



SGS U.S. Testing Company Inc.

291 Fairfield Avenue  
Fairfield, NJ 07004  
Tel: 201-575-5252  
Fax: 201-575-8271

REPORT NUMBER: 117144  
DATE: February 8, 1996  
PAGE 1 OF 6

**CLIENT:** Kemlite Company Inc.  
P.O. Box 2429  
Joliet, Illinois 60434

**SUBJECT:** Surface Burning Characteristics of Building Materials

**AUTHORIZATION:** Kemlite Company, Inc., Purchase Order Number 11797 dated January 12, 1996.

**SAMPLE ID:** One (1) sample of a suspended ceiling grid system was submitted and identified by the Client as: Kemlite Sanigrid<sup>®</sup> Tee Sample.

**TEST PROCEDURE:** The submitted sample was tested for Flammability in accordance with the procedures outlined in ASTM E-84-94.

**TEST DATES:** February 8, 1996, Sample Received January 19, 1996.

**RESULTS:** Continued on Page 2

**PREPARED BY:**

Steve Caldarola, Manager  
Fire Technology

**SIGNED FOR THE COMPANY BY:**

Frank Pepe, Director  
Performance Testing & Standards Evaluation

lv

Member of the SGS Group

**ANALYTICAL SERVICES • PERFORMANCE TESTING • STANDARDS EVALUATION • CERTIFICATION SERVICES**

SGS U.S. TESTING COMPANY INC. REPORTS ARE FOR THE EXCLUSIVE USE OF THE CLIENT TO WHOM THEY ARE ADDRESSED. ANYONE RELYING ON SUCH REPORTS SHOULD UNDERSTAND ALL OF THE DETAILS OF THE ENGAGEMENT. REPORTS REFLECT RESULTS ONLY OF THE STANDARDS OR PROCEDURES IDENTIFIED TO THE TESTS CONDUCTED AND ARE LIMITED TO THE SAMPLES TESTED. TEST RESULTS MAY NOT BE INDICATIVE OF THE QUALITIES OF THE LOT FROM WHICH THE SAMPLE WAS TAKEN. SGS U.S. TESTING COMPANY INC. HAS NOT CONDUCTED ANY QUALITY CONTROL PROGRAM FOR THE CLIENT. NEITHER THE NAME, SEALS, MARKS NOR INSIGNIA OF SGS U.S. TESTING COMPANY INC. MAY BE USED IN ANY ADVERTISING OR PROMOTIONAL MATERIALS WITHOUT THE PRIOR WRITTEN APPROVAL OF SGS U.S. TESTING COMPANY INC. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN PERMISSION OF THE SGS U.S. TESTING COMPANY INC. SAMPLES NOT DESTROYED IN TESTING ARE DISPOSED OF AFTER 30 DAYS.

CLIENT: Kemlite Company Inc.

#### INTRODUCTION:

This report presents test results of Flame Spread and Smoke Developed Values per ASTM E-84-94. 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-84-94, "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:

Main runner tees were placed 14 inches apart and butted to produce two (2) 24 foot long rails, with a cross tee every four (4) feet. The material was placed over a 2-inch galvanized hexagonal wire mesh supported by steel rods spanning the width of the tunnel. The tee dimensions were approximately 1" wide x 1-1/4" deep x 1/8" thick.

The sample was conditioned at  $73^{\circ} \pm 5^{\circ}$  Fahrenheit and  $50 \pm 5\%$  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  $105^{\circ}$  Fahrenheit  $\pm 5^{\circ}$  Fahrenheit level, the sample was inserted in the tunnel and test conducted in accordance with the standard ASTM E-84-94 procedures.

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

CLIENT: Kemlite Company Inc.

**TEST RESULTS:**

The test results, calculated in accordance with ASTM E-84-94 for Flame Spread and Smoke Developed Values are as follows:

Test Specimen	:	Kemlite Sanigrid <sup>®</sup> Tee Sample
Flame Spread Index*	:	10
Smoke Developed Value*	:	65

\*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:**

Ignition was noted at 1 minute along with charring of the specimen directly exposed to the flame. The flamefront advanced a maximum distance of 3 feet at 5 minutes, 30 seconds. Afterburn was 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 10 and a Smoke Developed Value of 65, it would fall into the Class A Interior Wall & Ceiling Finish Category.

