REPORT No 11415

Date of issue: *October 29, 2025*

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16 CFR 1610

FLAMMABILITY OF CLOTHING TEXTILES

Program: SQ-1164.V2

****

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1. FOREWORD

This report summarizes the results of the **SQ-1164.V2** proficiency testing program on the classification of textiles according to their flammability. This program is conducted in a bilateral format, following the A.3.3 classification of the ISO 17043 standard ("Split-sample testing schemes").

South Quality conducted the testing program in September 2025 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
Statistic:	Lic. Manuel Tozaki
Supervision:	Eng. Emiliano Medina

3. OBJECTIVE

The objective of this proficiency testing program is to determine the classification of textiles according to their flammability, using the following standard:

Standard
16 CFR 1610 - 2018

To verify this, batches of fabrics have been selected.

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

4. PARTICIPANT

Company:	**Element Material Technology Canada Inc.**
Laboratory:	**Toronto - Fire Testing**
Country:	Canada
Client ID:	C114
Contact person:	Mel Garces Supervisor mel.garces@element.com

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 Guide 35: 2017, clause 7.4.1.2. Stratified random sampling was employed, and samples were chosen using random number generation software.

The results of this test are presented below:

Size of each batch: **40 units** Tested samples from each batch: **8 units**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES - RAISED SURFACE TEXTILE FABRIC -		
	BATCH: LT3122	BATCH: LT3123	BATCH: LT3124
Classification	YES	NO	YES

Size of each batch: **50 units** Tested samples from each batch: **10 units**

DETERMINATION	HOMOGENEITY OF RESULTS IN THE ANALYZED SAMPLES - PLAIN SURFACE TEXTILE FABRIC -		
	BATCH: LT3189	BATCH: LT3190	BATCH: LT3191
Classification	YES	YES	NO

Samples for this program are taken from the selected batches identified as **LT3124** and **LT3189**.

For the indicated batches, the values determined in the homogeneity study are utilized as the assigned values.

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

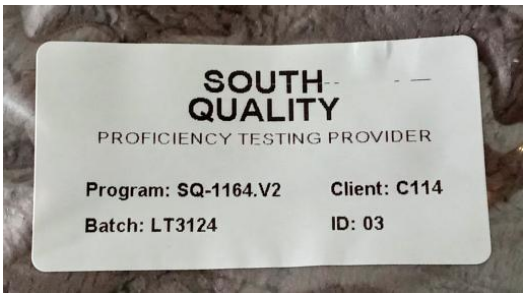
The following samples were sent for testing:

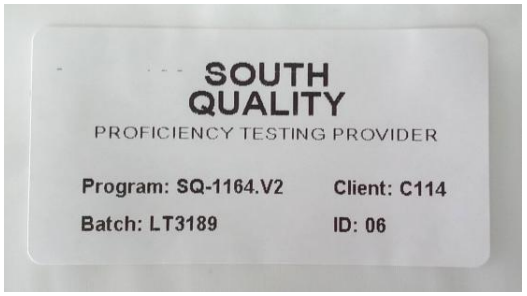
Batch:	LT3124
Sample ID:	03
Characteristics:	Brown children's sleepwear top

Batch:	LT3189
Sample ID:	06
Characteristics:	White fabric - 150 x 100 cm

7. IMAGES

SAMPLES





8. ASSIGNED VALUES

BATCH	CLASSIFICATION (BEFORE REFURBISHING)
LT3124	Class 1
LT3189	Class 1

9. PARTICIPANT RESULTS (SEE APPENDIX)

CODE	CLASSIFICATION (BEFORE REFURBISHING)
LT3124-03	Class 1
LT3189-06	Class 1

10. STATISTICS

The results must be treated as qualitative.

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

11. EVALUATION OF PERFORMANCE

BATCH	CLASSIFICATION (BEFORE REFURBISHING)		PERFORMANCE RESULT
	PARTICIPANT RESULT	ASSIGNED VALUE	
LT3124	Class 1	Class 1	SATISFACTORY
LT3189	Class 1	Class 1	SATISFACTORY

12. CONCLUSIONS

The overall performance on this **SQ-1164.V2** program from the participant laboratory **ELEMENT MATERIAL TECHNOLOGY CANADA INC. - Toronto - Fire Testing** is **SUFFICIENT** based on expected results.

The criteria used for evaluating the overall performance are as follows:

- **SUFFICIENT** performance: No unsatisfactory results were obtained.
- **INSUFFICIENT** performance: An unsatisfactory result was obtained.

APPENDIX A

INSTRUCTIONS

SOUTH QUALITY
PROFICIENCY TESTING PROVIDER

INSTRUCTIONS

PROGRAM:	Flammability of clothing textiles
CODE:	SQ-1164
VERSION:	2
STANDARD:	16 CFR 1610
COORDINATOR:	Lic. Esther Casas (ecasas@ptsouthquality.com)

1 - General

This document serves as a guide for managing the results of the **SQ-1164.V2** program.

