



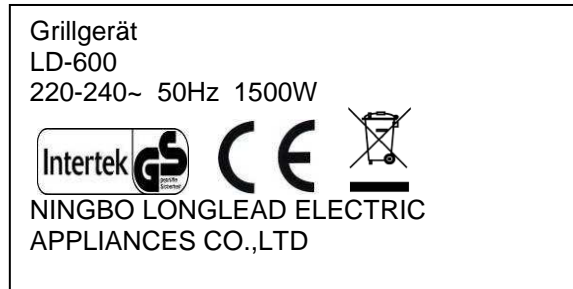
TEST REPORT IEC 60335-2-9 Safety of household and similar electrical appliances Part 2: Particular requirements for grills, toasters and similar cooking appliances	
Report Number	140300061HZH-001
Date of issue	2014-04-23;Amendment 7: 2016-05-31
Total number of pages	47 pages of test report(including 13 pages photograph)
Applicant's name	NINGBO LONGLEAD ELECTRIC APPLIANCES CO.,LTD
Address	NO.69,QIYEDONG ROAD, ZHOUXIANG TOWN,CIXI,NINGBO, China
Test specification:	
Standard	IEC 60335-2-9:2002 (Fifth edition) + A1:2004 + A2:2006 in conjunction with IEC 60335-1:2010 (Fifth Edition) EN 60335-2-9:2003+A1:04+A2:06+A12:07+A13:10+AC:11+ EK1-AG2:2014-10 in conjunction with EN 60335-1:2012+AC: 2014+ A11: 2014 and EN 62233:2008
Test procedure	--
Non-standard test method	EK1-AG2:2014-10, EK1 464-10
Test Report Form No	IEC60335_2_9K
Test Report Form(s) Originator	LCIE
Master TRF	Dated 2014-08
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Test item description	Grill for Household use
Trade Mark	--
Manufacturer	Same as applicant
Model/Type reference	LD-600, LD-601, LD-601A, LD-602, LD-602A, LD-603, LD-603A, LD-604, LD-604A, LD-605, LD-606, LD-607, LD-621, LD-800, LD-801
Ratings	220-240V~, 50Hz, class I for all models LD-621:1000W;LD-600:1500W;LD-601, LD-601A, LD-602, LD-602A, LD-605, LD-606, LD-800, LD-801, LD-607:2000W LD-603, LD-603A, LD-604, LD-604A:1800W

Testing procedure and testing location:		
<input checked="" type="checkbox"/>	Testing Laboratory:	Intertek Testing Services Hangzhou Ltd.
Testing location/ address		16 No. 1 Ave., Xiasha Economic Development District, Hangzhou 310018, China
<input type="checkbox"/>	Associated CB Testing Laboratory:	
Testing location/ address		N/A
Tested by (name + signature)		Paul Tang 
Approved by (name + signature)		Navy Wang 
<input type="checkbox"/>	Testing procedure: TMP	
Testing location/ address		N/A
Tested by (name + signature)		N/A
Approved by (name + signature)		N/A
<input type="checkbox"/>	Testing procedure: WMT	
Testing location/ address		N/A
Tested by (name + signature)		N/A
Witnessed by (name + signature)		N/A
Approved by (name + signature)		N/A
<input type="checkbox"/>	Testing procedure: SMT	
Testing location/ address		N/A
Tested by (name + signature)		N/A
Approved by (name + signature)		N/A
Supervised by (name + signature) ..		N/A

List of Attachments (including a total number of pages in each attachment):	
Appendix: Constructional data form (CDF)	
Summary of testing: From the result of our inspection and tests on the submitted samples, we conclude that they comply with the requirements of the standards.	
Tests performed (name of test and test clause): Power Input Measurements: CI.10.1 Heating Test: CI.11.8 Leakage Current Test: CI.13.2 Electric Strength Test: CI.13.3 Humidity Test: CI.15.3 Leakage Current Test: CI.16.2 Electric Strength Test: CI.16.3 Abnormal Operation – Restricted Heat Dissipation Test: CI.19.2, CI.19.3 Abnormal Operation - Thermostat Short-Circuited Test: CI.19.4 Ground Impedance Test:CI.27.5	Testing location: 16 No. 1 Ave., Xiasha Economic Development District, Hangzhou 310018, China
Summary of compliance with National Differences	
List of countries addressed:	
National differences for Germany has been checked	
<input checked="" type="checkbox"/> The product fulfils the requirements of EN 60335-2-9:2003+A1:04+A2:06+A12:07+A13:10+AC:11 +EK1-AG2:2014-10 in conjunction with EN 60335-1:2012+AC: 2014+ A11: 2014 and EN 62233:2008	

Copy of marking plate

(Representative)



When the equipment is vended to EU, then name and address of the importer or authorized representative within the EEA shall be added on the equipment.

Test item particulars	
Classification of installation and use	Portable appliance for household indoor use only
Supply Connection	Type Y
.....	
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	2016-04-12
Date (s) of performance of tests	2016-04-12 to 2016-05-05
General remarks:	
<p>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. PAH test according to AfPS GS 2014:01 PAK is considered and passed, please refer to PAH test report 160400571HZH-001-PAH for detail</p> <p>This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.</p> <p>Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.</p>	
Manufacturer's Declaration per sub-clause 4.2.5 of IEC60335-2-9K:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not applicable
When differences exist; they shall be identified in the General product information section.	

Name and address of factory (ies).....: NINGBO LONGLEAD ELECTRIC APPLIANCES CO.,LTD
NO.69,QIYEDONG ROAD, ZHOUXIANG TOWN,CIXI,NINGBO, China

General product information:

The appliances covered by this report are grills for household indoor use. Thermostat and thermal link are incorporated in the appliance for safety purpose.

The design of the products has been assessed and all risks with respect of LVD 2014/35/EU are adequately covered by standard EN 60335-2-9:2003+A1:04+A2:06+A12:07+A13:10+AC:11+EK1-AG2:2014-10,EN 60335-1:2012+AC: 2014+ A11: 2014,EN 62233:2008

Model similarity:

- 1.All models have similar construction,the main difference among them are the shape and size of heating plate,heating element,material of handle and rated power input;
- 2.The only difference between LD-601 and LD-601A is that LD-601 has metal handle while LD-601A's is bakelite,so do LD-602 and LD-602A, LD-603 and LD-603A, LD-604 and LD-604A;
- 3.LD-607 is same with LD-601 except LD-607 has no oil container;
- 4.LD-800 and LD-801 are all the same except the difference of half shape of heating plate;
- 5.All models except LD-600,LD-607,LD-621 have oil container;
- 6.All models have two optional coatings:Teflon coating or ceramic coating.

