to live parts without the aid of a tool		P
	Means for fixing these parts are insulated from live parts		P
	Bushes are adequately fixed and it is not possible to remove them without dismantling the connector		N/A
10.4	External parts of connectors are of insulating material		P
	Shroud and base of appliance inlets without earthing contact and those of 2,5 A appliance inlets with earthing contact are of insulating material		N/A



<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>11</b>	<b>PROVISION FOR EARTHING</b>		N/A
11.1	Earthing terminals comply with the requirements of clause 12		N/A
11.2	Appliance couplers with earthing contact are so constructed that:		N/A
	when inserting the connector, the earth connection is made before the current-carrying contacts of the appliance inlet are energized		N/A
	when withdrawing a connector, the current-carrying contacts separate before the earth connection is broken		N/A
<b>12</b>	<b>TERMINALS AND TERMINATIONS</b>		P
12.1	General		P
	Requirements of this clause applied only to connectors		P
	Particular requirements are under consideration for appliance inlets submitted as individual accessories not integrated or incorporated in an appliance or equipment		N/A
	Appropriate IEC standard of the relevant equipment applied for appliance inlets incorporated in equipment..... :		N/A
12.2	Rewirable connectors are provided with clamping units according to IEC 60999-1		N/A
	Non-rewirable connectors are provided with soldered, welded, crimped or equally effective screwless connections which do not allow the possibility to disconnect the conductor ..... :		N/A
	In non-rewirable connectors, screwed connections are not used		N/A
	The end of a stranded conductor is not consolidated by soft soldering at places where the conductor is subjected to contact pressure		N/A
12.3	Rewirable connectors with a rated current not exceeding 16 A has a rated connecting capacity of 1,5 mm <sup>2</sup> according to IEC 60999-1		N/A
12.4	Clamping units are so fixed and located within the connector that when operated, the clamping units do not work loose and creepage distances and clearances are not reduced below the values specified		N/A

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
12.5	Clamping units for earthing conductors are of the same size as the corresponding terminals for the current carrying conductors		N/A
<b>13</b>	<b>CONSTRUCTION</b>		P
13.1	There is no risk of accidental contact between earthing contact of appliance inlet and current-carrying contacts of the connector		N/A
13.2	Fixing screws adequately locked against loosening		N/A
13.3	Pins and contacts adequately locked against rotation		P
13.4	Pins of appliance inlets:		N/A
	- are securely retained		N/A
	- have adequate mechanical strength		N/A
	- it is not possible to remove them without the aid of a tool		N/A
	- are surrounded by a shroud		N/A
	Appliance inlet with non-solid pins: force of 100 N applied for 1 min by means of a steel rod having a diameter of 4,8 mm		N/A
	There is no significant alteration in the shape of the pin after the test		N/A
	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/A
	After removal of test force, pins remain within the tolerances specified in the Standard Sheet		N/A
13.5	Contacts of connectors are self-adjusting so as to provide adequate contact pressure		P
	Self-adjustment of the contacts in connectors other than 0,2 A does not depend upon the resiliency of insulating material		P
13.6	Enclosure of rewirable connectors consists of more than one part and encloses the terminals and the ends of cord		N/A
	Construction is such that conductors can be properly connected and the cores are not pressed against each other		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Core of live conductor is not pressed against accessible metal parts		N/A
	Core of earthing conductor is not pressed against live parts		N/A
13.7	It is not possible to assemble the rewirable connector in such a way that terminals are enclosed and contacts accessible		N/A
13.8	Parts of the body of connectors are reliably fixed to one another		P
	It is not possible to dismantle the connector without the aid of a tool		P
	Separate independent means for fixing and locating parts of the body with respect to each other are present in rewirable connectors		N/A
	Thread-cutting screws are not used		N/A
	Resiliency of the contacts does not depend upon the assembly of the parts of the body		N/A
	Partial loosening of assembly screws does not allow the detachment of parts providing protection against electric shock		N/A
13.9	Earthing contact of connectors is fixed to the body		N/A
	Various parts of earthing contact and earthing terminal which are not in one piece are fixed together by riveting, welding or similar reliable manner		N/A
	Connection between earthing contact and earthing terminal is of metal resistant to corrosion		N/A
13.10	Terminals of rewirable accessories and terminations of non-rewirable accessories are located and shielded that loose wires will not present a risk of electric shock		N/A
	Non-rewirable moulded-on accessories are provided with means to prevent loose wires of a conductor from reducing the minimum isolation distance requirements		N/A
13.10.1	Rewirable accessories: test with 6 mm free wire		N/A
	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/A
	Free wire of a conductor connected to an earthing terminal does not touch a live part		N/A

