

**CLIENT: POLYGAL USA, INC.**  
P.O. Box 410592  
Charlotte, NC 28241-0592  
Ron Melvin

**Test Report No: 172155-6**

**Date: February 10, 2004**

**SAMPLE ID:** The Client submitted and identified the following test material as 25mm Thermogal Ice Polygal Structured Polycarbonate sheet.

**DATE OF RECEIPT:** Entered into SGS USTC sample tracking system on June 23, 2003 as STN 36620.

**TESTING PERIOD:** September 11, 2003.

**AUTHORIZATION:** Testing authorized by Ron Melvin.

**TEST REQUESTED:** Perform standard flame spread and smoke density developed classification tests on the sample supplied by the Client in accordance with ASTM Designation E84-01, "Standard Method of Test for Surface Burning Characteristics of Building Materials". The foregoing test procedure is comparable to UL 723, ANSI/NFPA No. 255, and UBC No. 8-1.

**TEST RESULTS:**                      Flame Spread                      Smoke Density

85

435\*

For detailed results see page 3.

\*See note on page 3.

**Tested by**

**Signed for and on behalf of  
SGS U.S. Testing Company Inc.**

Brian Ortega  
Test Technician

Greg Banasky  
Supervisor Fire Technology

Page 1 of 4

This report is issued by SGS U.S. Testing Company Inc. under its General Conditions for Testing Services (copy available on request). SGS U.S. Testing's responsibility under this report is limited to proven negligence and will in no case be more than the amount of the testing fees. Except by special arrangement, samples are not retained by SGS U.S. Testing for more than 30 days. The results shown on this test report refer only to the sample(s) tested unless otherwise stated, under the conditions agreed upon. Anyone relying on this report should understand all of the details of the engagement. Neither the name, seals, marks nor insignia of SGS U.S. Testing may be used in any advertising or promotional materials without the prior written approval of SGS U.S. Testing. The test report cannot be reproduced, except in full, without prior written permission of SGS U.S. Testing Company Inc.

**PREPARATION AND CONDITIONING:** The sample material was submitted in three pieces, 24" wide by 96" long, conforming to test chamber dimensions. The sample was supported during testing by 2" hexagonal mesh poultry netting running the length of the test chamber and 1/4" round metal rods placed at two foot intervals across the width of the test chamber.

Prior to testing, the specimen was placed in the conditioning room (maintained at  $73.4 \pm 5^\circ$  F and a relative humidity of  $50 \pm 5\%$ ) and allowed to reach moisture equilibrium.

**SUMMARY OF ASTM E84 RESULTS:** Because of the possible variations in reproducibility, the results are adjusted to the nearest figure divisible by 5.

<u>SAMPLE IDENTIFICATION</u>	<u>FLAME SPREAD</u>	<u>SMOKE DENSITY</u>
25mm Thermogal Ice Polygal Structured Polycarbonate sheet	85	435*

\*See note on page 3.

In order to obtain the Flame Spread Classification, the above results should be compared to the following table:

<u>NFPA CLASS</u>	<u>UBC CLASS</u>	<u>FLAME SPREAD</u>
A	I	0 through 25
B	II	26 through 75
C	III	76 through 200

**BUILDING CODES CITED:**

1. National Fire Protection Association, ANSI/NFPA No. 101, "Life Safety Code", 1994 Edition.
2. Uniform Building Code, 1994 Edition, Chapter 8, Interior Finishes, Sections 801-807.

CLIENT: POLYGAL USA, INC.

Report No.: 172155-6  
Date: February 10, 2004  
Page: 3 of 4

---

**E 84 TEST DATA SHEET:**

CLIENT: POLYGAL USA, INC. DATE: 09/11/03

SAMPLE: 25mm Thermogal Ice Polygal Structured Polycarbonate sheet

THICKNESS: 25mm nominal

**FLAME SPREAD:**

IGNITION: 1 minute, 6 seconds

FLAME FRONT: 19.5 feet maximum

TIME TO MAXIMUM SPREAD: 4 minutes

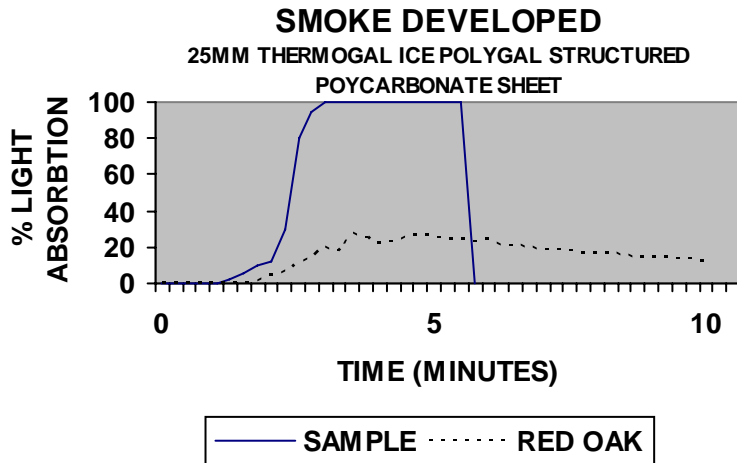
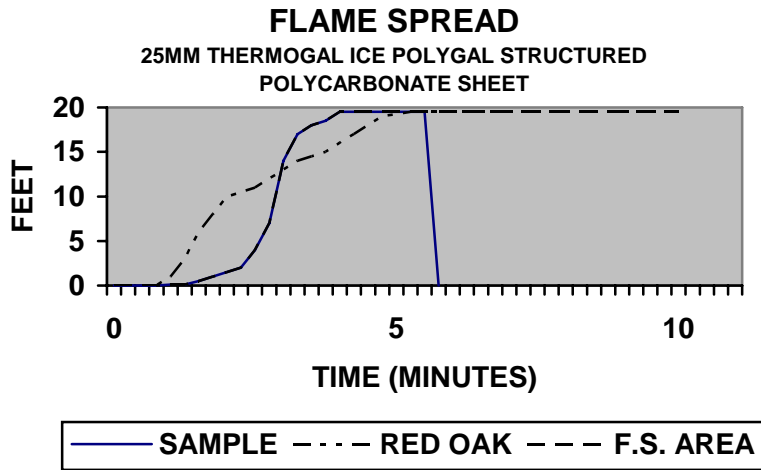
TEST DURATION: 5 minutes, 50 seconds

CALCULATION:  $4900/(195-137.70) = 85.51$

**SUMMARY: FLAME SPREAD: 85 SMOKE DENSITY: 485\***

**OBSERVATIONS:** Sample surface ignition was observed at 1 minute, 6 seconds. A flame front advance of 19.5 feet was observed at 4 minutes.

\*Due to lack of air flow through the test chamber, the test was terminated at 5 minutes, 50 seconds. Note: The laboratory plotted the smoke density value for the remaining 4 minutes, 10 seconds at 0% transmittance and derived a Smoke Density value of 485.



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