There are five types of connector used for all models(Jinze CTW-300, Zhaotai CTW-300A, Zhaotai CTW-300, Kaikai CTW300C, Kaneta CTW-300, Jinheng CTW 300C),all five types of connector are tested,only the most unfavourable test data recorded.

Amendment 7

The original test report ref. No. 140300061HZH-001 dated on 2014-04-23 with Amendment 1 dated on 2014-05-26 ,Amendment 2 dated on 2014-06-18, Amendment 3 dated on 2014-11-03, Amendment 4 dated on 2014-11-24, Amendment 5 dated on 2015-04-14, Amendment 6 dated on 2015-09-09 was modified on 2016-05-31 to include the following addition:

1. Add four new models: LD-800, LD-801, LD-621, LD-607

After review,tests need to be done.

Clause concerned: Cl.7, Cl.10, Cl.11, Cl.13, Cl.15, Cl.16,Cl.19,Cl.22,Cl.27

Table concerned: Table 10.1, Table 11.8, Table 11.Z102,Table 13.2, Table 13.3, Table 16.2, Table 16.3,Table 19.13, Table 29.1, Table 29.2

LD-800,LD-621 were selected to do the relevant tests and the most unfavourable test data recorded.Other models were also tested if mentioned.EK1 464-10 was considered.

For Cl.30.1, temperature rise not higher than the original report, so Cl.30.1 doesn't conducted.

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
7	MARKING AND INSTRUCTIONS		
7.1	Rated voltage or voltage range (V).....:	Refer to marking	P
	Symbol for nature of supply, or.....:	Refer to marking	P
	Rated frequency (Hz):	Refer to marking	P
	Rated power input (W), or:	Refer to marking	P
	Rated current (A):		N/A
	Manufacturer's or responsible vendor's name, trademark or identification mark.....:	Refer to marking	P
	Model or type reference.....:	Refer to marking	P
	Symbol IEC 60417-5172, for class II appliances		N/A
	IP number, other than IPX0.....:	IPX0	N/A
7.6	Correct symbols used		P
	Symbol for nature of supply placed next to rated voltage		P
	Symbol for class II appliances placed unlikely to be confused with other marking		N/A
	Units of physical quantities and their symbols according to international standardized system		P
7.8	Except for type Z attachment, terminals for connection to the supply mains indicated as follows:		
	- marking of terminals exclusively for the neutral conductor (letter N)		N/A
	- marking of protective earthing terminals (symbol IEC 60417-5019)		P
	- marking not placed on removable parts		P
7.9	Marking or placing of switches which may cause a hazard		P
7.12	Instructions for safe use provided		P
	Details concerning precautions during user maintenance		P
	The instructions shall state that the appliances are not intended to be operated by means of an external timer or separate remote-control system (IEC 60335-2-9)		P
	Instructions for use		P
7.12.5	Replacement cord instructions, type X attachment with a specially prepared cord		N/A

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Replacement cord instructions, type Y attachment		P
	Replacement cord instructions, type Z attachment		N/A
7.13	Instructions and other texts in an official language	German & English	P
7.14	Marking clearly legible and durable, rubbing test as specified		P
	The height of the triangle used with symbol IEC 60417-5041(DB:2002-10) shall be at least 12mm (IEC 60335-2-9)		N/A
7.15	Markings on a main part		P
	Marking clearly discernible from the outside, if necessary after removal of a cover		P
	For portable appliances, cover can be removed or opened without a tool		N/A
	For stationary appliances, name, trademark or identification mark and model or type reference visible after installation		N/A
	For fixed appliances, name, trademark or identification mark and model or type reference visible after installation according to the instructions		N/A
	Indications for switches and controls placed on or near the components. Marking not on parts which can be positioned or repositioned in such a way that the marking is misleading		P
	The marking specified for hot surfaces shall be visible when the appliance is operated as in normal used (IEC 60335-2-9)		N/A
8	PROTECTION AGAINST ACCESS TO LIVE PARTS		
8.1	Adequate protection against accidental contact with live parts		P
8.1.1	Requirement applies for all positions, detachable parts removed		P
	Lamps behind a detachable cover not removed, if conditions met		N/A
	Insertion or removal of lamps, protection against contact with live parts of the lamp cap		N/A
	Use of test probe B of IEC 61032, with a force not exceeding 1 N: no contact with live parts		P
	Use of test probe B of IEC 61032 through openings, with a force of 20N: no contact with live parts		P

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	For toasters having a crumb tray : use of test probe 41 of IEC 61032 : no contact through crumb tray with live parts that are disconnected by double pole switch using (IEC 60335-2-9)		N/A
8.1.2	Use of test probe 13 of IEC 61032, with a force not exceeding 1 N, through openings in class 0 appliances and class II appliances/constructions: no contact with live parts		P
	Test probe 13 also applied through openings in earthed metal enclosures having a non-conductive coating: no contact with live parts		N/A
8.2	Class II appliances and constructions constructed so that there is adequate protection against accidental contact with basic insulation and metal parts separated from live parts by basic insulation only		P
	Only possible to touch parts separated from live parts by double or reinforced insulation		P
10	POWER INPUT AND CURRENT		
10.1	Power input at normal operating temperature, rated voltage and normal operation not deviating from rated power input by more than shown in table 1 ..:	(see appended table)	P
11	HEATING		
11.1	No excessive temperatures in normal use		P
	Compliance for toasters is also checked by the test of 11. 101 (IEC 60335-2-9)		N/A
11.2	The appliance is held, placed or fixed in position as described.....:	Placed in test corner and away from the walls	P
	Radiant grills and raclette grills that are loaded from the front, rotary grills, ovens, breadmakers, cookers and hotplates are placed with their backs as near as possible to one of the walls of the test corner and away from the other wall (IEC 60335-2-9)		N/A
11.3	Temperature rises, other than of windings, determined by thermocouples		P
	Temperature rises of windings determined by resistance method, unless		N/A
	the windings are non-uniform or it is difficult to make the necessary connections		N/A

