

EVALUATION REPORT

REFERENCE STANDARD: EN 60335-1 + EN 60335-2-23 (and their Amendments)
See test summary for the list of tests applied

Report N°: **RDP 3008-19-01-PZ**

Applicant: Innoliving

Kind of sample *Hand-held hairdryer*

Lot/Batch N.

Product of test object

Trademark *Innoliving*

Model/type reference INN602 versione contestata.....

Rating Input: 230V ~ 50/60Hz – 1000W¹ – Class II – IPX0

Test result: **PASS** (see page 3)

Issue date:05/04/2019.....

SQM s.r.l

Ileana Piras
Supervisor

Cristiano Monguzzi
Laboratory Manager

Test report update

Rev.	Description	Date	Typed by	Approved by
0	First issue of Test Report	05 Apr '19	C.M.	I.P.

¹ The rating power and voltage were changed from the original (220-240Vac 1000W), so that the normal operation power will be 1150W instead of 1252W ($1.15 \times P(240V) = 1.15 \times 1088$).



IDENTIFICATION OF THE TEST LABORATORY

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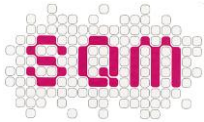
PRODUCT UNDER TEST



RATING LABEL



For the rated power see the note on page 1.

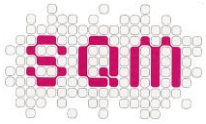


Test item particulars : Hand-held hairdryer	
Classification of installation and use	Handheld appliance. Household indoor use.
Supply Connection	Power cord with a not detachable plug. Type Y.
..... :	
Possible test case verdicts:	
- test case does not apply to the test object.....:	N
- test not executed	NE
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement.....:	F (Fail)
Date of receipt of test item:	
Date (s) of performance of tests:	04.04.2019 to 05.04.2019
General remarks:	
<p>The test required by the standard was applied partially, according to our experience, in order to evaluate the conformity of the product under test to the requirements settled by the low voltage directive.</p> <p>The test results presented in this report relate only to the object tested. The sampling has been done by applicant.</p> <p>This report does not constitute attestation of European conformity.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p>	

TESTS SUMMARY

Cl.	Description	Result
6	Classification	P
7	Marking and instructions	NE
8	Protection against access to live parts	NE
9	Starting of motor-operated appliances	NE
10	Power input and current	NE
11	Heating	P
13	Leakage current and electric strength at operating temperature	NE
14	Transient over voltages	NE
15	Moisture resistance	NE
16	Leakage current and electric strength	NE
17	Overload protection of transformers and associated circuits	N
18	Endurance	NE
19	Abnormal operation	NE
20	Stability and mechanical hazards	NE
21	Mechanical strength	NE
22	Construction	NE
23	Internal wiring	NE
24	Components	NE
25	Supply connection and external flexible cords	NE
26	Terminals for external conductors	N
27	Provision for earthing	N
28	Screws and connections	NE
29	Clearances, creepage distances and solid insulation	NE
30	Resistance to heat and fire	P

For information about FAIL see end of report



5	GENERAL CONDITIONS FOR THE TESTS	P

6	CLASSIFICATION	NE

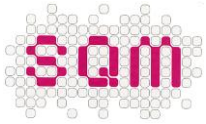
7	MARKING AND INSTRUCTIONS	NE
7.1	Rated voltage or voltage range (V).....:	
	Symbol for nature of supply, or.....:	
	Rated frequency (Hz)	
	Rated power input (W), or	
	Rated current (A)	--

8	PROTECTION AGAINST ACCESS TO LIVE PARTS	NE

9	STARTING OF MOTOR-OPERATED APPLIANCES	N

10	POWER INPUT AND CURRENT	NE

10.1	TABLE: Power input deviation					
	Input deviation of/at:	P rated (W)	P measured (W)	ΔP	Required ΔP	Remark
	230V	1000				
Supplementary information: The rating label reports 220-240V 100W (the power is related to 230Vac, the average value of the voltage range), but the goal of the test report is to check if the using 1000W (x1.15) during the heating test (instead of the power @240V x 1.15) the ball pressure test is pass.						

