Certificate of Conformity

Certificate Number: B-S07045047
Low Voltage Directive 73/23/EEC
as last amended by EEC directive 93/68/EEC

Beide
Compliance Laboratory

Holder.....:	Ningbo Gembird Electronic Limted
Address.....:	Xiejialu Village, Simen Town, Yuyao City, Zhejiang Province, China
Product.....:	Electrical Wire Groupware
Model No.....:	PC-186, PC-186-ML12, PC-187UK, PC-187-ML12UK, PC-189, PC-184, PC-187-ML7UK, PC-188, PC-186-ML6, PC-187-ML6UK, PC-183
Technical Data.:	AC 220-250V~, 2.5A, 6A, 10A, 13A, 16A

This certificate of conformity is based on an evaluation of samples of the above products. The submitted products have been tested by us with the following standard(s) and found to be in compliance with the listed European Directives.

IEC 60884-1:2006

The tests were performed in normal operation mode. Test results apply only to the particular sample tested and to the specific tests carried out. Technical Report and documentation are at the Holder's disposal.

This certificate applies specifically to the sample investigated in our test reference number only. The CE markings as shown below can be affixed on the product after preparation of necessary technical documentation. Other relevant Directives have to be observed.

CE

Manager: Michael Wang
Date: Apr. 03, 2007

BEIDE PRODUCT SERVICE LIMITED CERTIFICATE
CORPORATE SEAL

Company No.6037848

Beide Product Service Limited

U.K.: 10 Coptic Street, London WC1A 1NH, England, United Kingdom.
China: R.1006, New East Bld. B, Nanxin Road, Nanshan, Shenzhen, China
Http://www.szbeide.com E-mail: Eng@szbeide.com

APPLICATION FOR WATER SUPPLY

On Behalf of

Ningbo Gembird Electronic Limted

Electrical Wire Groupware

Model: PC-186, PC-186-ML12, PC-187UK, PC-187-ML12UK, PC-189, PC-184, PC-187-ML7UK, PC-188, PC-186-ML6, PC-187-ML6UK, PC-183

Prepared For : Ningbo Gembird Electronic Limted
Xiejialu village, Simen, Yuyao, Zhejiang, China

Prepared By : Beide Product Service Limited

U.K.: 10 Coptic Street, London WC1A 1NH, England, United Kingdom.

China: R.1006, New East Bld. B, Nanxin Road, Nanshan, Shenzhen, China

Date of Test	:	Mar. 26-30, 2007
Date of Report	:	Apr. 02-03, 2007
Report Number	:	B-S07040047

Test Report
IEC 60884-1: 2006
Plugs and socket-outlets for household and similar purposes
Part 1: General Requirement

Testing laboratory ..... :	Beide Product Service Limited
Address ..... :	R.1006, New East Bld. B, Nanxin Road, Nanshan, Shenzhen
Report body ..... :	Beide Product Service Limited
Address(U.K.)..... :	10 Coptic Street, London WC1A 1NH, England, United Kingdom.
Address(China)..... :	R.1006, New East Bld. B, Nanxin Road, Nanshan, Shenzhen
Applicant ..... :	Ningbo Gembird Electronic Limted
Address ..... :	Xiejialu village, Simen, Yuyao, Zhejiang, China
Standard ..... :	IEC 60884-1:2006
Test Result ..... :	Compliance with IEC 60884-1:2006
Procedure deviation ..... :	N.A.
Non-standard test method ..... :	N.A.
Type of test object ..... :	Electrical Wire Groupware
Trademark ..... :	N.A.
Model/type reference ..... :	PC-186
Rating..... ..... :	AC 220-250V~, 2.5-16A
Manufacturer ..... :	Ningbo Gembird Electronic Limted
Address ..... :	Xiejialu village, Simen, Yuyao, Zhejiang, China
Test item particulars :	
Degree of protecting against harmful ingress of water	IPX0
Provision for earthing ..... :	With earthing contact
Method of connecting the cable..... :	Non-rewirable
Type of Cable ..... :	Flexible Cable
Type of terminals ..... :	Screwless(rigid and flexible)
Plug classification ..... :	For equipment of class I
Socket-outlets:	
Degree of protection against electric shock	Increased protection
Existence of shutters ..... :	Without shutters
Method of application/ Mounting of the socket-outlet	Portable type

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 (point) is used as the decimal separator.

Remark:

1. PC-186-ML12, PC-187UK, PC-187-ML12UK, PC-189, PC-184, PC-187-ML7UK, PC-188, PC-186-ML6, PC-187-ML6UK, PC-183 are similar as PC-186 except style.
2. PC-186 is the representative model, all tests were conducted on PC-186.

Copy of marking plate:

(See appendix 4)

Possible test case verdicts :	
test case does not apply to the test object ..... :	N (.A.)
test object does meet the requirement ..... :	P(ass)
test object does not meet the requirement ..... :	F(ail)

Name and address of the testing laboratory : **Beide Product Service Limited**
R.1006, New East Bld. B, Nanxin Road, Nanshan, Shenzhen

Reported by :
Signature
2007.04.03
Date
James May / Project Engineer
Name and Title

Approved by :
Signature
Apr. 03, 2007
Date
Robert Sun / Manager
Name and Title

BEIDE PRODUCT SERVICE LIMITED Beide Compliance Laboratory APPROVED SAFETY & EMC

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
8.	MARKING		P
8.1	Accessories marked with:		P
	-rated current(A).....	16A(max)	P
	-rated voltage(V).....	250V(max)	P
	-symbol for nature of supply.....	~	P
	-manufacturer's or responsible vendor's name....:	Ningbo Gembird Electronic Limted	P
	-type reference.....	PC-186	P
	-symbol for degree of protection(first digit)	X	N
	-symbol for degree of protection(second digit)	0	P
	Socket –outlets with screwless terminals marked with:		N
	-the length of insulation to be removed.....		N
	-an indication of the suitability to accept rigid conductors only (if any).....		N
8.2	Symbols used: as required in the standard		P
	Marking for the nature of supply placed next to the marking for rated current and rated voltage		P
8.3	Marking of fixed socket-outlets placed on the main part:		N
	-rated current, rated voltage and nature of supply		N
	-identification mark of the manufacturer or of the responsible vendor		N
	-length of insulation to be removed, if any		N
	-type reference		N
	Cover plates necessary for safety purposes and intended to be sold separately: marked with the manufacturer's or responsible vendor's name and type reference		N
	Symbol for the degree of protection(second digit):marked on the outside of its associated enclosure so as to be easily discernible		N
8.4	Plugs and portable socket-outlets: marking specified in 8.1, other than the type reference, easily discernible		P

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Plugs and portable socket-outlets for equipment of class II not marked with the symbol for class II construction	Class I construction	N
8.5	Neutral terminals: N.....		N
	Earthing terminals:[earth symbol].....		P
	Markings not placed on screws or other easily removable parts		P
	Terminals for conductors not forming part of the main function of the socket-outlet:		-
	-Clearly identified unless their purpose is self evident, or		P
	-indicated in a wiring diagram fixed to the accessory		N
	Identification of accessory terminals may be achieved by:		-
	-their marking with graphical symbols according to IEC147 or colours and/or alphanumeric system, or		P
	-their physical dimension or relative location		P
8.6	Fixed socket-outlets other than ordinary: marked with the IP symbol visible when the accessory is installed		N
8.7	Marking durable and easily legible. Test: 15 s with water and 15 s with petroleum spirit		P
8.8	Indication of which position or with which special provision the declared IP of flush-type and semi-flush type fixed socket-outlets is ensured		N
	Additional indication for socket-outlets intended only for mounting on certain types of surface		N

9.	CHECKING OF DIMENSIONS		P
9.1	Accessories and surface-type mounting boxes Comply with the appropriate standard sheets		N

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Insertion of plugs into fixed or portable socket-outlets ensured by their compliance with relevant standard sheets		P
	Compliance checked by measurement and by means of gauges with manufacturing tolerances as shown in table 2		N
9.2	It shall not be possible to engage a plug with:		-
	-a socket-outlet having a higher voltage rating or a lower current rating;		P
	-a socket-outlet with a different number of live poles(exception admitted provided that no dangerous situation can arise);		P
	-a socket-outlet with earthing contact		P
	Engagement of a plug for class 0 or class 1 equipment with a socket-outlet designed to accept plugs for class II equipment, not possible		N
	Impossibility of insertion checked by applying a gauge, for 1 min, with a force of:		P
	-150N(rated current ≤16A);	150N	P
	-250N(rated current >16A)		N
	Accessories with elastomeric or thermoplastic material: test carried out at 35℃ ±2℃		P
9.3	Deviations from standard sheets made only if they provide technical advantage and do not affect the purpose and safety of accessories complying with standard sheet		N
10.	PROTECTION AGAINST ELECTRIC SHOCK		P
10.1	Socket-outlets: live parts not accessible		P
	Live parts of plugs :not accessible when the plug is in partical or complete engagement with a socket-outlet		P
	Test with standard test finger shown in figure 2		P

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Accessories with elastomeric or thermoplastic material: additional test carried out at 35℃ ±2℃ with a straight unjointed test finger	75N for 1 min	P
	During the test: accessories not deform and no live parts accessible		P
	Plugs and portable socket-outlets pressed with a force of 150 N for 5 min	No show deformation	P
10.2	Accessible parts (with exception of small screws and the like for fixing bases and cover plates): made of insulating material		P
	Cover or cover plates of fixed socket-outlets: made of metal if the requirement of 10.2.1 or 10.2.2 are fulfilled		N
10.2.1	Metal covers or cover plates protected by supplementary insulation made by insulating linings or insulating barriers		N
	Insulating linings or insulating barriers cannot be removed without being permanently damaged		N
	Insulating linings or insulating barriers cannot be Replaced in an incorrect position and, if they are omitted, accessories are rendered inoperable or manifestly incomplete		N
	There is no risk of accidental contact between live parts and metal covers or cover plates		N
10.2.2	Metal covers or cover plates automatically connected, through a low-resistance connection, The earth during fixing		N
10.3	Connection between a pin of a plug and a live socket-contact of a socket-outlet not possible while any other pin is accessible		P
	Compliance checked by manual test and by means of gauges with tolerances as specified in 9.1		P