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	If magnetic field of an induction hotplate unduly influences the results, temperature rises can be determined using platinum resistances or equivalent means (IEC 60335-2-9)		N/A
11.4	Heating appliances operated under normal operation at 1.15 times rated power input (W)	LD-621: 1252W LD-800: 2504W	P
	If the temperature rise limits are exceeded in appliances incorporating motors, transformers or electronic circuits, and if the power input is lower than the rated power input, the test is repeated with the appliance supplied at 1,06 times rated voltage (IEC 60335-2-9)		N/A
11.7	Tests carried out in compliance with the paragraphs N°1 to 11 (IEC 60335-2-9)		P
11.8	Temperature rises monitored continuously and not exceeding the values in table 3	(see appended table)	P
	If the temperature rise of a motor winding exceeds the value of table 3, or		N/A
	if there is doubt with regard to classification of insulation,		N/A
	tests of Annex C are carried out		N/A
	Sealing compound does not flow out		P
	Protective devices do not operate, except		P
	components in protective electronic circuits tested for the number of cycles specified in 24.1.4		N/A
	When an appliance connector incorporates a thermostat, the temperature rise limit for the pins of the inlet does not apply (IEC 60335-2-9)		N/A
	The temperature rise limits of motors, transformers, components of electronic circuit and parts directly influenced by them may be exceeded when the appliance is operated at 1,15 times rated power input (IEC 60335-2-9)		N/A
	Cheese used in sandwich toasting attachments doesn't flow into places where it can give rise to a hazard, such as reducing clearances or creepage distances below the values specified in Clause 29 (IEC 60335-2-9).		N/A
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE		

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
13.1	Leakage current not excessive and electric strength adequate		P
	Heating appliances operated at 1.15 times the rated power input (W)	Same as CI 11.4	P
	Motor-operated appliances and combined appliances supplied at 1.06 times the rated voltage (V)		N/A
	Protective impedance and radio interference filters disconnected before carrying out the tests		N/A
	grill incorporated in oven, oven or grill operated most unfavourable (IEC 60335-2-9).		N/A
13.2	For class 0, class II and class III appliances, leakage current measured by means of the circuit described in figure 4 of IEC 60990		N/A
	For other appliances, a low impedance ammeter may be used		P
	Leakage current measurements	(see appended table)	P
	If earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn connected to earthed metal not exceeding 0,75 mA (IEC 60335-2-9)		N/A
	If no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn not exceeding 0,25 mA (IEC 60335-2-9)		N/A
13.3	The appliance is disconnected from the supply		P
	Electric strength tests according to table 4.....	(see appended table)	P
	test voltage of 1000V if earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate (IEC 60335-2-9).		N/A
	test voltage of 3000 V if no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate (IEC 60335-2-9).		N/A
	No breakdown during the tests		P
15.3	Appliances proof against humid conditions		P
	Checked by test Cab: Damp heat steady state in IEC 60068-2-78		P
	Detachable parts removed and subjected, if necessary, to the humidity test with the main part		P

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Humidity test for 48 h in a humidity cabinet	23°C, 93%R.H	P
	Reassembly of those parts that may have been removed		P
	The appliance withstands the tests of clause 16		P
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH		
16.1	Leakage current not excessive and electric strength adequate		P
	Protective impedance disconnected from live parts before carrying out the tests		N/A
	Tests carried out at room temperature and not connected to the supply		P
	For hotplates, the tests are carried out with a vessel as specified for normal operation placed on each cooking zone (IEC 60335-2-9).		P
16.2	Single-phase appliances: test voltage 1.06 times rated voltage (V)	254,4V	P
	Three-phase appliances: test voltage 1.06 times rated voltage divided by $\sqrt{3}$ (V)		N/A
	Leakage current measurements	(see appended table)	P
	Limit values doubled if:		
	- all controls have an off position in all poles, or		N/A
	- the appliance has no control other than a thermal cut-out, or		N/A
	- all thermostats, temperature limiters and energy regulators do not have an off position, or		N/A
	- the appliance has radio interference filters		N/A
	With the radio interference filters disconnected, the leakage current do not exceed limits specified	(see appended table)	N/A
	If earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn connected to earthed metal not exceeding 0,75 mA (IEC 60335-2-9)		N/A
	If no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate, leakage current between live parts and each of vessels in turn not exceeding 0,25 mA (IEC 60335-2-9)		N/A
16.3	Electric strength tests according to table 7.....	(see appended table)	P

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Test voltage applied between the supply cord and inlet bushing and cord guard and cord anchorage as specified	(see appended table)	P
	test voltage of 1250 V if earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate. (IEC 60335-2-9)		N/A
	test voltage of 3000 V if no earthed metal between live parts and surface of glass-ceramic (or similar) of hotplate. (IEC 60335-2-9)		N/A
	No breakdown during the tests		P
19	ABNORMAL OPERATION		
19.1	The risk of fire, mechanical damage or electric shock under abnormal or careless operation obviated		P
	Electronic circuits so designed and applied that a fault will not render the appliance unsafe	(see appended table)	N/A
	Appliances incorporating heating elements subjected to the tests of 19.2 and 19.3, and		P
	if the appliance also has a control that limit the temperature during clause 11 it is subjected to the test of 19.4, and		P
	if applicable, to the test of 19.5		P
	Appliances incorporating PTC heating elements are also subjected to the test of 19.6		N/A
	Appliances incorporating motors subjected to the tests of 19.7 to 19.10, as applicable		N/A
	Appliances incorporating electronic circuits subjected to the tests of 19.11 and 19.12, as applicable		N/A
	Appliances incorporating contactors or relays subjected to the test of 19.14, being carried out before the tests of 19.11		N/A
	Appliances incorporating voltage selector switches subjected to the test of 19.15		N/A
	Unless otherwise specified, the tests are continued until a non-self-resetting thermal cut-out operates, or		P
	until steady conditions are established		P
	If a heating element or intentionally weak part becomes open-circuited, the relevant test is repeated on a second sample		N/A