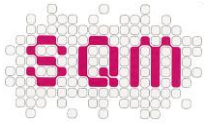


10.2	TABLE: Current deviation				N
Current deviation of/at:	I rated (A)	I measured (A)	ΔI (A, %)	Required ΔI (A, %)	Remark
-	-	-	-		-
					-
					-

11	HEATING	
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11.8	TABLE: Heating test, thermocouple measurements (1150W)		
	Test voltage (V)	258	---
	Ambient(°C).....	19	---
Thermocouple location	Max. temperature rise measured, dT (K)	Max. temperature rise limit dT (K),	
Enclosure close to outlet air	138.8		
Enclosure 50mm from the outlet air	36.1	65	
Enclosure 100mm from the outlet air	11.3	65	
Supplementary information: The air adapter is installed.			

11.8	TABLE: Heating test, thermocouple measurements (1150W)		
	Test voltage (V)	258	---
	Ambient(°C).....	19.5	---
Thermocouple location	Max. temperature rise measured, dT (K)	Max. temperature rise limit dT (K),	
Enclosure close to outlet air	72.4		
Enclosure 50mm from the outlet air	27.0	65	
Enclosure 100mm from the outlet air	8.3	65	
Supplementary information: The air adapter is NOT installed.			



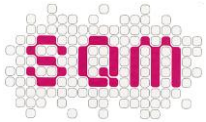
13	LEAKAGE CURRENT AND ELECTRIC STRENGTH AT OPERATING TEMPERATURE	NE

13.2	TABLE: Leakage current		NE
	Heating appliances: 1.15 x rated input (W)....:		---
	Motor-operated and combined appliances: 1.06 x rated voltage (V)		---
Leakage current between:		I (mA)	Max. allowed I (mA)
Supplementary information: Protective impedance and radio interference filters are disconnected before carrying out the tests.			

13.3	TABLE: Dielectric strength		
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
		1000	
		1750	
		3000	
Supplementary information:			

14	TRANSIENT OVERVOLTAGES	NE

15	MOISTURE RESISTANCE	NE



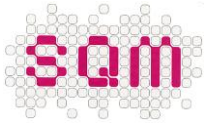
16	LEAKAGE CURRENT AND ELECTRIC STRENGTH	NE

16.2	TABLE: Leakage current		NE
	Single phase appliances: 1.06 x rated voltage (V).....:		---
	Three phase appliances 1.06 x rated voltage divided by $\sqrt{3}$ (V).....:	--	---
Leakage current between:		I (mA)	Max. allowed I (mA)
Supplementary information:			

16.3	TABLE: Dielectric strength		NE
Test voltage applied between:		Test potential applied (V)	Breakdown / flashover (Yes/No)
		1250	
		1750	
		3000	
Supplementary information:			

17	OVERLOAD PROTECTION OF TRANSFORMERS AND ASSOCIATED CIRCUITS	N

17	TABLE: Overload protection, thermocouple measurements		N
Temperature rise of part/at:		dT (K)	Max. dT (K)
Supplementary information:			



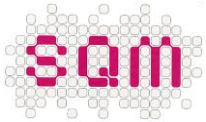
18	ENDURANCE	NE

19	ABNORMAL OPERATION	NE

19	Abnormal operation conditions	NE
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Operational characteristics		YES/NO	Operational conditions				
Are there electronic circuits to control the appliance operation?							
Are there "off" or "stand-by" position?							
The unintended operation of the appliance results in dangerous malfunction?							
Sub-clause	Operating conditions description	Test results description	PEC description	EMP 19.11.4	Software type required	19.11.3 PEC	Final result
19.2	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.3	N.E	N.A	N.A	N.A	N.A	N.A	N.A
19.4	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.5	N.E	N.A	N.A	N.A	N.A	N.A	N.A
19.6	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.7	EN60335-2-23	NE					
19.8	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.9	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.10	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.11.2							
19.11.4.8	N.A	N.A	N.A	N.A	N.A	N.A	N.A
19.101	EN60335-2-23	NE	NE	NE	NE	NE	NE
19.102	EN60335-2-23	NE					NE

Supplementary information:

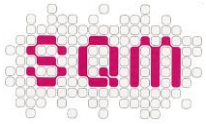


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19.7	TABLE: Abnormal operation, locked rotor/moving parts					NE
	Test voltage (V)..... :					—
	Ambient, t1 (°C)..... :					—
	Ambient, t2 (°C)..... :					—
Temperature of winding:		R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)
Supplementary information:						

19.9	TABLE: Abnormal operation, running overload					N
	Test voltage (V)..... :					—
	Ambient, t1 (°C)..... :					—
	Ambient, t2 (°C)..... :					—
Temperature of winding:		R1 (Ω)	R2 (Ω)	Δ T (K)	T (°C)	Max. T (°C)
Supplementary information:						