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Accessories with elastomeric or thermoplastic material: test carried out at 35℃ ±2℃		P
	Socket-outlets with enclosure or bodies of rubber or polyvingl chloride: test carried out with a force of 75 N for 1min		P
	Fixed socket-outlets provided with metal covers or cover plates: clearance of at least 2 mm required between a pin and a socket-contact when another pin(s) is(are) in contact with the metal cover or cover plates.....:		N
10.4	External parts of plugs and portable socket-outlets made of insulating material		P
	Overall dimensions of rings around pins not exceed 8mm concentric with respect to the pin		P
10.5	Shuttered socket-outlets: live parts not accessible, without a plug in engagement, with the gauge shown in figure 4		P
	Live contacts automatically screened when the plug is withdrawn		P
	Means cannot easily be operated by anything other than a plug and not depend upon parts which are liable to be lost		P
	Gauge applied to the entry holes corresponding to live contacts with a force up to 1 N shall not touch live parts		P
	Accessories with elastomeric or thermoplastic Material: test carried out at 35℃ ±2℃		P
10.6	Earthing contacts of a socket-outlet designed that they cannot be deformed by the insertion of a plug		P
	Test plug inserted into the socket-outlet with a force of 150 N for 1 min.		P
	After this test: socket-outlet still comply with the requirements of clause 9		P
10.7	Socket-outlet with increased protection: live parts not accessible		P

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
	Gauge of figure 4 applied with a force of 1 N on all Accessories surfaces shall not touch live parts		P
	Accessories with elastomeric or thermoplastic material: test carried out at 35℃ ±2℃		P
11.	PROVISION FOR EARTHING		P
11.1	Earthing connection made before the current-carrying contacts of the plug become live		P
	Current-carrying pins shall separate before the Earthing connection is broken		P
11.2	Earthing terminals of rewirable accessories comply with clause 12	Non –rewirable	N
	Earthing terminals of the same size as the corresponding terminals for the supply conductors		N
	Any additional external earthing terminals of fixed socket-outlets of size suitable for conductors of at least 6 mm^2		N
	Earthing terminals of rewirable accessories: internal		N
	Earthing terminals of fixed socket-outlets: fixed to The base or to a part reliably fixed to the base		N
	Earthing contacts of fixed socket-outlets:		N
	-fixed to the base, or		N
	-fixed to the cover (reliably connected to the earthing terminals; contact pieces silver plated or with adequate protection)		N
	Parts of earthing circuit in one piece or reliably Connected by riveting, welding, or the like		N
11.3	Accessories metal parts of fixed socket-outlets: Permanently and reliably connected to the earthing terminal		N

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
11.4	Socket-outlets, other than ordinary, with enclosure of insulating material and more than one cable inlet, provided with an internal earthing terminal for the continuity of the earthing circuit, unless	IP20 socket-outlet	N
	Earthing terminals allows the connection of an incoming and an outgoing earthing conductor together		P
11.5	Connection between earthing terminal and accessible metal parts: of low resistance	No accessible metal parts	N
	Test:		N
	Test current equal to 1,5 times the rated current or 25(A).....:		-
	Resistance not exceed 0,05(Ω).....:		N
12.	TERMINALS		P
	All the test on terminals, with the exception of the test of 12.3 11, made after the test of clause16		P
12.1	General		P
12.1.1	Rewirable fixed socket-outlets provided with screw-type terminals or with screwless terminal..:		N
	Rewirable plugs and portable socket-outlets provided with terminals with screw clamping.....:		N
	Pre-soldered flexible conductors used: pre-soldered area outside the squeezed area of screw-type terminals		N
	Clamping means of terminals: not serve to fix any other components		N
12.1.2	Non-rewirable accessories provided with soldered, welded, crimped or equally effective permanent connections.....:	Crimped connections	P
	Screwed or snap-on connections not used		P
	Connections made by crimping a pre-soldered Flexible conductor not permitted		N

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
12.2	Terminals with screw clamping for external copper conductors		N
12.2.1	Accessories provided with terminals which Allows the proper connection of copper conductors as shown in table 3		N
	Rated current(A);type of accessories.....:		-
	Type of conductor(rigid/flexible).....:		-
	Smallest/largest cross-sectional area(mm^2)		-
	Diameter of the largest conductor(mm)		-
	Figure of terminal.....:		-
	Minimum diameter D(minimum dimensions) of Conductor space: required (mm);measured(mm):		N
12.2.2	Terminals allow the conductor to be connected Without special preparation		N
12.2.3	Terminals have adequate mechanical strength		N
	Screws and nut for clamping the conductors Have metric ISO thread or a comparable thread		N
	Screws not of soft metal such as zinc or aluminium		N
12.2.4	Terminals resistant to corrosion		N
12.2.5	Screw-type terminals clamp the conductor(s) Without undue damage		N
	Test with apparatus shown in figure 32:		N
	-type of conductors.....:		-
	-number of conductors.....:		-
	-smallest cross-sectional area (mm^2)(table3); Diameter of bushing hole (mm); height H(mm); Mass(kg).....:		N
	-largest cross-sectional area (mm^2)(table3); Diameter of bushing hole (mm); height H(mm); Mass(kg).....:		N
	-nominal diameter of thread (mm); torque According to table 6(Nm)		-
	During the test: conductor not slip out, no break Near clamping unit and no damage		N
12.2.6	Terminals clamps the conductor reliably between Metal surfaces		N
	Pull test(1 min):		N
	-type of conductors.....:	Rigid solid/rigid	-
	-number of conductors.....:		-
	-smallest cross-sectional area (mm^2) (table 3); pull(N)		N

IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
	-largest cross-sectional area (mm^2) (table 3); pull(N)		N
	-torque (Nm) (2/3 table 6)....:		-
	During the test: conductor not move noticeably		N
12.2.7	Terminals designed or placed that the conductor Cannot slip out while the clamping screws or nuts Are tightened		N
	-largest cross-sectional area (mm^2)(table 3).....		-
	-number of wires and nominal diameter of wires(table 5):		N
	Fixed socket-outlets: rigid solid conductors/rigid Stranded conductors....:	1×/7×	-
	Plugs and portable socket-outlets: flexible Conductors.....:		-
	-terminals intended for looping-in 2or 3 Conductors: permissible number of conductors...:		-
	-torque (Nm)(2/3 table 6)....:		-
	After the test: no wire of the conductor escaped Outside the clamping unit		N
12.2.8	Terminals not work loose from their fixing to accessories		N
	Torque test:		N
	-rigid solid copper conductor of the largest cross-Sectional area (mm^2)(table 3)....:		-
	-torque (Nm) (table 6 appropriate figures 34,35,36)..:		-
	Screws and nuts tightened and loosed 5 times. During the test: terminals not work loose and show no damage		N
12.2.9	Clamping screws or nuts of earthing terminal: Adequately locked against accidental loosing, not Possible to loosen them without the aid of a tool		N
12.2.10	earthing terminals: no risk of corrosion		N
	Body of brass or other metal no less resistant to corrosion		N
	If the body is a part of a frame or enclosure of Aluminium alloy, precautions shall be taken to avoid the risk of corrosion		N
12.2.11	Pillar terminals: distance g no less than the value Specified in figure 37: required (mm); measured (mm)....:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	Mantle terminals: distance g no less than the value specified in figure 37: required (mm); measured(mm).....		N
12.3	Screwless terminals for external copper conductors		N
12.3.1	Screwless terminals of the type suitable for:		N
	-for rigid copper conductors only, or		N
	-for both rigid and flexible copper conductors (tests carried out with rigid and then repeated with flexible conductors)		N
12.3.2	Screwless terminals provided with two clamping Units each allowing the proper connection of rigid or of rigid and flexible conductors having nominal Cross-sectional areas from 1,5 up to 2,5 mm^2 (table 7)		N
	Two conductors to be connected :each conductor Introduced in a separate clamping unit		N
12.3.3	Screwless terminals allow the conductors to be Connected without special preparation		N
12.3.4	Parts of screwless terminals intended for carrying Current of materials as specified in 26.5		N
12.3.5	screwless terminals clamp specified conductors with sufficient contact pressure without undue damage to the conductor		N
	Conductor clamped between metal surfaces		N
12.3.6	It shall be clear how the connection and Disconnection of the conductors is to be made		N
	Disconnection of a conductor require an operation, other than a pull, so that can be made manually with or without a general-purpose tool		N
	It shall not be possible to confuse the opening for The use of a tool with the opening intended for the conductor		N
12.3.7	Screwless terminals intended for the interconnection of two or more conductors:		N
	-during insertion, operation of clamping means of One of the conductors is independent of operation of that for the other conductor(s);		N
	-during disconnection, conductors can be Disconnected either at the same time or separately;		N
	-each conductor introduced in a separate clamping unit.		N
	It shall be possible clamp securely any number of Conductors up to the maximum as designed.		N