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	Tests of 19.4 and 19.5 are only applicable to: -breadmakers, contact grills, food dehydrators - ovens, roasters, hotplates, cookers, rotary grills if they incorporate a timer or if their instructions indicate a cooking operation longer than 1h (IEC 60335-2-9)	Grill	P
	Toasters are subjected to the tests 19.101 and 19.102 (IEC 60335-2-9)		N/A
	Induction hotplates are subjected to the tests 19.103 and 19.104 (IEC 60335-2-9)		N/A
19.2	Test of appliances with heating elements with restricted heat dissipation; test voltage (V), power input of 0.85 times rated power input (W)	LD-621: 778W LD-800: 1555W	P
	Radiant grills, raclette grills that are loaded from the front , rotary grills, ovens, hotplates and cookers are placed as near as possible to the walls of the test corner (IEC 60335-2-9)		N/A
	They are tested empty with lids open or closed whichever is the more unfavourable (IEC 60335-2-9)		N/A
	Hotplates are operated without a vessel and with the controls adjusted to the highest setting (IEC 60335-2-9)		N/A
	Induction hotplates are operated under conditions of clause 11 but with empty vessels, controls adjusted to the highest setting (IEC 60335-2-9)		N/A
	Cookers are only tested with the heating unit that results in the most unfavourable conditions, their controls adjusted to the highest setting. However ovens are operated if they do not have an indicating lamp to show when they are switched on, controls adjusted to the highest setting (IEC 60335-2-9)		N/A
19.3	Test of 19.2 repeated; test voltage (V), power input of 1.24 times rated power input (W)	LD-621: 1350W LD-800: 2700W	P
19.4	Test conditions as in clause 11, any control limiting the temperature during tests of clause 11 short-circuited		P
	Air-circulating fans of food dehydrators disconnected (IEC 60335-2-9)		N/A

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
19.5	Test of 19.4 repeated on Class 0I and I appliances with tubular sheathed or embedded heating elements. No short-circuiting, but one end of the element connected to the sheath	Thermostat and thermal link are in two sides of heating element	P
	The test repeated with reversed polarity and the other end of the heating element connected to the sheath		P
	The test is not carried out on appliances intended to be permanently connected to fixed wiring and on appliances where an all-pole disconnection occurs during the test of 19.4		N/A
19.13	During the tests the appliance does not emit flames, molten metal, poisonous or ignitable gas in hazardous amounts		P
	Temperature rises not exceeding the values shown in table 9	(see appended table)	P
	Compliance with clause 8 not impaired		P
	If the appliance can still be operated it complies with 20.2		P
	Insulation, other than of class III appliances or class III constructions that do not contain live parts, withstands the electric strength test of 16.3, the test voltage as specified in table 4:		
	- basic insulation (V)	1000V	P
	- supplementary insulation (V)	1750V	P
	- reinforced insulation (V)	3000V	P
	After operation or interruption of a control, clearances and creepage distances across the functional insulation withstand the electric strength test of 16.3, the test voltage being twice the working voltage		P
	The appliance does not undergo a dangerous malfunction, and		P
	no failure of protective electronic circuits, if the appliance is still operable		N/A
	Appliances tested with an electronic switch in the off position, or in the stand-by mode:		
	- do not become operational, or		N/A
	- if they become operational, do not result in a dangerous malfunction during or after the tests of 19.11.4		N/A

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	If the appliance contains lids or doors that are controlled by one or more interlocks, one of the interlocks may be released provided that:		
	- the lid or door does not move automatically to an open position when the interlock is released, and		N/A
	- the appliance does not start after the cycle in which the interlock was released		N/A
	During the test of 19.102 any flame or smoke from the bread are ignored (IEC 60335-2-9)		N/A
	Temperature rise of the windings of induction hotplates not exceeding the values specified in 19.7 (IEC 60335-2-9)		N/A
22	CONSTRUCTION		
22.9	Insulation, internal wiring, windings, commutators and slip rings not exposed to oil, grease or similar substances, unless	Not exposed to such substances	P
	the substance has adequate insulating properties		N/A
22.14	No ragged or sharp edges creating a hazard for the user in normal use, or during user maintenance		P
	No exposed pointed ends of self-tapping screws or other fasteners, likely to be touched by the user in normal use or during user maintenance		P
22.18	Current-carrying parts and other metal parts resistant to corrosion		P
22.20	Direct contact between live parts and thermal insulation effectively prevented, unless		P
	material used is non-corrosive, non-hygroscopic and non-combustible		N/A
22.21	Wood, cotton, silk, ordinary paper and fibrous or hygroscopic material not used as insulation, unless		P
	impregnated		N/A
	This requirement does not apply to magnesium oxide and mineral ceramic fibres used for the electrical insulation of heating elements		N/A
22.22	Appliances not containing asbestos	No such substances	P
22.30	Parts serving as supplementary or reinforced insulation fixed so that they cannot be removed without being seriously damaged, or		P

IEC 60335-2-9			
Clause	Requirement + Test	Result - Remark	Verdict
	so constructed that they cannot be replaced in an incorrect position, and so that if they are omitted, the appliance is rendered inoperable or manifestly incomplete		P
22.31	Neither clearances nor creepage distances over supplementary and reinforced insulation reduced below values specified in clause 29 as a result of wear		P
	Neither clearances nor creepage distances between live parts and accessible parts reduced below values for supplementary insulation if wires, screws etc. become loose		P
22.32	Supplementary and reinforced insulation constructed or protected against pollution so that clearances or creepage distances are not reduced below the values in clause 29		P
	Supplementary insulation of natural or synthetic rubber resistant to ageing, or arranged and dimensioned so that creepage distances are not reduced below values specified in 29.2		N/A
	Ceramic material not tightly sintered, similar materials or beads alone not used as supplementary or reinforced insulation		N/A
	Insulating material in which heating conductors are embedded is considered to be basic insulation, not reinforced insulation		P
	Oxygen bomb test at 70 °C for 96 h and 16 h at room temperature		N/A
22.34	Shafts of operating knobs, handles, levers etc. not live, unless		P
	the shaft is not accessible when the part is removed		N/A
22.35	For other than class III constructions, handles, levers and knobs, held or actuated in normal use, not becoming live in the event of a failure of basic insulation		P
	Such parts being of metal, and their shafts or fixings are likely to become live in the event of a failure of basic insulation, are either adequately covered by insulation material or their accessible parts are separated from their shafts or fixings by supplementary insulation		P