\*\*\*\*\*  
End of Report

# REPORT OF TEST

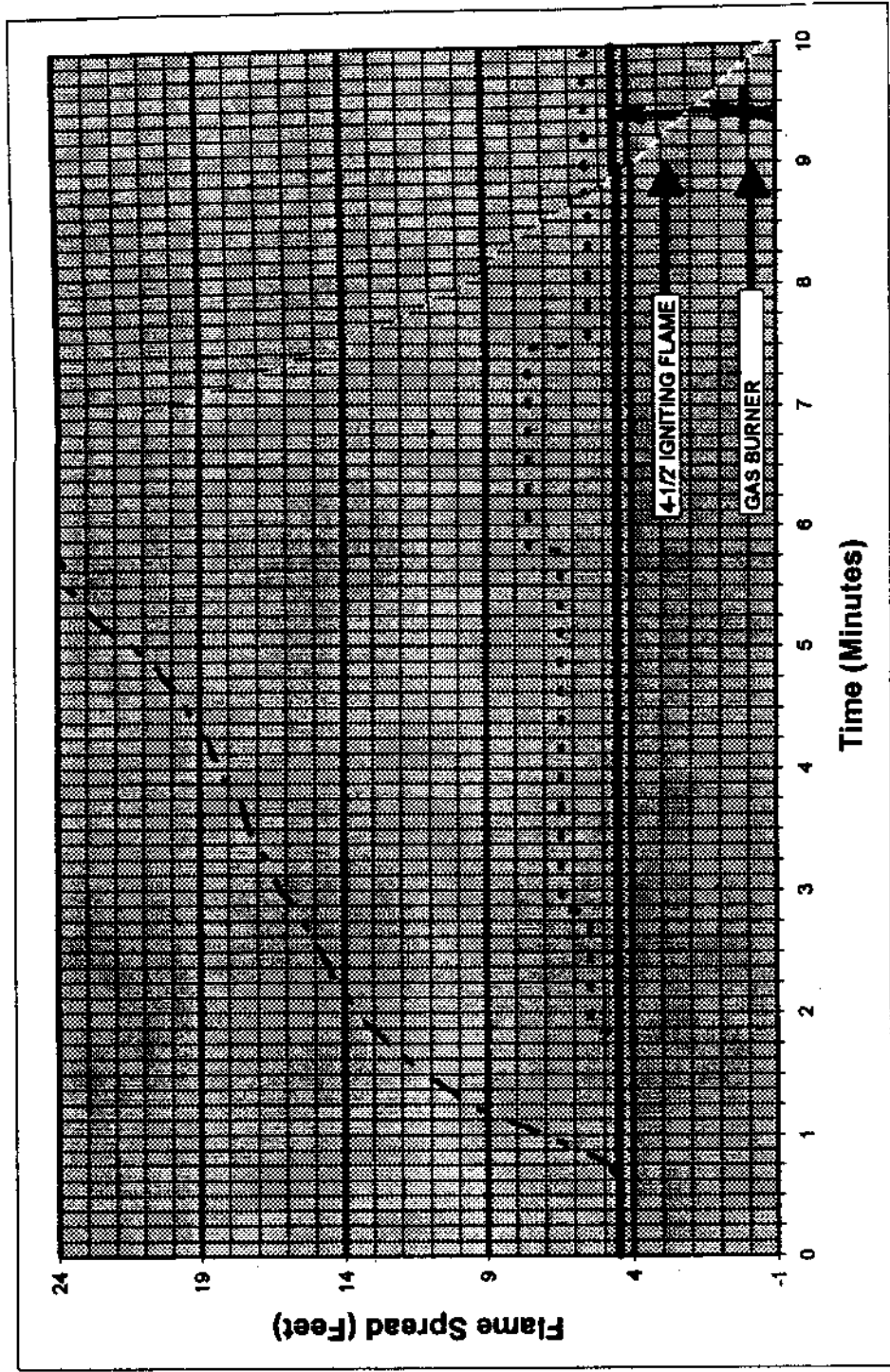
United States Testing Company, Inc.



TEST NO. 117144  
TEST DATE February 08, 1996  
C. Board

## FLAME SPREAD

SAMPLE Sanigrd Tee Samples  
RED OAK



# REPORT OF TEST

United States Testing Company, Inc.