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Clause	Requirement – Test	Result - Remark	Verdict
12.3.8	screwless terminals of fixed socket-outlets: adequate insertion obvious and over-insertion prevented		N
12.3.9	screwless terminals properly fixed to the socket-outlets		N
	Not work loose when conductors are connected or disconnected		N
	Self-harding resins used to fix terminals not Subject to mechanical stress		N
12.3.10	screwless terminals withstand mechanical stresses occurring in normal use		N
	Test:		N
	Connection/disconnection 5 times: rigid solid Conductor 2,5mm^2		N
	Connection/disconnection 5 times: rigid solid Conductor 1,5mm^2		N
	Conductor subjected to a pull of 30N for 1 min After each connection. During application of the pull conductor not come out of the terminal		N
	Connection/disconnection 1 time: rigid stranded Conductor 2,5mm^2		N
	Connection/disconnection 1 time: rigid stranded Conductor 1,5mm^2		N
	Conductor subjected to a pull of 30N for 1 min After each connection. During application of the pull conductor not come out of the terminal		N
	Additional test on terminals intended for both rigid and flexible conductors:		N
	Connection/disconnection 5 times: flexible Conductor 2,5mm^2		N
	Connection/disconnection 5 times: flexible Conductor 1,5mm^2		N
	Conductor subjected to a pull of 30N for 1 min After each connection. During application of the pull conductor not come out of the terminal		N
	Additional test with apparatus shown in figure 32:		N
	-type of conductors.....:	Rigid solid	-
	-number of conductors.....:		-
	-1,5mm^2; diameter of bushing hole 6,5 mm; height H 260 mm; mass 0,4 kg		N
	-2,5mm^2; diameter of bushing hole 9,5 mm; height H 280 mm; mass 0,7 kg		N

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

	During the test: conductors not move noticeably in The clamping unit						N
	After the test: neither terminals nor clamping Means have worked loose and conductors show No deterioration						N
12.3.11	Screwless terminals withstand electrical and thermal stress occurring in normal use						N
	Test a) carried out for 1 h connecting rigid solid conductors:						N
	-test current (A) (table 10).....:						-
	-nominal cross-sectional area (mm^2).....:						-
	-screwless terminal number .....:	1	2	3	4	5	-
	-voltage drop measured(mV)(requirement: ≦15mV)						N
	Test b) (temperature cycles test) carried out on terminals subjected to test a):						N
	-test current (A) (table 10).....:						-
	-cross-sectional area (mm^2).....:						-
	-screwless terminal number .....:	1	2	3	4	5	-
	-voltage drop measured after the 24 cycle (requirement: ≦22,5mV						N
	-voltage drop measured (mV) after 48^{th} cycle.....:						N
	-voltage drop measured (mV) after 72^{th} cycle.....:						N
	-voltage drop measured (mV) after 96^{th} cycle.....:						N
	-voltage drop measured (mV) after 120^{th} cycle.....:						N
	-voltage drop measured (mV) after 144^{th} cycle.....:						N
	-voltage drop measured (mV) after 168^{th} cycle.....:						N
	-voltage drop measured (mV) after 192^{th} cycle.....:						N
	-requirement: ≦22,5mV or 2 times 24^{th} cycle Value (mV).....:						N
	After this test: inspection show no changes						N
	Mechanical strength test according 12.3.10:						N
	Connection/disconnection 5 times: rigid solid Conductor 2,5 mm^2						N

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

	Connection/disconnection 5 times: rigid solid Conductor 1,5 mm^2				N
	Conductor subjected to a pull of 30N for 1 min After each connection. During application of the pull conductor not come out of the terminal				N
	Connection/disconnection 1 time: rigid stranded Conductor 2,5 mm^2				N
	Connection/disconnection 1 time: rigid stranded Conductor 1,5 mm^2				N
	Conductor subjected to a pull of 30N for 1 min After each connection. During application of the pull conductor not come out of the terminal				N
	Additional test on terminals intended for both rigid and flexible conductors:				N
	Connection/disconnection 5 times: flexible Conductor 2,5 mm^2				N
	Connection/disconnection 5 times: flexible Conductor 1,5 mm^2				N
	Conductor subjected to a pull of 30N for 1 min After each connection. During application of the pull conductor not come out of the terminal				N
	Additional test with apparatus shown in figure 32:				N
	-type of conductors.....:	Rigid solid			-
	-number of conductors.....:				-
	-1,5 mm^2;diameter of bushing hole 6,5 mm; height H 260 mm; mass 0,4 kg				N
	-2,5 mm^2;diameter of bushing hole 9,5 mm; height H 280 mm; mass 0,7 kg				N
	During the test: conductors not move noticeably in The clamping unit				N
	After these tests: neither terminals nor clamping Means have worked loose and conductors show No deterioration				N
12.3.12	Screwless terminals: connected rigid solid Conductor remains clamped, even when deflected during normal installation				N
	Deflection test (principle of test apparatus shown in figure 33 a)):				N
	-test current (A) (equal rated current).....:				-
	Smallest cross-sectional area (mm^2) (table 11) ...:				-
	Force (N) (table 12).....:				-
	-screwless terminal number.....:	1	2	3	-
	-screwless point (x=deflection original point).....:	X	X+10°	X+20°	-

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

	-voltage drop measured (mV) (1st deflection).....:				N
	-voltage drop measured (mV) (2nd deflection).....:				N
	-voltage drop measured (mV) (3rd deflection).....:				N
	-voltage drop measured (mV) (4th deflection).....:				N
	-voltage drop measured (mV) (5th deflection).....:				N
	-voltage drop measured (mV) (6th deflection).....:				N
	-voltage drop measured (mV) (7th deflection).....:				N
	-voltage drop measured (mV) (8th deflection).....:				N
	-voltage drop measured (mV) (9th deflection).....:				N
	-voltage drop measured (mV) (10th deflection)...:				N
	-voltage drop measured (mV) (11tht deflection)....:				N
	-voltage drop measured (mV) (12th deflection)....:				N
	-requirement: ≦25mV				N
	Largest cross-sectional area(mm^2) (table 11).....:				-
	Force (N) (table 12).....:				-
	-screwless terminal number.....:	1	2	3	-
	-strating point (x=deflection original point).....:	x	X+10°	X+20°	-
	-voltage drop measured (mV) (1st deflection).....:				N
	-voltage drop measured (mV) (2nd deflection).....:				N
	-voltage drop measured (mV) (3rd deflection).....:				N
	-voltage drop measured (mV) (4th deflection).....:				N
	-voltage drop measured (mV) (5th deflection).....:				N
	-voltage drop measured (mV) (6th deflection).....:				N
	-voltage drop measured (mV) (7th deflection).....:				N
	-voltage drop measured (mV) (8th deflection).....:				N
	-voltage drop measured (mV) (9th deflection).....:				N
	-voltage drop measured (mV) (10th deflection)...:				N
	-voltage drop measured (mV) (11th deflection)....:				N
	-voltage drop measured (mV) (12th deflection)....:				N
	-requirement: ≦25mV				N

13.	CONSTRUCTION OF FIXED SOCKET-OUTLETS		N
13.1	Socket-contact assembly: sufficient resiliency		N
13.2	Socket-contact and pins of socket-outlets: resistant to corrosion		N
13.3	Insulating linings, barriers and the like: adequate Mechanical strength		N

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Clause	Requirement – Test	Result - Remark	Verdict
13.4	Socket-outlets constructed as to permit		N
	-easy fixing of the base to a wall or in a mounting box		N
	-easy introduction and connection of the conductor in the terminals		N
	-correct positioning of the conductors		N
	-adequate space between the underside of the Base and the surface on which the base is Mounted-surface mounted		N
	-adequate space between the underside of the Base and the sides of the base and the enclosure (cover or box)-flush mounted		N
	Socket-outlets classified as design A: permit easy Positioning and removal of the cover or cover Plate, without displacing the conductors		N
13.5	Socket-outlets designed that full engagement of Associated plugs is not prevented by any Projection from their engagement face		N
	Gap between the engagement face of the socket-Outlet and the plug :not exceed 1 mm		N
13.6	Covers provided with bushing for the entry holes For the pins: not possible to remove them from the Inadvertently from the inside when the cover is removed		N
13.7	Covers, cover-plates or parts of them intended to ensure protection against electric shock:		N
	-held in place at two or more points by effective fixing		N
	-Fixed by means of a single fixing, e.g. by a screw, provided that they are located by another means (e.g. by a shoulder)		N
	Fixings of covers or cover-plates of socket-outlets Of design A serve to fix the base : there shall be Means to maintain the base in position, even after Removal of the covers or cover-plates		N
13.7.1	covers or cover-plates whose fixing are of the screw-type:		N
	Compliance checked by inspection only		N
13.7.2	covers or cover-plates whose fixing is not dependent on screws and whose removal is obtained by applying a force in a direction approximately perpendicular to the mounting/supporting surface:		N
	Compliance checked, when their removal may give access, with the standard Test finger:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	To live parts: by the test of 24.14(verification of the non-removal and the removal)	No live part on surface	N
	To non-earthed metal parts separated from live Parts in such a way that creepage distances and Clearances have the values shown in table 23:by The test of 24.15(verification of the non-removal and the removal)		N
	Only to insulating parts, or earthed metal parts, Or metal parts separated from live parts in such A way that creepage distances and clearances have Twice the values shown in table 23, or live parts Of SEL V circuits not greater than 25 V a .c.:by the test of 24.16(verification of the on-removal only)		N
13.8	Cover-plate intended for a socket-outlet with Earthing contact: not interchangeable with a Cover-plate intended for a socket-outlet without Earthing contact		N
13.9	Ordinary surface-type socket-outlets: no free Opening in the enclosure		N
13.10	Screws or other means for mounting the socket-Outlet on a surface in a box or enclosure: easily Accessible from the front.		N
	Fixing means not serve any other fixing purpose		N
13.11	Multiple socket-outlets with a common base: Provided with fixed links for the interconnection of The contacts in parallel		N
	Fixing of the links independent of the connection Of the supply wires		N
13.12	Multiple socket-outlets, comprising separate bases: correct position of each base ensured		N
	fixing of each base independent of the fixing of the combination to the mounting surface		N
13.13	mounting plate of surface-type socket-outlets: adequate mechanical strength		N
13.14	multiple socket-outlets: consist of a combination of socket-outlets which are either all provided with or all without earthing contacts		N
13.15	socket-outlets withstand the lateral strain imposed by equipment likely to be introduced into them		N