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
13.10.2	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 does not touch any accessible metal part or does not 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 does not touch any live part		N/A
13.10.3	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
13.11	Connectors without earthing contact and 2,5 A connectors with earthing contact are part of a cord set		N/A
13.12	Fuses, relays, thermostats and thermal cut-outs are not incorporated in connectors complying with the standard sheets		N/A
	Fuses, relays, thermostats and thermal cut-outs incorporated in appliance inlets comply with the relevant IEC standards		N/A
	Switches comply with IEC 61058-1		N/A
	Energy regulators comply with IEC 60730		N/A
	Integrated or incorporated appliance inlets comply with requirements of this standard		N/A
<b>14</b>	<b>MOISTURE RESISTANCE</b>		<b>P</b>
14.1	Specimens kept in a humidity cabinet containing air with relative humidity maintained between 91 % and 95 % for:		P
	- 168 h (seven days) for connectors and appliance inlets with earthing contacts		N/A
	- 48 h (two days) in all other cases		P
	After this treatment the specimens show no damage		P
<b>15</b>	<b>INSULATION RESISTANCE AND ELECTRIC STRENGTH</b>		<b>P</b>
15.2	The insulation resistance measured 60 s $\pm$ 5 s after application of 500 V d.c. is not less than 5 M $\Omega$	See appended table 15.2	P

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
15.3	Electric strength: a.c. test voltage applied for 1 min	See appended table 15.3	P
<b>16</b>	<b>FORCES NECESSARY TO INSERT AND TO WITHDRAW THE CONNECTOR</b>		<b>P</b>
16.2	Verification of the maximum withdrawal force (multi-pin gauge)	See appended table 16	P
16.3	Verification of the minimum withdrawal force (single-pin gauge)	See appended table 16	P
<b>17</b>	<b>OPERATION OF CONTACTS</b>		<b>P</b>
	Contacts and pins of appliance couplers make connection with a sliding action		P
	Contacts of connectors provide adequate contact pressure and do not deteriorate in normal use		P
	Effectiveness of pressure between contacts and pins does not depend upon the resiliency of the insulating material		
<b>18</b>	<b>RESISTANCE TO HEATING OF APPLIANCE COUPLERS FOR HOT CONDITIONS OR VERY HOT CONDITIONS</b>		<b>N/A</b>
18.2	Test: connectors remained for 96 h inserted into the appliance inlet of an appropriate test apparatus (example given in figure 13)	See appended table 18.2	N/A
18.3	Appliance inlets kept 96 h in a heating cabinet at a test temperature (°C) .....	120 °C ± 2 °C / 155 °C ± 2 °C	—
	After this test the specimens show no damage		N/A
<b>19</b>	<b>BREAKING CAPACITY</b>		<b>P</b>
	Test conditions applied to connectors (other than 0,2 A connectors): a.c. test voltage 275 V; 100 strokes at a rate of 30 strokes per min		P
	- test current 1,25 I <sub>n</sub> (A) .....	3,2 A	—
	- power factor .....	0,6	—
	During the test: no flashover and any sustained arcing		P
	After the test: specimen show no damage and entry holes for the pins show any serious damage		P