2 - Standard

16 CFR 1610 - 2018

3 - Tests involved

TEST
Classification of textiles according to their flammability

4 - Samples

CODE	SAMPLE	QUANTITY
LT3124-03	Brown children's sleepwear top	1
LT3189-06	White fabric - 150 x 100 cm	1

5 - Notes

a) Being a bilateral program, there is no deadline for submitting results.
b) The participant must submit the results using the usual report employed by their laboratory.
c) The surface of the samples to be exposed to the flame shall be the one marked with the ID.
d) Samples must be retained until the end of the program, which concludes with the submission of the final report.
e) To review the results, test images would be appreciated. Images can be attached at the end of this document or sent by email.

PHOTOGRAPHS

APPENDIX B

PARTICIPANT RESULTS (TR # 25-002-392 C)

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16 CFR Part 1610 Proficiency Testing of "LT3124-03"

A Report To:	**PT South Quality SAS** Pareja 3981 - Villa Devoto (C1419GVG) Ciudad Autónoma de Buenos Aires Argentina
Phone:	+54 9 11 2614 6800
Attention: E-mail:	Lic. Esther Casas ecasas@ptsouthquality.com
Submitted by:	Element Fire Testing
Report No.	25-002-392(C) 3 pages + Appendix
Date:	September 18, 2025

1.0 ACCREDITATION

ISO/IEC 17025 for a defined Scope of Testing by the American Association for Laboratory Accreditation (A2LA), Certificate Number: 6524.03.

2.0 SPECIFICATIONS OF ORDER

Determine flame resistance in accordance with 16 CFR Part 1610-2018 (formerly CS 191-53) when tested "as received" only, as per PT South Quality Proficiency Testing Provider.

2.1 History of Report Revision

This is the original.

3.0 SAMPLE IDENTIFICATION

Material Identification	**"LT3124-03"**
Supplied Material Description	Brown children's sleepwear top
Date of Material Receipt	2025-08-21
Element Sample Identification Number	25-002-S0392-3
Date of Test	2025-09-15

4.0 SUMMARY OF TEST PROCEDURE

Specimens cut from the textile are prepared by brushing if they have a raised fibre surface, by dry cleaning and laundering if they have a flame-retarding finish, and by drying at 105°C for 30 minutes, then cooling in a desiccator for one hour. The dry specimen is held in a specified apparatus, at an angle of 45°. A standardized flame is applied to the surface near the lower end for one second, and the time required for flaming to proceed up the fabric a distance of 5 inches (127 mm) is recorded. Ignition or fusing of the base fibre of fabrics having a raised fibre surface is also noted. Preliminary trials are made to determine the surface and direction whereby the fabric burns most rapidly. Five specimens, each 2 x 6 inches (51 x 152 mm), are cut with the long dimension corresponding to the direction of most rapid burning.

5.0 PERFORMANCE CLASSIFICATIONS

5.1 Normal Flammability, Class 1

(i) Textile without nap, pile, tufting, flock or any other type of raised-fiber surface.
Such textiles in their original state and/or after being dry-cleaned and washed shall be classified as Class 1, normal flammability, when the time of flame spread is 3.5 seconds or more.

(ii) Napped pile, tufted, flocked, or other textiles having a raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 1, normal flammability, when the time of flame spread is more than 7 seconds, or when they burn with a rapid surface flash (from 0 to 7 seconds), provided the intensity of the flame is so low as not to ignite or fuse the base fabric.

5.2 Intermediate Flammability, Class 2

(i) Napped pile, tufted, flocked, or other textiles having a raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 2, intermediate flammability, when the time of flame spread is from 4 to 7 seconds, both inclusive, and the base fabric ignites or fuses.

5.3 Rapid and intense burning, Class 3

(i) Textile free from nap, pile, tufting, flock or any other type of raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 3, rapid and intense burning, when the time of flame spread is less than 3.5 seconds.

(ii) Napped pile, tufted, flocked, or other textiles having a raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 3, rapid and intense burning, when the time of flame spread is less than 4 seconds and when the intensity of flame is such as to ignite or fuse the base fabric.

6.0 TEST RESULTS

16 CFR Part 1610-2018

Standard for the Flammability of Clothing Textiles

SAMPLE: "LT3124-03"

Trial	Raised Fibre?	Reporting Code	Burning Time (s)	Surface Flash Severed Thread?	Ignition of Base Fibre?
machine direction	Yes	(ii) IBE	0.0	No	No
cross direction	Yes	(ii) IBE	0.0	No	No
(machine direction 1)	Yes	(ii) IBE	0.0	No	No
(machine direction 2)	Yes	(ii) IBE	0.0	No	No
(machine direction 3)	Yes	(ii) IBE	0.0	No	No
(machine direction 4)	Yes	(ii) IBE	0.0	No	No
(machine direction 5)	Yes	(ii) IBE	0.0	No	No

6.1 Test Notes / Observations

Specimens were cut from a supplied batch by Element and were individually mounted in the specimen holders. Material was tested as-received (original, supplied state). Specimens were oven-conditioned at 105°C for 30 minutes. Raised-fiber surface.