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Clause	Requirement – Test	Result - Remark	Verdict
	socket-outlets 16A 250V:test made 4 times with the socket-outlet turned through 90°,5N for 1 min (device shown in fig.6)		N
	during the test:		N
	-no damage		N
	-socket-outlets comply with clause 22		N
13.16	socket-outlets shall not be an integral part of lampholdeds		N
13.17	socket-outlets other than ordinary :totally enclosed when fitted with screwed conduits or with polyvinyl chloride(p. v. c.)sheathed or similar type cables and without a plug in postion		N
	surface-type socket-outlets other than ordinary shall have provision for opening a drain hole of at least 5 mm in diameter, or 20 mm^2 in area with a width and a length of at least 3mm		N
	Drain hole: effective		N
	lid springs (if any): of corrosion resistant material (bronze or stainless steel)		N
13.18	earthing pins: adequate mechanical strength		N
	not solid pins: compliance checked by inspection and by the test of 14.2 made after the tests of clause 21		N
13.19	earthing contacts and neutral contacts: locked against rotation and removable only with the aid of a tool, after dismantling the socket-outlet		N
	metal strips of the earthing circuit: no burrs which might damage the insulation of the supply conductors		N
13.21	socket-outlets to be installed in a box: designed that the conductor ends can be prepared after the box is mounted in position, but before the socket-outlet is fitted in the box		N
13.22	inlet openings: allow the introduction of the conduit or the sheath of the cable		N
	surface-type socket-outlets:		N
	the conduit or sheath of the cable can enter at least 1mminto the enclosure		N

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Clause	Requirement – Test	Result - Remark	Verdict
	inlet opening for conduit entries, or at least two of them if there are more than one, capable of accepting conduit sizes of 16,20,25 or 32 or a combination of at least two of any of these sizes		N
	inlet opening for cable entries capable of accepting cables having the dimensions specified in table 14 or be as specified by the manufacturer: rated current (A); Limits of external dimensions of cable min/max(mm)……:		N
13.23	membranes(grommets) in inlet openings: reliably fixed and not displaced by the mechanical and thermal stresses occurring in normal use		N
	test on membranes subjected to the ageing treatment specified in 16.1 and assembled in the accessories		N
	accessories placed at 40℃for 2 h. force of 30 N applied for 5 s by test finger. During the test: no deformation		N
	membranes likely to be subjected to an axial pull: axial pull of 30 N applied for 5 s. during the test: membranes not come out		N
	after the test: no harmful deformation, cracks or similar damage		N
	test repeated with membranes not subjected to any treatment		N
13.24	membranes in inlet openings: introduction of the cables into the accessory permitted when the ambient temperature is low		N
	test on membranes not subjected to the ageing treatment specified in 16.1 and assembled in the accessories		N
	accessories kept at -15℃ for 2 h: possibility to introduce cables of the largest diameter through membranes		N
	after the test: no harmful deformation, cracks or similar damage		N

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Clause	Requirement – Test	Result - Remark	Verdict
14.	CONSTRUCTION OF PLUGS AND PORTABLE SOCKET-OUTLETS		P
14.1	non-rewirable plug or non-rewirable portable socket-outlet:		P
	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, for example a screwdriver used as such		P
14.2	pins of plugs and portable socket-outlets: adequate mechanical strength		P
	test for pins not solid (made after clause 21):force of 100N exerted on the pin for 1 min by means of a steel rod Φ4,8 mm		P
	during the application of the force: reduction of the dimension of the pin not exceed 0,15mm		P
	after removal of the rod: dimensions of the pin not changed by more than 0,06 mm		P
14.3	pins of plugs:		P
	-locked against rotation		P
	-not removable without dismantling the plug		P
	-adequately fixed in the body of the plug when the plug is wired and assembled as in normal use	the plug is non-rewirable	P
	earthing or neutral pins or contacts of plugs: not possible to replace in an incorrect position		P
14.4	earthing contacts and neutral contacts of portable socket-outlets:		P
	-locked against rotation		P
	-removable only with the aid of a tool, after dismantling the socket-outlet		P
14.5	socket-contact assemblies: sufficient resiliency		P
14.6	pins and socket-contacts: resistant to corrosion and abrasion	material is brass	P
14.7	enclosures of rewirable accessories: completely enclose terminals and ends of flexible cable.	Non-rewirable	N
	construction of rewirable accessories:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	-conductors can be properly connected		N
	-cores not pressed against each other		N
	-cores of live conductor not in contact with accessible metal parts		N
	-core of earthing conductor not in contact with live parts		N
14.8	Rewirable accessories: terminal screws or nuts cannot become loose and fall out of position and establish an electrical connection between live parts and earthing terminal or metal parts	Non-rewirable one	N
14.9	Rewirable accessories with earthing contact: ample space for slack of earthing (test)		N
	Non-rewirable non-moulded-on accessories with earthing contact: current-carrying conductors stressed before the earthing conductor if the flexible cable slips in its anchorage		P
14.10	terminals of rewirable accessories and terminations of non-rewirable accessories: located and shielded that loose wires not present a risk of electric shock		P
14.10.1	rewirable accessories: test with 6 mm free wire		N
	free wire of a conductor connected to a live terminal not touch any accessible metal part or able to emerge from the enclosure		N
	free wire of a conductor connected to an earthing terminal not touch a live part		N
14.10.2	Non-rewirable, non-moulded-on accessories: test with a free wire of length equivalent to the maximum designed stripping length declared by the manufacturer plus 2 mm		N
	free wire of a conductor connected to a live terminal not touch any accessible metal part or reduce creepage and clearance below 1,5 mm to the external surface		N

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Clause	Requirement – Test	Result - Remark	Verdict
	free wire of a conductor connected to an earth termination not touch any live part		N
14.10.3	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
14.11	Rewirable plugs and rewirable portable socket-outlets:		N
	-clear how relief from strain and prevention of twisting is intended to be effected		N
	-cord anchorage, or at least part of it, integral with or permanently fixed to one of the component parts of the plug or portable socket-outlet		N
	-makeshift methods not used		N
	-cord anchorage suitable for the different types of flexible cable which may be connected; screws, if any: not serve to fix any other component		N
	-cord anchorages: of insulating material or provided with an insulating lining fixed to the metal parts		N
	-metal parts of cord anchorages, including clamping screws: insulated from the earthing circuit		N
14.12	insulating parts which keep live parts in position: reliably fixed together; not possible to dismantle the accessory without the aid of a tool		P
14.13	covers of portable socket-outlets: bushing for entry holes for the pins not removable from the outside or detachable inadvertently from the inside		P
14.14	screws intended to allow access to interior of the accessory: captive		P
14.15	engagement face of plugs: no projections		P

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Clause	Requirement – Test	Result - Remark	Verdict
14.16	engagement face of portable socket-outlets: no projections		P
14.17	accessories other than ordinary: provided with grand(s) or the like		N
	plugs other than ordinary: adequately enclosed		N
	portable socket-outlets other than ordinary: adequately enclosed without a plug in engagement		N
	lid springs(if any): of corrosion resistant material (bronze or stainless steel)		N
14.18	portable socket-outlets: means for suspension from a wall or other mounting surfaces not allow access to live parts		N
	no free openings between space intended for suspension means fixed to the wall and live parts		N
14.19	combinations of plugs and socket-outlets with circuit-breakers or other protective devices comply with relevant standards, if any.....:		N
14.20	portable accessories: not integral part of lampholders		P
14.21	plugs for equipment of class II:		N
	-non-rewirable		N
	-if incorporated in a cord set: provided with a connector for equipment of class 11		N
	-if incorporated in a cord extension set: provided with a portable socket-outlet for equipment of class 11		N
14.22	components(switches and fuses) incorporated in accessories: comply with the relevant IEC standard		P
14.23	plug-in equipment: not cause overheating of the pins or impose undue strain		P
	plugs with rating above 16 A and 250 V: not integral part of other equipment		N

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Clause	Requirement – Test	Result - Remark	Verdict
	tests for two-pole plugs, with or without earthing contact, with rating up to and including 16 A and 250 V(plug of equipment inserted into a fixed socket-outlet complying with this standard):		N
14.23.1	socket-outlet connected to a supply voltage equal to 1,1 times the highest rated voltage of the equipment(V)..... :	275V	-
	temperature rise of the pins after 1 h not exceed 45 K(k)..... :		P
14.23.2	additional torque applied to the socket-outlet to maintain the engagement face in the vertical plane not exceed 0,25 Nm(Nm)..... :		P
14.24	plugs: can easily withdrawn by hand from the relevant socket-outlet		P
	gripping surfaces: so designed that the plug can be withdrawn without pull on the flexible cable		P
14.25	membranes in inlet openings: meet the requirements of 13.23 and 13.24		P
15.	INTERLOCKED SOCKET-OUTLETS		N
	socket-outlet interlocked with a switch:		N
	plug cannot be inserted into or completely withdrawn from the socket-outlet while the socket-contacts are live		N
	socket-contacts cannot be made live until a plug is almost completely in engagement		N
16.	RESISTANCE TO AGEING, TO HARMFUL INGRESS OF WATER AND TO HUMIDITY		P
16.1	Resistance to aging		P
	Accessories shall be resistant to ageing		P
	accessories subjected to a test in a heating cabinet at 70℃±2℃ for seven days (168 h)		P
	after the tests, samples shall show:		P

