SOUTH QUALITY

PROFICIENCY TESTING PROVIDER

REPORT No 12170

Date of issue: *October 30, 2026*

Status: FINAL REPORT

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ISO 6940

BURNING BEHAVIOUR

VERTICALLY ORIENTED SPECIMENS

Program: SQO-T5 (Round 13)

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1. FOREWORD

This report summarizes the results of the **SQO-T5 (Round 13)** proficiency testing program on the determination of ease of ignition of vertically oriented specimens. 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 September/October 2026 with the aim of assessing the laboratory's ability to competently perform the designated tests.

2. ORGANIZATION

Program Coordinator:	Lic. Esther Casas
Assistant Technician:	Berenice Ferrel
Statistics:	Lic. Manuel Tozaki
Supervision:	Eng. Emiliano Medina

3. OBJECTIVE

The objective of this proficiency testing program is to determine the mean ignition time of fabrics, in accordance with the following standard:

Standard
ISO 6940: 2004

To perform this verification, batches of fabric samples were selected.

Participants in this program have not been previously informed about the expected values or value ranges of the samples they receive.

4. PARTICIPANTS

In the present round, 22 laboratories have participated with the following details:

CODE	Country	ISO 17025 accredited	Results delivered
01	Chile	Yes	Yes
02	France	Yes	Yes
03	Mexico	Yes	No
04	Brazil	Yes	Yes
05	Germany	Yes	Yes
06	Vietnam	Yes	Yes
07	Spain	No	Yes
08	Malaysia	Yes	Yes
09	Brazil	No	Yes
10	Spain	Yes	Yes
11	France	Yes	Yes
12	Uzbekistan	Yes	Yes
13	Brazil	Yes	Yes
14	China	Yes	Yes
15	Colombia	Yes	No
16	Italy	Yes	Yes
17	United Kingdom	Yes	Yes
18	Germany	Yes	No
19	China	No	Yes
20	Bangladesh	Yes	Yes
21	Argentina	No	Yes
22	Portugal	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: **40 samples** Tested samples from each batch: **10 samples**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LT3654	BATCH: LT3655	BATCH: LT3656
Mean ignition time (Machine direction)	NO	YES	YES
Mean ignition time (Cross machine direction)	NO	YES	YES

Size of each batch: **40 samples** Tested samples from each batch: **10 samples**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LT3790	BATCH: LT3791	BATCH: LT3792
Mean ignition time (Machine direction)	YES	YES	YES
Mean ignition time (Cross machine direction)	YES	YES	NO

Samples for this program are taken from the selected batches identified as **LT3655** and **LT3790**.

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 16**):

Batch:	LT3655
Sample ID:	16
Characteristics:	Beige fabric - 100 x 100 cm

Batch:	LT3790
Sample ID:	16
Characteristics:	Black fabric - 100 x 100 cm

7. IMAGES

SAMPLES









8. ASSIGNED VALUES

The assigned values are obtained from the results reported by all participants (**Consensus values**).

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

9. PARTICIPANTS' RESULTS

LABORATORY CODE	MEAN IGNITION TIME (s)			
	Batch: LT3655		Batch: LT3790	
	MD	CMD	MD	CMD
01	2	2	1	1
02	1	1	1	1
04	1	1	1	1
05	1	1	1	1
06	1	1	2	1
07	1	1	1	1
08	1	1	1	1
09	3	2	3	3
10	1	1	1	1
11	1	1	1	1
12	1	1	1	1
13	1	1	1	1
14	1	1	1	1
16	1	1	1	1
17	1	1	1	1
19	1	1	1	2
20	1	1	1	1
21	2	2	2	2
22	1	1	1	1

ASSIGNED VALUES - MEAN IGNITION TIME (s)			
Batch: LT3655		Batch: LT3790	
MD	CMD	MD	CMD
1	1	1	1

10. STATISTICS

The results must be treated as quantitative.

For quantitative results the comparison is made according to B.4.1.3 of ISO 17043 and the appropriate technique is to compare participant results with the assigned values. The results can be compared using difference ***D*.**

$$D = (x - X)$$

x is the participant's result

X is the assigned value

The performance evaluation is carried out with the following criteria:

$|D| = 0$ indicates "satisfactory" performance and generates no signal;

$|D| = 1$ indicates "questionable" performance and generates a warning signal;

$|D| > 1$ indicates "unsatisfactory" performance and generates an action signal;

11. EVALUATION OF PERFORMANCE

LABORATORY CODE	$\|D\|$			
	Batch: LT3655		Batch: LT3790	
	MD	CMD	MD	CMD
01	1	1	0	0
02	0	0	0	0
04	0	0	0	0
05	0	0	0	0
06	0	0	1	0
07	0	0	0	0
08	0	0	0	0
09	2	1	2	2
10	0	0	0	0
11	0	0	0	0
12	0	0	0	0
13	0	0	0	0
14	0	0	0	0
16	0	0	0	0
17	0	0	0	0
19	0	0	0	1
20	0	0	0	0
21	1	1	1	1
22	0	0	0	0

Laboratory **Code 01**: The laboratory obtained **QUESTIONABLE** results for mean ignition time in batch **LT3655** (MD and CMD) and **SATISFACTORY** results in batch **LT3790**.