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Clause	Requirement + Test	Result - Remark	Verdict
	This requirement does not apply to handles, levers and knobs on stationary appliances, other than those of electrical components, provided they are reliably connected to an earthing terminal or earthing contact, or separated from live parts by earthed metal		N/A
	Insulating material covering metal handles, levers and knobs withstand the electric strength test of 16.3 for supplementary insulation		N/A
22.41	No components, other than lamps, containing mercury	No components containing mercury	P
22.45	When air is used as reinforced insulation, clearances not reduced below the values specified in 29.1.3 due to deformation as a result of an external force applied to the enclosure		P
	the appliance switches off automatically or can operate continuously without hazard		N/A
27	PROVISION FOR EARTHING		
27.1	Accessible metal parts of Class 0I and I appliances permanently and reliably connected to an earthing terminal or earthing contact of the appliance inlet		P
	Earthing terminals and earthing contacts not connected to the neutral terminal		P
	Class 0, II and III appliances have no provision for earthing		N/A
	Safety extra-low voltage circuits not earthed, unless		N/A
	protective extra-low voltage circuits		N/A
	No earthing via flexible metal tubes, coiled springs and cord anchorage (IEC 60335-2-9)		P
27.2	Clamping means of earthing terminals adequately secured against accidental loosening		P
	Terminals for the connection of external equipotential bonding conductors allow connection of conductors of 2.5 to 6 mm ² , and		N/A
	do not provide earthing continuity between different parts of the appliance, and		N/A
	conductors cannot be loosened without the aid of a tool		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
27.3	For a detachable part having an earth connection and being plugged into another part of the appliance, the earth connection is made before and separated after current-carrying connections when removing the part		N/A
	For appliances with supply cords, current-carrying conductors become taut before earthing conductor, if the cord slips out of the cord anchorage		P
27.4	No risk of corrosion resulting from contact between parts of the earthing terminal and the copper of the earthing conductor or other metal		P
	Parts providing earthing continuity, other than parts of a metal frame or enclosure, have adequate resistance to corrosion		P
	If of steel, these parts provided with an electroplated coating with a thickness at least 5 μm		P
	Adequate protection against rusting of parts of coated or uncoated steel, only intended to provide or transmit contact pressure		P
	In the body of the earthing terminal is a part of a frame or enclosure of aluminium or aluminium alloys, precautions taken to avoid risk of corrosion		N/A
27.5	Low resistance of connection between earthing terminal and earthed metal parts		P
	This requirement does not apply to connections providing earthing continuity in the protective extra-low voltage circuit, provided the clearances of basic insulation are based on the rated voltage of the appliance		N/A
	Resistance not exceeding 0,1 Ω at the specified low-resistance test (Ω).....:	Max :0,02 Ω	P
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION		
	Clearances, creepage distances and solid insulation withstand electrical stress		P
	For coatings used on printed circuits boards to protect the microenvironment (Type 1) or to provide basic insulation (Type 2), Annex J applies		N/A
	The microenvironment is pollution degree 1 under type 1 protection		N/A
	For type 2 protection, the spacing between the conductors before the protection is applied is not less than the values specified in Table 1 of IEC 60664-3		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	These values apply to functional, basic, supplementary and reinforced insulation.....:		N/A
29.1	Clearances not less than the values specified in table 16, taking into account the rated impulse voltage for the overvoltage categories of table 15, unless	(see appended table)	P
	for basic insulation and functional insulation they comply with the impulse voltage test of clause 14		N/A
	However, if the distances are affected by wear, distortion, movement of the parts or during assembly, the clearances for rated impulse voltages of 1500V and above are increased by 0,5 mm and the impulse voltage test is not applicable		N/A
	Impulse voltage test is not applicable:		
	- when the microenvironment is pollution degree 3, or		P
	- for basic insulation of class 0 and class 01 appliances		N/A
	Appliances are in overvoltage category II		P
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
29.1.1	Clearances of basic insulation withstand the overvoltages, taking into account the rated impulse voltage		P
	The values of table 16 or the impulse voltage test of clause 14 are applicable.....:	(see appended table)	P
	Clearance at the terminals of tubular sheathed heating elements may be reduced to 1,0 mm if the microenvironment is pollution degree 1		N/A
	Lacquered conductors of windings considered to be bare conductors		N/A
29.1.2	Clearances of supplementary insulation not less than those specified for basic insulation in table 16:	(see appended table)	P
29.1.3	Clearances of reinforced insulation not less than those specified for basic insulation in table 16, using the next higher step for rated impulse voltage	(see appended table)	P

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Clause	Requirement + Test	Result - Remark	Verdict
	For double insulation, with no intermediate conductive part between basic and supplementary insulation, clearances are measured between live parts and the accessible surface, and the insulation system is treated as reinforced insulation		N/A
29.1.4	Clearances for functional insulation are the largest values determined from:		
	- table 16 based on the rated impulse voltage	(see appended table)	P
	- table F.7a in IEC 60664-1, frequency not exceeding 30 kHz		N/A
	- clause 4 of IEC 60664-4, frequency exceeding 30 kHz		N/A
	If values of table 16 are largest, the impulse voltage test of clause 14 may be applied instead, unless		N/A
	the microenvironment is pollution degree 3, or		P
	the distances can be affected by wear, distortion, movement of the parts or during assembly		N/A
	However, clearances are not specified if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
	Lacquered conductors of windings considered to be bare conductors		N/A
	However, clearances at crossover points are not measured		N/A
	Clearance between surfaces of PTC heating elements may be reduced to 1mm		N/A
29.2	Creepage distances not less than those appropriate for the working voltage, taking into account the material group and the pollution degree	(see appended table)	P
	Pollution degree 2 applies, unless		N/A
	- precautions taken to protect the insulation; pollution degree 1	End of the heating element	P
	- insulation subjected to conductive pollution; pollution degree 3		P
	A force of 2 N is applied to bare conductors, other than heating elements		P
	A force of 30 N is applied to accessible surfaces		P
	In a double insulation system, the working voltage for both the basic and supplementary insulation is taken as the working voltage across the complete double insulation system		P