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Clause	Requirement – Test	Result - Remark	Verdict
	-no crack visible with normal or corrected vision without additional magnification		P
	-no sticky or greasy material		P
	-no trace of cloth (forefinger pressed with 5 N)		P
	-no damage		P
16.2	resistance to harmful ingress of water		N
	enclosure of accessories other than ordinary shall provided a degree of protection against harmful ingress of water in accordance with the classification		N
16.2.1	flush-type and semi flush-type socket-outlets fixed:		N
	-in a test wall using an appropriate box in accordance with the manufacturer's instructions		N
	-in a test wall according to figure 41		N
	portable socket-outlets tested on a plain, horizontal surface in a position as in normal use and fitted with flexible cables according to table 17 having the largest and smallest cross-sectional area given in table 3:		N
	-largest cross-sectional area (mm^2); type of cable (table 27)……:		-
	-smallest cross-sectional area (mm^2); type of cable (table 27)……:		-
	mounting screws tightened with a torque equal to 2/3 of the torque given in table 6 (Nm)……:		-
	glands tightened with a torque equal to 2/3 of the torque applied during the test of 24.6(Nm)……:		-
	Fixed and portable socket-outlets tested without a plug in engagement		N
	plugs tested with in full engagement with:		N
	-a fixed socket-outlets		N
	-a portable socket-outlets		N
	of the same system and with the same degree of protection against water		-
16.2.2	splash-proof accessories subjected to the test IPX4 according to IEC 529		N

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Clause	Requirement – Test	Result - Remark	Verdict
16.2.3	jet-proof accessories subjected to the test IPX5 according to IEC 529		N
16.2.4	specimens withstand an electric strength test specified in17.2 which is started within 5 min after the IP test		N
16.3	Resistance to humidity		P
	accessories proof against humidity which may occur in normal use		P
	compliance checked by a humidity treatment carried out in a humidity cabinet containing air with relative humidity maintained between 91% and 95%		P
	specimens kept in the cabinet for:		P
	-two days (48 h) for ordinary accessories		P
	-seven days(168 h) for accessories other than ordinary		N
	After this treatment the specimens show no damage		P
17.	INSULATION RESISTANCE AND ELECTRIC STRENGTHH		P
17.1.1	for socket-outlets: insulation resistance (500 V d. c .for 1 min):		P
	a) between all poles connected together and the body, with a plug in engagement ≧5MΩ..... :	>5MΩ	P
	b) between each pole in turn and all others connected to the body ,with a plug in engagement ≧5MΩ	>5MΩ	P
	c)between any metal encloses and metal foil in contact with the inner surface of its insulating linings, if any ≧5MΩ		N
	d)between any metal part of the cord anchorage, including clamping screws, and earthing terminal or earthing contact, if any, of portable socket-outlets≧5MΩ	>5MΩ	P

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Clause	Requirement – Test	Result - Remark	Verdict
	e)between any metal part of the cord anchorage of portable socket-outlets and a metal rod of the maximum diameter of the flexible cable inserted in its place ≧5MΩ	>5MΩ	P
17.1.2	for plugs: insulation resistance (500 V d. c. for 1 min):		P
	a)between all poles connected together and the body ≧5MΩ...	>5MΩ	P
	b) between each pole in turn and all others connected to the body ≧5MΩ	>5MΩ	P
	c)between any metal part of the cord anchorage, including clamping screws, and earthing terminal or earthing contact, if any ≧5MΩ		N
	d) between any metal part of the cord anchorage and a metal rod of the maximum diameter of the flexible cable inserted in its place ≧5MΩ		N
17.2	socket-outlets: electric strength, test voltage(a. c. , for 1 min):		P
	a) test voltage(V)	2000V 1min	P
	b) test voltage(V):	2000V 1min	P
	c) test voltage(V) .....:		N
	d) test voltage(V) .....:		N
	e) test voltage(V) :	2000V 1min	P
	plugs: electric strength, test voltage (a.c., for 1 min):		P
	a) test voltage(V)	2000V 1min	P
	b) test voltage(V):	2000V 1min	P
	c) test voltage(V) .....:		N
	d) test voltage(V) .....:		N
	during the test no flashover or breakdown		P

18.	OPERATION OF EARTHING CONTACTS		P
	Earthing contacts provide adequate contact pressure and not deteriorate in normal use		P
	Compliance checked by the tests of clauses 19 and 21		P

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Clause	Requirement – Test	Result - Remark	Verdict
	force exerted measured in side earthing contacts not less than 5 N(CEE 7 clause 18)……:		P
19.	TEMPERATURE RISE		P
	Non-rewirable accessories tested as delivered:		P
	-type of flexible cable; number of conductors and nominal cross-sectional area (mm^2)……:		-
	Rewirable accessories fitted with polyvinyl chloride insulated conductors having a nominal cross-sectional area as shown in table 15:		N
	-rated current of accessory……:	16A	-
	-nominal cross-sectional area (mm^2)		-
	-type of conductors……:	rigid solid/rigid stranded	-
	Terminal screws or nuts tightened with a torque equal to 2/3 of that specified in 12.2.8 (Nm)……:		-
	socket-outlets tested using a test plug with brass pins having the minimum specified dimensions		P
	plugs tested using a fixed socket-outlet complying with the standard and having as near to average characteristics, but with minimum size of the earthing pin, if any		P
	Test current as specified in table 20 passed for 1 h (A)……:		-
	Temperature rise of terminals not exceed 45 K (K)……:		P
	separate tests made passing the current through:		P
	-the neutral contact, if any, and the adjacent phase contact(K)……:		N
	-the earthing contact, if any, and the nearest phase contact(K)……:		P
	Temperature rise of external partsof insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position (K)……:		N

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Clause	Requirement – Test	Result - Remark	Verdict
20.	BREAKING CAPACITY		P
	Accessories shall have adequate breaking capacity		P
	compliance checked by testing:		-
	-socket-outlets;		P
	-plugs with pins which are not solid		P
	test conditions:		P
	-100 strokes; rate of operation.....:	30 strokes per minute	-
	-test voltage(1,1 V n).....:	275V	-
	-test current (1,25 In)(power factor 0,6).....:	20A	-
	multiple socket-outlets: test carried out on one socket-outlet of each type and current rating		P
	during the test: no sustained arcing occur		P
	after the test:		P
	-specimens show no damage impairing their further use;		P
	-entry holes for the pins not show any damage which may impair the safety		P
21.	NORMAL OPERATION		P
	Accessories shall withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use		P
	compliance checked by testing:		P
	-socket-outlets;		P
	-plugs with resilient earthing socket-contacts;		P
	-plugs with pins which are not solid		P
	Test performed on:		P
	-complete shuttered socket-outlets		P
	-specimens prepared by the manufacturer without shutters (with current flowing). Number of strokes:		N
	-specimens with shutters(without current flowing)		P
	-complete shuttered socket-outlets with operations made by hand as in normal use		N
	Test conditions:		P

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Clause	Requirement – Test	Result - Remark	Verdict
	-10000 strokes; rate of operation.....:	30 strokes per minute	-
	-test voltage V n(V).....:	250V	-
	-test current (as specified in table 20)(A) (power factor 0,8).....:	12A PF=0.8	-
	Test current passed:		P
	-during each insertion and withdrawal of the plug (in≦16A)		P
	-during alternate insertion and withdrawal, the other insertion and withdrawal being made without current flowing(in>16A)		N
	Multiple socket-outlets: test carried out on one socket-outlet of each type and current rating		P
	During the test: no sustained arcing occur		P
	After the test the specimens shall not show:		-
	-wear impairing their further use;		P
	-deterioration of enclosure, insulating lining or barriers;		P
	-damage to the entry holes for the pins, that might impair proper working;		P
	-loosening of electrical or mechanical connections;		P
	-seepage of sealing compound		P
	shuttered socket-outlets: the following gauges not touch live parts when they remain under the relevant forces:		P
	-gauges of figure 3 applied with a force up to 20 N		P
	-steel gauge of figure 4 applied with a force up to 1N		P
	Temperature-rise test (requirements of clause 19):		P
	Test current as required for the normal operation test, given in table 20,passed for 1 h (A).....:	12A	-
	Temperature rise of terminals not exceed 45 k (K).....:		P
	separate tests made passing the current through:		P
	-the neutral contact, if any, and the adjacent phase contact(K).....:		N
	-the earthing contact, if any, and the nearest phase contact(K).....:		P
	socket-outlets: electric strength (sub-clause 17.2),test voltage (a. c., for 1 min):		P