Laboratory **Code 02**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 03**: The laboratory did not send the results before the deadline.

Laboratory **Code 04**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 05**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 06**: The laboratory obtained a **QUESTIONABLE** result for mean ignition time in batch **LT3790** (MD) and **SATISFACTORY** results in batch **LT3655** and **LT3790** (CMD).

Laboratory **Code 07**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 08**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 09**: The laboratory obtained **UNSATISFACTORY** results for mean ignition time in batch **LT3655** (MD) and in batch **LT3790** (MD and CMD), and a **QUESTIONABLE** result in batch **LT3655** (CMD).

Laboratory **Code 10**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 11**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 12**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 13**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 14**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 15**: The laboratory did not send the results before the deadline.

Laboratory **Code 16**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 17**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 18**: The laboratory did not send the results before the deadline.

Laboratory **Code 19**: The laboratory obtained a **QUESTIONABLE** result for mean ignition time (CMD) in batch **LT3790** and **SATISFACTORY** results in batch **LT3655** and batch **LT3790** (MD).

Laboratory **Code 20**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

Laboratory **Code 21**: The laboratory obtained **QUESTIONABLE** results for mean ignition time in both batches (MD and CMD).

Laboratory **Code 22**: The laboratory obtained **SATISFACTORY** results for mean ignition time in both batches.

12. CONCLUSIONS

The overall performance in the **SQO-T5 (Round 13)** program, based on expected results from the participating laboratories, was as follows:

- Participant Codes **02, 04, 05, 07, 08, 10, 11, 12, 13, 14, 16, 17, 20** and **22** have obtained **SUFFICIENT** performance according to the expected results, and no action is required;

- Participant Codes **06** and **19** have obtained an **ALMOST SUFFICIENT** performance according to the expected results and must evaluate if it is necessary to take corrective action;

- Participant Codes **01**, **09** and **21** have obtained an **INSUFFICIENT** performance according to the expected results and must take corrective action (See Appendix B);

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

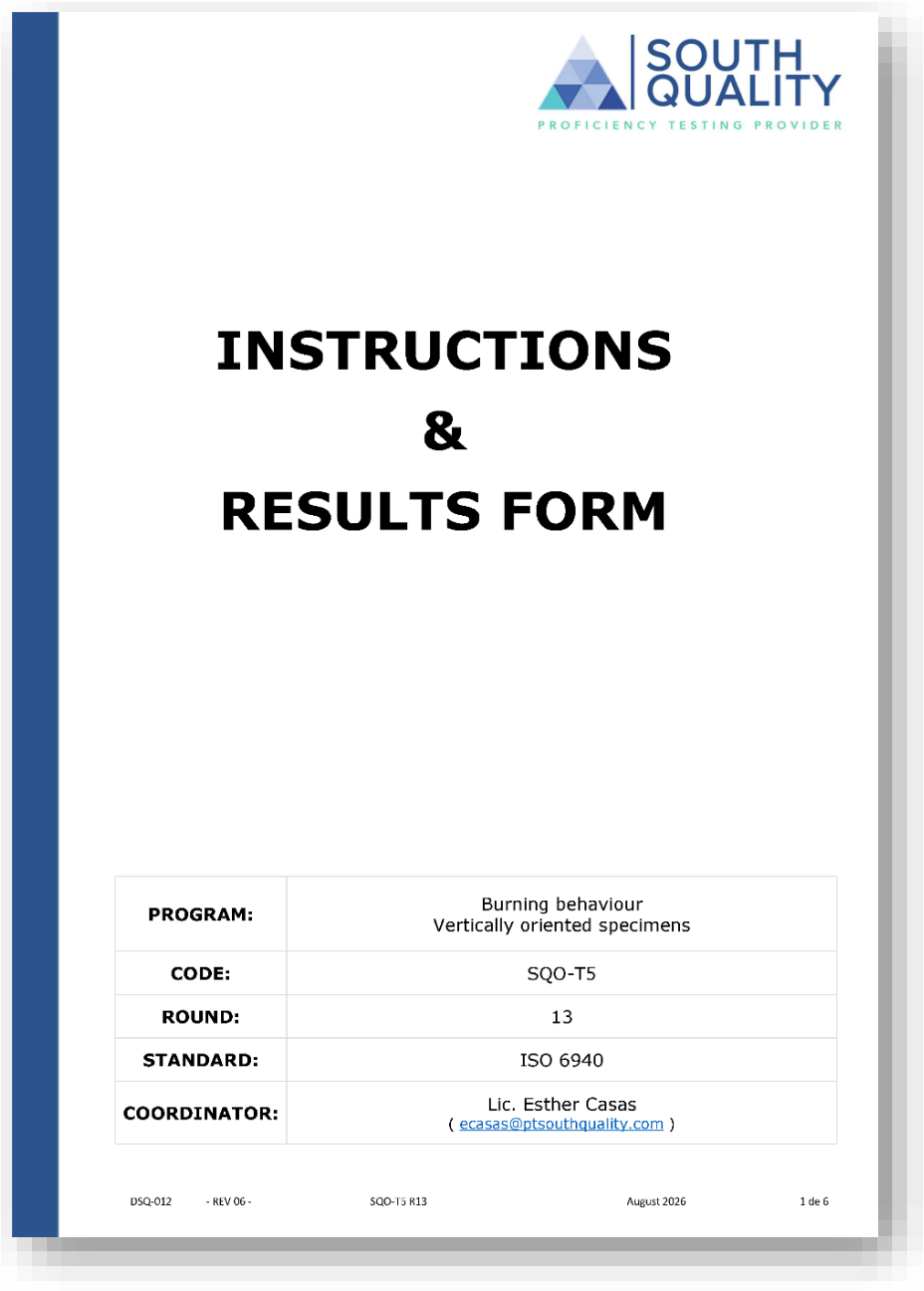
- **SUFFICIENT** performance: No unsatisfactory/questionable results obtained.
- **ALMOST SUFFICIENT** performance: No unsatisfactory results were obtained, but one questionable result was found.
- **INSUFFICIENT** performance: An unsatisfactory result or two questionable results were obtained.

