FIRE LABORATORIES DIVISION

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REPORT OF
FLAME SPREAD CLASSIFICATION
OF
1 INCH THICK MONOGLASS
AND
3 INCH THICK MONOGLASS

CLIENT

DOUGLAS EYRL & ASSOCIATES LTD.
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REPORT PREPARED BY

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INTRODUCTION

On February 6, 1981, the Fire Laboratories Division of Warnock Hersey Professional Services Limited conducted a test program to determine the surface burning characteristics of "Monoglass".

Samples of sprayed-on Monoglass were developed by the client and delivered to the laboratory for conditioning and testing. The samples were sprayed on 1/4 inch high density asbestos cement board.

Two runs were conducted on the sample 1 inch thick and a third run was conducted with a 3 inch thick sample.

The samples were placed in the conditioning room where they remained in an atmosphere of 73.4 ± 5°F and 50 ± 5% relative humidity until they reached a constant weight.

Testing was conducted in accordance with the American Society of Testing and Materials (ASTM) Standard E84-79, and ULC S102-1979*Standard Test Method For Surface Burning Characteristics Of Building Materials.

* The tunnel encorporates air deflection bricks to accommodate a different window design.

The results of the tests are expressed by three indices. Each index expresses the characteristic of the sample under test relative to that of select grade red oak flooring and asbestos cement board.

The values for red oak are 100 and 0 for asbestos cement board.

1. FLAME SPREAD CLASSIFICATION:

The index relates to the time it takes for the sample to burn to the end of the 25 foot tunnel.

The front of the sample is ignited at the start of the test by a natural gas flame and drawn along the sample by a draft kept constant for the duration of the test.

An observer notes the progression of the flame front relative to time.

2. SMOKE DEVELOPED:

A photocell is used to measure the amount of light which is blocked off by the smoke passing down the tunnel duct.

When the smoke from a burning sample blocks the light beam the output from the photocell decreases.

This decrease with time is recorded and compared to the results obtained for red oak.

3. FUEL CONTRIBUTED:

This is a measure of how much heat energy is given off by the burning of the sample above and beyond that which is supplied by the natural gas burners.

The air temperature at the vent end of the tunnel is monitored throughout the test and the results are plotted versus time and compared to the results obtained for red oak.

TEST RESULTS

1" THICK MONOGLASS:

Two trial runs were conducted on this sample and the test duration was 10 minutes each.

Both tests yielded virtually the same results.

The sample did not ignite. At 4 minutes into the test the sample began melting 1 - 2 feet ahead of the burners.

There were no changes for the duration of the test.

The flame spread, smoke developed and fuel contributed indices are 0.

3" THICK MONOGLASS:

This test was similar to the previous testing. The sample did not ignite.

After 5 minutes the sample began melting 1 - 2 feet from the burners.

The classification is 0.

CONCLUSIONS

Monoglass, 1" and 3" thick expresses the following flame spread characteristics.

	FLAME SPREAD CLASSIFICATION	FUEL CONTRIBUTED	SMOKE DEVELOPED
1" Monoglass	0	0	0
3" Monoglass	0	0	0
Red Oak	100	100	100
Asbestos-Cement Board	0	0	0

WARNOCK HERSEY PROFESSIONAL SERVICES LIMITED

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