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Clause	Requirement + Test	Result - Remark	Verdict
	Pollution degree 3 applies, unless the insulation is enclosed or located so that it is unlikely to be exposed to pollution during normal use of the appliance (IEC 60335-2-9)	All parts except the end of heating element	P
29.2.1	Creepage distances of basic insulation not less than specified in table 17.....:	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 17.....:		N/A
	Except for pollution degree 1, corresponding creepage distance not less than the minimum specified for the clearance in table 16, if the clearance has been checked according to the test of clause 14		N/A
29.2.2	Creepage distances of supplementary insulation at least those specified for basic insulation in table 17, or	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable		N/A
29.2.3	Creepage distances of reinforced insulation at least double those specified for basic insulation in table 17, or	(see appended table)	P
	Table 2 of IEC 60664-4, as applicable		N/A
29.2.4	Creepage distances of functional insulation not less than specified in table 18.....:	(see appended table)	P
	However, if the working voltage is periodic and has a frequency exceeding 30 kHz, the creepage distances are also determined from table 2 of IEC 60664-4, these values being used if exceeding the values in table 18.....:		N/A
	Creepage distances may be reduced if the appliance complies with clause 19 with the functional insulation short-circuited		N/A
29.3	Supplementary and reinforced insulation have adequate thickness, or a sufficient number of layers, to withstand the electrical stresses		P
	Compliance checked:		
	- by measurement, in accordance with 29.3.1, or		P
	- by an electric strength test in accordance with 29.3.2, or		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	- by an assessment of the thermal quality of the material combined with an electric strength test, in accordance with 29.3.3, and		N/A
	for accessible parts of reinforced insulation consisting of a single layer, by measurement in accordance with 29.3.4, or		N/A
	- as specified in subclause 6.3 of IEC 60664-4 for insulation that is subjected to any periodic voltage having a frequency exceeding 30 kHz		N/A
	Requirement not applied to the sheath of a visibly glowing heating element that is inaccessible to test probe 41 of IEC 61032 (IEC 60335-2-9)		N/A
29.3.1	Supplementary insulation have a thickness of at least 1 mm		P
	Reinforced insulation have a thickness of at least 2 mm		P

IEC60335_2_9K - ATTACHMENT			
Clause	Requirement - Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60335-2-9 EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES	
Household and similar electrical appliances – Safety – Part 2: Particular requirements for grills, toasters and similar cooking appliances	
Differences according to:	EN 60335-2-9:2003+A1:04+A2:06+A12:07+A13:10+AC:11+EK1- AG2:2014-10 used in conjunction with EN 60335-1:2012+AC:2014+A11: 2014 EN 62233:2008
Attachment Form No.:	EU_GD_IEC60335_2_9K
Attachment Originator:	LCIE
Master Attachment:	2014-08
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IEC60335_2_9K - ATTACHMENT			
Clause	Requirement - Test	Result - Remark	Verdict

CENELEC COMMON MODIFICATIONS			
8.1.1	Also test probe 18 of EN 61032 is applied		P
	The appliance being in every possible position during the test		P
	The force on the probe in the straight position is increased to 10 N when probe 18 is used		P
	When using test probe 18 the appliance is fully assembled as in normal use without any parts removed, and		P
	parts intended to be removed for user maintenance are also not removed		P
8.2	Compliance is checked by applying the test probes of EN 61032		P
	For built-in appliances and fixed appliances, the test probe B and probe 18 of EN 61032 are applied only after installation		N/A
11.1	For ovens, rotary grills, rotisseries and cookers, compliance is also checked by the test of 11.Z101. (EN 60335-2-9)		N/A
	For contact grills, waffle irons, sandwich makers, radiant grills, raclette grills, griddles, barbecues, hot plates, candy floss, popcorn makers, compliance is also checked by the test of 11.Z102. (EN 60335-2-9)	Grills	P
	For breadmakers and food dehydrators, compliance is also checked by the test of 11.Z103. (EN 60335-2-9)		N/A
	For toasters, compliance is also checked by test of 11.Z104. (EN 60335-2-9)		N/A
	For roasters, compliance is also checked by test of 11.Z105. (EN 60335-2-9)		N/A
	For all other types of appliances, compliance is checked by submitting the appliance to the tests of the nearest mentioned relevant type of appliance. (EN 60335-2-9)		N/A
11.3	For flat surfaces, temperature rises are measured using the probe of figure Z101(or any measuring instrument giving the same results), applied with a force of $4\text{ N} \pm 1\text{ N}$ (EN 60335-2-9)	(see appended table)	P
11.8	Footnotes to "External enclosure of motor-operated appliances" to be taken into account		N/A

IEC60335_2_9K - ATTACHMENT			
Clause	Requirement - Test	Result - Remark	Verdict
11.Z102	For contact grills, waffle irons, sandwich makers, radiant grills, raclette grills, griddles, the temperature rise limits for top surfaces in table Z101 apply. (EN 60335-2-9)	Replaced by EN 60335-2-9/A13	N/A
	For contact grills, waffle irons, sandwich makers, radiant grills, raclette grills and griddles, barbecues, hot plates, candy floss, popcorn makers, the temperature rise limits in Table Z101 apply. The appliance is supplied at rated power and operated under normal operation. (EN 60335-2-9)	grills	P
ANNEX EMF			
	The Tested product also complies to the requirements of EN 62233:2008	Refer to 140300061HZH-EMF1+A1: 2016-05-05 Measured max. : <10%	P

IEC 60335-2-9			
Clause	Requirement - Test	Result - Remark	Verdict

10.1	TABLE: Power input deviation					P
Input deviation of/at:	P rated (W)	P measured (W)	ΔP	Required ΔP	Remark	
LD-621	1000	970	-3,0%	-10% ~ +5%	Supplied at 230V	
LD-800	2000	1940	-3,0%	-10% ~ +5%	Supplied at 230V	
LD-801	2000	1920	-4,0%	-10% ~ +5%	Supplied at 230V	
LD-607	2000	1953	-2,4%	-10% ~ +5%	Supplied at 230V	
Supplementary information:						

11.8	TABLE: Heating test, thermocouples (LD-621)		P
	Test voltage (V).....:	262	—
	Ambient (°C).....:	23,2	—
Thermocouple locations		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
Supply cord		9,9	50
Internal wire		17,0	155(T-25)
Ambient of thermostat		17,1	130(T-25)
Mounting surface of thermostat		58,0	--
Indicator cover		9,3	For Cl.30
Enclosure of connector		39,2	For Cl.30
Enclosure of inlet		100,5	For Cl.30
Wood support		5,0	75
Insulation of thermal link		15,0	175(T-25)
Handle		6,0	60
Handle(25mm around)		7,1	60
Knob		8,3	60
Knob(25mm around)		18,5	60
Pin of inlet		42,9	95(T-25)
Supplementary information:			