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>20</b>	<b>NORMAL OPERATION</b>		<b>P</b>
	Test conditions for 0,2 A connectors and appliance inlets: 4000 strokes without current flowing		N/A
	Test conditions applied to other connectors and appliance inlets:: 2000 strokes at test current In (A); test voltage 250 V; power factor .....	Test current: 3,2 A; power factor: 0,6	P
	After the test the specimens withstand an electric strength test as specified in 15.3 with the test voltage reduced to 1500 V		P
	Specimen does not show:		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
<b>21</b>	<b>TEMPERATURE RISE</b>		<b>P</b>
	Temperature rise test (connectors other than 0,2 A connectors)	See appended table 21	P
	After the test the specimens withstand the test of clause 16	See appended table 21	P
<b>22</b>	<b>CORDS AND THEIR CONNECTION</b>		<b>N/A</b>
22.1	Non-rewirable connectors are provided with cord complying with either IEC 60227 or IEC 60245 ... :	See appended table 22.1	N/A
	Type of cord complies with standard indicated in Table 4) .....		N/A
	Cord has a nominal cross-sectional area not less than that specified in Table 4 (mm <sup>2</sup> ) .....		N/A
	Non-rewirable connectors with earthing contact are provided with a three-core cord		N/A
	Connections to the contacts in non-rewirable, non-reversible connectors:		N/A
	- green/yellow core: to the earthing contact		N/A
	- brown core: to the line contact		N/A
	- light blue core: to the neutral contact		N/A
22.2	Connectors are provided with a cord anchorage		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict
22.3	Construction of cord anchorage in rewirable connectors:		N/A
	- it is clear how to relief from strain and prevention of twisting is intended to be effected		N/A
	- it is integral with or fixed to the plug connector		N/A
	- makeshift methods is not used		N/A
	- it is suitable for the different types of cord and its effectiveness does not depend upon the assembly		N/A
	- it is of insulating material or provided with insulating lining		N/A
	- it is not possible for the cord to touch the clamping screws, if accessible		N/A
	- its metal parts are insulated from earthing circuit		N/A
	Pull and torque test	See appended table 22.3	N/A
	During the tests: cord not damaged		N/A
	After the tests:		N/A
	- cord not displaced by more than 2 mm		N/A
	- rewirable connectors: ends of conductors have not moved noticeably in the terminals		N/A
	- non-rewirable connectors: there was no break in the electrical connections		N/A
	- no undue twisting of the conductors where they are connected to terminals or terminations is ensured		N/A
22.4	Guards are of insulating material and are fixed in reliable manner		N/A
	Flexing test	See appended table 22.4	N/A
	- specimen show no damage		N/A
	- guard, if any, not separated from the body		N/A
	- insulation of the cord show no sign of abrasion or wear		N/A
	- non-rewirable connector: broken strands not pierced the insulation as to become accessible		N/A
	During the test: no interruption of the test current and no short-circuit between conductors		N/A
<b>23</b>	<b>MECHANICAL STRENGTH</b>		<b>P</b>

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
23.1	Appliance couplers have adequate mechanical strength		P
23.2	Connectors subjected to test Ed: Free fall, procedure 2 of IEC 60068-2-32:		P
	Number of falls ..... : 500		—
	After the test: specimens show no damage and no part become detached or loosened		P
23.3	Pulling test for connectors with rating exceeding 0,2 A (carried out after the test of 23.2):		P
	- rated current (A) ..... : 2,5 A		—
	- pull (N)..... : 6 N		—
	During the test: guard, if any, not separated from the body		P
	After the test: connector show no damage		P
	Specimens comply with the requirements for minimum withdrawal force and withstand the test of 16.3	See appended table 23.3	P
23.4	Surface mounting appliance inlets: shroud of metal compressed with a force of 40 N ± 2 N for 60 s ± 6 s		N/A
	After the test: no deformation or loosening of the shroud		N/A
23.5	The shroud of insulating material of surface mounting appliance inlets does not show damage after 12 blows at 0,5 J ± 0,05 J are applied by means of the spring-operated impact-test apparatus of Figure 21		N/A
23.6	2,5 A connectors class II equipment, standard sheet C 7: deformation test at 70 °C + ± 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) ..... : <0,1 mm		P
23.7	External parts of connectors with a separate front part: front part and rear part are securely fixed		N/A
	Test performed immediately after the test of 18.2		N/A
	The two parts of the connector after a pull test with a force of 100 N ± 2 N for 1 min, followed by a torque test of 2 Nm applied twice for 1 min:		N/A
	- not detached		N/A
	- parts providing protection against electric shock not loosened		N/A
	- live parts not become accessible		N/A



