SOUTH QUALITY

PROFICIENCY TESTING PROVIDER

REPORT No 11288

Date of issue: *August 8, 2025*

Status: FINAL REPORT

****

ISO 3795

DETERMINATION OF BURNING BEHAVIOUR OF INTERIOR MATERIALS

Program: SQO-PL3 Round 10

****

Prepared by:	Reviewed by:	Approved by:
cn=BERENICE C. FERREL, o=PT SOUTH QUALITY SAS, ou=SOUTH QUALITY, email=tech@ptsouthquality.com, c=AR 2025.08.08 12:18:27 -03'00'	cn=ESTHER CASAS, o=PT SOUTH QUALITY SAS, ou=SOUTH QUALITY, email=ecasas@ptsouthquality.com, c=AR 2025.08.08 16:12:47 -03'00'	cn=Emiliano Medina, o=SOUTH QUALITY, ou=PT SOUTH QUALITY SAS, email=quality@ptsouthquality.com, c=ES 2025.08.09 10:55:59 -03'00'
Berenice Ferrel Assistant Technician	**Lic. Esther Casas** Physics expert	**Eng. Emiliano Medina** Quality Assurance Lead

TABLE OF CONTENTS

1. FOREWORD

This report summarizes the results of the **SQO-PL13 Round 10** proficiency testing program on the determination of horizontal burning of interior materials. This program is carried out under a simultaneous participation format, according to the A.3.1 classification of the ISO 17043 standard ("Model 2 - Figure A.1").

South Quality conducted the testing program in June/July 2025. The aim of the program was to assess laboratory ability to competently perform the nominated tests.

2. ORGANIZATION

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

3. OBJECTIVE

The objective of this proficiency testing program is to determine the burning rates of materials.

This parameter is verified using the following standard:

Standard
ISO 3795: 1989

For the verification of this, thermoplastic samples have been selected.

Participants in this program have not been previously informed of the values or range of values expected from the samples they receive.

4. PARTICIPANTS

In the present round, 20 laboratories have participated with the following details:

CODE	Country	ISO 17025 Accredited	Results delivered
01	Colombia	Yes	Yes
02	South Africa	Yes	Yes
03	Chile	No	Yes
04	Hong Kong	Yes	Yes
05	Canada	Yes	Yes
06	Malaysia	Yes	Yes
07	Netherlands	Yes	Yes
08	Mexico	Yes	No
09	Australia	Yes	Yes
10	Germany	Yes	Yes
11	France	No	Yes
12	Peru	No	Yes
13	Spain	Yes	Yes
14	Italy	Yes	Yes
15	Brazil	Yes	Yes
16	France	Yes	Yes
17	Spain	Yes	Yes
18	Portugal	Yes	Yes
19	Türkiye	Yes	Yes
20	Brazil	Yes	Yes

5. HOMOGENEITY

Several batches were prepared by South Quality personnel in an identical way.

Then, a homogeneity study was then carried out with an ISO 17025 accredited laboratory.

Control was carried out according to ISO Guide 35: 2017, clause 7.4.1.2. Stratified random sampling was applied. Samples were selected using random number generation software.

The results of this test appear below:

Size of each batch: **50 samples** Tested samples from each batch: **15 samples**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LP2407	BATCH: LP2408	BATCH: LP2409
BURNING RATE	YES	YES	YES

Size of each batch: **50 samples** Tested samples from each batch: **15 samples**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES		
	BATCH: LP2674	BATCH: LP2675	BATCH: LP2676
BURNING RATE	NO	YES	YES

Samples for this program are taken from selected batches identified as LP2408, and LP2675.