6.2 Reporting Codes

(i) DNI - Did not ignite
(ii) IBE - Ignited, but extinguished before reaching the timing thread
(iii) BT - Burn time recorded by the timing device upon reaching the timing thread

7.0 CONCLUSIONS

When tested "as-received", the material identified in this report meets the qualification criteria to be classified as Normal Flammability, Class 1.

Serap Carpino,
Technologist, Fire Testing.

Mel Garces,
Supervisor, Fire Testing.

A.0 APPENDIX

A.1 Specimen Photographs

Before Testing

After Testing

APPENDIX C

PARTICIPANT RESULTS (TR # 25-002-392 D)

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16 CFR Part 1610 Proficiency Testing of "LT3189-06"

A Report To:	**PT South Quality SAS** Pareja 3981 - Villa Devoto (C1419GVG) Ciudad Autónoma de Buenos Aires Argentina
Phone:	+54 9 11 2614 6800
Attention: E-mail:	Lic. Esther Casas ecasas@ptsouthquality.com
Submitted by:	Element Fire Testing
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2.0 SPECIFICATIONS OF ORDER

Determine flame resistance in accordance with 16 CFR Part 1610-2018 (formerly CS 191-53) when tested "as received" only, as per PT South Quality Proficiency Testing Provider.

2.1 History of Report Revision

This is the original.

3.0 SAMPLE IDENTIFICATION

Material Identification	**"LT3189-06"**
Supplied Material Description	White fabric - 150 x100 cm
Date of Material Receipt	2025-08-21
Element Sample Identification Number	25-002-S0392-4
Date of Test	2025-09-18

4.0 SUMMARY OF TEST PROCEDURE

Specimens cut from the textile are prepared by brushing if they have a raised fibre surface, by dry cleaning and laundering if they have a flame-retarding finish, and by drying at 105°C for 30 minutes, then cooling in a desiccator for one hour. The dry specimen is held in a specified apparatus, at an angle of 45°. A standardized flame is applied to the surface near the lower end for one second, and the time required for flaming to proceed up the fabric a distance of 5 inches (127 mm) is recorded. Ignition or fusing of the base fibre of fabrics having a raised fibre surface is also noted. Preliminary trials are made to determine the surface and direction whereby the fabric burns most rapidly. Five specimens, each 2 x 6 inches (51 x 152 mm), are cut with the long dimension corresponding to the direction of most rapid burning.

5.0 PERFORMANCE CLASSIFICATIONS

5.1 Normal Flammability, Class 1

(i) Textile without nap, pile, tufting, flock or any other type of raised-fiber surface.
Such textiles in their original state and/or after being dry-cleaned and washed shall be classified as Class 1, normal flammability, when the time of flame spread is 3.5 seconds or more.

(ii) Napped pile, tufted, flocked, or other textiles having a raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 1, normal flammability, when the time of flame spread is more than 7 seconds, or when they burn with a rapid surface flash (from 0 to 7 seconds), provided the intensity of the flame is so low as not to ignite or fuse the base fabric.

5.2 Intermediate Flammability, Class 2

(i) Napped pile, tufted, flocked, or other textiles having a raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 2, intermediate flammability, when the time of flame spread is from 4 to 7 seconds, both inclusive, and the base fabric ignites or fuses.

5.3 Rapid and intense burning, Class 3

(i) Textile free from nap, pile, tufting, flock or any other type of raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 3, rapid and intense burning, when the time of flame spread is less than 3.5 seconds.

(ii) Napped pile, tufted, flocked, or other textiles having a raised-fiber surface.
Such textiles in their original state and/or after having been dry-cleaned and washed, shall be classified as Class 3, rapid and intense burning, when the time of flame spread is less than 4 seconds and when the intensity of flame is such as to ignite or fuse the base fabric.

6.0 TEST RESULTS

16 CFR Part 1610-2018
Standard for the Flammability of Clothing Textiles
SAMPLE: "LT3189-06"

Trial	Raised Fibre?	Reporting Code	Burning Time (s)	Surface Flash Severed Thread?	Ignition of Base Fibre?
(machine direction)	No	(iii) BT	19.5	No Flash	N/A
(cross direction)	No	(i) DNI	0.0	No Flash	N/A
1 (machine direction)	No	(iii) BT	26.4	No Flash	N/A
2 (machine direction)	No	(iii) BT	18.2	No Flash	N/A
3 (machine direction)	No	(i) DNI	0.0	No Flash	N/A
4 (machine direction)	No	(iii) BT	18.9	No Flash	N/A
5 (machine direction)	No	(iii) BT	19.6	No Flash	N/A

6.1 Test Notes / Observations

Specimens were cut from a supplied batch by Element and were individually mounted in the specimen holders. Material was tested as-received (original, supplied state). Specimens were oven-conditioned at 105°C for 30 minutes. No raised-fiber surface.

6.2 Reporting Codes

(i) DNI - Did not ignite
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7.0 CONCLUSIONS

When tested "as-received", the material identified in this report meets the qualification criteria to be classified as Normal Flammability, Class 1.

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A.0 APPENDIX

A.1 Specimen Photographs

Before Testing

After Testing

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