
CAN/ULC-S109 Small-Flame Resistance Testing of "OS-PROTECT-FR101-FABRIC"

A Report To: **On-Site Services US, Inc.**
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Submitted by: Element Fire Testing

Report No. 23-002-041(A)(Revision 1)
3 pages + Appendix

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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 CAN/ULC-S109-14 Small-Flame Test only, as per On-Site Services US, Inc. reference Purchase Order No. 1001 and Element Quotation No. 23-002-419087 dated January 25, 2023.

2.1 History of Report Revision

This report supersedes Element Test Report No. 23-002-041(A), originally issued on February 21, 2023. It is revised by request to change the sample identification.

3.0 SAMPLE IDENTIFICATION (Element sample identification number 23-002-S0041-1)

Material described as, "Woven Cotton Poly Blended Fabric", and identified as:
"OS-PROTECT-FR101-FABRIC"

4.0 GENERAL SUMMARY OF TEST PROCEDURE

Ten specimens, each 70 mm x 250 mm are cut, with five in the warp (machine) direction and five in the weft (cross) direction, where applicable. The specimens are conditioned for 30 minutes at 105°C, or if they melt or distort at these temperatures, they are conditioned at 18 to 22°C and 50% R.H. for at least 12 hours, or by drying in an oven for 1 hour at 60°C.

Additional conditioning requirements such as water leaching and/or accelerating weathering could apply for materials that are intended for outdoor use. In such cases, a material should be tested "as received", "after leaching", and "after accelerated weathering".

Each specimen is removed from the conditioning chamber individually, clamped in a U-shaped metal holder and suspended in a specified cabinet. The free edge of the specimen is positioned 20 mm above the tip of a specified gas burner which has been adjusted to yield a flame height of 40 mm. Flame exposure time is 12 seconds. Char length, afterflame time, and flaming time of molten residue (drops) are measured.

5.0 PERFORMANCE REQUIREMENTS (Reference: CAN/ULC-S109-14 Clause 6.2)

Maximum Average Damaged Length or Destroyed Material (10 specimens)	Maximum Damaged Length or Destroyed Material for any Individual Specimen	Maximum Flaming Time for Residue on Floor of Tester
165 mm	190 mm	2.0 seconds

*Flame-resistant fabrics and films shall comply with the performance requirements of **both** the Small-Flame and the Large-Flame Test.*

6.0 SAMPLE PREPARATION

The material was supplied in batch form, from which suitable test specimens were cut (by Element). Specimens were tested "as-received" and the measured fabric weight was approximately 172 g/m².

7.0 TEST RESULTS

CAN/ULC-S109-14 Small-Flame Test

Standard Methods of Tests for Flame-Resistant Textiles and Films

SAMPLE: "OS-PROTECT-FR101-FABRIC"

Test Specimen	Damaged Length (mm)	Afterflame Time (s)	Flaming Dripping (s)	Result
Machine Direction 1:	87	0.0	0.0	Pass
" 2:	91	0.0	0.0	Pass
" 3:	93	0.0	0.0	Pass
" 4:	92	0.0	0.0	Pass
" 5:	102	0.0	0.0	Pass
Cross Direction 6:	98	0.0	0.0	Pass
" 7:	95	0.0	0.0	Pass
" 8:	92	0.0	0.0	Pass
" 9:	102	0.0	0.0	Pass
" 10:	90	0.0	0.0	Pass
Average:	94	0.0	-	Pass
Maximum Specified Average:	165	-	-	-
Maximum Specified Individual:	190	-	2.0	-

8.0 CONCLUSIONS

When tested "as-received", the material identified in this report would meet the flame resistance requirements of the CAN/ULC-S109-14 Small-Flame test.



Robert A. Carleton,
Technician.



Ian Smith,
Technical Manager.

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