

TEST REPORT

IEC 60 320-1 and/or EN 60 320-1

Appliance couplers for household and similar general purposes

Part 1: General requirements

Report reference No.....: T211-0150/08

Tested by Tibor Kokelj

(printed name and signature)..... :

Approved by Tomaž Knez

(printed name and signature).....:

Date of issue: 2008-07-15

Testing Laboratory Name : SIQ – Slovenian Institute of Quality and Metrology

Address : Tržaška cesta 2, SI-1000 Ljubljana, Slovenia

Testing location/procedure: CBTL ☐ SMT ☐ TMP ☐

Address: same as above

Applicant's Name: GlobTek, Inc.

Address.....: 186 Veterans Drive Northvale NJ 07647, USA

Test specification

Standard..... : IEC 60 320-1:2001 and/or EN 60 320-1:2001

Test procedure: CB and/or CCA Scheme

Non-standard test method: /

Test Report Form No. : IECEN60320 1D

TRF originator: IMQ

Master TRF: Dated 02-02

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Test item description	Interchangeable blade (appliance inlet – part of plug-in equipment)
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Trademark: GlobTek®

Manufacturer: GlobTek, Inc.

Model and/or type reference: Q-C18(R)

Rating(s) : Input voltage range: 100-250 V, 50-60 Hz

Input current: 3,0 A

Copy of marking plate:

Example of markings of complete product after interchangeable blade incorporated and forming “plug-in” equipment:



Summary of testing:

Interchangeable blade Type Q-C18(R) acts as input connector/inlet of GlobTek® “Wall Plug-In Power Supply” series of products (410XX series).

Due to the specific connection this interchangeable blade is usable only with GlobTek® connection system and not to be used as a single product.

All applicable tests have been performed and results are stated in this test report.

Interchangeable blade (appliance inlet) was tested under worse conditions than conditions of use of equipment (Clause 5.6 of 60320-1).

Conditions of the equipment (expected):

Input voltage range: 87-264 V, 47-63 Hz

Input current: 0,5 A max. at 90 V~ input voltage

Following test specification was chosen to determine safety:

Input voltage: 250 V, 50 Hz

Input current: 3,0 A

Test item particulars:

Connector : Yes / No
... which is : rewirable / non-rewirable
Appliance inlet : Yes / No
... which is : integrated / incorporated
For : cold conditions / hot conditions / very hot conditions
For : Class I equipment / Class II equipment
Earthing contact : with / without
Type of terminal..... : pillar / screw / stud / screwless / without
Type of cord : /
Cross-sectional areas (mm²) : /
Voltage (V)..... : Nominal use (87-264 V~); Tested at 250 V~
Current (A)..... : 0,5 A max. at 90 V~ input voltage; Tested at 3,0 A
Standard Sheet : C 18

Possible test case verdicts:

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

Testing

Date of receipt of test item : 2008-06-18
Date(s) of performance of test : (2008-06-19) – (2008-07-15)

General remarks

This test report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by a NCB in accordance with IEC 60320-1D.

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

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

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

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

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

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

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
8	MARKING		
8.1	Connectors marked with:		
	- rated current (A)		N/A
	- rated voltage (V)		N/A
	- symbol for nature of supply		N/A
	- maker's or responsible vendor's name or trademark		N/A
	- type reference		N/A
8.2	Appliance inlets marked with:		
	- maker's or responsible vendor's name or trademark	Interchangeable blade incorporated with appliance after mounting	N/A
	- type reference (not visible)		N/A
8.3	Connectors and appliance inlets for Class II not marked with symbol for Class II		P
8.4	Correct symbols used		N/A
8.5	Marking easily discernible		N/A
8.6	Contact position in non-reversible connectors shall be:		
	- earthing contact: upper central position		N/A
	- line contact: lower right hand position		N/A
	- neutral contact: lower left hand position		N/A
	Indication of terminals in rewirable non-reversible connectors shall be:		
	- earthing terminal: [earth symbol]		N/A
	- neutral terminal: N		N/A
	Marking not on removable parts		
	Rewirable connectors: supplied instruction:		
	- method of connection of conductors		N/A
	- full-scale diagram		N/A
	- sizes and types of cords suitable		N/A
8.7	Marking durable and easily legible: 15 s with hexane, 15 s with water		N/A
9	DIMENSIONS AND COMPATIBILITY		
9.1	Appliance couplers comply with relevant Standard Sheet	C 18 (inlet)	P

