United States Testing Company, Inc. E84-91A
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Engineering Services

REPORT OF TEST

CLIENT: Smoke & Fire Prevention Systems
P.O. Box 1737
Rt. 2, Box 552F
Clarksville, Virginia 23927

NUMBER: 113105

November 29, 1994

SUBJECT: Surface Burning Characteristics of Building Materials

REFERENCE:

Smoke & Fire Prevention Systems, Purchase Order Number 137 dated November 7, 1994.

Sample Recd.: 11-14-94 Test Date: 11-23-94

TEST PERFORMED:

The submitted sample was tested for Flammability in accordance with the procedures outlined in ASTM E84-91a.

SAMPLE IDENTIFICATION:

One (1) sample was submitted and identified by the Client as:

"Smoke Curtain Board System"

The system is assembled using the following components:

* Smoke curtain board fabric, designated "S/7721 972B", with a 1-1/2" sewn bottom hem and a 1-1/2" sewn top hem with a 2" sewn fabric gasket.
* The thread used to sew hems and gasket is a coated fiberglass material.
* Horizontal lengths of 1/2" EMT conduit (galvanized).
* Vertical lengths of 1/2" EMT conduit (galvanized/painted).
* Steel set screw 3-way tees (galvanized/painted).
* Drive-on spring steel fasteners connected to top conduit (painted).

Testing Supervised by:

Steve Caldarola
Senior Supervisor
Fire Technology

SIGNED FOR THE COMPANY
BY
John Lomash
Vice President

CLIENT: Smoke & Fire Prevention Systems NUMBER: 113105

INTRODUCTION:

This report presents test results of Flame Spread and Smoke Developed Values per ASTM E84-91a. 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 E84-91a, "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:

Three (3) 2' x 8' sections of material were fitted end to end to form a 24" x 24'0" specimen. The specimen was laid on a 2-inch galvanized hexagonal wire mesh supported by steel rods spanning the width of the tunnel.

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 E84-91a procedures.

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

CLIENT: Smoke & Fire Prevention Systems NUMBER: 113105

TEST RESULTS:

The test results, calculated in accordance with ASTM E84-91a for Flame Spread and Smoke Developed Values are as follows:

Test Specimen:	Smoke Curtain Board System
Flame Spread Index*:	0
Smoke Developed Value*:	0

*Graphs of the Flame Spread, Smoke Developed and Time-Temperature are shown in Figures 1, 2 and 3 at the end of this report.

OBSERVATIONS:

No ignition was noted in the 10 minute exposure to the flame. Neither afterflame nor 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 E84).

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 0 and a Smoke Developed Value of 0 it would fall into the Class A Interior Wal & Ceiling Finish category.

UNITED STATES TESTING COMPANY, INC.