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Clause	Requirement – Test	Result - Remark	Verdict
	a)test voltage(v) 1500V.....:	1500V	P
	b)test voltage(v) .....:	1500V	P
	c)test voltage(v) .....:		N
	d)test voltage(v) .....:		N
	e)test voltage(v) .....:		N
	plugs: electric strength (sub-clause 17.2), test voltage (a. c ., for 1 min):		N
	a)test voltage(v) .....:	1500V	P
	b)test voltage(v) .....:	1500V	P
	c)test voltage(v) .....:		N
	d)test voltage(v) .....:		N
	During the test : no flashover or breakdown		P
	fixed socket-outlets: test according to 13.1		N
	pins of plugs and portable socket-outlets: test according to 14.2		P
22.	FORCE NECESSARY TO WITHDRAW THE PI UG		P
	Construction of accessory shall the easy insertion and withdrawal of the plug, and prevent the plug from working out of the socket-outlet in normal use		P
	Rated current(A).....:	16A	P
	Number of poles.....:	3	P
22.1	Verification of the maximum withdrawal force (multi-pin gauge)		P
	-Maximum withdrawal force (N).....	52N	-
	The plug not remain in the socket-outlet		P
22.2	Verification of the minimum withdrawal force (single-pin gauge)		P
	-Minimum withdrawal force (N) .....:	2N	-
	The plug not fall from each individual contact-assembly within 30 s	>30S	P
23.	FLEXIBLE CABLES AND THEIR CONNECTION		P
23.1	Plugs and portable socket-outlets provided with a cord anchorage such that the conductors are relieved from strain and that their covering is protected from abrasion		P

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Clause	Requirement – Test	Result - Remark	Verdict
	Sheath of flexible cable clamped within the cord anchorage		N
23.2	Pull and torque test		P
	Non-rewirable accessories:		P
	-rating of accessory .....:	10-16A, 220-250V~	-
	-type of flexible cable; number of conductors and nominal cross-sectional area (mm^2) .....:		-
	-pull (100 times) (N) .....:		P
	-torque (1 min) as specified in table 18 (Nm) .....:	0.35Nm	P
	After the test:		P
	Displacement ≤2 mm .....:	<2mm	P
	No break in the electrical connections		P
	Rewirable accessories:		N
	-rating of accessory .....:		-
	-clamping screws, if any, tightened with a torque equal to 2/3 of that specified in 12.2.8 (Nm) .....:		-
	-type of flexible cable; number of conductors and smallest nominal cross-sectional area (mm^2) as show in table 17 .....:		-
	-Pull (100 times) (N) .....:		N
	-torque (1 min) as specified in table 18 (Nm) ...:		N
	After the test:		N
	Displacement ≤2 mm .....:		N
	End of conductors not have moved noticeably in the terminals		N
	-type of flexible cable; number of conductors and larges nominal cross-sectional area (mm^2) as show in table 17 .....:		-
	-pull (100 times) (N) .....:		N
	-torque (1 min) as specified in table 18 (Nm) ...:		N
	After the test:		N
	Displacement ≤2 mm .....:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	End of conductors not have moved noticeably in the terminals		N
	Rewirable accessories having rated current up to and including 16A:		N
	Suitable for fitting with the appropriate cable as shown in table 19		N
	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: provided with a flexible cable complying with IEC 227 or IEC 245		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: 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 shall be of insulating material and fixed in reliable manner		P
	Flexing test (10.000 flexings):		P
	-type of flexible cable and nominal cross-sectional area (mm^2) .....:		-
	-test current (A) .....:	16A	-
	-mass (N) .....:	20N	-
	During the test: no interruption of the test current and no short-circuit between conductors		P
	Voltage drop test: test current (A); voltage drop (≤10mV) .....:		P
	After the test: guard no separated from the body, insulation shows no sign of abrasion or wear, broken strands become no accessible		P

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Clause	Requirement – Test	Result - Remark	Verdict
24.	MECHANICAL STRENGTH		P
	Accessories, surface mounting boxes and screwed glands have adequate mechanical strength		P
24.1	Fixed socket-outlets, portable multiple socket-outlets and surface mounting boxes; impact test (apparatus shown in fig. 16, 17, 18and 19)		N
	After the test: no damage, live parts no become accessible		N
24.2	Portable single socket-outlets and plugs: tumbling barrel test; number of falls ..... :	1000/500/100	P
	After the test:		P
	No part become detached or loosened;		P
	Pins no become so deformed that the plug cannot be introduced into a socket-outlet and also fails to comply with the requirements of 9.1 and 10.3;		P
	Pins no turn when a torque of 0,4 Nm is applied for 1 min in each direction		P
24.3	Ordinary surface type socket-outlets: first fixed to a cylinder of rigid steel sheet and then fixed to a flat steel sheet		N
	During and after the test: no damage		N
24.4	Portable single socket-outlets, multiple socket-outlets and plugs (elastomeric or thermoplastic material): impact test, weight 1000 g, height 100mm		P
	Specimens placed in a refrigerator at—15℃ ±2℃ for at least 16 h		P
	After the test: no damage		P
24.5	Portable single socket-outlets and plugs (elastomeric or thermoplastic material): compression test, 300 N for 1 min, position a) and b) (apparatus shown in fig. 22)		P

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Clause	Requirement – Test	Result - Remark	Verdict
24.6	Screwed glands of accessories other than ordinary: torque test (1 min)		N
	-diameter of test rod (mm) ....:		-
	-type of material ....:	Metal/ moulded material	-
	-torque (Nm) ....:		-
	-type of material ....:		-
	After the test: no damage of glands and enclosure of the specimens		N
24.7	Plug pins provided with insulating sleeves: 20000 movements, 4N (apparatus shown in fig. 23)		P
	After the test: no damage of pins, insulating sleeve not have punctured or rucked up		P
24.8	Shuttered socket-outlets: mechanical test carried out on specimens submitted to the normal operation test according to clause 21		P
	Force applied for 1 min against the shutter of an entry hole by means of one pin ..... :	75N	-
	Pin not come in contact with live parts		P
	After the test: no damage		P
24.9	Multiple portable socket-outlet: mechanical test		P
	Rewirable multiple socket-outlets: flexible cable of the smallest cross-sectional area specified in table 3 ..... :		-
	8 falls on concrete floor with the specimens arranged as shown in figure 24		P
	After the test: no damage, no part have become detached or loosened		P
	Accessories other than ordinary submitted again to the test as specified in 16.2		N
24.10	Plugs: pull test to verify the fixation of pins in the body of the plug (new specimens)		P
	Maximum withdrawal force (table 16) applied for 1min on each pin in turn, after the specimen has been placed at 70℃ for 1 h ..... :		–
	After the test: displacement of pins in the body of the plug ≤1 mm ....:	<1mm	P
24.11	Barriers of portable socket-outlets having means for suspension on a wall:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	Force applied for 10 s against the barrier by means of a cylindrical steel rod (1,5 times the maximum plug withdrawal force specified in table 16) (N) .....:		–
	Rod not pierce the barrier		N
24.12	Portable socket-outlets having means for suspension on a wall (pull test):		P
	Pull applied to the supply flexible cable for 10 s (force prescribed in 23.2 for checking the flexible cable anchorage) (N) .....:		–
	During the test: no break of the means for suspension on a wall		P
24.13	Portable socket-outlets having means for suspension on a wall (pull test):		P
	Pull applied to the engagement face of the socket-outlet for 10 s (maximum withdrawal force specified, for the corresponding plug, in table 16) (N) .....:		-
	During the test: no break of the means for suspension on a wall		P
24.14	Force necessary for covers or cover-plates to come off or not to come off (accessibility with the test finger to live parts)		N
24.14.1	Verification of the non-removal of covers or cover-plates		P
	Force applied for 1 min in direction perpendicular to the mounting surface. .....:	80N	-
	Covers or cover-plates not come off		P
	Test repeated on new specimens with a sheet of hard material, 1 mm ± 0,1 mm thick, fitted around the supporting frame (fig. 8)		P
	Covers or cover-plates come off		P
	After the test: no damage		P
24.14.2	Verification of the removal of covers or cover-plates		N

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Clause	Requirement – Test	Result - Remark	Verdict
	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting /supporting surface: covers or cover-plates come off		N
	Test repeated on new specimens with a sheet of hard material, 1 mm ±0,1 mm thick, fitted around the supporting frame (fig. 8)		N
	Covers or cover-plates come off		N
	After the test: no damage		N
24.15	Force necessary for covers or cover-plates to come off or not to come off (accessibility with the test finger to non-earthed metal parts separated from live parts by creepage distances and clearances according to table 23)		P
24.16	Force necessary for covers or cover-plates to come off or not to come off (accessibility to insulating parts, earthed metal parts, live parts of SELV ≤25V a.c. or metal parts separated from live parts by creepage distances twice those according to table 23)		P
24.17	Test with gauge for verification of the outline of covers or cover-plates: distances between face C of gauge and outline of side under test, not decrease .....:	not complying	-
24.18	Test with gauge (1N): gauge not enter more than 1 mm ....:	not complying	-
25.	RESISTANCE TO HEAT		P
25.1	Fixed and portable accessories: heating cabinet 100℃ for 1 h		P
	During the test: no change impairing their further use and sealing compound, if any, not flow		P
	After the test: markings still legible		P
25.2	Parts of insulating material of fixed socket-outlets necessary to retain current-carrying pars and parts of the earthing circuit in position, and parts of the front surface zone of 2 mm width surrounding the phase and neutral pin entry holes: ball-pressure test (1 h, 125 ℃)		N
	After the test: diameter of impression ≤ 2 mm ...:		N

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Clause	Requirement – Test	Result - Remark	Verdict
25.3	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)		P
	Test temperature (℃) ....:	70℃/40℃ + highest temperature rise determined during the test of clause 19	P
	After the test: diameter of impression ≤2 mm...:		P
25.4	Portable accessories: compression test (20N, 1 h, 80℃) by means of the apparatus shown in figure 28		P
	After the test: no damage		P
26.	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		P
26.1	Connections withstand mechanical stresses		P
	Thread-forming or thread-cutting screws used only if supplied together with the piece in which they are intended to be inserted		P
	Thread-cutting screws intended to be used during installation: captive		P
	Screws and nuts which transmit contact pressure: in engagement with a metal thread		N
	Test:		P
	- 10 times for screws in engagement with a thread of insulating and for screws of insulating material		P
	- 5 times for all other cases		N
	- terminals: screw diameter (mm); torque (Nm);		-
	- earthing terminals: screw diameter (mm); torque (Nm); times ....:		-
	- assembly screws: screw diameter (mm); torque (Nm); times ....:	3.0mm 0.5Nm	-
	- cord anchorage: screw diameter (mm); torque (Nm); times ....:	3.0mm 0.5Nm	-
	- other screws or nuts: diameter (mm); torque (Nm); times ....:		-

