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REPORT NUMBER: 115165-1
DATE: October 29, 1998
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REPORT OF TEST

CLIENT: Variform, Inc.
303 West Major
P.O. Box 559
Kearney, Missouri 64060

SUBJECT: Surface Burning Characteristics of Building Materials

AUTHORIZATION: Client's letter of authorization dated September 29, 1998 by Allan Reed.

SAMPLE ID: One (1) sample of vinyl material was submitted on October 2, 1998 and identified by the Client as:

Timber Oak

TEST PROCEDURE: The submitted sample was tested for Flammability in accordance with the procedures outlined in ASTM E-84-97a.

TEST DATES: October 29, 1998.

PREPARED BY:

Arthur D. Fiorino, Technician
Fire Technology

SIGNED FOR THE COMPANY BY:

Hiten Pandya, Manager
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Member of the SGS Group

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CLIENT: Variform, Inc.

INTRODUCTION:

This report presents test results of Flame Spread and Smoke Developed Values per ASTM E-84-97a. The report also includes Material Identification, Method of Preparation, Mounting and Conditioning of the specimens.

The tests were performed in accordance with the specifications set forth in ASTM E-84-97a, Standard Test Method for Surface Burning Characteristics of Building Materials", both as to equipment and test procedure. This test procedure is similar to UL-723, ANSI No. 2.5, NFPA No. 255 and UBC 42-1.

The test results cover two parameters: Flame Spread and Smoke Developed Values during a 10-minute fire exposure. Inorganic cement board and red oak flooring are used as comparative standards and their responses are assigned arbitrary values of 0 and 100, respectively.

PREPARATION AND CONDITIONING:

The submitted sample was arranged upon a 2-inch galvanized hexagonal wire mesh supported by steel rods spanning the width of the tunnel. The sample was tested at a thickness of 0.040".

The sample was conditioned at 73° ± 5° Fahrenheit and 50 ± 5% relative humidity.

TEST PROCEDURE:

The tunnel was thoroughly pre-heated by burning natural gas. When the brick temperature, sensed by a floor thermocouple, had reached the prescribed 105° Fahrenheit ± 5° Fahrenheit level, the sample was inserted in the tunnel and test conducted in accordance with the standard ASTM E-84-97a procedures.

The operation of the tunnel was checked by performing a 10-minute test with inorganic board on the day of the test.

CLIENT: Variform, Inc.

TEST RESULTS:

The test results, calculated in accordance with ASTM E-84-97a for Flame Spread and Smoke Developed Values are as follows:

Test Specimen	:	Timber Oak
Flame Spread Index*	:	20
Smoke Developed Value*	:	320

*Graphs of the Flame Spread, Smoke Developed and Time-Temperature are shown on the attached charts at the end of this report.

OBSERVATIONS:

Ignition was noted at 29 seconds along with charring, melting, warping and heavy flashing of the specimen directly exposed to the flame. The flamefront advanced a maximum distance of 5 feet at 4 minutes, 30 seconds. Afterburn and afterglow were evident upon test completion.

RATING:

The National Fire Protection Association Life Safety Code 101, Section 6-5.3, "Interior Wall and Ceiling Finish Classification", has a means of classifying materials with respect to Flame Spread and Smoke Developed when tested in accordance with NFPA 255, "Method of Test of Surface Burning Characteristics of Building Materials", (ASTM E-84).

The classifications are as follows:

Class A Interior Wall & Ceiling Finish:	Flame Spread -	0-25;
	Smoke Developed -	0-450
Class B Interior Wall & Ceiling Finish:	Flame Spread -	26-75;
	Smoke Developed -	0-450
Class C Interior Wall & Ceiling Finish:	Flame Spread -	76-200;
	Smoke Developed -	0-450

Since the sample received a Flame Spread of 20 and a Smoke Developed Value of 320, it would fall into the Class A Interior Wall & Ceiling Finish Category.