IEC 60335-2-9			
Clause	Requirement - Test	Result - Remark	Verdict

11.8	TABLE: Heating test, thermocouples (LD-800)		P
	Test voltage (V).....:	262	—
	Ambient (°C).....:	23,2	—
Thermocouple locations		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
Supply cord		13,0	50
Internal wire		27,4	155(T-25)
Ambient of thermostat		19,1	130(T-25)
Mounting surface of thermostat		26,9	--
Indicator cover		18,5	For Cl.30
Enclosure of connector		44,1	For Cl.30
Enclosure of inlet		87,2	For Cl.30
Wood support		7,4	75
Insulation of thermal link		22,3	175(T-25)
Handle		7,9	60
Handle(25mm around)		7,1	60
Knob		7,8	60
Knob(25mm around)		21,5	60
Handle of oil container		6,0	60
Handle of oil container(25mm around)		14,3	60
Pin of inlet		50,1	95(T-25)
Supplementary information:			

11.Z102	TABLE: Temperature rise limits for surfaces LD-621		P	
	Ambient (°C):		23,2	
	Test voltage (V):		244	
		dT (K)	Max. dT (K)	Twice Max. Dt (K)
Bare metal		21,6	45	N/A
Coated metal		--	55	N/A
Glass and ceramic		--	60	N/A

IEC 60335-2-9			
Clause	Requirement - Test	Result - Remark	Verdict

Plastic and plastic coating > 0,3 mm c	20,7	65	N/A
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11.Z102	TABLE: Temperature rise limits for surfaces LD-800		P
	Ambient (°C):		23,2
	Test voltage (V):		244
	dT (K)	Max. dT (K)	Twice Max. Dt (K)
Bare metal	24,2	45	N/A
Coated metal	--	55	N/A
Glass and ceramic	--	60	N/A
Plastic and plastic coating > 0,3 mm c	19,5	65	N/A

13.2	TABLE: Leakage current		P
	Heating appliances: 1.15 x rated input (W)...	Same as Cl.11.4	—
	Motor-operated and combined appliances: 1.06 x rated voltage (V).....:	N/A	—
Leakage current between		I (mA)	Max. allowed I (mA)
L/N – Earthing metal parts		Max. 0,075	0,75
L/N – Enclosure (with metal foil or ungrounded metal parts)		Max. 0,019 peak	0,35 peak
L/N – Knob/handle		Max. 0,019 peak	0,35 peak
Supplementary information:			

13.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Parts isolated with basic insulation		1000	No
Parts isolated with supplementary insulation		1750	No
Parts isolated with reinforced insulation		3000	No
Supplementary information:			

16.2	TABLE: Leakage current		P
	Single phase appliances: 1.06 x rated voltage (V)	254,4V	—

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Clause	Requirement - Test	Result - Remark	Verdict

	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V).....:	N/A	—
Leakage current between		I (mA)	Max. allowed I (mA)
Live parts – Earthing metal parts		Max. 0,079	0,75
Live parts – Enclosure (with metal foil or ungrounded metal parts)		Max. 0,020	0,25
Live parts – Knobs/handle		Max. 0,016	0,25
Supplementary information:			

16.3	TABLE: Dielectric strength		P
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
Parts isolated with basic insulation		1250	No
Parts isolated with supplementary insulation		1750	No
Parts isolated with reinforced insulation		3000	No
Supplementary information:			

19.13	TABLE: Abnormal operation, temperature rises(LD-621)		P
Thermocouple locations		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
Wood support		6,1	150
Supply cord		13,2	150
Enclosure of connector		41,2	For Cl.30
Indicator cover		10,5	For Cl.30
Enclosure of inlet		106,8	For Cl.30
Supplementary information:			

19.13	TABLE: Abnormal operation, temperature rises(LD-800)		P
Thermocouple locations		Max. temperature rise measured, ΔT (K)	Max. temperature rise limit, ΔT (K)
Wood support		9,9	150
Supply cord		15,6	150
Enclosure of connector		47,4	For Cl.30
Indicator cover		20,3	For Cl.30

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Clause	Requirement - Test	Result - Remark	Verdict

Enclosure of inlet	95,7	For Cl.30
Supplementary information:		

29.1	TABLE: Clearances						P
	Overvoltage category : II					—	
		Type of insulation:					
Rated impulse voltage (V):	Min. cl (mm)	Basic (mm)	Supplementary (mm)	Reinforced (mm)	Functional (mm)	Verdict / Remark	
330	0,2* / 0,5 / 0,8**					N/A	
500	0,2* / 0,5 / 0,8**					N/A	
800	0,2* / 0,5 / 0,8**					N/A	
1 500	0,5 / 0,8** / 1,0***					N/A	
2 500	<u>1,5</u> / 2,0***	X	X		X	P	
4 000	<u>3,0</u> / 3,5***			X		P	
6 000	5,5 / 6,0***					N/A	
8 000	8,0 / 8,5***					N/A	
10 000	11,0 / 11,5***					N/A	
Supplementary information:							
*) For tracks on printed circuit boards if pollution degree 1 and 2							
**) For pollution degree 3							
***) If the construction is affected by wear, distortion, movement of the parts or during assembly							

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										P	
Working voltage (V)	Creepage distance (mm)								Type of insulation			
	Pollution degree											
	1	2			3							
		Material group			Material group							
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	B**	S**	R**	Verdict	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9		—	—	N/A	
≤50	0,18	0,6	0,85	1,2	1,5	1,7	1,9	—		—	N/A	

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Clause	Requirement - Test							Result - Remark			Verdict
≤50	0,36	1,2	1,7	2,4	3,0	3,4	3,8	—	—		N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4		—	—	N/A
125	0,28	0,75	1,05	1,5	1,9	2,1	2,4	—		—	N/A
125	0,56	1,5	2,1	3,0	3,8	4,2	4,8	—	—		N/A
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	X	—	—	P
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	—	X	—	P
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0	—	—	X	P
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3		—	—	N/A
400	1,0	2,0	2,8	4,0	5,0	5,6	6,3	—		—	N/A
400	2,0	4,0	5,6	8,0	10,0	11,2	12,6	—	—		N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0		—	—	N/A
500	1,3	2,5	3,6	5,0	6,3	7,1	8,0	—		—	N/A
500	2,6	5,0	7,2	10,0	12,6	14,2	16,0	—	—		N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0		—	—	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	—		—	N/A
>630 and ≤800	3,6	6,4	9,0	12,6	16,0	18,0	20,0	—	—		N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5		—	—	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	—		—	N/A
>800 and ≤1000	4,8	8,0	11,2	16,0	20,0	22,0	25,0	—	—		N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0		—	—	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	—		—	N/A
>1000 and ≤1250	6,4	10,0	14,2	20,0	25,0	28,0	32,0	—	—		N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0		—	—	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	—		—	N/A
>1250 and ≤1600	8,4	12,6	18,0	25,0	32,0	36,0	40,0	—	—		N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0		—	—	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	—		—	N/A
>1600 and ≤2000	11,2	16,0	22,0	32,0	40,0	44,0	50,0	—	—		N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0		—	—	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	—		—	N/A

