SOUTH QUALITY

PROFICIENCY TESTING PROVIDER

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IEC 60335-2-23

PARTICULAR REQUIREMENTS FOR APPLIANCES FOR HAIR CARE

Program: SQO-HA4 (Round 13)

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TABLE OF CONTENTS

1. FOREWORD 3

2. ORGANIZATION 3

3. OBJECTIVE 3

4. PARTICIPANTS 4

5. HOMOGENEITY 4

6. SAMPLE INFORMATION 6

7. IMAGES 6

8. ASSIGNED RESULTS 7

9. STATISTICS 7

10. PARTICIPANTS' RESULTS 8

11. EVALUATION OF PERFORMANCE 9

12. CONCLUSIONS 10

APPENDICES

APPENDIX A

A1 - PARTICIPANT DATA 11

A2 - INSTRUCTIONS 11

A3 - PARTICIPANT RESULTS (Test report) 14

APPENDIX B 19

1. FOREWORD

This report summarizes the results of the **SQO-HA4 (Round 13)** program on the determination of safety of appliances for hair care. This program is carried out under a simultaneous participation format, as described in clause A.2.2 of ISO/IEC 17043: 2023 (Types of PT schemes).

South Quality conducted the testing program in August/September 2026. The aim of the program was to assess the ability of laboratories to competently perform the nominated tests.

2. ORGANIZATION

Program Coordinator:	Eng. Esteban Di Marco
Assistant Technician:	Valentyn Kravchenko
Statistics:	Lic. Manuel Tozaki
Supervision:	Eng. Emiliano Medina

3. OBJECTIVE

The objective of this proficiency testing program is to determine compliance with the general requirements of appliances for hair care, in accordance with the following standard:

Standard	Clause
IEC 60335-2-23: 2022	Complete standard

To perform this verification, batches of hair dryer were selected.

Participants in this program have not been informed in advance about the expected behavior of the samples they receive.

4. PARTICIPANTS

In the present round, 15 laboratories have participated with the following details:

CODE	Country	ISO 17025 accredited	Results delivered
01	Chile	Yes	Yes
02	France	Yes	No
03	Mexico	Yes	Yes
04	Brazil	Yes	Yes
05	Germany	Yes	Yes
06	Vietnam	Yes	Yes
07	Spain	No	Yes
08	Malaysia	Yes	Yes
09	Brazil	No	No
10	Spain	Yes	No
11	France	Yes	Yes
12	Uzbekistan	Yes	Yes
13	Brazil	Yes	Yes
14	Italy	Yes	Yes
15	Colombia	Yes	Yes

5. HOMOGENEITY

Several batches were prepared identically by the staff at South Quality.

Subsequently, a homogeneity study was conducted with an ISO 17025 accredited laboratory.

The control process followed ISO 33405: 2024, clauses 7.4.1.1 / 7.4.1.2. Stratified random sampling was applied, and the samples were selected using random-number-generation software.

The results of this test are presented below:

Size of each batch: **25 units** Tested samples from each batch: **5 units**

IEC 60335-2-23 Chapter No	SAME RESULTS IN THE SAMPLES TESTED			
	Batch: LHA3918	Batch: LHA3919	Batch: LHA3920	Batch: LHA3921
6	YES	NO	YES	YES
7	YES	YES	YES	YES
8	YES	YES	YES	YES
10	YES	YES	YES	YES
11	YES	YES	YES	NO
12	NA	NA	NA	NA
13	NO	YES	YES	YES
14	NA	NA	NA	NA
15	YES	YES	YES	YES
16	YES	YES	YES	YES
17	NA	NA	NA	NA
19	YES	YES	YES	YES
20	YES	YES	YES	YES
21	YES	YES	YES	YES
22	YES	YES	YES	YES
23	YES	YES	YES	YES
24	YES	YES	YES	YES
25	YES	YES	YES	YES
26	YES	YES	YES	YES
27	NA	NA	NA	NA
28	YES	YES	YES	YES
29	NO	YES	YES	YES
30	YES	YES	YES	YES
31	YES	YES	YES	YES
32	NA	NA	NA	NA

Samples for this program are taken from the selected batch identified as **LHA3920**.