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Clause	Requirement – Test	Result - Remark	Verdict
	During the test: no damage impairing the further use of the screwed connections		P
26.2	Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured		P
26.3	Contact pressure: not transmitted through insulating material other than ceramic, pure mica or other material no less suitable unless there is sufficient resiliency in metallic parts		P
	Connections made by insulation piercing of tinsel cord reliable		N
26.4	Screws and rivets locked against loosening and /or turning		P
26.5	Current-carrying parts of metal having mechanical strength, electrical conductivity and resistance to corrosion adequate:		P
	- copper;	copper	P
	- alloy with at least 58 % copper for parts made from cold-rolled sheet or with at least 50 % copper for other parts;		N
	- stainless steel with at least 13 % chromium and not more than 0,09 % carbon		N
	- steel with electroplated coating of zinc (ISO 2081), with thickness of at least;		N
	5 µm, service condition ISO no. 1, for ordinary equipment		N
	12 µm service condition ISO no. 2, for splash-proof equipment		N
	25 µm, service condition ISO no. 3, for jet-proof equipment		N
	- steel with electroplated coating of nickel and chromium (ISO1456), with thickness of at least:		N
	20 µm, service condition ISO no. 2, for ordinary equipment		N
	30 µm, service condition ISO no. 3, for splash-proof equipment		N

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Clause	Requirement – Test	Result - Remark	Verdict
	40 µm, service condition ISO no. 4, for jet-proof equipment		N
	- steel with electroplated coating of tin (ISO2093), with thickness of at least:		N
	12 µm, service condition ISO no. 2, for ordinary equipment		N
	20 µm, service condition ISO 3, for splash-proof equipment		N
	30 µm, service condition ISO no. 4, for jet-proof equipment		N
	Current-carrying parts subjected to mechanical wear: not of steel with electroplated coating		P
	Metals having a great difference of electrochemical potential: not used in contact with each other		P
26.6	Contacts subjected to a sliding action: of metal resistant to corrosion		P
26.7	Thread-forming screws and thread-cutting screws not used for the connection of current-carrying parts		P
	Thread-forming screws and thread-cutting screws used to provide earthing connection: not necessary to disturb the connection and at least two screws are used for each connection		N
27	CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND		P
27.1	Creepage distances, clearances and distances through sealing compound no less than the values shown in table 23		P
	Creepage distances (cr):		P
	1) between live parts of different polarity ≥4(3) mm	>4mm	P
	2) between live parts and:		P

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Clause	Requirement – Test	Result - Remark	Verdict
	- accessible insulating and earthed metal parts ≥3 mm .....:	>3mm	P
	- parts of earthing circuit ≥ 3mm . .....:	>3mm	P
	- metal frames supporting the base of flush-type socket-outlets ≥3mm .....:		N
	- screws or devices for fixing bases, covers or cover-plates of fixed socket-outlets ≥3mm.....:	>3mm	P
	- external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit ≥3mm.....:	>3mm	P
	3) between pins of plugs and metal parts connected to them, when fully engaged, and a socket-outlet of the same system having accessible unearthed metal parts ≥6(4,5)mm....		N
	4) between the accessible unearthed metal parts of a socket-outlet and a fully engaged plug of the same system having pins and metal parts connected to them≥6(4,5)mm		N
	5) between live parts of a socket-outlet (without a plug) and its accessible unearthed metal parts ≥6(4,5)mm.....		N
	Clearances (cl):		P
	6) between live parts of different polarity ≥3mm .....:	>3mm	P
	7) between live parts and:		P
	- accessible insulating and earthed metal parts not mentioned under 8 and 9 ≥3mm.....:	>3mm	P
	- parts of earthing circuit ≥3mm.....:	>3mm	P
	- metal frames supporting the base of flush-type socket-outlets ≥3mm.....:		N
	- screws or devices for fixing bases, covers or cover-plates of fixed socket-outlets ≥3mm.....:		N
	- external assembly screws, other than screws which are on the engagement face of plugs and are isolated from the earthing circuit ≥3mm.....:	>3 mm	P
	8) between live parts and:		N
	- exclusively earthed metal boxes ≥3mm.....:		N
	- unearthed metal boxes, without insulating lining ≥4.5 mm .....:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	9) between live parts and the bottom of any conductor recess, if any, in the base of a socket-outlet for surface mounting is mounted≥6mm.....:		N
	10) between live parts and the bottom of any conductor recess, if any, in the base of a socket-outlet for surface mounting ≥3mm.....:		N
	Distance through insulating sealing compound:		N
	11) between live parts covered with at least 2 mm of sealing compound and the surfaces on which the base of a socket-outlet for surfaces mounting is mounted ≥ 4(3) mm.....:		N
	12) between live parts covered with at least 2 mm of sealing compound and the bottom of any conductor recess, if any, in the base of a socket-outlet for surface mounting ≥2,5 mm ...:		N
27.2	Insulating sealing compound: not protrude above the edge of the cavity in which it is contained		N
27.3	Ordinary surface-type socket-outlets: no bare current-carrying strips at the back		N

28.	RESISTANCE OF INSULATING MAERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING		P
28.1	Resistance to abnormal heat and to fire		P
28.1.1	Glow-wire test		P
	For parts of fixed accessories necessary to retain current-carrying parts and parts of the earthing circuit in position: test temperature 850 ℃		N
	No visible flame and no sustained glowing		N
	Flame and glowing extinguish within 30 s .....:		N
	No ignition of the tissue paper		N
	For parts of fixed accessories needed to retain the earth terminal in position in a box: test temperature 650 ℃		P
	No visible flame and no sustained glowing		P
	Flame and glowing extinguish within 30 s .....:		P
	No ignition of the tissue paper		P
	For parts not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: test temperature 650 ℃		P
	No visible flame and no sustained glowing		P
	Flame and glowing extinguish within 30 s .....:		P
	No ignition of the tissue paper		P
28.1.2	Plugs with pins provided with insulating sleeves:		N

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Clause	Requirement – Test	Result - Remark	Verdict
	Test temperature maintained for 3 h by means of the apparatus shown in figure 26 .....:		-
	Impact test according to sub-clause 30.4 (mass 100 g, height 100 mm, 4 impacts): no cracks of the insulating sleeves		N
28.2	Resistance to tracking		N
	Parts of insulating material retaining live parts in position of accessories other than ordinary: test voltage 175 V, 50 drops, solution A of IEC 112		N
	No flashover or breakdown		N
29.	RESISTANCE TO RUSTING		P
	Ferrous parts protected against rusting		P
	No signs of rust after 10min in carbon tetrachloride, trichloroethane or equivalent degreasing agent, 10 min in a box with air saturated with moisture and 10 min at 100 ℃		P
30.	ADDITIONAL TESTS ON PINS PROVIDED WITH INSULATING SLEEVES		N
30.1	Pressure test at high temperature		N
	Apparatus shown in figure 29, with the test specimen in position, maintained for 2 h at 200 ℃, Force applied through the blade: 2,5 N	No insulating sleeves	N
	Thickness of insulation measured: before the test (mm); after the test (mm) .....:		-
	Thickness of insulation measured: ⩾50% of the thickness measured before the test: percent value(%) .....:		-
30.2	Static damp heat test		N
	Set of 3 specimens submitted to two damp heat cycles in accordance with IEC 68-2-30		N
	After the test:		N
	Insulation resistance and electric strength test (clause 17)		N
	Abrasion test (sub-clause 24.7)		N

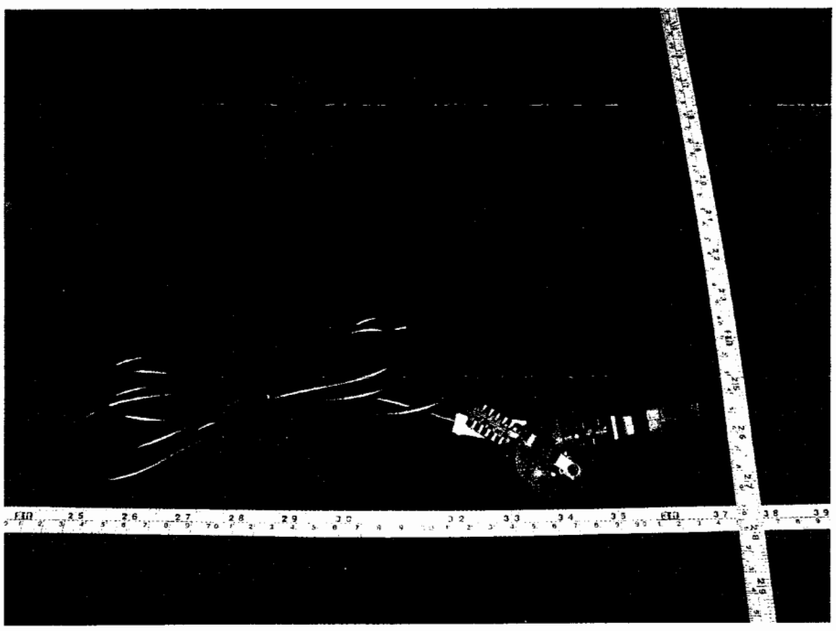
IEC 60884-1			
Clause	Requirement – Test	Result - Remark	Verdict
30.3	Test at low temperature		N
	Set of 3 specimens maintained at −15 ℃ ±2 ℃ for 24 h		N
	After the test:		N
	Insulation resistance and electric strength test (clause 17)		N
	Abrasion test (sub-clause 24.7)		N
30.4	Impact test at low temperature		N
	Specimens maintained at −15 ℃ ±2 ℃for 24 h Subjected to 4 impacts (mass 100g , height 100 mm) by means of the apparatus shown in figure 30 rotating the specimen through 90^0		N
	After the test: no crack of the insulating sleeves		N