FLAME SPREAD

Sample Curtain Board System

Red Oak 0 0

Test No. 113105

Test Date November 23, 1994

I.C. Board

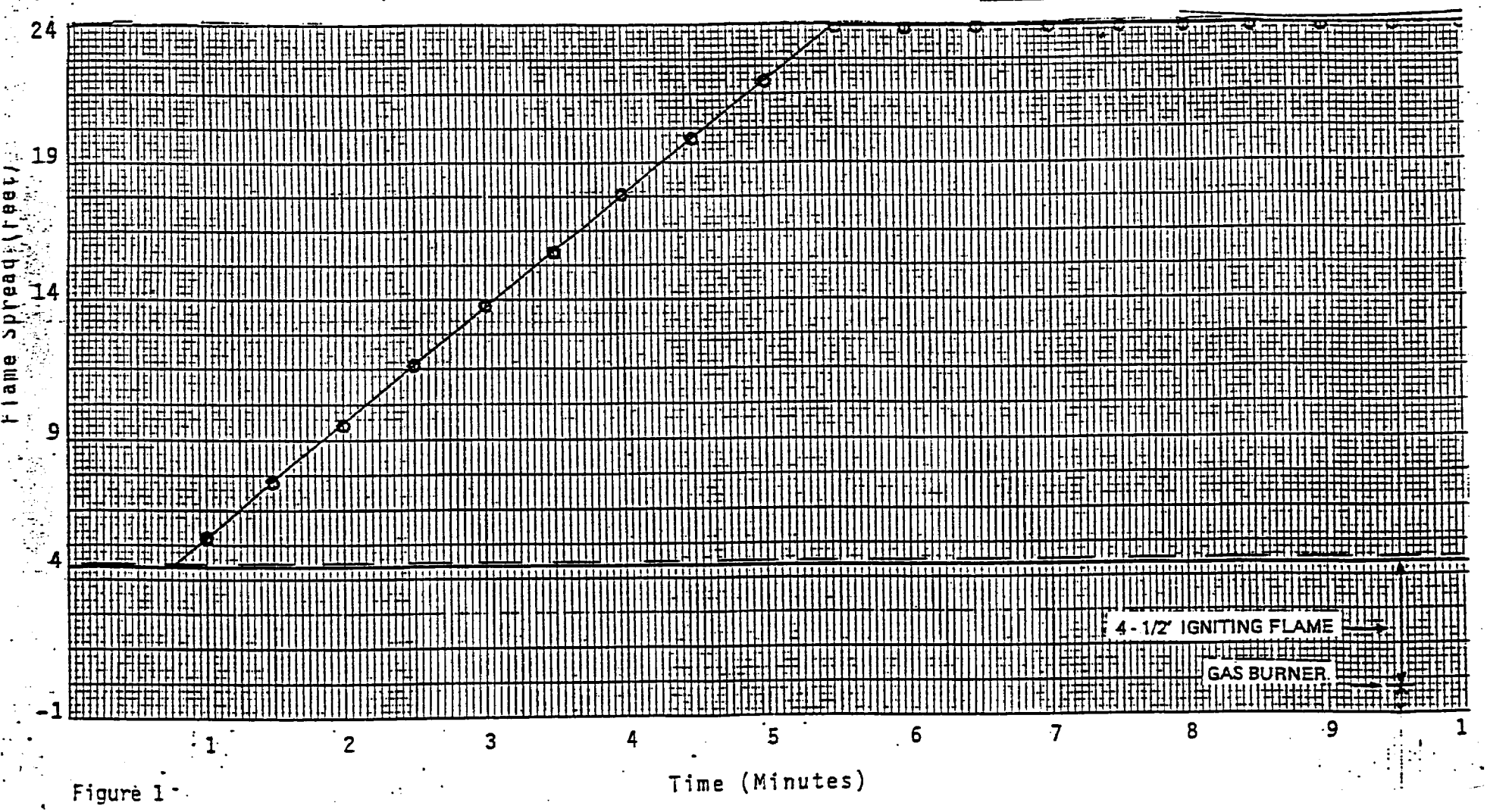

Figure 1

UNITED STATES TESTING COMPANY, INC.