The analysis of the test data indicated that the selected samples exhibited sufficient homogeneity for the program. Therefore, the results of participants identified as outliers cannot be attributed to sample variability.

6. SAMPLE INFORMATION

The following samples were sent for testing (Participant **Code 12**):

Batch:	LHA3920
Sample ID:	12.1 + 12.2 + 12.3
Characteristics:	Hair dryer - 220V - 50Hz - 1000W Trademark: Westinghouse Model: Whhd8300

7. IMAGES

SAMPLES









8. ASSIGNED RESULTS

The assigned results are derived from the consensus of the valid results reported by participating laboratories (**Consensus values**).

Results submitted after the deadline, missing results, and results excluded under the statistical procedure are not included in the consensus.

9. STATISTICS

The results must be treated as qualitative.

For qualitative results, the comparison will be made directly against the assigned results, so any difference will be evaluated as **Unsatisfactory**.

The comparison is made by assigning to each chapter of the results of each participant, a compliance verdict (PASS or FAIL). A single clause with a FAIL verdict imposes a FAIL verdict on the corresponding chapter. If NOT APPLICABLE has been indicated in the entire chapter, NA is assigned. Chapters reported as NOT VERIFIED (NV) are not evaluated.

When a participant does not report results or verdicts for all the requirements within a given clause, that participant is excluded from the comparison table for that clause, and the corresponding results from the other participants are also omitted.

10. PARTICIPANTS' RESULTS

CHAPTER	REQUIREMENT	LABORATORY CODE												CONSENSUS VALUE
		01	03	04	05	06	07	08	11	12	13	14	15	
6	Classification	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	Clase II	**Clase II**
7	Marking and instructions	P	P	P	P	P	P	P	P	P	P	P	P	**P**
8	Protection against access to live parts	F	F	F	F	F	F	F	F	F	F	F	F	**F**
10	Power input and current	F	F	F	F	F	F	F	F	F	F	F	F	**F**
11	Heating	P	P	F	P	P	P	P	P	P	P	P	P	**P**
13	Leakage current and electric strength at operating temperature	P	P	P	P	P	P	P	P	P	P	P	P	**P**
15	Moisture resistance	P	P	P	P	P	P	P	P	P	P	P	P	**P**
16	Leakage current and electric strength	P	P	P	P	P	P	P	P	P	P	P	F	**P**
20	Stability and mechanical hazards	P	P	P	P	P	P	P	P	P	P	P	P	**P**
21	Mechanical strength	P	P	P	P	P	P	P	P	P	P	P	P	**P**
22	Construction	P	P	F	P	P	P	P	P	P	P	P	P	**P**
23	Internal wiring	P	P	P	P	P	P	P	P	P	P	P	P	**P**
25	Supply connection and external flexible cords	F	F	F	F	F	F	F	F	F	F	F	P	**F**
28	Screws and connections	P	P	P	P	P	P	P	P	P	P	P	P	**P**

References:

P: PASS
F: FAIL

Note: Any differences in the test method (voltage or test intensity, cycles, torque, etc.), even if the result matches the assigned value, will be reported in Appendix B for review by the participating laboratory.

11. EVALUATION OF PERFORMANCE

Laboratory **Code 01**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 02**: The laboratory did not send the results before the deadline.

Laboratory **Code 03**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 04**: The laboratory obtained an **UNSATISFACTORY** result in the verification of chapters 11 (Heating) and 22 (Construction). However, **SATISFACTORY** results were obtained for the remaining chapters.

Laboratory **Code 05**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 06**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 07**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 08**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 09**: The laboratory did not send the results before the deadline.

Laboratory **Code 10**: The laboratory did not send the results before the deadline.

Laboratory **Code 11**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 12**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 13**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 14**: The laboratory obtained **SATISFACTORY** results in the verification of all chapters.

Laboratory **Code 15**: The laboratory obtained **UNSATISFACTORY** results in the verification of chapters 16 (Leakage current and electric strength) and 25 (Supply connection and external flexible cords). However, **SATISFACTORY** results were obtained for the remaining chapters.

12. CONCLUSIONS

The overall performance of the laboratories participating in the **SQO-HA4 (Round 13)** program, based on expected results from the participating laboratories, was as follows:

- Participants Codes **01, 03, 05, 06, 07, 08, 11, 12, 13,** and **14** have obtained **SUFFICIENT** performance according to the expected results, and no action is required;

- Participants Codes **04** and **15** have obtained **INSUFFICIENT** performance according to the expected results and must take action in the chapters/clauses where their results differ from the expected ones (see Appendix B).