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

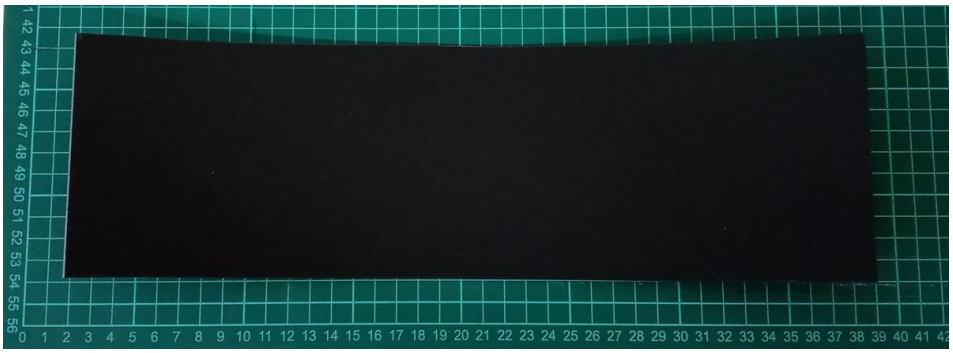
The following samples were sent for testing (Participant **Code 18**):

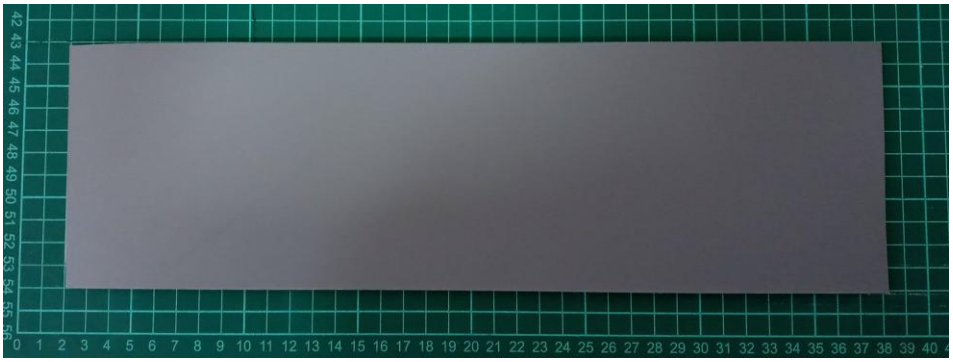
Batch:	LP2408
Sample ID:	18
Characteristics:	Black thermoplastic - 360 x 110 x 0.9 mm - 5 units

Batch:	L2675
Sample ID:	18
Characteristics:	Grey thermoplastic - 360 x 110 x 0.9 mm - 5 units

7. IMAGES

SAMPLES





8. ASSIGNED VALUES

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

9. PARTICIPANT RESULTS

LABORATORY CODE	BURNING RATE - AVG (mm/s)	
	BATCH: LP2408	BATCH: LP2675
01	0.65	0.95
02	2.76	2.08
03	1.49	1.67
04	2.32	2.01
05	2.05	1.99
06	2.10	2.25
07	1.57	1.70
09	1.60	1.49
10	2.10	1.88
11	2.20	1.96
12	2.45	2.86
13	1.33	1.24
14	3.30	2.90
15	1.82	1.47
16	2.17	1.80
17	2.53	1.83
18	1.16	1.08
19	2.45	1.67
20	1.24	1.09

ASSIGNED VALUES - BURNING RATE (mm/s)			
LEM2419		LEM3225	
AVG	SD	AVG	SD
1.96	0.64	1.79	0.53

10. STATISTICS

The results must be treated as quantitative.

According B.3.1.3 of ISO 17043 the appropriate technique is to compare participant results with the assigned values. The results can be compare using z **score.**

$$z = \frac{x - X}{\hat{\sigma}}$$

x is the participant's result

X is the assigned value

$\hat{\sigma}$ is the standard deviation

The performance evaluation of each sample is carried out with the following criteria:

$\|z\| \leq 2.0$	**indicates "satisfactory" performance and generates no signal;**
$2.0 < \|z\| < 3.0$	**indicates "questionable" performance and generates a warning signal;**
$\|z\| \geq 3.0$	**indicates "unsatisfactory" performance and generates an action signal;**

11. EVALUATION OF PERFORMANCE

LABORATORY CODE	|z score|	
	BATCH: LP2408	BATCH: LP2675
01	2.05	1.58
02	1.25	0.55
03	0.73	0.23
04	0.56	0.42
05	0.14	0.38
06	0.22	0.87
07	0.61	0.17
09	0.56	0.57
10	0.22	0.17
11	0.38	0.32
12	0.77	2.02
13	0.98	1.04
14	2.09	2.09
15	0.22	0.60
16	0.33	0.02
17	0.89	0.08
18	1.25	1.34
19	0.77	0.23
20	1.13	1.32

Laboratory **Code 01**: The laboratory obtained a **QUESTIONABLE** result for the LP2408 samples. Additionally, **SATISFACTORY** results were obtained for LP2675 samples.

