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**CLIENT: SUNTUF, INC.**  
 9735 Commerce Circle  
 Arcadia West Industrial Park  
 Kutztown, PA 19530  
 Arnon Eshed

<b>Test Report No:</b>	<b>170558-2</b>	<b>Date:</b>	<b>September 23, 2002</b>
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**SAMPLE ID:** The Client submitted and identified the following test materials as Paltuf/Palsun/Palsun Plus 12mm Flat Solid Polycarbonate sheets.

**DATE OF RECEIPT:** Entered into SGS USTC sample tracking system on August 13, 2002 as STN 35183.


**TESTING PERIOD:** September 4, 2002.

**AUTHORIZATION:** Client's Purchase Order No. 90354.

**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.

<b>TEST RESULTS:</b>	<u>Flame Spread</u>	<u>Smoke Density</u>
	45	<450*
	For detailed results see page 3.	
	*See observations on page 3.	

Tested by  
  
 Brian Ortega  
 Test Technician

Signed for and on behalf of  
 SGS U.S. Testing Company Inc.  
  
 Greg Banasky  
 Supervisor Fire Technology

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**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 ¼" 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 ± 5° F and a relative humidity of 50 ± 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>
Paltuf/Palsun/Palsun Plus 12 mm Flat Solid Polycarbonate sheets	45	<450*

\*See observations 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.



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**E 84 TEST DATA SHEET:**

**CLIENT:** Suntuf, Inc. **DATE:** 9/4/02

**SAMPLE:** Paltuf/Palsun/Palsun Plus 12 mm Flat Solid Polycarbonate sheets.

**THICKNESS:** 12 mm nominal

**FLAME SPREAD:**

**IGNITION:** 3 minutes, 41 seconds

**FLAME FRONT:** 19.5 feet maximum

**TIME TO MAXIMUM SPREAD:** 7 minutes, 4 seconds

**TEST DURATION:** 7 minutes, 22 seconds

**CALCULATION:** 85.73 X 0.515 = 44.15

**SUMMARY: FLAME SPREAD: 45 SMOKE DENSITY: <450\***

**OBSERVATIONS:** Sample surface ignition occurred at 3 minutes, 41 seconds. A maximum flame front advance of 19.5 feet was observed at 7 minutes, 22 seconds. Floor burning was noted commencing at 4 minutes.

\* Due to intense flaming and smoke production, the test was terminated at 7 minutes, 22 seconds. Had the test continued for the normal 10 minute period, the Flame Spread would have remained the same. From the value obtained at the time of termination, it is deemed that the Smoke Density value would be less than 450.



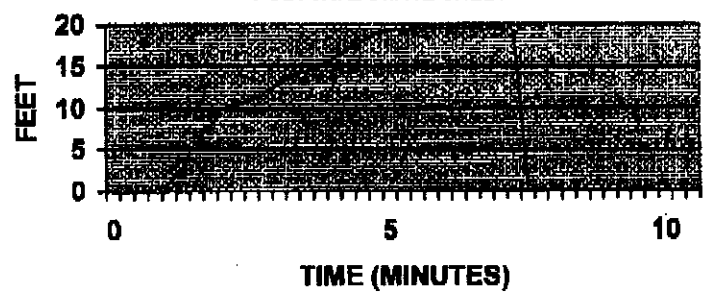
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### FLAME SPREAD

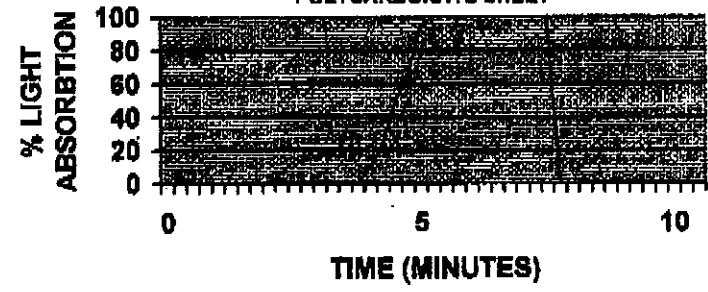
PALTUF/PALBUN/PALSUN PLUS 12MM FLAT SOLID  
POLYCARBONATE SHEET



— SAMPLE - - - - RED OAK - - - - F. S. AREA

### SMOKE DEVELOPED

PALTUF/PALSUN/PALSUN PLUS 12MM FLAT SOLID  
POLYCARBONATE SHEET



— SAMPLE - - - - RED OAK

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End of Report

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