

**Appendix A**

Surface Burning Characteristics Detailed Test Results and Procedure for "VE 1004 White 122".

*Applicable Standard: ASTM E84*

(4 Pages)

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## ASTM E 84 Surface Burning Characteristics of "VE 1004 White 122" Liner Panel Profile

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**SUMMARY OF TEST PROCEDURE (continued)**

Upon ignition of the gas burners, the flame spread distance is observed and recorded every second. Flame spread distance versus time is plotted. Calculations ignore all flame front recessions and Flame Spread Index (FSI) is determined by calculating the total area under the curve for the test sample. If the area under the curve (A) is less than or equal to 97.5 min·ft, then  $FSI = 0.515 \cdot A$ ; if greater,  $FSI = 4900/(195-A)$ . FSI is then rounded to the nearest multiple of 5.

Smoke Developed Index (SDI) is determined by dividing the total area under the obscuration curve by that of red oak, and multiplying by 100. SDI is then rounded to the nearest multiple of 5 if less than 200. SDI values over 200 are rounded to the nearest multiple of 50.

**TEST RESULTS****SAMPLE: "VE 1004 White 122"**

Approx. Time to Ignition (s)	Maximum Flame Front Distance	Time to Maximum Flame Front (s)	Flame Spread Index (FSI)	Smoke Developed Index (SDI)
22	(ft.): 3.6 (m): 1.10	84	15	350

**Observations of Burning Characteristics**

The specimen ignited approximately 22 seconds after exposure to the test flame. Sagging and partial collapse was observed. Material that fell to the floor of the apparatus also ignited (at approximately 74 seconds).

**Interpretation of Test Results**

Industry documents such as the International Building Code (IBC) or NFPA 101 Life Safety Code refer to ASTM E 84 (UL 723, NFPA 255) test results using the following material classification categories:

	Flame-Spread Index (FSI)	Smoke Development Index (SDI)
Class 1 or Class A	0 - 25	450 Maximum
Class 2 or Class B	26 - 75	450 Maximum
Class 3 or Class C	76 - 200	450 Maximum
Results Classification (if applicable):	Class 1 or Class A	



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ASTM E 84-18b Test Charts

Sample: "VE 1004 White 122"