Laboratory **Code 02**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 03**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 04**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 05**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 06**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 07**: The laboratory has not sent the results before the deadline.

Laboratory **Code 08**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 09**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 10**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 11**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 12**: The laboratory obtained a **QUESTIONABLE** result for the LP2675 samples. Additionally, **SATISFACTORY** results were obtained for LP2408 samples.

Laboratory **Code 13**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 14**: The laboratory has obtained **QUESTIONABLE** results for both samples.

Laboratory **Code 15**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 16**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 17**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 18**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 19**: The laboratory obtained **SATISFACTORY** results for both samples.

Laboratory **Code 20**: The laboratory obtained **SATISFACTORY** results for both samples.

GLOBAL PERFORMANCE - SUM OF ABSOLUTE Z SCORE

POSITION	LABORATORY CODE	z SCORE
1st	16	0.35
2nd	10	0.39
3rd	05	0.52
4th	11	0.70
5th	07	0.78
6th	15	0.82
7th	03	0.96
8th	17	0.97
9th	04	0.98
10th	19	1.00
11th	06	1.09
12th	09	1.13
13th	02	1.80
14th	13	2.02
15th	20	2.45
16th	18	2.59
17th	12	2.79
18th	01	3.63
19th	14	4.18

12. CONCLUSIONS

The overall performance on this **SQO-PL13 Round 10** program from the participating laboratories, based on expected results, are the following:

- Laboratories Codes **02, 03, 04, 05, 06, 07, 09, 10, 11, 13, 15, 16, 17, 18, 19** and **20** have obtained a **SUFFICIENT** performance according to the expected results and should not take action;

- Laboratories Codes **01,** and **12** have obtained an **ALMOST SUFFICIENT** performance according to the expected results and must evaluate if it is necessary to take corrective action.

- Laboratory Code **14** has obtained an **INSUFFICIENT** performance in accordance with the expected results and must take corrective action.