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
9.2	Retaining devices comply with Standard Sheet C 25		N/A
9.3	Single-pole connections not allowed		P
	Improper connections with plugs of IEC 83 not allowed (for connectors)		N/A
	Improper connections with portable socket-outlets of IEC 83 not allowed (for appliance inlets)		P
9.4	Engagement impossible of:		
	- 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		P
	- connectors in appliance inlets having a higher rated current		P
9.5	Pin ends do not protrude beyond limiting surface of the shroud		P
9.6	Deviations from the dimensions specified in Standard Sheet do not effect interchangeability		N/A

10	PROTECTION AGAINST ELECTRIC SHOCK		
10.1	Live parts of appliance inlets not accessible		P
	Live parts and earthing contact of connectors not accessible		N/A
10.2	Connection between a pin and the contact impossible when the other pin is accessible		P
10.3	Parts preventing access to live parts only removable with a tool, and		N/A
	these parts insulated from live parts		N/A
	Bushes adequately fixed and removable only when dismantling the connector		N/A
10.4	External parts of connectors shall be of insulating material		N/A
	Shroud and base of appliance inlet without earthing contact and 2,5 A with earthing contact shall be of insulating material		P

11	PROVISION FOR EARTHING		
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IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
11.1	Earthing terminals comply with Cl. 12		N/A
11.2	Earth connection made before insertion of the current-carrying contacts and broken after withdrawing		N/A
12	TERMINALS AND TERMINATIONS		
12.1.1	Rewirable connectors provided with terminals with screw; type of terminals; Standard Sheet No. C ... :		N/A
	Non-rewirable connectors provided with soldered, welded, crimped or other screwless connections :		N/A
	Screwed connections not used		N/A
12.1.2	Clamping means of terminals shall not serve to fix any other components		N/A
12.1.3	Rewirable connectors ≤ 16 A terminal size 1 accept conductors of 0,75 mm ² to 1,5 mm ²		N/A
12.2.1	Screw-type terminals shall allow connection without special preparation		N/A
12.2.2	Screw-type terminals shall have adequate mechanical strength		N/A
	Screws and nut for clamping the connectors shall have metric ISO thread		N/A
	Screws shall not be of metal which is soft or liable to creep		N/A
12.2.3	Screw-type terminals shall be resistant to corrosion		N/A
12.2.4	Clamping of conductor reliable and between metal surfaces		N/A
	Pull test (1 min):		
	- pull (N) :	40 N / 50 N	—
	- smallest cross-sectional area (mm ²) :		—
	- largest cross-sectional area (mm ²) :		—
	- during the test, conductor does not move noticeably		N/A
12.2.5	Clamping of conductor without undue damage to the conductor; torque test:		N/A
	- torque (Nm) :		—
	- smallest cross-sectional area (mm ²) :		—
	- largest cross-sectional area (mm ²) :		—
12.2.6	Terminal size: :	1 / 2	—
	Nominal cross-sectional area (mm ²) :	1,5 mm ² / 2,5 mm ²	—

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
	Torque test: conductor does not slip out; torque (Nm)		N/A
12.2.7	Screw-type terminals designed so as not to cause excessive temperatures. Compliance is checked by the test of Cl. 21		N/A
12.2.8	Screws and nuts tightened and loosened 5 times. During the test, terminals do not work loose and show no damage; torque (Nm)		N/A
12.2.9	Screw-type earthing terminals same size as live terminals		N/A
12.2.10	Clamping screws or nuts adequately locked against accidental loosening, and		N/A
	impossible to loosen without the aid of a tool		N/A
12.2.11	Screw-type earthing terminals shall be such that there is no risk of corrosion		N/A
	Body shall be of brass or other metal no less resistant to corrosion		N/A
12.2.12	Pillar terminals, distance g (mm) no less than 1,5 mm (see Standard Sheet C 26)		N/A

13	CONSTRUCTION		
13.1	For appliance coupler no risk of accidental contact between earthing contact of appliance inlet and live 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 shall:		
	- be securely retained		P
	- have adequate mechanical strength		P
	- not be removable without a tool		P
	- be surrounded by a shroud		P
	Test for non-solid pins: test force 100 N for 1 min. After the test no alteration of pin	Solid pins	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 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