The criteria used for the evaluation of the overall performance are the following:

- **SUFFICIENT** performance: No unsatisfactory results were obtained.

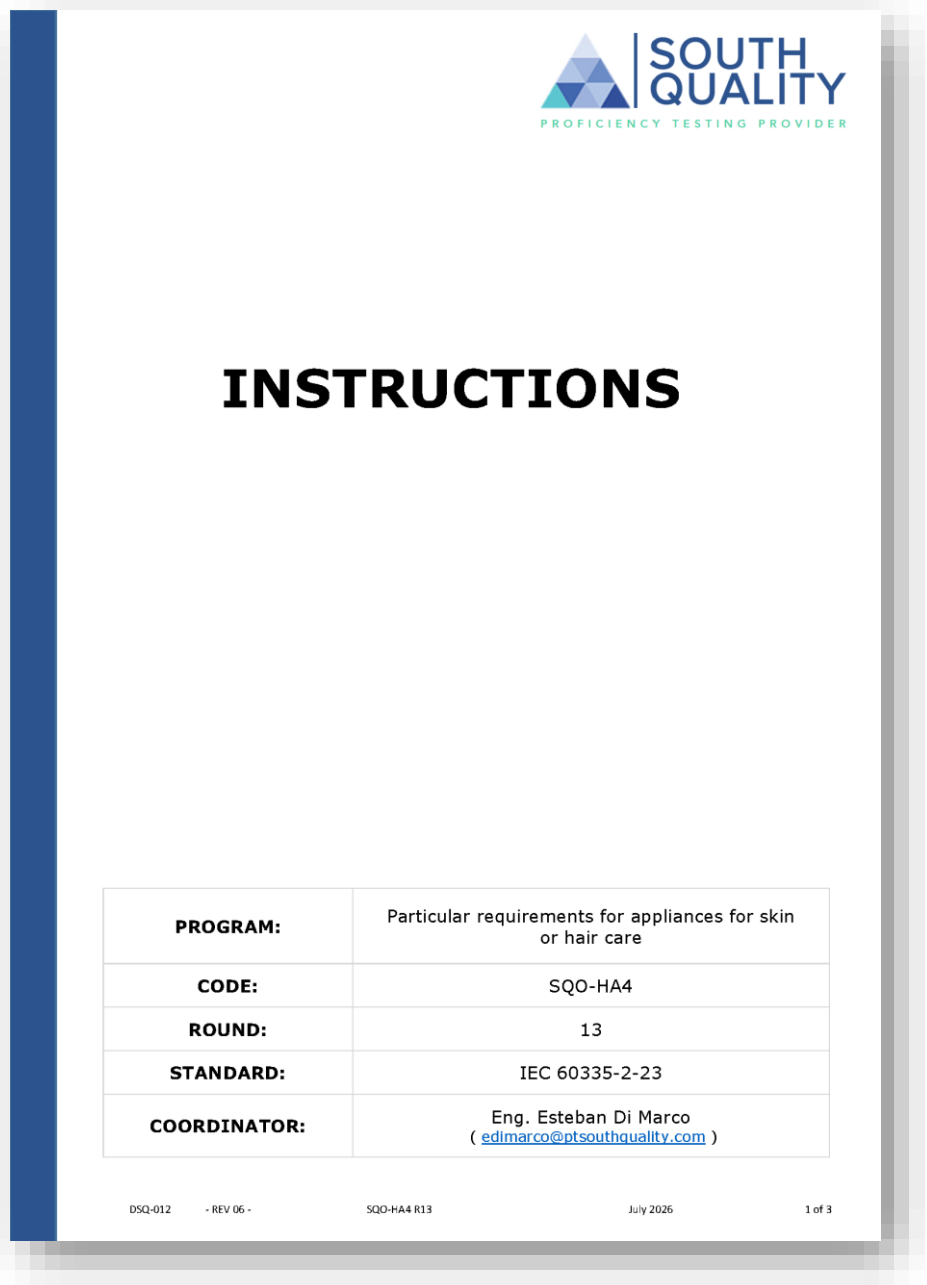
- **INSUFFICIENT** performance: An unsatisfactory result was obtained.