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

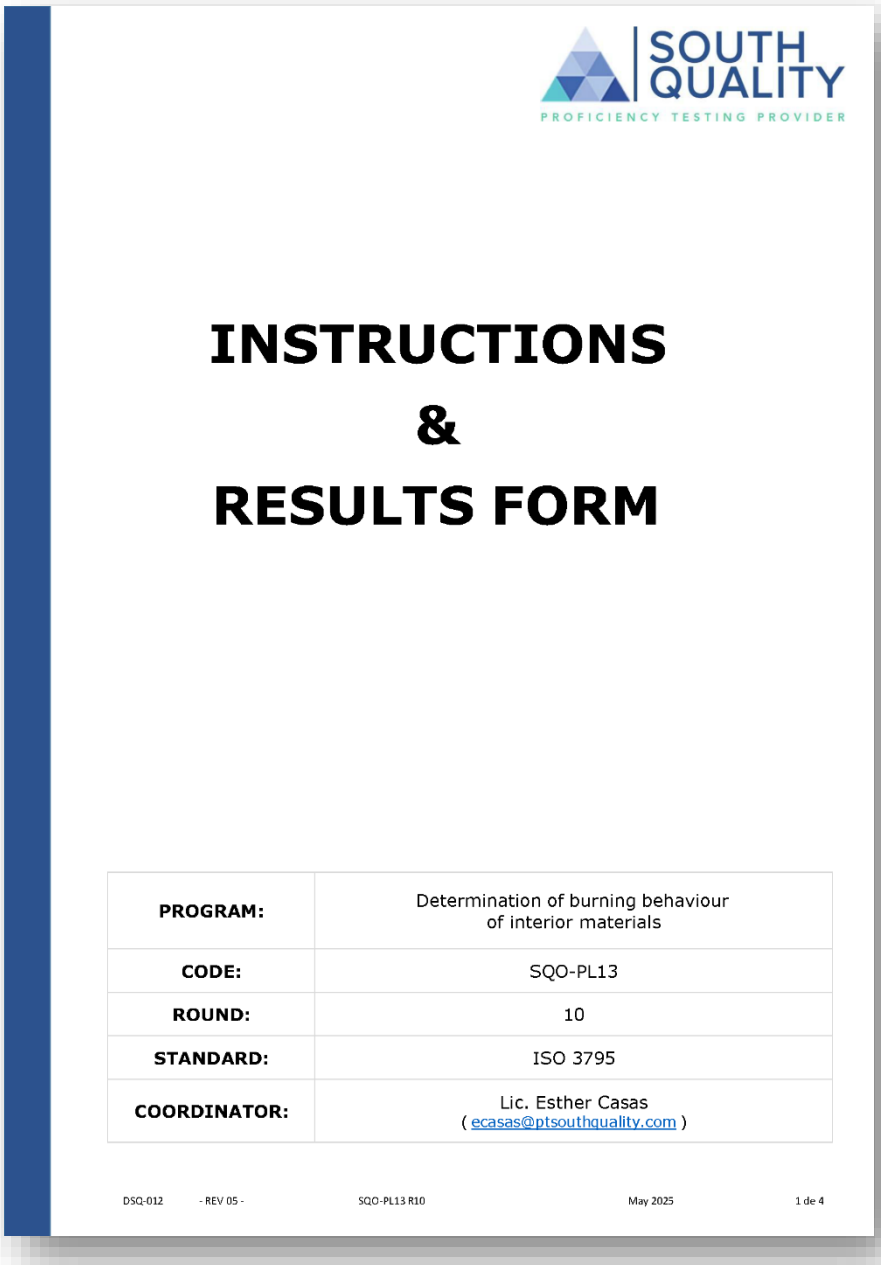
- **SUFFICIENT** performance: No unsatisfactory/questionable results obtained.
- **ALMOST SUFFICIENT** performance: No unsatisfactory results were obtained, but one questionable result was found.
- **INSUFFICIENT** performance: An unsatisfactory result or two questionable results were obtained.

APPENDIX A

A1 - PARTICIPANT DATA

Company:	**CITEVE**
Laboratory:	Fire and Comfort Laboratory
Country:	Portugal
Client ID:	E462
Contact person:	Suzana Blattmann
	(sblattmann@citeve.pt)

A2 - PARTICIPANT RESULTS



SOUTH QUALITY
PROFICIENCY TESTING PROVIDER

INSTRUCTIONS
&
RESULTS FORM

PROGRAM:	Determination of burning behaviour of interior materials
CODE:	SQO-PL13
ROUND:	10
STANDARD:	ISO 3795
COORDINATOR:	Lic. Esther Casas (ecasas@ptsouthquality.com)

DSQ-012 - REV 05 - SQO-PL13 R10 May 2025 1 de 4

1 - General

This document is intended to be filled with the results of the **SQO-PL13** program, round 10.

Results must be typed, not handwritten.

2 - Standard

ISO 3795: 1989

3 - Participant

CITEVE Fire and Comfort Laboratory	**CODE 18**

4 - Tests involved

TEST
Determination the horizontal burning rate of materials

5 - Samples

CODE	SAMPLE	QUANTITY
LP2408-XX	Black thermoplastic - 360 x 110 x 0.9 mm	5
LP2675-XX	Grey thermoplastic - 360 x 110 x 1 mm	5

6 - Notes

a) The deadline for the delivery of results is **July 9, 2025**.
b) The tables in this document may be modified by the participant, if desired, to include data or observations.
c) The samples must be oriented such that the outer surface of the material's curvature is positioned upward.
d) The samples must be kept until the end of the program, which closes with the submission of the final report.
e) 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.
f) Upon completion of this document, please convert it to a PDF file and send it to the program coordinator.