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
13.5	Contacts provide adequate contact pressure		P
13.6	Enclosure of rewirable connectors consist of more than one part and enclose the terminals and the ends of cable or cord		N/A
	Construction such that conductors can be properly connected and the cores are not pressed against each other		N/A
	Core of live conductor not in contact with accessible metal parts		N/A
	Core of earthing conductor not in contact with live parts		N/A
13.7	For rewirable connectors: impossible to assemble the connector with terminals enclosed but with contact accessible		N/A
13.8	Parts of the body of connectors reliably fixed, dismantling not possible without tool		N/A
	Independent means for fixing and locating parts of the body		N/A
	Thread-cutting screws not used		N/A
	Resiliency of the contacts not dependent 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 fixed to the body		N/A
	Earthing contact one piece only with earthing terminal of fixed by riveting, welding or similar manner		N/A
	Connection between earthing contact and earthing terminal shall be of metal resistant to corrosion		N/A
13.10	Rewirable connectors;no risk of electric shock		N/A
13.10.1	Free wire 6mm in every possible direction		N/A
	- not touch any accessible possible metal parts (live terminal)		N/A
	- not touch live part (earthing terminal)		N/A
13.10.2	Free wire (stripping) bent in every possible direction:	Lenght: mm	N/A
	- not touch any accessible possible metal parts (live terminal)		N/A
	- not touch live part (earthing terminal)		N/A

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
13.10.3	Non-rewirable connectors: loose strands not reduce distances		N/A
13.11	Connectors without earthing contact and 2,5 A connectors with earthing contact part of a cord set		N/A
13.12	Fuses, relays, thermostats and thermal cut-outs not incorporated in connectors		N/A
	Fuses and other components incorporated in appliance inlets comply with relevant IEC Standard		N/A
	Incorporated switches or energy regulators comply with relevant IEC Standard		N/A
	Integrated or incorporated appliance inlets comply with requirements of this standard		P

14	MOISTURE RESISTANCE		
	No damage after humidity treatment: 91-95% for 168 h (connectors and appliance inlets with earthing contacts) or 48 h (all other cases); test duration (h)	168 h / <u>48 h</u>	P

15	INSULATION RESISTANCE AND ELECTRIC STRENGTH		
15.2	For appliance inlets with a connector in engagement: insulation resistance (500 V d.c. for 1 min):		
	a) between all poles connected together and the body $\geq 5 \text{ M}\Omega$	$\geq 100 \text{ M}\Omega$	P
	b) between each pin in turn and the others connected together $\geq 5 \text{ M}\Omega$	$\geq 100 \text{ M}\Omega$	P
	For connectors: insulation resistance (500 V d.c. for 1 min):		
	c) between all poles connected together and the body $\geq 5 \text{ M}\Omega$		N/A
	d) between each contact in turn and the others connected together $\geq 5 \text{ M}\Omega$		N/A
	For rewirable connectors: insulation resistance (500 V d.c. for 1 min):		
	e) between any metal part of the cord anchorage and the earthing contact $\geq 5 \text{ M}\Omega$		N/A
	f) between any metal part of the cord anchorage and metal rod $\geq 5 \text{ M}\Omega$; diameter metal rod (mm) :		N/A
15.3	Electric strength, test voltage (a.c., for 1 min):		
	a)	4000 V	P
	b)	2000 V	P

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
	c)	4000 V	N/A
	d)	2000 V	N/A
	e)	2000 V	N/A
	f)	2000 V	N/A
	During the test no flashover or breakdown		P

16	FORCES NECESSARY TO INSERT AND TO WITHDRAW THE CONNECTOR		
16.1	Connector easily inserted and withdrawn		N/A
16.2	Type of connector (A); Standard Sheet No.		—
	Connector shall not remain, max. withdrawal force: required (N); measured (N)	$\leq 50 \text{ N} / \leq 60 \text{ N}$	N/A
16.3	Connector shall not come out, min. withdrawal force (single pin): required (N); measured (N)	$\geq 1,5 \text{ N} / \geq 2 \text{ N}$	N/A
	Add for hot or very hot conditions:		
	- Condition; test temperature (°C)	120 °C / 155 °C	—
	- max. force: required (N); measured (N)		N/A
	- min. force: required (N); measured (N)		N/A