APPENDIX A

A1 - PARTICIPANT DATA

Company:	**JV LLC "OZBEK-TURK TEST MARKAZI"**
Laboratory:	**ELEKTR LABORATORY**
Country:	Uzbekistán
Client ID:	S364
Contact person:	Zafar Islamov - Lider specialist
	islamovzafar1993@gmail.com

A2 - INSTRUCTIONS



SOUTH QUALITY
PROFICIENCY TESTING PROVIDER

INSTRUCTIONS

PROGRAM:	Particular requirements for appliances for skin or hair care
CODE:	SQO-HA4
ROUND:	13
STANDARD:	IEC 60335-2-23
COORDINATOR:	Eng. Esteban Di Marco (edimarco@ptsouthquality.com)

DSQ-012 - REV 06 - SQO-HA4 R13 July 2026 1 of 3

1 - **General**

This document serves as a guide for managing the results of the **SQO-HA4 (Round 13)** program.

2 - **Standard**

IEC 60335-2-23: 2016 + AMD1: 2019

3 - **Participant**

JV LLC "OZBEK-TURK TEST MARKAZI"	**CODE 12**

4 - **Tests involved**

TEST
Complete standard

5 - **Samples**

CODE	**SAMPLE**	**QUANTITY**
LHA3920-12	Hair dryer - 220-240 V - 50 Hz - 700/1000 W Trademark: Westinghouse Model: Whhd8300	3

6 - **Notes**

a) The deadline for the delivery of results is **September 31, 2026**.
b) The participant must submit the results using the usual report employed by their laboratory.
c) The report must include all verdicts corresponding to each clause and subclause specified for evaluation.
d) The samples are to be handled as routine lab samples, with all testing, documentation, and reporting adhering to **IEC 60335-2-23**.
e) The tests must be carried out at **230V - 50 Hz**.
f) The samples must be kept until the end of the program, which closes with the submission of the final report.
g) To review the results, the submission of images of the tests is appreciated. These images can be attached at the end of this document or sent via email.

PHOTOGRAPHS

A3 - PARTICIPANT RESULTS (TEST REPORT)

TEST REPORT
COMPARATIVE TESTS

Testing Laboratory Complex at JV LLC "O'zbek-Turk Test Markazi"
Address: Uzbekistan, 100059, Tashkent, Bog'ibo'ston Street, 208, Tel. +998 71 250-82-99
Accreditation Certificate: No. O'ZAK.SL.0121 dated 09.04.2026
Product name: Hair dryer (220–240 V ~ 50 Hz – (700/1000) W, Trademark: Westinghouse, Model: Whd8300
Standards for test methods: GOST IEC 60335-2-23-2019, GOST IEC 60335-1-2024
Test conditions: t = 22 °C (at 20 °C ± 5 °C)

No	Characteristic	Standard / Test Method	Test Results
1	Classification	IEC 60335-2-23-2019 Clause 6.1 IEC 60335-1-2024 Clause 6.1 Appliances shall be of one of the following classes of protection against electric shock: Class II or Class III.	Class II
2	Marking	IEC 60335-2-23-2019 Clause 7.14 The outer diameter of the circle in the symbol "ISO 7010-P026 (2011-05)" shall be not less than 10 mm. IEC 60335-1-2024 Clause 7.14 After rubbing the marking by hand for 15 s with a cloth soaked in water, followed by rubbing for 15 s with a cloth soaked in gasoline, the marking shall remain readily legible and durable.	10 mm Marking has not changed.