Chart 1. FLAME SPREAD

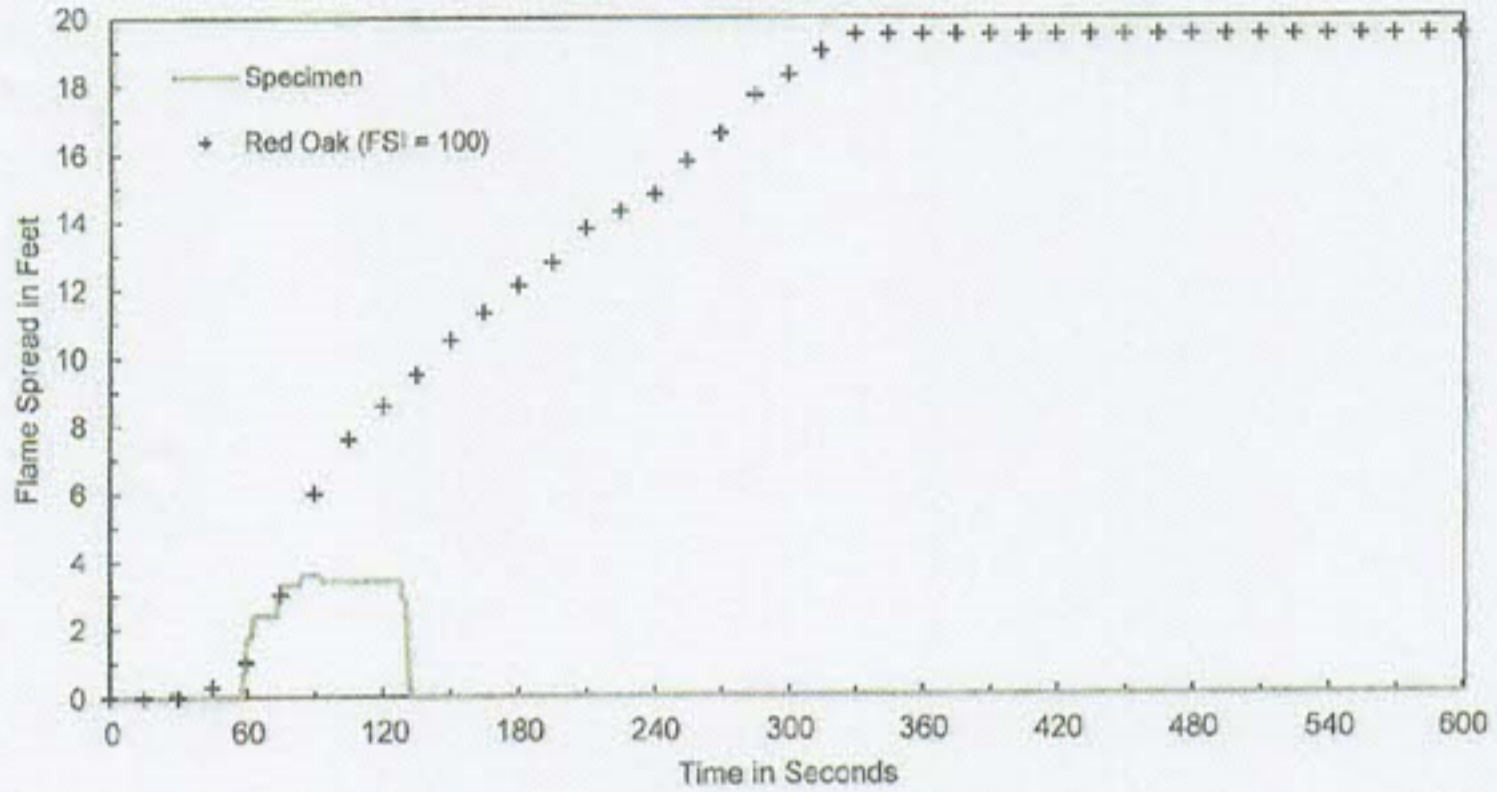
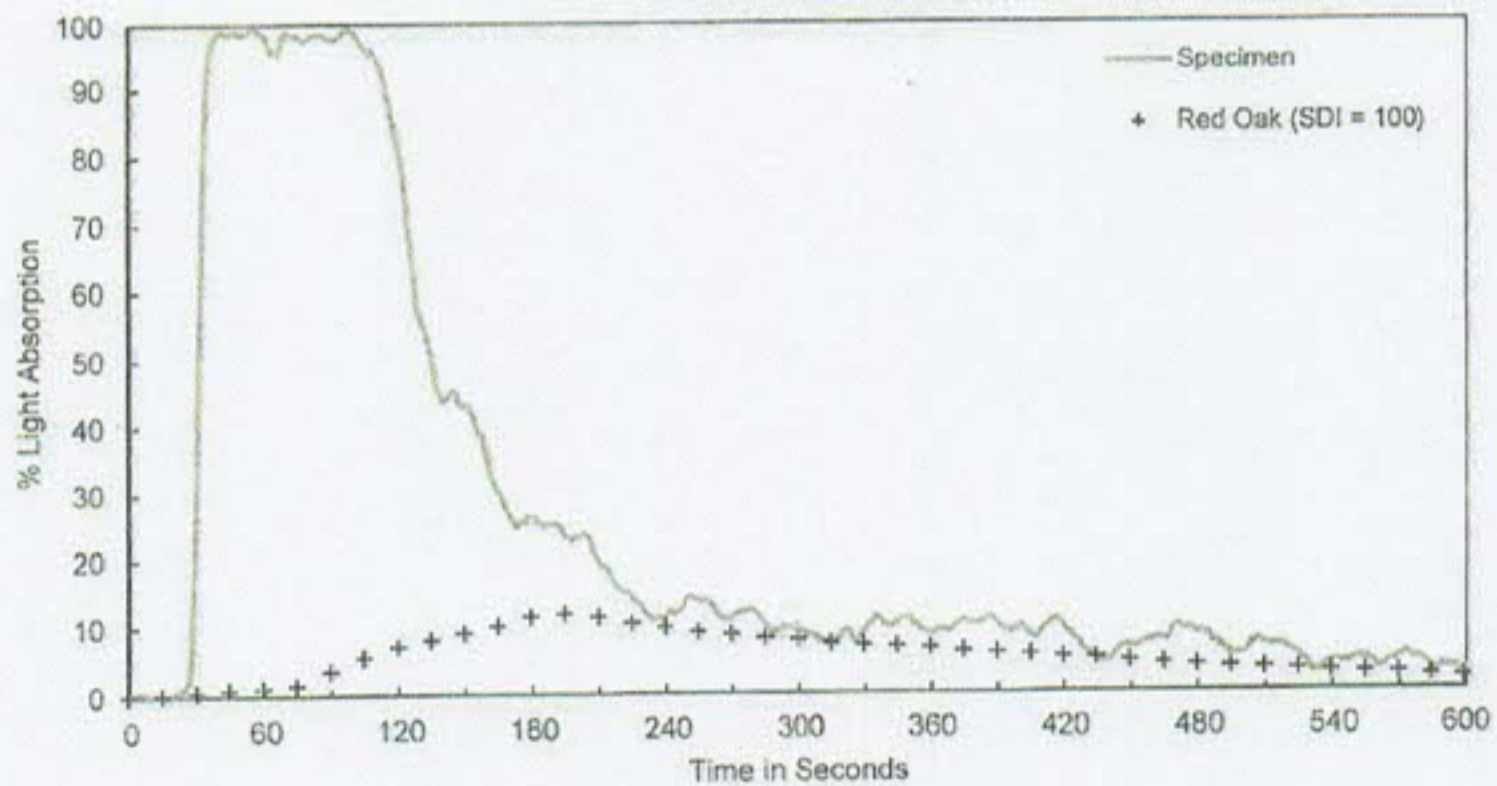


Chart 2. SMOKE DEVELOPED



Calculated Flame Spread (CFS)	Rounded Flame Spread Index (FSI)	Calculated Smoke Developed (CSD)	Rounded Smoke Developed Index (SDI)	Maximum 23' Air Temperature (°F)
16.6	15	372.3	350	356