17	OPERATION OF CONTACTS		
	Contacts and pins shall make connection with a sliding action		N/A
	Contacts provide adequate contact pressure		N/A
	Pressure between earthing contacts and pins not depending upon the resilience of the insulating material		N/A

18	RESISTANCE TO HEATING OF APPLIANCE COUPLERS FOR HOT CONDITIONS OR VERY HOT CONDITIONS		
18.2	Connectors remain for 96 h, temperature (°C) at base of the pins	120 °C / 155 °C	—
	During the test, temperature rise at the point of separation of the cores does not exceed 50 K	1) 2) 3)	N/A
	After the test, no damage		N/A
	No loosening of electrical or mechanical connection		N/A
	No cracks		N/A

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict

18.3	Appliance inlets: after test (96 h) no damage; test temperature (°C)	120 °C / 155 °C	N/A
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19	BREAKING CAPACITY		
	Appliance coupler shall have adequate breaking capacity (not for 0,2 A)	Appliance inlet	P
	Test conditions: test voltage 275 V; 100 strokes; power factor; test current 1,25 In (A)	0,95; 3,75 A	—
	During the test: no flashover and no sustained arcing		P
	After the test: no damage		P

20	NORMAL OPERATION		
	0,2 A connectors and appliance inlets: 4000 strokes without current flowing		N/A
	Other connectors and appliance inlets:		
	- test conditions: 2000 strokes at test current In (A); test voltage 250 V; power factor	3 A; 0,95	P
	- 6000 strokes without current flowing		P
	After the test, electric strength test reduced to 1500 V		P
	Sample shall show:		
	- no wear impairing its further use		P
	- no deterioration of enclosures or barriers		P
	- no damage to the entry holes for the pins		P
	- no loosening of electrical or mechanical connections		P
	- no seepage of sealing compound		N/A

21	TEMPERATURE RISE		
	Test current 1,25 In (A) for 1 h	3,75 A	—
	Temperature rise does not exceed 45 K	Max. 10,5 K	P
	Repetition for earthing contact	No earthing contact	N/A
	After the test, repetition of Cl. 16:		
	- max. withdrawal force: required (N); measured (N)	≤ 50 N / ≤ 60 N	N/A

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict

	- min. withdrawal force: required (N); measured (N)	$\geq 1,5 \text{ N} / \geq 2 \text{ N}$	N/A
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22	CORDS AND THEIR CONNECTION		
22.1	Non-rewirable connectors provided with cord comply with	HD 21 / HD 22	N/A
	Type of cord		—
	Nominal cross-sectional area (mm ²)		—
	Non-rewirable connectors with earthing contact provided with a three-core flexible cord		N/A
	Non-rewirable and non-reversible connectors:		
	- green yellow core: earthing contact		N/A
	- brown core: line contact		N/A
	- light blue core: neutral contact		N/A
22.2	Connectors provided with a cord anchorage		N/A
22.3	Construction of cord anchorage:		
	- clear how to effect cord anchorage		N/A
	- integral or fixed to the connector		N/A
	- makeshift methods not used		N/A
	- suitable for the different types of cords		N/A
	- of insulating material		N/A
	- no touching of clamping screws and cord		N/A
	- metal parts, insulated from earthing circuit		N/A
	Type of cord		—
	Nominal cross-sectional area (mm ²)		—
	Pull (100 times) and torque (1 min) test:		
	- pull (N)	50 N / 60 N	—
	- torque (Nm)		—
	- during the test: cord shows no damage		N/A
	- after the test: displacement $\leq 2 \text{ mm}$		N/A
	Type of cord		—
	Nominal cross-sectional area (mm ²)		—
	Pull (100 times) and torque (1 min) test:		
	- pull (N)	50 N / 60 N	—

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
	- torque (Nm)		—
	- during the test: cord shows no damage		N/A
	- after the test: displacement ≤ 2 mm		N/A
22.4	Flexible cord cannot be subjected to excessive bending		N/A
	Guards shall be of insulating material and fixed in reliable manner		N/A
	Ageing test: elastomeric (24.2.1)		N/A
	Ageing test: thermoplastic (24.2.2)		N/A
	Flexing test:		
	- test current (A)		—
	- rewirable: cross-sectional area (mm ²)	1,0 mm ² / 1,5 mm ²	—
	- non-rewirable: cross-sectional area (mm ²)		—
	- force (N)	10 N / 20 N	—
	- number of flexings	10 000 / 20 000	—
	- during the test: no interruption of the test current and no short-circuit between conductors		N/A
	- after the test: no damage		N/A

