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

Report Reference No.....:	SH11110589-001
Date of issue.....:	2011-12-14; Amendment 1: 2013-11-14
Total number of pages .....:	13
Testing Laboratory.....:	INTERTEK TESTING SERVICES Shanghai
Address .....:	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China
Applicant's name.....:	Yuyao City Yingjia Electric Co., Ltd
Address .....:	Jiatang Village, Simen Town, Yuyao City, Zhejiang, 315472, China
Test specification:	
Standard.....:	IEC 60884-1:2002 (Third Edition) + A1:2006;
	SANS 164-0:2012 + SANS 164-1:2012
Test procedure .....:	Testing
Non-standard test method……..:	N/A
Test Report Form No.....:	IEC60884_1C
Test Report Form(s) Originator .....:	IMQ
Master TRF .....:	Dated 2006-10

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

This 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 an NCB in accordance with IECEE 02.

Test item description .....:	Plug, non-rewirable
Trade Mark.....:	
Manufacturer .....:	Same as the applicant
Model/Type reference.....:	PE364
Ratings .....:	16A, 250V~

Testing procedure and testing location:		
☒ **Testing Laboratory:**	INTERTEK TESTING SERVICES Shanghai	
Testing location/ address.....:	Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China	
☐ **Associated CB Test Laboratory:**		
Testing location/ address.....:		
Tested by (name + signature).....:	Miya Zhang	Miya Zhang
Approved by (name + signature) .:	Justin Zhang	Justin Zhang
☐ Testing procedure: TMP		
Tested by (name + signature).....:		
Approved by (name + signature) .:		
Testing location/ address.....:		
☐ Testing procedure: WMT		
Tested by (name + signature).....:		
Witnessed by (name + signature):		
Approved by (name + signature) .:		
Testing location/ address.....:		
☐ Testing procedure: SMT		
Tested by (name + signature).....:		
Approved by (name + signature) .:		
Supervised by (name + signature):		
Testing location/ address.....:		
☐ Testing procedure: RMT		
Tested by (name + signature).....:		
Approved by (name + signature) .:		
Supervised by (name + signature):		
Testing location/ address.....:		

Summary of testing:	
Tests performed (name of test and test clause): See Amendment 1 in page 6.	**Testing location:** Intertek Testing Services Shanghai

Summary of compliance with National Differences:

This test report also complies with 3 requirements of VC 8008: 2010.

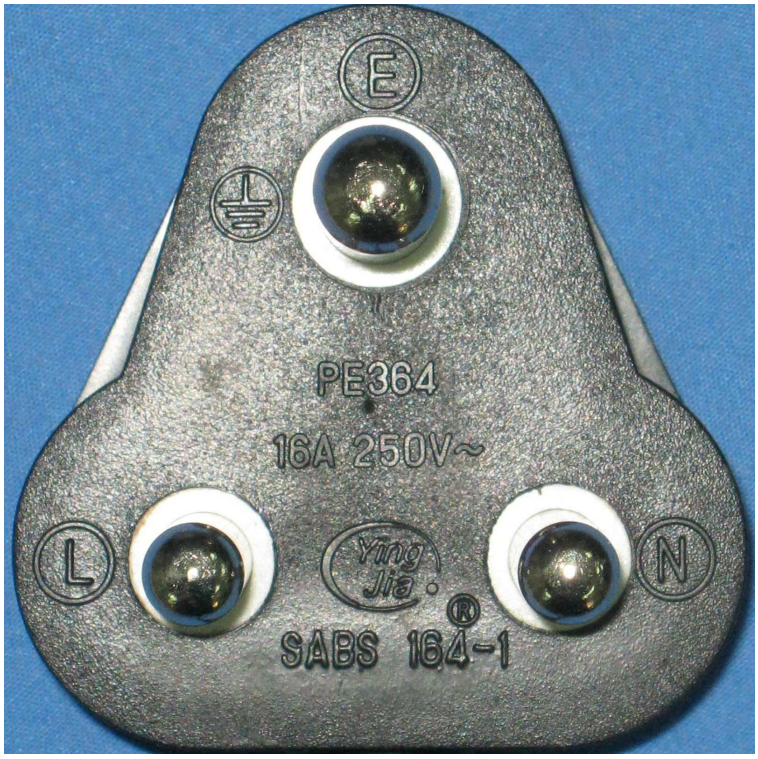
This test report also complies with SANS 164-0:2012 + SANS 164-1:2012(see Annexes).

The whole product(s) has been evaluated and comply with the standards.