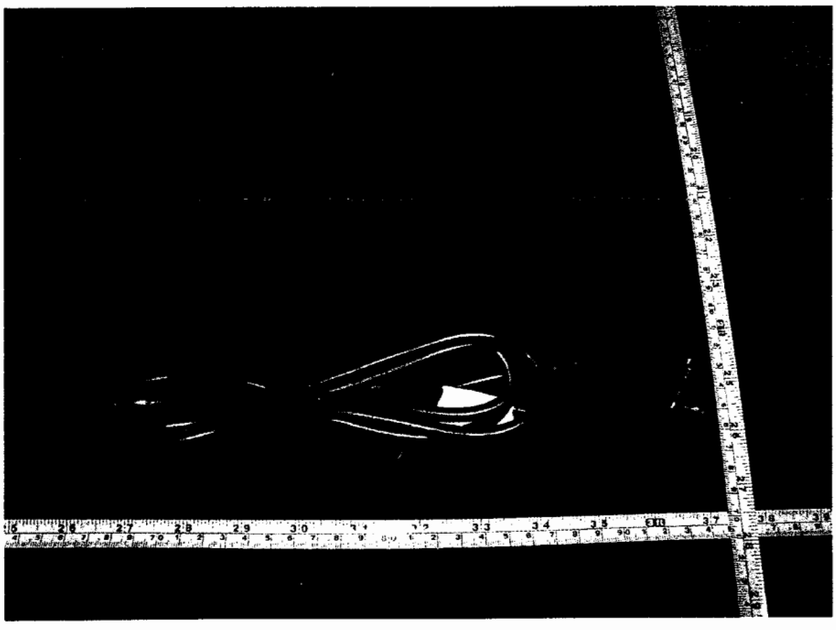
19.	Table: Temperature rise		(socket outlet)
Rate voltage: 250V(max)		Rate current : 16A(max)	Start time: 09:30
Rate voltage: 250V(max)		Test current : 16A	Complete time: 10:52
No	location of thermocouple	Temperature rise (k)	Limit (k)
1	L terminal	21.1	45
2	N terminal	20.7	45
3	Enclose material	17.3	For 25
4	Environment temp2(℃)	26.0	/
5	Environment temp1(℃)	26.1	/
6	L terminal	20.6	45
7	Earthing terminal	20.1	45
8	Enclose material	17.2	For 25
9	Environment temp2(℃)	26.0	/
10	Environment temp1(℃)	26.1	/

19.	Table: temperature rise		(plug)
Rate voltage(V): 250 V(max)		Rate current (A) 16(max)	Start time: 11:10
Rate voltage(V): 250 V(max)		Test current (A) 16	Complete time: 12:45
No	location of thermocouple	Temperature rise (k)	Limit (k)
1	L terminal	19.4	45
2	N terminal	17.6	45
3	Enclose material	18.7	For 25
4	Environment temp2(℃)	26.2	/
5	Environment temp1(℃)	26.2	/
6	L terminal	17.3	45
7	N terminal	20.4	45
8	Enclose material	19.0	For 25
9	Environment temp2(℃)	26.2	/
10	Environment temp1(℃)	26.2	/

Appendix 1

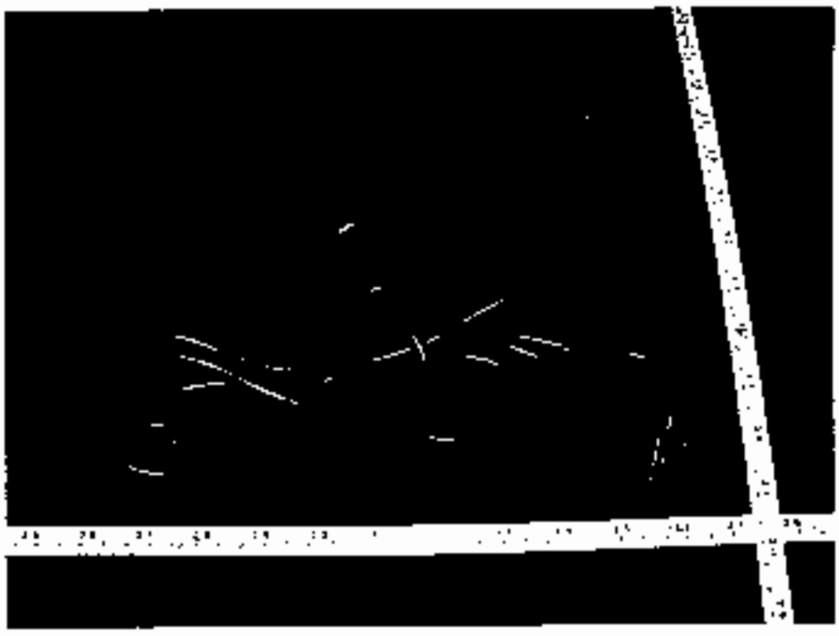
Whole views of Electrical Wire Groupware
Model: PC-186 & PC-186ML12

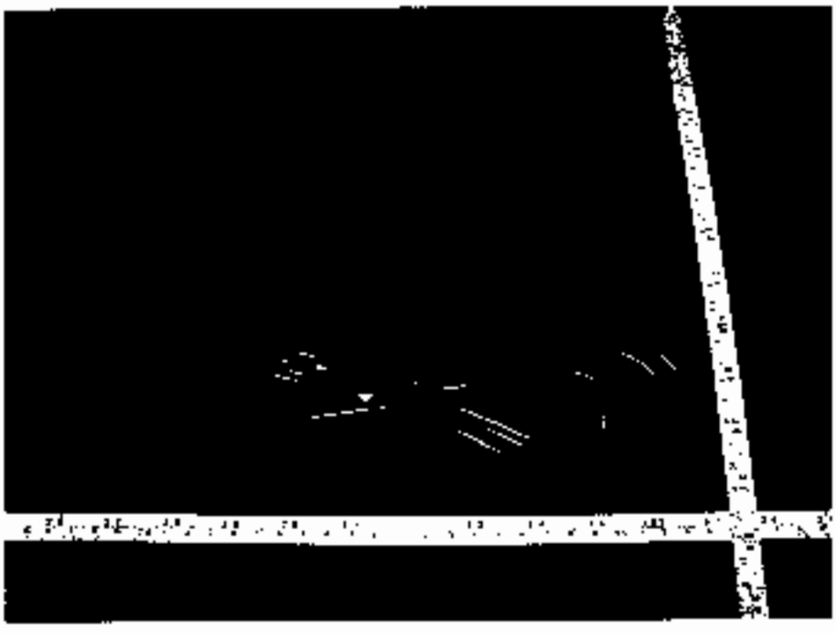




Appendix 2

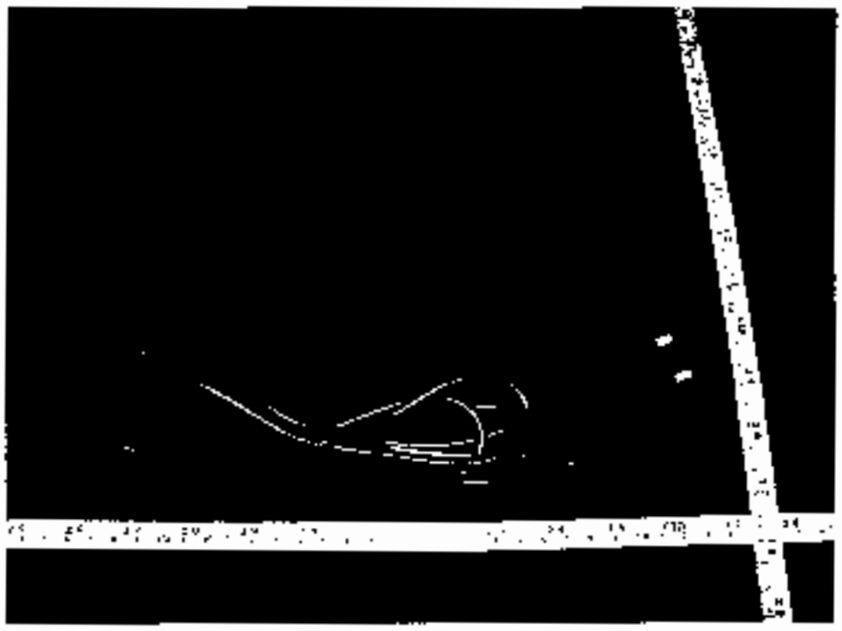
Whole views of Electrical Wire Groupware
Model: PC-186-ML6 & PC-189





Appendix 3

Whole views of Electrical Wire Groupware
Model: PC-183



Appendix 4

Product marking of Electrical Wire Groupware
Model: PC-186

Electrical Wire Groupware

Model No.: PC-186 CE

Ratings: AC 220-250V~, 16A(max.)

Manufactured Date: Mar., 2007

Ningbo Gembird Electronic Limted
Xiejialu village, Simen, Yuyao, Zhejiang, China