23	MECHANICAL STRENGTH		
23.1	Appliance couplers have adequate mechanical strength		N/A
23.2	Connectors: tumbling barrel; number of falls	500 / 100	N/A
	After the test: no damage		N/A
23.3	Pull test (only for > 0,2A):		
	- rated current (A)		—
	- pull (N)		—
	- during the test: guard not separated from the body		N/A
	- after the test: no damage		N/A
	- Verification min. withdrawal force par. (Par 16.3)		N/A
23.4	Appliance inlets (shroud of metal): pressure test (40 N for 1 min)		N/A
	After the test: no damage		N/A

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
23.5	Appliance inlets (shroud of insulating material): impact test (0,5 J, 12 blows)		P
	After the test: no damage		P
23.6	2,5 A connectors Class II, Standard Sheet C 7		N/A
	Deformation test: 70°C for 2 h, blade A with a force of 10 N, blade B with a force of 5 N; difference between thicknesses not more than 0,2 mm :		N/A
23.7	External parts of connector: front part and rear part securely fixed		N/A
	Pull force: 100 N for 1 min		N/A
	Torque: 2Nm for 1 min (applied twice to the connector)		N/A
	After the test: the two parts of the connector not detached		N/A
23.8	Shroud of appliance inlets: pressure test (20 N for 1 min)		P
	After 1 min while the shroud is still under pressure: corresponding go-gauges enter the appliance inlet		P
	Test repeated with the specimen rotated 90°		P

24	RESISTANCE TO HEAT AND AGEING		
24.1	Appliance coupler resistant to heat		P
24.1.1	Connectors and appliance inlets: heating cabinet 100 °C for 1 h	Appliance inlet	P
	During the test: no damage		P
24.1.2	Parts of insulating material of appliance inlets and connectors: ball-pressure test (1 h); test temperature (°C)	125°C Noryl® SE1 material	P
	After the test: diameter of impression ≤ 2 mm	< 1,5 mm	P
24.1.3	Connectors of PVC or similar: pressure test 20 N for 1 h at 100 °C		N/A
	After the test: no damage		N/A
24.2.1	Connectors of elastomeric: ageing test at 70 °C for 10 days: no damage		N/A
24.2.2	Connectors of thermoplastic: ageing test at 80 °C for 7 days: no damage		N/A
24.2.3	After the tests, samples shall show:		
	- no visible crack		N/A

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
	- no sticky or greasy material		N/A
	- no trace of cloth		N/A
25	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		
25.1	Connections withstand mechanical stresses		
	Screws transmitting contact pressure into a metal thread		N/A
	Screws for connecting conductors: not tapping screws		N/A
	Screws and nuts for mounting: not of the thread-cutting type		N/A
	Torque test:		
	- 10 times for screws of insulating material or screws with thread insulating		N/A
	- 5 times in all other cases		N/A
	- terminals: diameter (mm); torque (Nm) :		—
	- assembly screws: diameter (mm); torque (Nm) :		—
	- cord anchorage: diameter (mm); torque (Nm) ... :		—
	- other screws: diameter (mm); torque (Nm) :		—
	During the test: the screwed connection shall not work loose and no damage		
25.2	Thread of insulating material: correct introduction ensured		N/A
	Screws of insulating material: not used if they can impair insulation		N/A
25.3	Contact pressure not transmitted through insulating material other than ceramic or similar		N/A
25.4	Screws and rivets locked against loosening		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 shall be of:		
	- copper		N/A
	- alloy with at least 58% for cold worked parts or 50% for other parts		P
	- stainless steel		N/A
	- steel with electroplated coating of zinc		N/A
	- steel with electroplated coating of tin		N/A