Factory information:

Same as applicant

Copy of marking plate



Test item particulars .....:	
Standard Sheet .....:	SANS 164-1 Standard sheet 1-2
Rated current (A) / Rated voltage (V) .....:	16A, 250V~
Degree of protection against access to hazardous parts and against harmful ingress of solid foreign objects .....:	IP2X
Degree of protection against harmful ingress of water .....:	IPX0
Provision for earthing .....:	with earthing pin
Method of connecting the cable .....:	Non-rewirable
Type of cable .....:	See page 5
Nominal cross-sectional areas (mm^2) .....:	See page 5
Type of terminals .....:	N/A
Type of connections .....:	Crimped
Socket-outlets:	
Degree of protection against electric shock ..:	N/A
Existence of shutters .....:	N/A
Method of application / mounting of the socket-outlet .....:	N/A
Method of installation .....:	N/A
Intended for circuits where .....:	N/A
Plugs:	
Class of equipment .....:	I
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 .....:	2013-11-11
Date (s) of performance of tests .....:	2013-11-11 ~ 2013-11-14

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

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

General product information:

16A 250V~, IP20, Class I, non-rewirable, comply with Standard sheet 1-2 of SANS 164-1, with solid pin, with lateral cord entry, with flexible cable as listed below.

Remarks:

1. The samples for each group of testing were selected randomly from the samples provided by the manufacturer.
2. The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
3. Determination of the test result includes consideration of measurement uncertainty from the test equipment and methods.
4. We conclude that the product(s) presented in this test report complies (comply) with the standard according to the test results on the submitted samples.

Components certified:

Object / part No.	HD type	Manufacturer	Nominal cross-sectional area	IEC type	Remarks
Flexible cord	H05VV-F	Ningbo Liansheng Wire & Cable Co., Ltd.	3G0,75-1,0mm^2	227 IEC 53	VDE: 40022054
Flexible cord	H05VV-F	Yuyao Yingjia Electric Appliance Co., Ltd	3G0,75-1,0mm^2	227 IEC 53	VDE: 40035260
Flexible cord	H05RR-F	Shangyu Jintao Electron Co., Ltd.	3G0,75-1,0mm^2	245 IEC 53	VDE: 40018106
		Ningbo Huashun Electronics Co., Ltd.			VDE: 40014082
Flexible cord	H05RN-F	Shangyu Jintao Electron Co., Ltd.	3G0,75-1,0mm^2	245 IEC 57	VDE: 40018106
		Ningbo Huashun Electronics Co., Ltd.			VDE: 40014082
Flexible cord	H03RT-H	Shaoxing NanXiang Cable Co.,Ltd	3G0,75-1,0mm^2	245 IEC 51	VDE: 40014934

Material Declaration:

Main Parts	Type	Ingredient	Manufacturer / Trade name	other technical specification
Live part carrier	-	PBT	Jiangyin Jihua New Material Co.,Ltd	Min. thickness >1,5mm
Enclosure	-	PVC	Yuyao City Yingjia Electric Co.,Ltd	Min. thickness >2,0mm

Amendment 1:

The original report SH11110589-001 has been updated on 14 November 2013 including the following changes:

1. Updating the standard to SANS 164-0:2012 + SANS 164-1:2012;
2. Adding new flexible cords H05VV-F 3G0,75-1,0mm^2, manufacturer by Yuyao Yingjia Electric Appliance Co., Ltd (VDE cert No.: 40035260).
3. Changing the original applicant address to No.11, Yunhuan Road, Jiatang Village, Simen Town, Yuyao City, Zhejiang, 315472.

After review, we are of the opinion that only below tests should be performed on the plugs with new cords H05VV-F 3G0,75-1,0mm^2 manufacturer by Yuyao Yingjia Electric Appliance Co., Ltd (VDE cert No.: 40035260).

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
23	**FLEXIBLE CABLES AND THEIR CONNECTIONS**		
23.1	Rewirable plugs and rewirable portable socket-outlets are provided with a cord anchorage		N/A
	Sheath of flexible cable is clamped within the cord anchorage		N/A
	In non-rewirable plugs and non-rewirable portable socket-outlets the cable is maintained in position and the terminations are relieved from strain and twisting		P
	Sheath of flexible cable is maintained inside the accessory		P
23.2	Pull and torque test		
	Non-rewirable accessories:		P
	After the test: displacement ≤ 2 mm	See appended table 23.2	P
	No break in the electrical connections		P
	Rewirable accessories:		N/A
	After the test: displacement ≤ 2 mm		N/A
	End of conductors not have moved noticeably in the terminals		N/A
	Rewirable accessories having rated current up to and including 16 A:		
	Suitable for fitting with the appropriate cable as shown in table 19		N/A
	Type of flexible cable; number of conductors and nominal cross-sectional area (mm^2)..... :		—
23.3	Non-rewirable plugs and non-rewirable portable socket-outlets are provided with a flexible cable complying with IEC 60227 or IEC 60245	IEC 60227 & IEC 60245	P
	Flexible cables have the same number of conductors as there are poles in the plug or socket-outlet		P
	Conductor connected to the earthing contact is identified by the colour combination green/yellow		P
23.4	Non-rewirable plugs and non-rewirable portable socket-outlets: designed that the flexible cable is protected against excessive bending		P
	Guards of insulating material and fixed in reliable manner		P
	Flexing test (10.000 flexings)		P
	During the test: no interruption of the test current and no short-circuit between conductors	See appended table 23.4	P

