SOUTHWEST RESEARCH INSTITUTE

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CHEMISTRY AND CHEMICAL ENGINEERING DIVISION
DEPARTMENT OF FIRE TECHNOLOGY
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December 5, 1991

Flame Safe
2653 Warfield Avenue
Fort Worth, Texas 76106

Attn: Mr. Louis Jacobini

Re: SwRI Project No. 01-4510-117-b FINAL REPORT
"Ignition Resistance of Aircraft Interior Materials
(FAR 25.853b 12-Second Vertical)"

Gentlemen:

This letter constitutes our final report on your blue denim fabric with fire retardants, identified as 100-percent cotton fabric sprayed with Fabric Safe flame retardant at 400 sq.ft/gallon, submitted for evaluation by the referenced test method. The samples were prepared by the Client and received at SwRI ready for testing.

The results apply specifically to the specimens tested, in the manner tested, and not to the entire production of these or similar materials, nor to the performance when used in combination with other materials. All test data are on file and are available for review by authorized persons.

TEST METHOD AND PROCEDURE

The material was tested in accordance with FAR 25.853b 12-Second Vertical. The test establishes afterflame time and char length on each specimen as applicable.

The specimens were conditioned in accordance with the standard. Each specimen tested was exposed to the test flame within 15 minutes after removal from the standard atmosphere. Each specimen was inserted into the cabinet and the 1-1/2-in. (38.1-mm) Bunsen burner flame (approximately 1650°F) was applied vertically at the middle of the lower edge of the specimen for 12 seconds.

The afterflame time of the specimen was recorded to the nearest 0.1 seconds and the char length to the nearest 0.1 in. (2.5 mm). The test criteria for this test are as follows:

Char Length:	Maximum average, 8 in.
Afterflame :	Maximum average, 15 seconds
Drip Burn:	Maximum average, 5 seconds

FAR 25.853b Test Method

TEST SPECIMEN AND NUMBER OF DETERMINATIONS

The specimens were identified as 100-percent Cotton fabric with Fabric Safe flame retardant sprayed at 400 sq.ft/gallon. They were described as blue denim fabric with fire retardants. The samples were prepared by the Client and received at SwRI ready for testing. Each specimen was 2.5 x 13 in. (63.5 x 330.2 mm), nominal thickness 0.24 in. (6.1 mm). A minimum of three specimens were tested in each the machine direction (warp) and the across-machine directions (filling).

TEST RESULTS

The test was conducted November 26, 1991, with the following results:

Machine Direction:

	Run 1	Run 2	Run 3	Average
Char Length, in.	4.00	4.25	3.63	3.96
Afterflame, sec.	0	0	0	0
Drip Burn, sec.	None	None	None	None

Across-Machine Direction:

	Run 1	Run 2	Run 3	Average
Char Length, in.	3.75	3.63	3.38	3.59
Afterflame, sec.	0	0	0	0
Drip Burn, sec.	None	None	None	None

The material, when tested in accordance with FAR 25.853b 12-Second Vertical test, is considered to have passed.

If you should have any questions/comments or if we can be of further assistance, please contact us.

Sincerely,

Gladys M. Finley

Gladys M. Finley
Project Leader
Fire Testing Services

GMF/rr

Approved by:

Howard W. Stacy Jr.

Alex B. Wenzel
Director
Department of Fire Technology