**Underwriters
Laboratories Inc.** ®

Northbrook Division
333 Pfingsten Road
Northbrook, IL 60062-2096 USA
www.ul.com
tel: 1 847 272 8800
fax: 1 847 272 8129
Customer service: 1 877 854 3577

February 21, 2005

Mr. Piet Spoelstra
Lantor BV
Verlaat 22
Veenendaal, 3901 RG
Netherlands

Our Reference: SV2673/05CA03164

Subject: Report On Surface Burning Characteristics Tests On CondenStop

Dear Mr. Kruse:

This is a Report summarizing the results of tests conducted under the Commercial Inspection and Testing Services (CITS) program identified as Assignment No. 05CA03164.

METHOD:

The tests were conducted in accordance with Standard ANSI/UL 723, Ninth Edition, dated August 29, 2003, "Test for Surface Burning Characteristics of Building Materials," (ASTM E84-04).

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.

GENERAL:

Test results relate only to items tested.

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.

The samples consisted of fabric backed metal panels designated CondenStop.

RESULTS:

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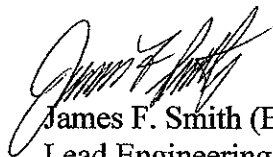
Data sheets and graphical plots of flame travel versus time and smoke developed versus time are also enclosed.

Test No.	Sample	CFS Calculated Flame Spread	FSI Flame Spread Index	CSD Calculated Smoke Developed	SDI Smoke Developed Index
1	CondenStop	0.0	0	33.7	35

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,

James F. Smith (Ext. 42666)
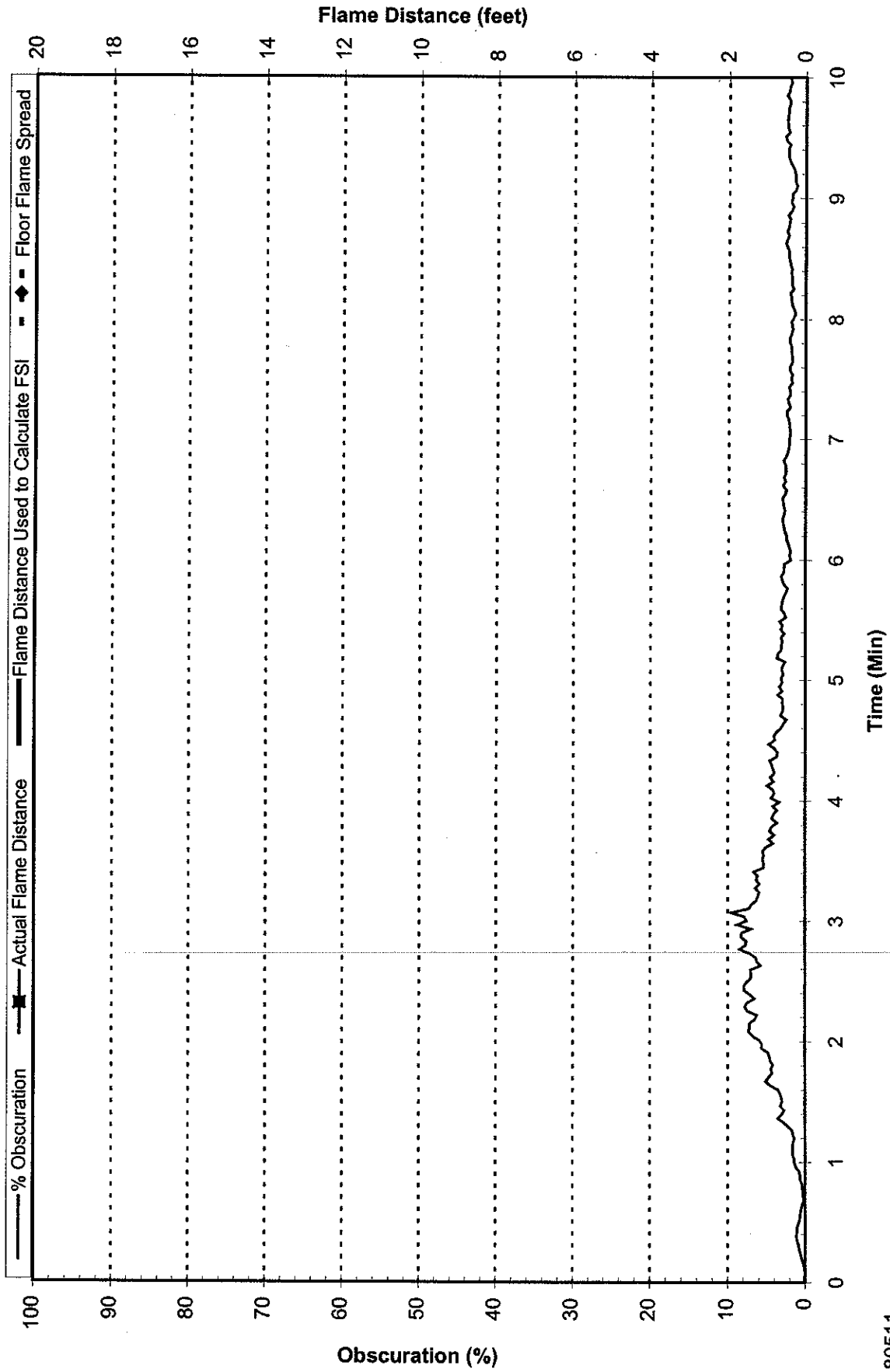Lead Engineering Associate
Fire Protection Division

Reviewed By:

Randy K. Laymon (Ext. 42687)
Sr. Staff Engineer
Fire Protection Division

Flame Spread / Smoke Results

Lantor BV
Conden Stop

Legend: —— % Obscuration   ■ Actual Flame Distance   —— Flame Distance Used to Calculate FSI   ■ ◆ ■ Floor Flame Spread

Obscuration (%) axis: 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100

Flame Distance (feet) axis: 0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Time (Min) axis: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

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Test No. 1
Test Location:

Flame Spread Index = 0
Smoke Developed Index = 35
Max Flame Spread = ft.