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Clause	Requirement - Test							Result - Remark			Verdict
>2000 and ≤2500	15,0	20,0	28,0	40,0	50,0	56,0	64,0	—	—		N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0		—	—	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	—		—	N/A
>2500 and ≤3200	20,0	25,0	36,0	50,0	64,0	72,0	80,0	—	—		N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0		—	—	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	—		—	N/A
>3200 and ≤4000	25,0	32,0	44,0	64,0	80,0	90,0	100,0	—	—		N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0		—	—	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	—		—	N/A
>4000 and ≤5000	32,0	40,0	56,0	80,0	100,0	112,0	126,0	—	—		N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0		—	—	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	—		—	N/A
>5000 and ≤6300	40,0	50,0	72,0	100,0	126,0	142,0	160,0	—	—		N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0		—	—	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	—		—	N/A
>6300 and ≤8000	50,0	64,0	90,0	126,0	160,0	180,0	200,0	—	—		N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0		—	—	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	—		—	N/A
>8000 and ≤10000	64,0	80,0	112,0	160,0	200,0	220,0	250,0	—	—		N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0		—	—	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	—		—	N/A
>10000 and ≤12500	80,0	100,0	142,0	200,0	250,0	280,0	320,0	—	—		N/A
Supplementary information:											
*) Material group IIIb is allowed if the working voltage does not exceed 50 V											
**) B = Basic insulation, S = Supplementary insulation, R = Reinforced insulation											

29.2	TABLE: Creepage distances, functional insulation						P
Working voltage (V)	Creepage distance (mm)			Pollution degree			
	1	2	3	1	2	3	

IEC 60335-2-9			
Clause	Requirement - Test	Result - Remark	Verdict

		Material group			Material group			Verdict / Remark
		I	II	IIIa/IIIb	I	II	IIIa/IIIb*	
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N/A
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N/A
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N/A
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2	P
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N/A
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N/A
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N/A
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N/A
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N/A
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N/A
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N/A
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N/A
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N/A
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N/A
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N/A
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N/A
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N/A
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N/A
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N/A

Supplementary information:

***) Material group IIIb is allowed if the working voltage does not exceed 50 V**

Appendix – Photographs

Photo 1.

Description: front view of LD-607



Photo 2.

Description: side view of LD-607



Appendix – Photographs

Photo 3.

Description: back view of LD-607



Photo 4.

Description: side view of LD-607



Appendix – Photographs

Photo 5.

Description: top view of LD-607



Photo 6.

Description: bottom view of LD-607



Appendix – Photographs

Photo 7.

Description: heating element view of LD-607



Photo 8.

Description: front view of LD-621



Appendix – Photographs

Photo 9.

Description: side view of LD-621



Photo 10.

Description: back view of LD-621



Appendix – Photographs

Photo 11.

Description: side view of LD-621



Photo 12.

Description: top view of LD-621



Appendix – Photographs

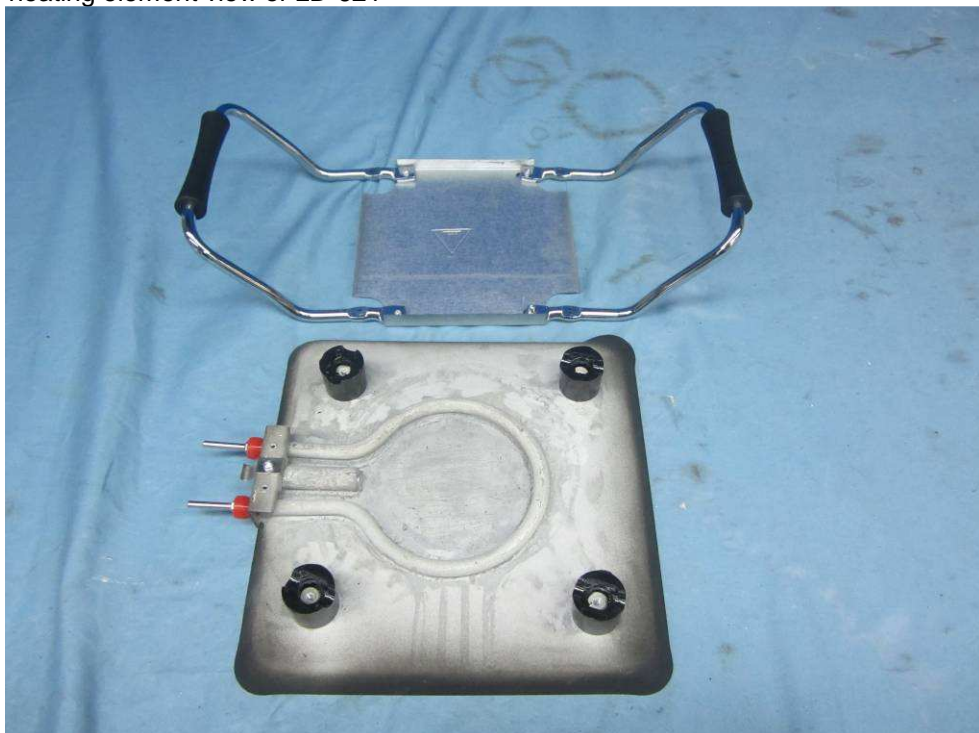
Photo 13.

Description: bottom view of LD-621



Photo 14.

Description: heating element view of LD-621



Appendix – Photographs

Photo 15.

Description: front view of LD-800



Photo 16.

Description: side view of LD-800



Appendix – Photographs

Photo 17.

Description: back view of LD-800



Photo 18.

Description: side view of LD-800



Appendix – Photographs

Photo 19.

Description: top view of LD-800



Photo 20.

Description: front view of LD-801



Appendix – Photographs

Photo 21.

Description: side view of LD-801



Photo 22.

Description: back view of LD-801



Appendix – Photographs

Photo 23.

Description: side view of LD-801



Photo 24.

Description: top view of LD-801



Appendix – Photographs

Photo 25.

Description: bottom view of LD-800,LD-801



Photo 26.

Description: heating element view of LD-800,LD-801