APPENDIX A

A1 - PARTICIPANT DATA

Company:	**CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SpA**
Country:	Italy
Client ID:	E515
Contact person:	Carola Tondelli - Protective Performances Laboratories
	interlaboratori@centrocot.it

A2 - PARTICIPANT RESULTS



SOUTH QUALITY
PROFICIENCY TESTING PROVIDER

INSTRUCTIONS
&
RESULTS FORM

PROGRAM:	Burning behaviour Vertically oriented specimens
CODE:	SQO-T5
ROUND:	13
STANDARD:	ISO 6940
COORDINATOR:	Lic. Esther Casas (ecasas@ptsouthquality.com)

DSQ-012 - REV 06 - SQO-T5 R13 August 2026 1 de 6

1 - General

This document is intended to be filled with the results of the **SQO-T5 (Round 13)** program.

Results must be typed, not handwritten.

2 - Standard

ISO 6940:2004

3 - Participant

CENTRO TESSILE COTONIERO E ABBIGLIAMENTO SpA	**CODE 16**

4 - Tests involved

TEST	SUBTEST
Determination of the horizontal burning rate of materials	Mean ignition time

5 - Samples

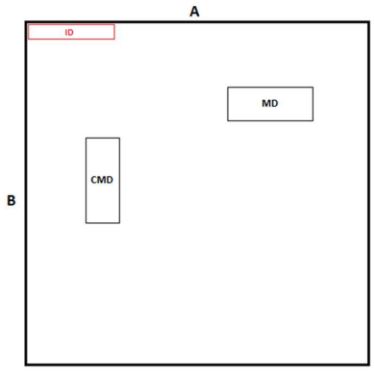
CODE	CHARACTERISTICS	QUANTITY
LT3655-16	Beige fabric - 100 x 100 cm	1
LT3790-16	Black fabric - 100 x 100 cm	1

6 - Notes

a) The deadline for the delivery of results is **October 2, 2026**.

b) The tables in this document may be modified by the participant, if desired, to include data or observations.

c) The samples must be prepared in both manufacturing directions, as indicated in the image:



MD (Machine direction): Long side parallel to the length direction of fabrication (Side **A**).

CMD (Cross machine direction): Long side parallel to the cross direction of fabrication (Side **B**).

a) The surface of the samples exposed to the flame must be the surface where the ID was indicated.
b) The samples must be kept until the end of the program, which concludes with the submission of the final report.
c) The samples are to be handled as routine lab samples, with all testing, documentation, and reporting adhering to **ISO 6940**.
d) 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.
e) Upon completion of this document, please convert it to a PDF file and send it to the program coordinator.