IEC 60884-1			
Clause	Requirement + Test	Result - Remark	Verdict
	After the test: guard no separated from the body, insulation shows no sign of abrasion or wear, broken strands become no accessible	See appended table 23.4	P

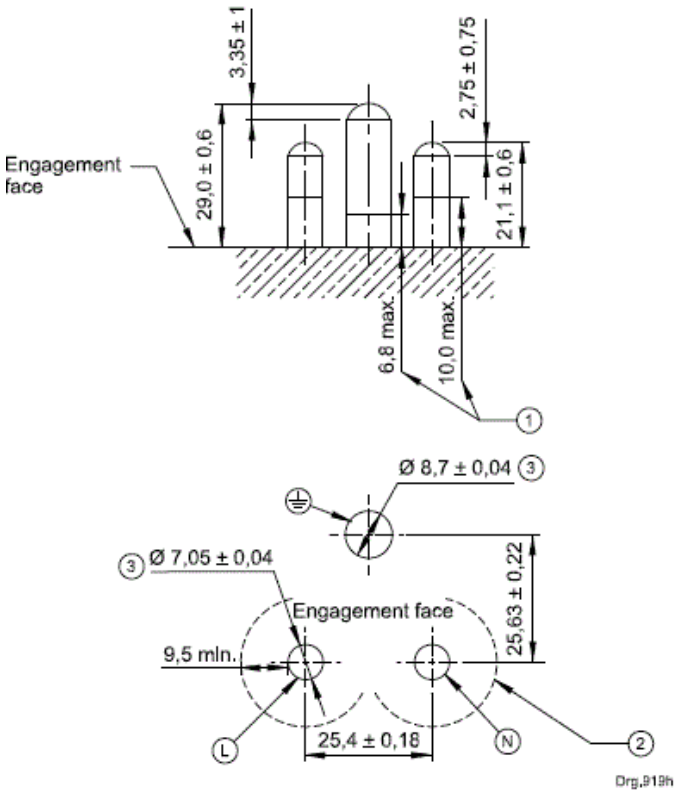
23.2	**TABLE: pull and torque test**					P
	rating of accessory (A) ..... :			16A		—
	type of accessory (non-rewirable / rewirable) ..... :			Non-rewirable		—
	smallest/largest cross-sectional area per table 17 (mm^2) (rewirable accessories) ..... :			N/A		—
	nominal diameter of thread (mm); torque 2/3 per table 6 (Nm) (rewirable accessories) ..... :			N/A		—
specimen	type of flexible cable	number of conductors and nominal cross-sectional area (mm^2)	pull (100 times) (N)	torque (1 min) as specified in table 18 (Nm)	displacement (mm)	
	H05VV-F	3G0,75	60	0,25	Max.0,5	P
	H05VV-F	3G1,0	60	0,25	Max.0,4	P
supplementary information:						

23.4	**TABLE: flexing test**				P
	rated current (A) ..... :		16A		—
specimen	type of flexible cable	number of conductors and nominal cross-sectional area (mm^2)	test current (A)	mass (N)	
	H05VV-F	3G0,75	10	10	P
	H05VV-F	3G1,0	16	20	P
supplementary information:					

Annex A

Additional requirements and test according to Standard sheet 1-2 of SANS 164-1

(The clause No in brackets refers to Standard sheet 1-2 of SANS 164-1)

Clause	ANNEX Special tests according to Standard sheet 1-2 of SANS 164-1		
9 (8a)	**DIMENSIONS** Compliance with appropriate Standard Sheet checked by Means of gauges and by measurement, see below	Required (mm)	Measured (mm)
	Standard sheet 1-2 — 16 A 250 V Two-pole and earthing-pin plugs Dimensions in millimetres  	29,0±0,6 3,35±1 6,8 Max. 10,0 Max. 2,75±0,75 21,1±0,6 Ø7,05±0,04 Ø8,7±0,04 9,5 min. 25,4±0,18 25,63±0,22	29,04 3,04 N/A N/A 2,36 20,80 7,06 8,70 10,04 25,52 25,54
		Comments: all applicable dimensions comply with the standard sheet.	