SMOKE DEVELOPED

SAMPLE Sanigrid Tee Samples

RED OAK

TEST NO. 117144  
TEST DATE February 08, 1996  
I.C. Board

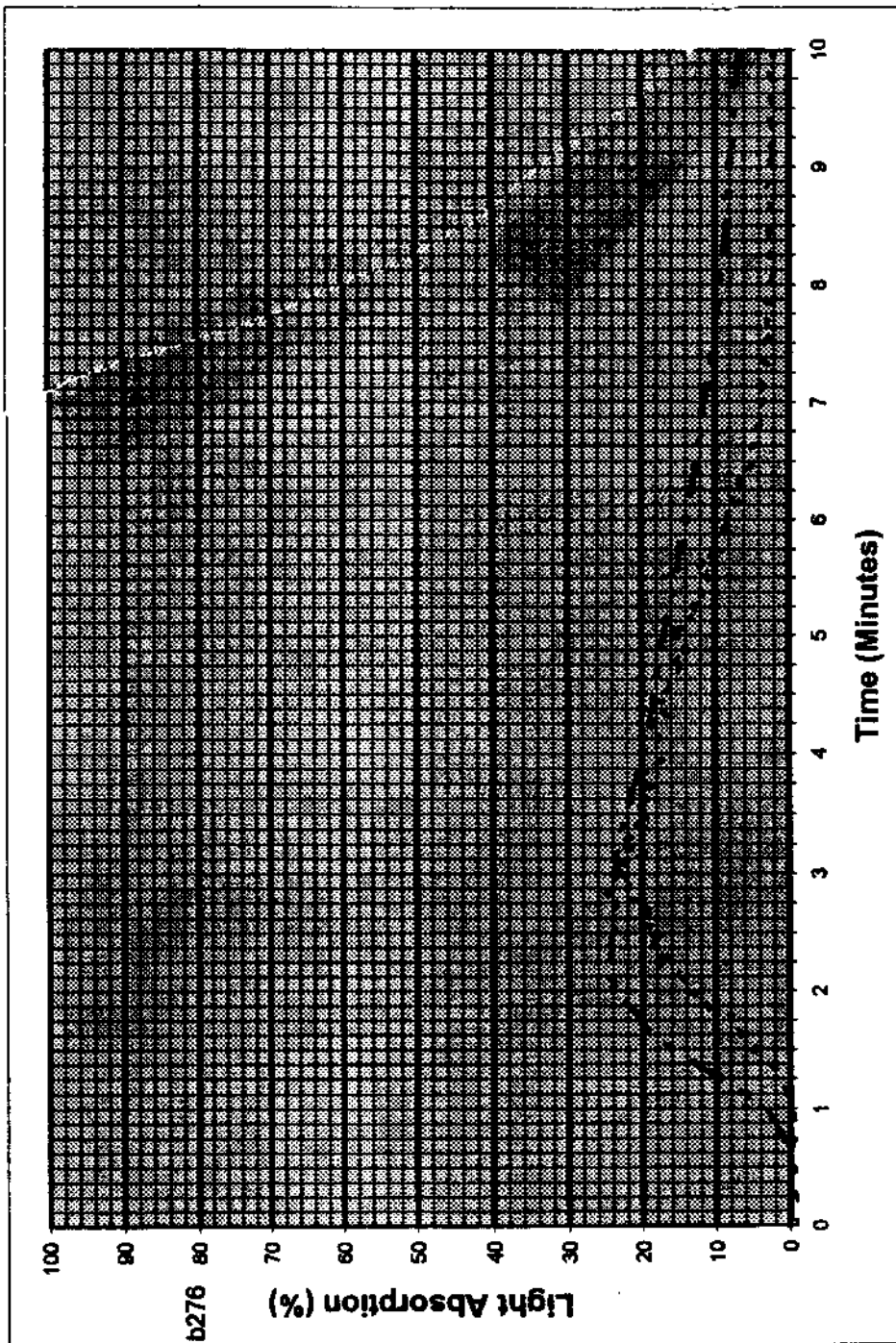


Figure 2

# REPORT OF TEST

United States Testing Company, Inc.



SGS U.S. Testing Company Inc.

## TIME-TEMPERATURE CURVE OF EXPOSED THERMOCOUPLE

SAMPLE Sanigrid Tee Samples  
RED OAK  
TEST NO. 117144  
TEST DATE February 08, 1996  
I.C. Board