7 - **Test results**

Test date:	**July 1, 2025**

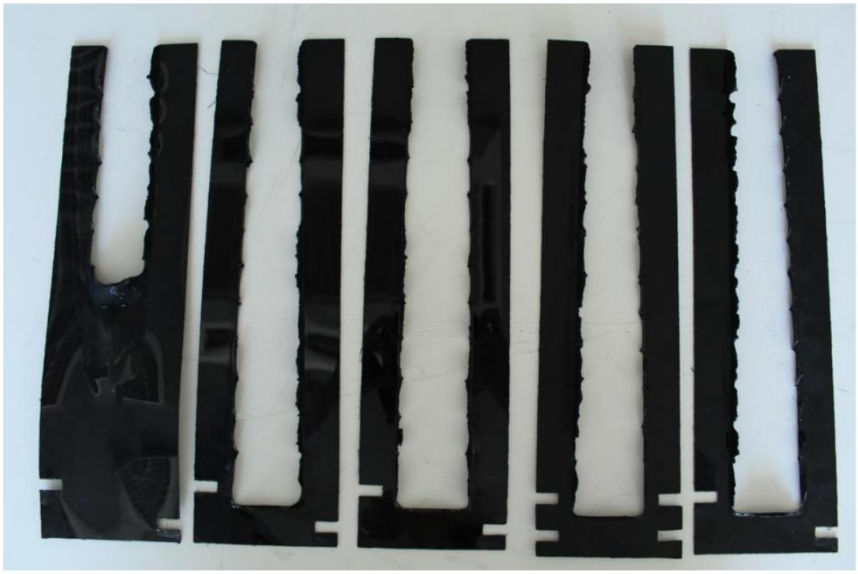
CONDITIONING		TESTING ENVIROMENT	
Temperature (°C):	23	Max. temperature (°C):	27
Relative humidity (%):	50	Min. temperature (°C):	26
Time (h):	166	Max. relative humidity (%):	55
		Min. relative humidity (%):	50

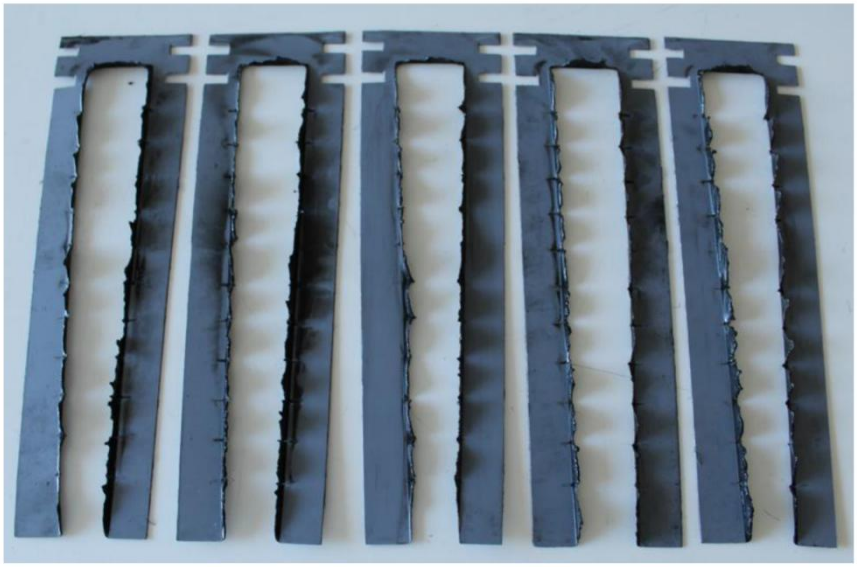
SAMPLE		Burnt distance (mm)	Burning time (s)	Burning rate (mm/s)	Observations
LP2408-18	I	254	213	1,2	
	II	254	342	0,7	
	III	254	183	1,4	
	IV	139	110	1,3	Self-extinguishing before the 2nd reference mark
	V	254	218	1,2	

SAMPLE		Burnt distance (mm)	Burning time (s)	Burning rate (mm/s)	Observations
LP2675-18	I	254	332	0,8	
	II	254	197	1,3	
	III	254	181	1,4	
	IV	254	346	0,7	
	V	254	212	1,2	

OBSERVATIONS
As indicated in the ISO 3795, the tests were performed with wires in the specimen holder. The combustion of both samples releases a lot of black smoke, soot and drips with flame. The specimens with the longest burning times seemed to self-extinguish, but probably because of the wires, combustion continued.

PHOTOGRAPHS





APPENDIX B

VOID

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