7 - **Test results**

Method:	According to standard
Procedure:	B - Bottom edge ignition

CONDITIONING		TESTING ENVIROMENT	
Temperature (°C):	20.8	Max. temperature (°C):	22.3
Relative humidity (%):	63.9	Min. temperature (°C):	21.5
Time (h):	24	Max. relative humidity (%):	45.2
		Min. relative humidity (%):	40.8

SAMPLE	Preliminary testing - Shortest time to cause ignition
	Initial flame application time (s):
LT3655 -16	1
LT3790-16	1

LT3655-16 MD							
SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)	SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)
I	0.04	1	IGNITION	VII			
II	0.04	1	IGNITION	VIII			
III	0.04	1	IGNITION	IX			
IV	0.04	1	IGNITION	X			
V	0.04	1	IGNITION	XI			
VI				XII			

LT3655-16 CMD							
SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)	SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)
I	0.04	1	IGNITION	VII			
II	0.04	1	IGNITION	VIII			
III	0.04	1	IGNITION	IX			
IV	0.04	1	IGNITION	X			
V	0.04	1	IGNITION	XI			
VI				XII			

MEAN IGNITION TIME (s)	
LT3655-16 MD	1
LT3655-16 CMD	1

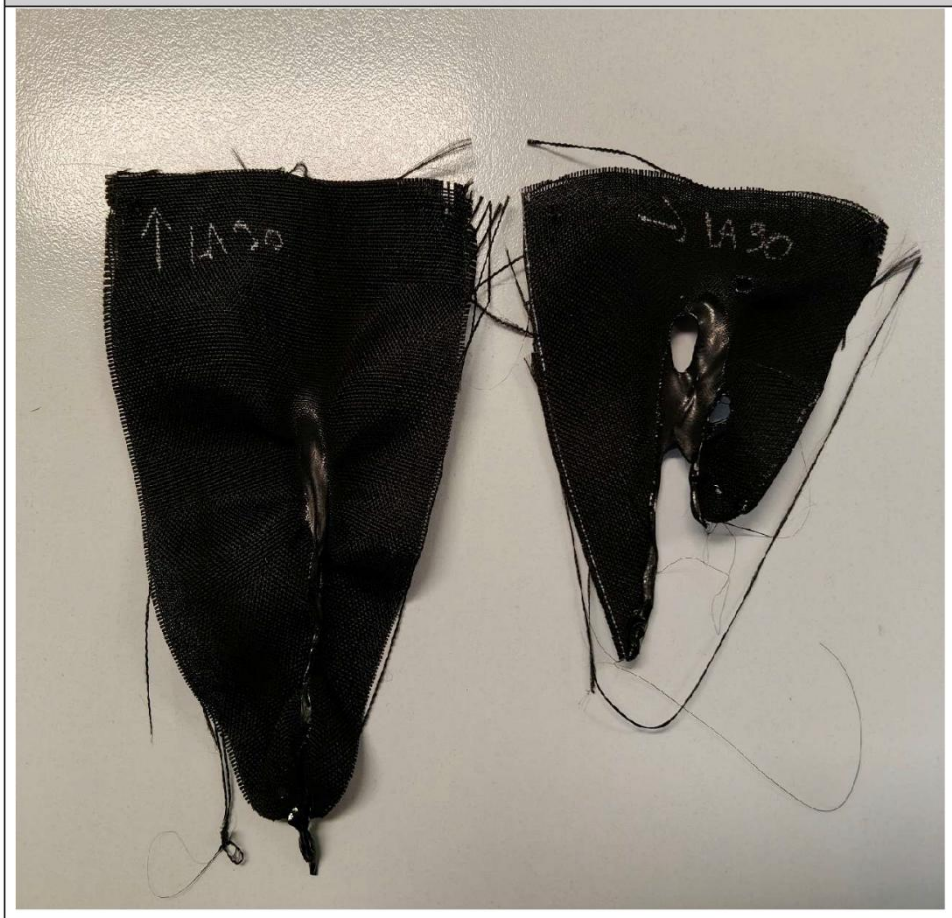
LT3790-16 MD							
SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)	SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)
I	0.03	1	IGNITION	VII			
II	0.03	1	IGNITION	VIII			
III	0.03	1	IGNITION	IX			
IV	0.03	1	IGNITION	X			
V	0.03	1	IGNITION	XI			
VI				XII			

LT3790-16 CMD							
SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)	SAMPLE	AIR MOVEMENT (m/s):	FLAME APPLICATION TIME (s)	RESULT (IGNITION / NON-IGNITION)
I	0.03	1	IGNITION	VII			
II	0.03	1	IGNITION	VIII			
III	0.03	1	IGNITION	IX			
IV	0.03	1	IGNITION	X			
V	0.03	1	IGNITION	XI			
VI				XII			

MEAN IGNITION TIME (s)	
LT3790-16 MD	1
LT3790-16 CMD	1

OBSERVATIONS

PHOTOGRAPHS



APPENDIX B

VOID

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