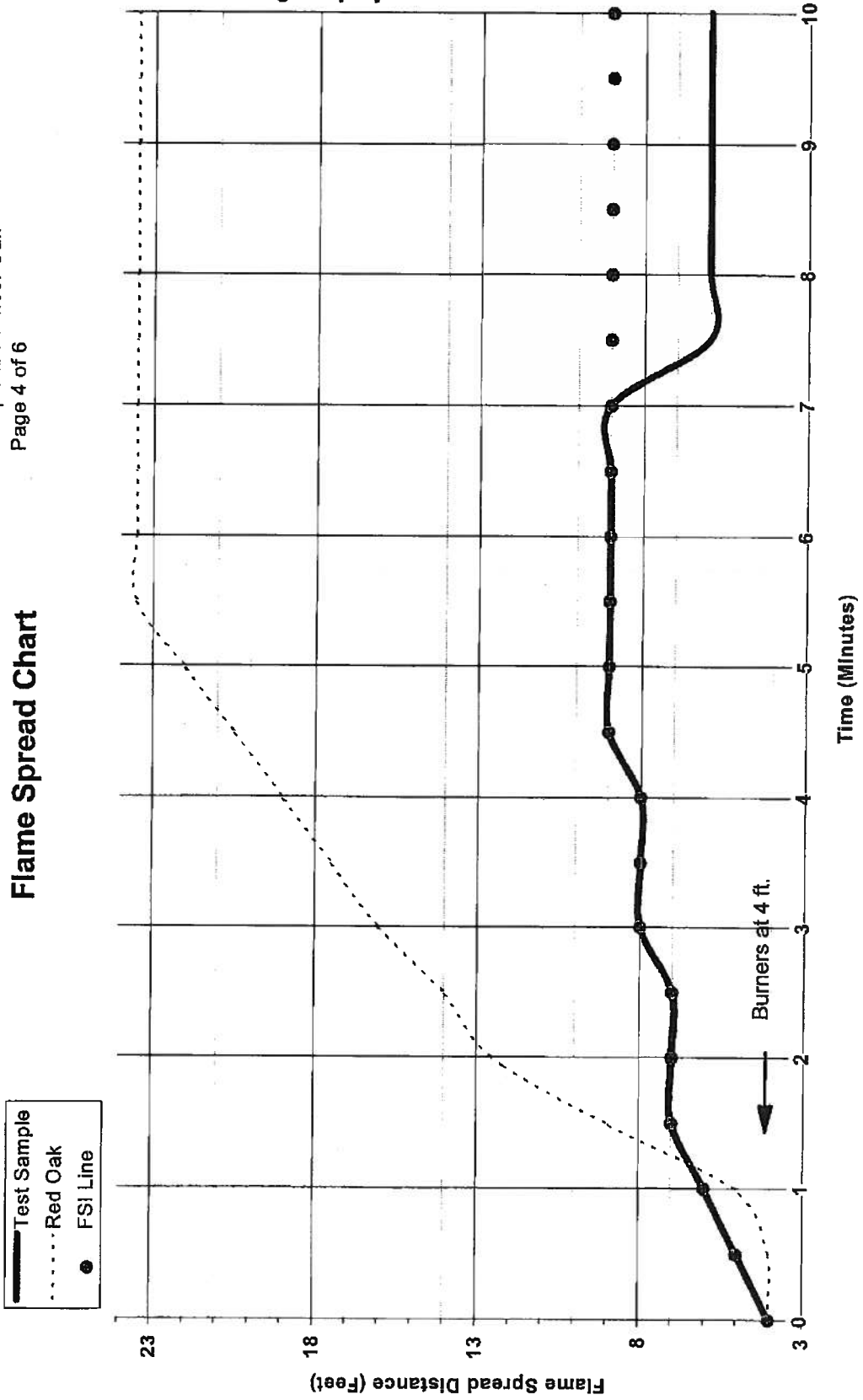
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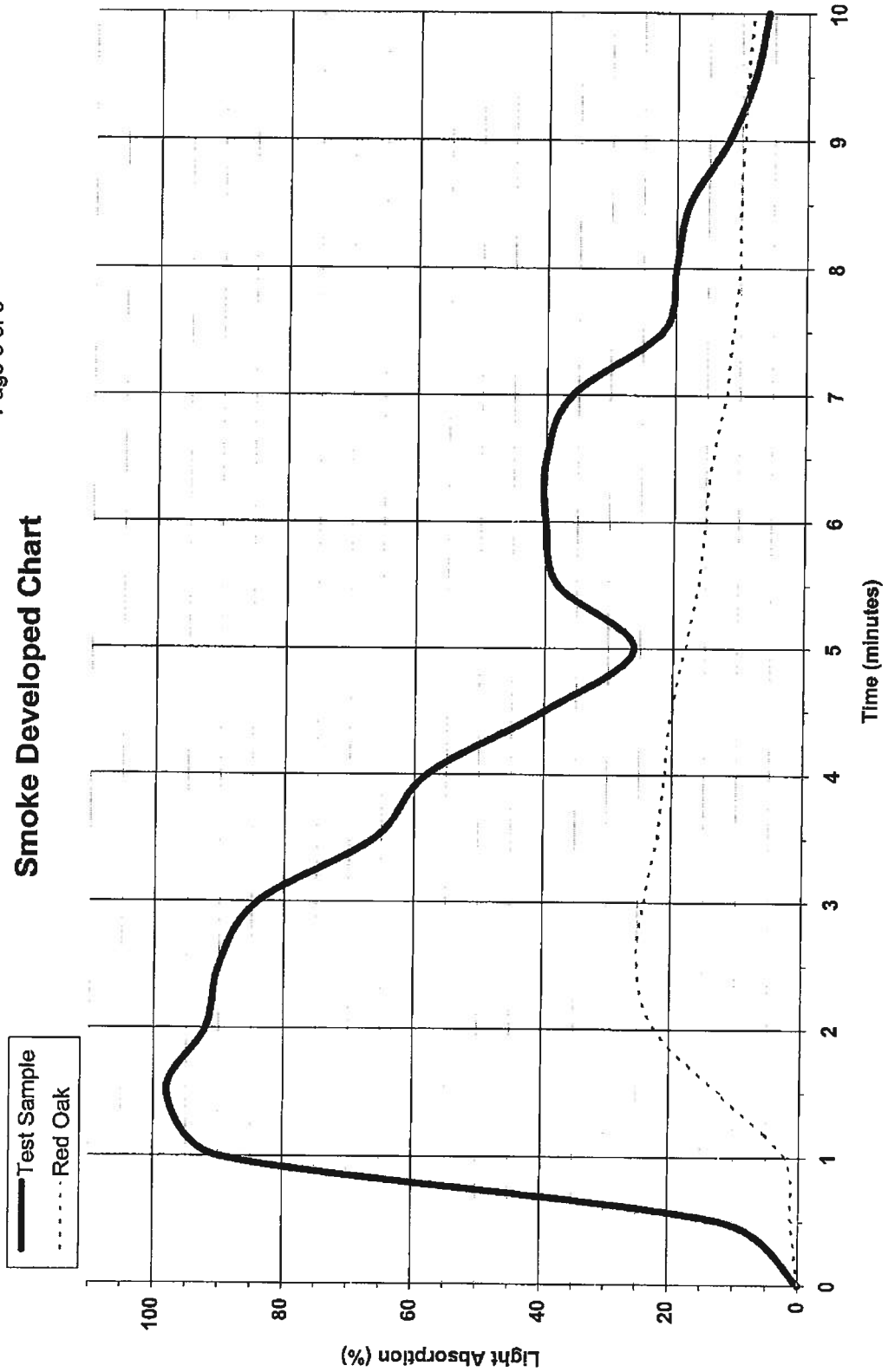
Flame Spread Chart



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Smoke Developed Chart



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Temperature - Time Curve