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict

	Parts subjected to mechanical wear: not of steel with electroplated coating		P
	Steel with electroplated coating of zinc: permitted only		N/A
25.7	Metals having a great different of electro-chemical potential, not used		P
25.8	Pins for very hot conditions: if > 140 °C protected by nickel plating or similar		N/A
26	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH INSULATION		
	Creepage distances (cr) and clearances (cl):		
	- between live parts of different polarity ≥ 3 mm .. :	cr = cl; 12,2 mm	P
	- between live parts and accessible metal parts ≥ 4 mm		N/A
	- between live parts and inaccessible external screws or the like ≥ 3 mm		N/A
	- between parts of the earthing circuits and live parts ≥ 4 mm		N/A
	- between parts of the earthing circuits and accessible screws or the like ≥ 3 mm		N/A
	- between parts of the earthing circuits and inaccessible external screws or the like $\geq 1,5$ mm :		N/A
	- between parts of the earthing circuits and the cord anchorage including its clamping screws $\geq 1,5$ mm		N/A
	Thickness of insulating material between accessible metal parts and live parts $\geq 1,5$ mm ... :		N/A

27	RESISTANCE OF INSULATING MATERIAL TO HEAT, FIRE AND TRACKING		
27.1.1	Glow-wire test: accessories > 0,2 A		P
	For parts of insulating material which retain current-carrying parts or parts of earthing circuit in position: test temperature 750 °C	Noryl® SE1 material	P
	For all other parts of insulating material: test temperature 650 °C		N/A
	No visible flame and no sustained glowing		P
	Flame and glowing extinguish within 30 s	No flame or glowing	N/A
	No ignition of the tissue paper		P

IEC 60 320-1 and/or EN 60 320-1			
Clause	Requirement - Test	Result - Remark	Verdict
27.2	Resistance to tracking: insulating parts supporting or in contact with live parts of appliance couplers for hot and very hot conditions, material resistant to tracking (175 V, 50 drops, solution A of IEC 60112)		N/A

28	RESISTANCE TO RUSTING		
	Ferrous parts protected against rusting		P
	No sign of rust after 10 min in 10% solution of ammonium chloride, 10 min in box with air saturated with moisture and 10 min at 100 °C		P
29	ELECTROMAGNETIC COMPATIBILITY (EMC) REQUIREMENTS		
29.1	Immunity		
29.1.1	Accessories not incorporating electronic components		P
	This accessories are not sensitive to normal electromagnetic disturbances and therefore no immunity tests are required		P
29.2	Emission		
29.2.1	Accessories not incorporating electronic components		P
	This accessories do not generate electromagnetic disturbances; consequently no emission tests are necessary		P

Remarks

Product photos:



TRF No.: IECEN60320-1D

TRF originator: IMQ

Remarks



Remarks

Material information:

QMFZ2 Component - Plastics			Friday, May 18, 2007					E161723	
GE PLASTICS CHINA LTD									
NANSHA E T D Z 1 PLASTICS AVE WESTERN IND DISTRICT PAN YU GUANGZHOU GUANGDONG 511458 CN									
Material Designation: SE1X(GG) (f1)									
Product Description: Polyphenylene Oxide (PPHOX), designated "Noryl" furnished as pellets.									
Color	Min. Thick. (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str	IEC GWIT	IEC GWFI
ALL	0.75	-	-	-	110	105	110	-	-
	1.5	V-1	0	0	110	105	110	-	-
	3.0	V-1	-	-	110	105	110	-	-
	6.0	V-0	0	0	110	105	110	-	-
BK, WT	2.0	RP100	-	-	110	105	110	-	-
CTI: 1	IEC CTI (V): -	HVTR: 4	D495: 6				IEC Ball Pressure (N): -		
Dielectric Strength (kV/mm): 42		Volume Resistivity (10 ¹² ohm-cm): 15				Dimensional Stability(%): 0			
ISO Tensile Strength (MPa): -		ISO Flexural Strength (MPa): -				ISO Heat Deflection (°C): -			
ISO Tensile Impact (kJ/m ²): -		ISO Isod Impact (kJ/m ²): -				ISO Charpy Impact (kJ/m ²): -			
(f1)	Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.								
(GG)	Denotes a global grade as covered in Recognized Component File E161759.								
NOTE	Material designations may be followed by suffix numbers and or letters.								
Report Date: 1/24/1997			Underwriters Laboratories Inc®						
UL94 small-scale test data does not pertain to building materials, furnishings and related contents. UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in components and parts of end-product devices and appliances, where the acceptability of the combination is determined by ULI.									