Annex B

Additional requirement according to Standard SANS 164-0:2012

SANS 164-0			
Clause	Requirement + Test	Result - Remark	Verdict
4	Requirements		
4.1	General		
4.1.1	Plugs, socket-outlets and socket-outlet adaptors shall comply with the appropriate requirements of SANS 60884-1, and the relevant of SANS 60884-2-2, SANS 60884-2-3, SANS 60884-2-4, SANS 60884-2-5, and SANS 60884-2-6.		P
4.1.2	Socket-outlets shall comply with the requirements for increased protection of SANS 60884-1.		N/A
4.1.3	A socket-outlet for a fixed installation shall have an earthing contact. A multiple socket-outlet for a fixed installation shall have at least one socket-outlet with an earthing contact.		N/A
4.1.4	A dedicated plug shall comply with all relevant requirements of all parts of SANS 60884 when used in combination with both a dedicated socket-outlet (SANS 164-4) and a conventional socket-outlet (SANS 164-1), and a conventional socket-outlet shall comply with all relevant requirements of all parts of SANS 60884 when used in combination with both a conventional plug and a dedicated plug.		N/A
4.1.5	The earth contact of a dedicated socket-outlet shall withstand a torque of 2,6 Nm for one minute in a clockwise direction and then for one minute in an anti-clockwise direction, the torque being applied using a D-shaped earthpin.		N/A
4.1.6	A surge protection device (SPD) incorporated in a plug, in an adaptor or in a portable socketoutlet shall comply with the requirements of SANS 61643-1, with special attention to the temporary overvoltage (TOV) requirements. An SPD without an internal disconnecting mechanism shall only be fitted between line and earth and between neutral and earth, and not between line and neutral. SPDs without internal disconnecting mechanisms shall not be fitted to dedicated plug and socketoutlet systems.		N/A
	Fixed socket-outlets fall within the scope of SANS 10142-1, and incorporated SPDs are covered in that standard.		N/A

SANS 164-0			
Clause	Requirement + Test	Result - Remark	Verdict
4.1.7	Only the metals listed in 26.5 of SANS 60884-1 shall be used in current-carrying parts; however, steel shall not be used for contact pins of plugs, or of adaptors or in socket contacts which are subjected to pin entry.		P
4.2	Dimensions		
4.2.1	The dimensions of a plug shall comply with the plug dimensions given in one of the following:		P
	SANS 164-1, SANS 164-2, SANS 164-3, SANS 164-4, SANS 164-5, SANS 164-6, or SANS 60906-3.	Plug comply with SANS 164-1	P
4.2.2	The dimensions of a socket-outlet shall comply with the socket-outlet dimensions of one of the following:		N/A
	SANS 164-1, SANS 164-2, SANS 164-3, SANS 164-4, SANS 164-6 or SANS 60906-3.		N/A
4.2.3	The plug of an adaptor shall comply with the dimensions of SANS 164-1 or SANS 164-2. The earthpin of an adaptor may be of insulation material, provided the adaptor does not include a socket-outlet that will accept a plug with an earthpin. (See also 4.2.5.)		N/A
4.2.4	The socket-outlets of an adaptor shall comply with the socket-outlet dimensions of one or more of SANS 164-1, SANS 164-2, SANS 164-3 or SANS 164-6. (See also 4.2.5.)		N/A
4.2.5	The pins of an adaptor may comply with the dimensions of SANS 164-4, provided all the socket contacts are of the same dedicated type, i.e. no adapting from a dedicated socket-outlet to a non-dedicated socket-outlet, or to another type of dedicated socket-outlet, is permitted.		N/A
4.2.6	An adaptor shall not fit into a lampholder.		N/A
4.2.7	The means of mounting a fixed socket-outlet in a wall outlet box shall permit rotational adjustment of the socket-outlet relative to the box through an angle of at least 10°.		N/A
4.2.8	A socket-outlet for fixed installation, which is not supplied with its own outlet box, shall have mounting centres that comply with SANS 1085.		N/A
4.3	Rating		

SANS 164-0			
Clause	Requirement + Test	Result - Remark	Verdict
	The voltage and current ratings of an accessory shall comply with the requirements of the relevant of SANS 164-1, SANS 164-2, SANS 164-3, SANS 164-4, SANS 164-5, SANS 164-6, or SANS 60906-3.	Comply with SANS 164-1	P

Annex C

Additional requirement according to Standard SANS 164-1:2012

SANS 164-1			
Clause	Requirement + Test	Result - Remark	Verdict
4	Requirements		
4.1	The requirements of SANS 164-0 apply.		P
4.2	Socket-outlets, socket-outlet adaptors and rewirable plugs shall be rated at 16A and 250Va.c.		N/A
4.3	Plugs and socket-outlets shall comply with the dimensions given on the appropriate of standard sheets 1-1 to 1-2.	comply with standard sheet 1-2	P
	Use the gauges given in annexes A to F for checking the dimensions.		P
4.4	When tested in accordance with 22.2 in SANS 60884-1:2006, the maximum multi-pin gauge force for products above 10 A up to and including 16 A 3-poles shall be reduced to 25 N.		N/A