<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
23.8	Shroud of appliance inlets: pressure test (20 N ± 2 N for 1 min)		N/A
	After 1 min while the shroud is still under pressure: corresponding go-gauges enter the appliance inlet		N/A
	Test repeated with the specimen rotated 90°		N/A
<b>24</b>	<b>RESISTANCE TO HEAT AND AGEING</b>		P
24.1.1	Connectors and appliance inlets other than those integrated or incorporated are kept for 1 h in a heating cabinet at a temperature of 100 °C ± 2 °C		P
	During the test: no change impairing their further use and sealing compound, if any, not flow		P
24.1.2	Parts of insulating material of appliance inlets not integrated or incorporated and of connectors other than 0,2 A connectors: ball-pressure test of 1 h		P
	After the test: diameter of impression ≤ 2 mm	See appended table 24.1.2	P
24.1.3	Connectors of thermoplastic material: pressure test with a force of 20 N at 100 °C ± 2 °C for 1 h		P
	After the test: specimen show no damage		P
24.2.1	Connectors of elastomeric material are kept for 10 days (240 h) in a heating cabinet at 70 °C ± 2 °C		P
24.2.2	Connectors of thermoplastic material are kept for 7 days (168 h) in a heating cabinet at 80 °C ± 2 °C		P
24.2.3	After the tests, samples show:		P
	- no crack visible after test with normal or corrected vision without additional magnification		P
	- 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
<b>25</b>	<b>SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS</b>		P
25.1	Connections withstand mechanical stresses		P
	Screws and nuts which transmit contact pressure: in engagement with a metal thread		N/A
	Screws and nuts operated when mounting the accessory are not of the thread-cutting type		N/A
	Threaded part torque test	See appended table 25.1	N/A
25.2	Screws in engagement with a thread of insulating material and screws of insulating material: correct introduction into the screw hole or nut is ensured		N/A

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
	Screws of insulating material: not used if they could impair insulation		N/A
25.3	Contact pressure is not transmitted through insulating material other than ceramic, or other material with characteristics at least equivalent		N/A
	Requirement not applicable to appliance couplers for cold conditions if there is sufficient resiliency in the metallic parts		N/A
25.4	Screws and rivets are locked against loosening or turning		N/A
25.5	Connections between terminals and other parts do not work loose in normal use		N/A
25.6	Current-carrying parts and earthing contacts are of:		P
	- copper		N/A
	- alloy with at least 58% copper for cold worked parts or at least 50% copper for other parts		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); coating thickness at least 5 µm (ISO Service Condition No. 1); thickness (µm)..... :		N/A
	- steel with electroplated coating of nickel and chromium (ISO 1456); coating thickness at least 20 µm (ISO Service Condition No. 2); thickness (µm) .....		N/A
	- steel with electroplated coating of tin (ISO 2093); coating thickness at least 12 µm (ISO Service Condition No. 2); thickness (µm)..... :		N/A
	Parts subjected to mechanical wear are not made of steel with electroplated coating		N/A
	Steel with an electroplated coating of zinc is not permitted if fixed electrical connection is made in prime current-carrying parts		N/A
	Electroplated coating of zinc is permissible only on parts which do not participate directly in current transmission		N/A
25.7	Metals having a great difference of electro-chemical potential are not used in contact with each other under moist conditions		N/A
25.8	Pins of appliance inlets for very hot conditions are protected by nickel plating or are of a material no less resistant to corrosion		N/A

<b>IEC 60320-1</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>26</b>	<b>CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION</b>		P
	Creepage distances, clearances and distances through insulation are not less than the values shown in table 9 if not otherwise specified in the standard sheets	See appended table 26	P
<b>27</b>	<b>RESISTANCE OF INSULATING MATERIAL TO HEAT, FIRE AND TRACKING</b>		P
27.1	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: insulating parts supporting, or in contact with, live parts of appliance couplers for hot and very hot conditions, are of material resistant to tracking (175 V, 50 drops, solution A of IEC 60112)	See appended table 27.2	P
<b>28</b>	<b>RESISTANCE TO RUSTING</b>		N/A
	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 °C ± 2 °C		N/A
<b>29</b>	<b>ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS</b>		N/A
29.1	Immunity		N/A
29.1.1	Accessories not incorporating electronic components are not sensitive to normal electromagnetic disturbances and therefore no immunity tests are required		N/A
29.2	Emission		N/A
29.2.1	Accessories not incorporating electronic components do not generate electromagnetic disturbances; consequently no emission tests are necessary		N/A

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict

15.2	<b>TABLE: Insulation resistance</b>		P
Test voltage applied between:		Measured (MΩ)	Required (MΩ)
The current-carrying contacts connected together and the body		>6,5	≥ 5 MΩ
Each contact in turn and the others connected together		>6,5	≥ 5 MΩ
Supplementary information:			