3	Protection against access to live parts	GOST IEC 60335-2-23-2019 Clause 8 GOST IEC 60335-1-2024 Clause 8.1.1 Appliances shall be constructed and enclosed so that there is adequate protection against accidental contact with live parts. The test is carried out using Test Probes B and 18 in accordance with IEC 61032, with a force of up to 1 N. IEC 60335-1-2024 Clause 8.1.2 Test Probe 13 in accordance with IEC 61032 is applied to openings in Class 0 and Class II appliances and to Class III constructions, except openings giving access to lamp bases or live parts of socket outlets, with a force of up to 1 N.	Protection provided When Test Probe 13 in accordance with IEC 61032 was applied to the accessible openings with a force of up to 1 N, the probe made contact with a live part.
4	Power input and current	IEC 60335-2-23-2019 Clause 10.1 The characteristic period for appliances containing PTC heating elements is 30 min. IEC 60335-1-2024 Clause 10.1 The power input (from 700 to 1000 W) shall not deviate from the rated power by more than (+5 , −10)%: P1 = from 630 to 805 W (220 V) P2 = from 900 to 1050 W (240 V)	P1 = 1012 W P2 = 1194 W

5	Heating	IEC 60335-2-23-2019 Clauses 11.2, 11.4, 11.6, 11.7, 11.8 IEC 60335-1-2024 Clauses 11.4, 11.5, 11.6, 11.7, 11.8 Appliances and their surroundings shall not be excessively heated during normal operation. Motor windings — 75 K Thermostat ambient — 57 K Internal wire — 45 K Power cord — 45 K Switch — 60 K Handle — 50 K Plug — 45 K	 54.97 K 21.7 K 13.2 K 5.1 K 2.9 K 3.2 K 4.3 K
6	Leakage current at operating temperature	IEC 60335-2-23-2019 Clause 13 IEC 60335-1-2024 Clause 13.2 The leakage current shall not exceed 0.35 mA.	0,032 mA
7	Electric strength at operating temperature	IEC 60335-2-23-2019 Clause 13 IEC 60335-1-2024 Clause 13.3 At a voltage of 1000 V, 1750 V and 3000 V applied for 1 min, the insulation of the appliance shall withstand the test voltage.	No breakdown detected
8	Moisture resistance	IEC 60335-2-23-2019 Clause 15 IEC 60335-1-2024 Clause 15.3 At (93 ± 3) % relative humidity and (28 ± 30) °C, after 48 h the specimen shall show no damage.	No damage detected
9	Leakage current	IEC 60335-2-23-2019 Clause 16 IEC 60335-1-2024 Clause 16.2 The leakage current shall not exceed 0.25 mA.	0,062 mA

10	Electric strength	IEC 60335-2-23-2019 Clause 16 IEC 60335-1-2024 Clause 16.3 At a voltage of 1000 V, 1750 V and 3000 V applied for 1 min, the insulation of the appliance shall withstand the test voltage.	No breakdown detected
11	Stability and mechanical hazards	IEC 60335-2-23-2019 Clause 20 IEC 60335-1-2024 Clause 20.2 Parts of appliances that are accessible to the user during normal operation and which are intended to be used in accordance with the appliance, shall be positioned or guarded so that adequate protection against injury is provided during normal operation.	Adequate protection provided
12	Mechanical strength	IEC 60335-2-23-2019 Clause 21.101 The hand-held part of the appliance is placed in a drum constructed by rotating a body in which the appliance is connected at the corner with a strap. The appliance shall withstand 900 mm drops onto a hard surface. IEC 60335-1-2024 Clause 21.1 The appliance shall show no damage after three impacts of the manual device.	No damage No damage
13	Construction	IEC 60335-2-23-2019 Clause 22 IEC 60335-1-2024 Clause 22.5 The residual voltage between accessible parts shall not exceed 34 V, 1 s after the appliance is disconnected from the supply.	0.12 V
14	Internal wiring	IEC 60335-2-23-2019 Clause 23 IEC 60335-1-2024 Clause 23.5 When a voltage of 2000 V is applied for 15 min between the conductor and the metallic foil wound around the insulation, no insulation breakdown shall occur.	No breakdown detected

15	Connection to the supply source and flexible cords	GOST IEC 60335-2-23-2019 Clause 25 IEC 60335-1-2024 Clause 25.8, Table 11 The nominal cross-sectional area of the conductors of supply cords shall be not less than the values specified in Table 11. Not less than 0.75 mm²	Supply cord (VDE) HOSVV-F 2x0.5 mm^2
16	Screws and connections	IEC 60335-1-2024 Clause 28.1, Table 14 Electrical connections shall withstand mechanical loads of a tightening torque of 1.2 Nm without breaking, from 3.6 mm to 4.1 mm.	Withstood

----------End of Report----------

APPENDIX B

VOID

----- END OF REPORT -----