333 Pfingsten Road
Northbrook, Illinois 60062-2096
United States Country Code (1)
(847) 272-8800
FAX No. (847) 272-8129
http://www.ul.com

Underwriters Laboratories Inc.®

October 5, 1999

.06 CT

Kemlite Co Inc
Mr Mike Buhr
23525 W. Eames St.
Channahon, IL 60410

Our Reference: R4079 / 99NK33574

Subject: Report On A Surface Burning Characteristics Test on Reinforced Plastic

Dear Mr Buhr:

This is a Report summarizing the results of a test conducted under a preliminary investigation identified as Assignment No. 99NK33574.

GENERAL:

Preliminary investigations are initiated to obtain information with respect to a product or products prior to submittal to Underwriters Laboratories Inc. for Investigation, Classification and Follow-Up Service. This Report does not constitute evidence of such a submittal to Underwriters Laboratories Inc.

METHOD:

The test was conducted in accordance with UL Standard 723 "Test for Surface Burning Characteristics of Building Materials" (ASTM E84).

The test determines the Surface Burning Characteristics of the test material, specifically the flame spread and smoke developed indices when exposed to fire.

The maximum distance the flame spreads along the length of the sample from the end of the igniting flame is determined by observation. The Flame Spread Index (FSI) of the material is determined by rounding the Calculated Flame Spread (CFS) as described in UL 723. The CFS is derived by plotting the progression of the flame front on a time-distance scale, ignoring any flame front recession, and using one of the calculation methods as described below:

A. $CFS = 0.515\ A_t$ when A_t is less than or equal to 97.5 minute-foot.

B. $CFS = 4900/(195-A_t)$ when A_t is greater than 97.5 minute-foot.

Where A_t = total area under the time distance curve expressed in minute-foot.

The Smoke Developed Index (SDI) is determined by rounding the Calculated Smoke Developed (CSD) as described in UL 723. The CSD is determined by the output of a photoelectric circuit operating across the furnace flue pipe. A curve is developed by plotting values of light absorption (decrease in cell output) against time. The CSD is derived by expressing the net area under the curve for this material as the percentage of the area under the curve for untreated red oak.

The CSD is expressed as:

$$CSD = (A_m / A_{ro}) \times 100$$

Where:

CSD = Calculated Smoke Developed.
A_m = The area under the curve for the test material.
A_{ro} = The area under the curve for untreated red oak.

SAMPLES:

The samples utilized in this investigation were neither prepared nor selected by a Laboratories' representative such that no verification of composition can be provided.

RESULTS:

The results as tabulated below are considered applicable only to the specific samples tested. Graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

Test No.	Description	CFS Calculated Flame Spread	FSI Flame Spread Index	CSD Calculated Smoke Developed	SDI Smoke Developed Index
1	Fire-X Glasbord FX - .06	17.3	15	243.4	250

The Classification Marking of Underwriters Laboratories Inc. on the product is the only method provided by Underwriters Laboratories Inc. to identify products which have been produced under its Classification and Follow-Up Service. No use of a Classification Marking has been authorized as a result of this investigation.

Since the anticipated work has been completed, we have instructed our Accounting Department to terminate the investigation and invoice you for the charges incurred to date.

Should you have any questions, please contact the undersigned.

Very truly yours,

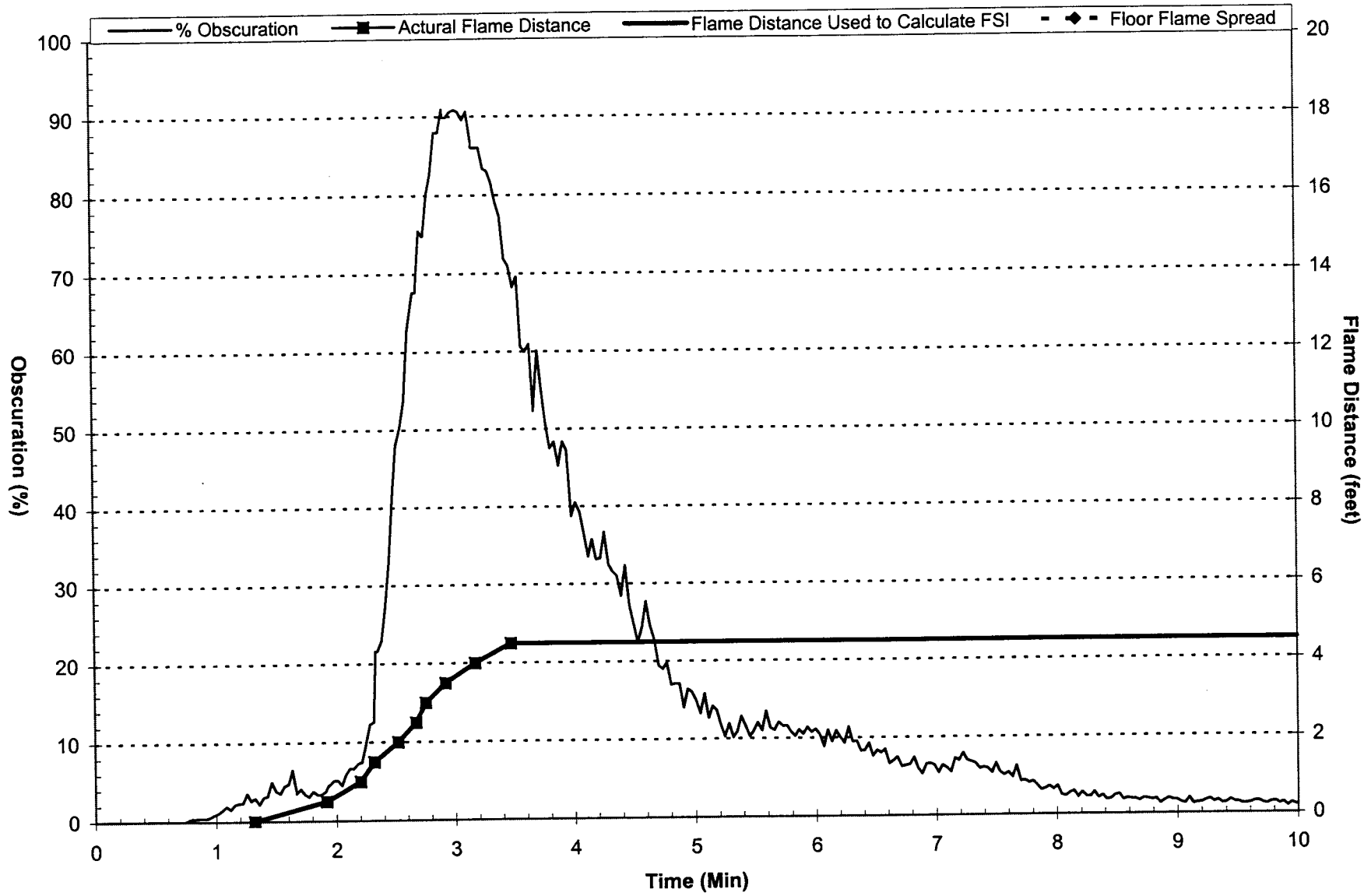
JUDITH G. MARZULLO (Ext. 42787)
Senior Engineering Associate
Engineering Services, Dept. 3011E

Reviewed by,

JAMES W. HATCHER
Staff Engineer
Engineering Services, Dept. 3011E

Flame Spread / Smoke Results

Kemlite
Fire-X Glasbord FX - .06



09179914
R4079 / 99NK33574
Test No. 1
Test Location: North

Flame Spread Index = 15
Smoke Developed Index = 250
Max Flame Spread = 4.5 ft.