15.3	<b>TABLE: Electric strength</b>		P
Points of application of the test voltage (Table 101):		Test voltage (V)	Flashover / breakdown (Yes/No)
The current-carrying contacts connected together and the body		3000	No
Each contact in turn and the others connected together		1500	No
Supplementary information:			

16	<b>TABLE: Force necessary to withdraw the plug</b>		P
Type of connector (A) .....		2,5 A	—
Standard Sheet.....		C7	—
16.2	Verification of the maximum withdrawal force		P
Connectors for hot or very hot conditions: test temperature by means of the heating device (°C) :		120 °C / 155 °C	—
specimen N°	maximum withdrawal force (multi-pin gauge) (N)	the connector did not remain in the appliance inlet (Y/N)	
1	50	Y	P
2	50	Y	P
3	50	Y	P
16.3	Verification of the minimum withdrawal force		P
specimen 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	1,5	Y	P
2	1,5	Y	P
3	1,5	Y	P
Supplementary information:			

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict

18.2	<b>TABLE: Resistance to heating of connectors for hot conditions or very hot conditions</b>		N/A
------	---	--	-----

21	<b>TABLE: Temperature rise test</b>			P
	Type and cross-sectional area of cord fitted to rewirable connector..... :	N/A		—
	Torque applied to screws of clamping units (Table 8) (Nm) .....	N/A		—
Specimen N°	Test circuit (L-L / L-E)	Test current (1,25 I <sub>n</sub> ) (A)	Measured temperature rise Δt of terminals and contacts (K):	Allowed ΔT (K)
4	L-L	3,2	8,2	45
5	L-L	3,2	9,1	45
6	L-L	3,2	8,6	45

Supplementary information:

16	<b>TABLE: Force necessary to withdraw the plug</b>			P
16.2	Verification of the maximum withdrawal force			P
	Connectors for hot or very hot conditions: test temperature by means of the heating device (°C) :		120 °C / 155 °C	—
specimen N°	maximum withdrawal force (multi-pin gauge) (N)	the connector did not remain in the appliance inlet (Y/N)		—
4-6	50	Y		P
16.3	Verification of the minimum withdrawal force			
specimen N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)		—
4-6	1,5	Y		P

Supplementary information:

22.1	<b>TABLE: List of cords connected to non-rewirable connectors</b>		N/A
	Type of cord	Nominal cross-sectional area (mm <sup>2</sup> )	
	--	--	

Supplementary information:

22.3	<b>TABLE: Pull and torque test for connectors</b>	N/A
------	---	-----

22.4	<b>TABLE: Flexing test for connectors</b>	N/A
------	---	-----

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict

23.3	<b>TABLE: Verification of the minimum withdrawal force after the pulling test of 23.3</b>		P
Specimen N°	minimum withdrawal force (single-pin gauge) (N)	the single pin gauge did not fall from the contact assembly within 3 s (Y/N)	P
7-9	1,5	Y	P
Supplementary information:			

24.1.2	<b>TABLE: Ball pressure test</b>			P	
	Part under test	Material designation	Test temperature (°C)	Impression diameter (mm)	--
	Insulation material necessary to retain current-carrying parts	--	125	1,03	P
Supplementary information:					

25.1	<b>TABLE: Threaded part torque test</b>			N/A
------	---	--	--	-----

26	<b>TABLE: Creepage distances, clearances and distances through insulation</b>						P
Item per table 23	Creepage distance dcr, clearance cl and distance through insulation dtsc at/of:	Required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)	Required dtsc (mm)	dtsc (mm)
1	Between live parts of different polarity	≥3	>3,9	≥3	>3,9	--	--
Supplementary information:							

27.1	<b>TABLE: Glow-wire test</b>					P
	Part under test	Material designation	Test temperature (°C)	no visible flame and no sustained glowing (P/F) or flame and glowing extinguish within 30 s (s)	no ignition of the tissue paper (P/F)	--
	Material to retain live parts in position (enclosure)	--	750	P	P	--
Supplementary information:						

27.2	<b>TABLE: Resistance to tracking</b>			N/A
------	--------------------------------------	--	--	-----

IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict

**Attachment: Photo documentation**

Whole unit

---



Connector

---



IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict





IEC 60320-1			
Clause	Requirement + Test	Result - Remark	Verdict



--- End of Report ---