19.102	TABLE: Abnormal operation, temperature rises		NE
Thermocouple locations:		Max. temperature rise measured, Δ T (K)	Max. temperature rise limit, Δ T (K)
Supplementary information:			



20	STABILITY AND MECHANICAL HAZARDS	NE

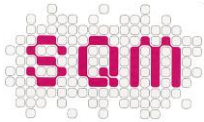
21	MECHANICAL STRENGTH	NE

21.1	TABLE: Impact resistance	NE	
Impacts per surface	Surface tested	Impact energy (Nm)	Comments
Supplementary information:			

22	CONSTRUCTION	NE

23	INTERNAL WIRING	NE

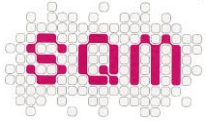
24	COMPONENTS	NE



28	SCREWS AND CONNECTIONS	NE

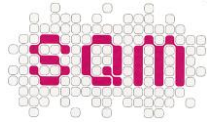
29	CLEARANCES, CREEPAGE DISTANCES AND SOLID INSULATION	NE

29.2	TABLE: Creepage distances, basic, supplementary and reinforced insulation										NE
Working voltage (V):	Creepage distance (mm)										
	Pollution degree										
	1	2			3			Type of insulation			
		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
≤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	0,56	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		___	___	N/A
250	0,56	1,25	1,8	2,5	3,2	3,6	4,0	___		___	N/A
250	1,12	2,5	3,6	5,0	6,4	7,2	8,0	___	___		N/A
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
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											

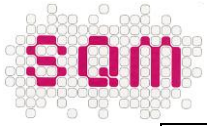


29.2	TABLE: Creepage distances, functional insulation							NE
Working voltage (V):	Creepage distance (mm) Pollution degree							Verdict / Remark
	1	2			3			
	Material group			Material group				
	I	II	IIIa/IIIb	I	II	IIIa/IIIb*		
≤10	0,08	0,4	0,4	0,4	1,0	1,0	1,0	N
50	0,16	0,56	0,8	1,1	1,4	1,6	1,8	N
125	0,25	0,71	1,0	1,4	1,8	2,0	2,2	N
250	0,42	1,0	1,4	2,0	2,5	2,8	3,2	N
400	0,75	1,6	2,2	3,2	4,0	4,5	5,0	N
500	1,0	2,0	2,8	4,0	5,0	5,6	6,3	N
>630 and ≤800	1,8	3,2	4,5	6,3	8,0	9,0	10,0	N
>800 and ≤1000	2,4	4,0	5,6	8,0	10,0	11,0	12,5	N
>1000 and ≤1250	3,2	5,0	7,1	10,0	12,5	14,0	16,0	N
>1250 and ≤1600	4,2	6,3	9,0	12,5	16,0	18,0	20,0	N
>1600 and ≤2000	5,6	8,0	11,0	16,0	20,0	22,0	25,0	N
>2000 and ≤2500	7,5	10,0	14,0	20,0	25,0	28,0	32,0	N
>2500 and ≤3200	10,0	12,5	18,0	25,0	32,0	36,0	40,0	N
>3200 and ≤4000	12,5	16,0	22,0	32,0	40,0	45,0	50,0	N
>4000 and ≤5000	16,0	20,0	28,0	40,0	50,0	56,0	63,0	N
>5000 and ≤6300	20,0	25,0	36,0	50,0	63,0	71,0	80,0	N
>6300 and ≤8000	25,0	32,0	45,0	63,0	80,0	90,0	100,0	N
>8000 and ≤10000	32,0	40,0	56,0	80,0	100,0	110,0	125,0	N
>10000 and ≤12500	40,0	50,0	71,0	100,0	125,0	140,0	160,0	N
Supplementary information:								
*) Material group IIIb is allowed if the working voltage does not exceed 50 V								

30	RESISTANCE TO HEAT AND FIRE	P



30																				
TABLE: Resistance to heat and fire																				
Object/ part No.	Manufacturer / trademark	Type/ model	Ball pressure test °C				Glow wire test (GWT) °C						Glow-wire flammability index (GWFI) °C				Glow- wire ignition temp. (GWIT) °C		Needle - flame test (NFT)	Verdict
			75	125	cl. 11 +40	cl. 19 +25	550	650		750		850	550	650	750	850	675	775		
							te	ti	te	ti										
Outlet enclosure			-	-	1.0	-	-	-	-	-	-	-	-	-	-	-	-	-	P	
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
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END OF REPORT