SMOKE DEVELOPED

SAMPLE Curtain Board System

TEST NO. 113105

RED OAK + +

TEST DATE November 23, 1994

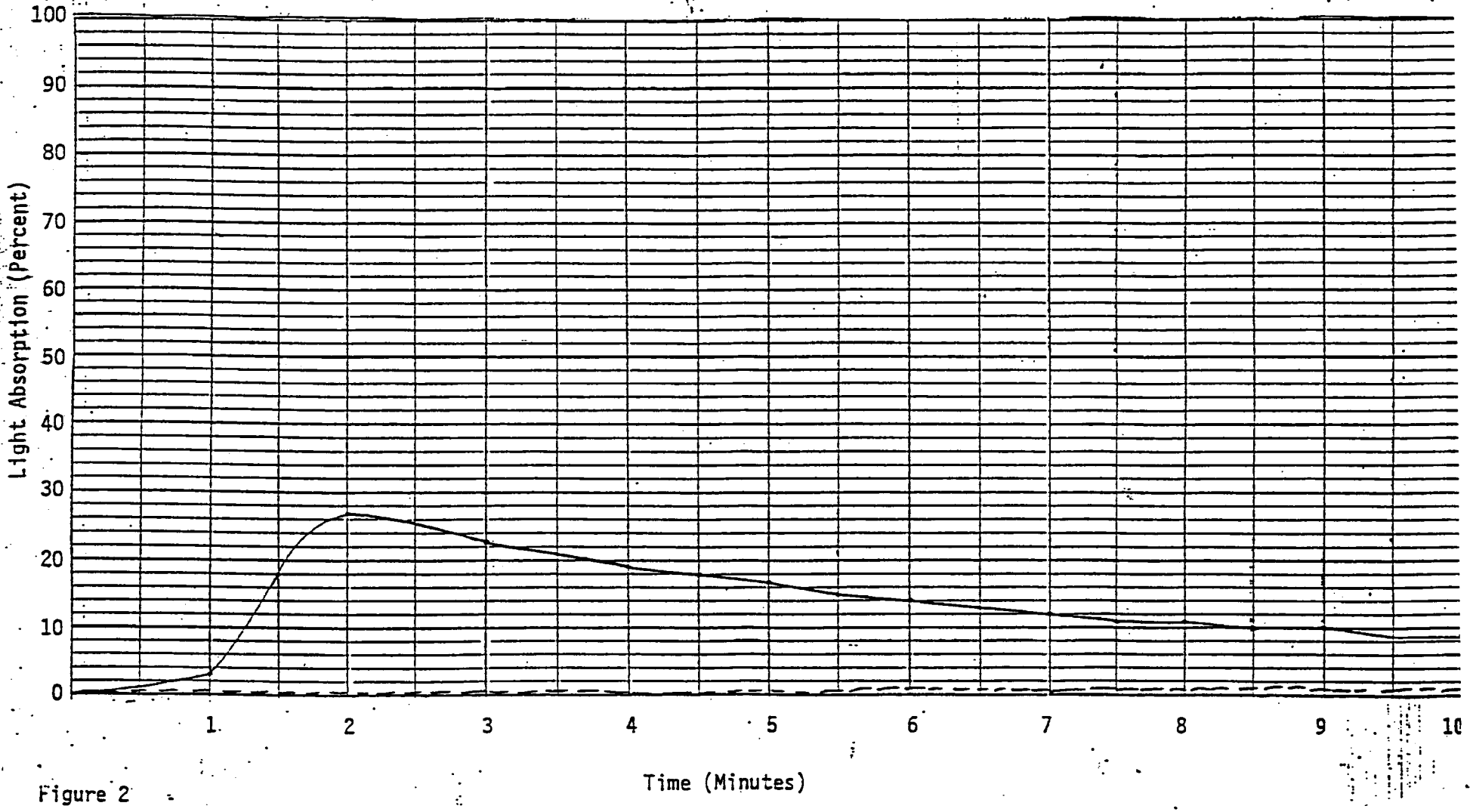

Figure 2

UNITED STATES TESTING COMPANY, INC.

TIME TEMPERATURE CURVE OF EXPOSED THERMOCOUPLE

SAMPLE Curtain Board System

RED OAK + +

TEST NO. 113105

TEST DATE November 23, 1994

I.C. BOARD

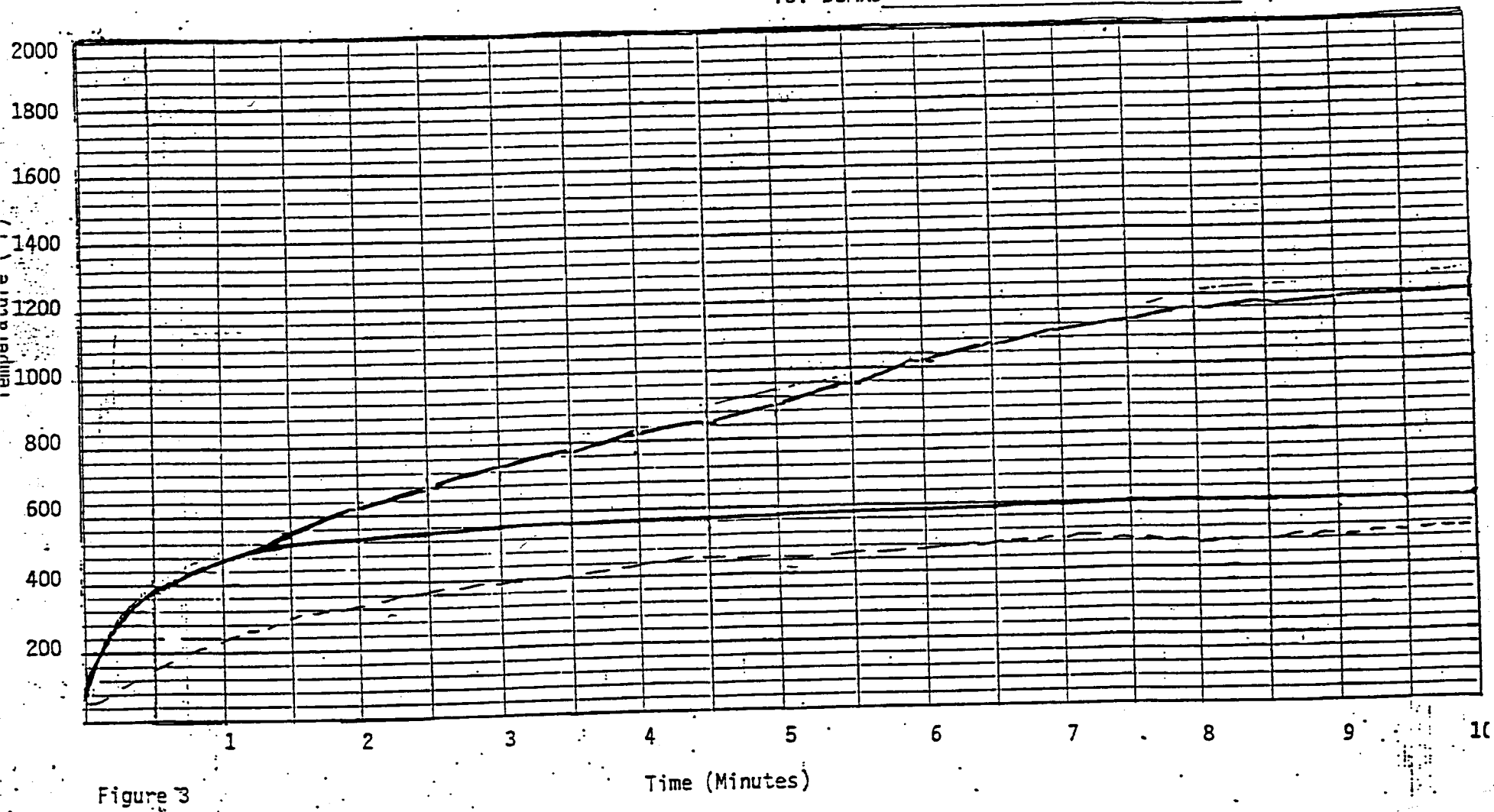

Figure 3