QAI LABORATORIES
CERTIFICATION TESTING INSPECTION

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CLIENT: **Polytuff Systems International**
8550 West Desert Inn Road
Las Vegas, NV 89117
Roy C. Flanagan

Test Report No: RJ2044F-2	Date: October 5, 2012

SAMPLE ID: The test samples are identified as **Flexideck C-WD 5600.**

DATE OF RECEIPT: Samples were constructed by personnel from Polytuff Systems, and witnessed by QAI personnel at QAI Laboratories, Rancho Cucamonga, CA. On August 28, 2012 – August 29, 2012

TESTING PERIOD: October 3, 2012

AUTHORIZATION: Authorization via email from Roy C. Flanagan, Corporate Sales Polytuff Systems International. Reference Proposal Number *BB080812-2.*

TEST PROCEDURE: Conduct a series of Class A Spread of Flame roof fire tests over a non-combustible substrate on the submitted samples in accordance with the methods and procedures outlined in ASTM Test Method E108-11*, "Standard Test Methods for Fire Tests of Roof Coverings"(E108).*

TEST RESULTS: The samples **met the Class A requirements** when tested in accordance with ASTM Test Method E108-11, "Standard Method of Fire Tests of Roof Coverings". Detailed test results are presented in the subsequent pages of this report.

Prepared By

Christopher Clark
Fire Technology Test Technician

Signed for and on behalf of QAI Laboratories, Inc.

Chris Scoville, M.SC.
Operations Manager

REPORT OF TESTS

STORAGE OF COMPLETED TEST DECKS:

All test deck assemblies were stored indoors at temperatures not lower than 60ºF (16ºC) nor higher than 90ºF (32ºC) for the period of time necessary to cure the assembly components prior to testing. Test decks were stored such that each was surrounded by free circulating air.

A. Roof System and Test Deck Assembly Construction Details

The test decks were constructed in accordance with the ASTM E108 Standard.

Lumber:	Nominal 2” x 4” Douglas Fir, moisture content between 8-12%.
Deck:	A single sheet of ¼” thick Hardi Backer cement board was mechanically fastened to the frame with 2” coarse thread drywall screws spaced 8” on center.
Roof Covering:	A coat of **Envirogrip EP#1** Primer was roller applied to the test deck at a rate of 1 gallon per 300 sq. ft. A coat of **P-Tuff** was roller applied to the test deck at a rate of 2 gallons per 100 sq ft. While the P-Tuff was still wet, silica sand was thrown too refusal, and allowed too dry. Excess granules were swept off the deck after drying completely. A coat of **Stain-Tuff 3072** was roller applied to the test deck at a rate of 1 gallon per 90 sq ft.

B. Test Results

1. Spread of Flame – Class A (Two Test Deck)

Wind Velocity:	1056 ft/min ± 44 ft/min
Flame Temperature:	1400 ± 50º F
Test Deck Slope:	1/4” per Horizontal Foot
Flame Application:	10 Minutes

	Deck No. 1	**Deck No. 2**
Ignition Time:	59 sec.	38 sec.
Maximum Spread of Flame:	2 ft.	2.5 ft.
Time to Maximum Spread:	4 min. 23 sec	4 min. 07 sec
Lateral Spread of Flame:	None	None
Flame Front Recession:	0 ft @ 7 min	0 ft @ 7 min

Observations: Both decks performed in a similar manner. After the ignition of the test sample surface the flame front progressed steadily to the maximum spread distance and would hold for a short time. The burn area of the test sample would then burn down to the cement board, run out of fuel, and recede back down to the leading edge of the deck.

CONDITIONS OF ACCEPTANCE FOR CLASSIFICATION BY ASTM E108:

At no time during or after the intermittent flame, spread of flame or burning brand tests shall:

1. Any portion of the roof covering material be blown or fall off the test deck in the form of flaming or glowing brands that continue to glow after reaching the floor, or
2. The roof deck be exposed, or
3. Portions of the roof deck fall away in the form of particles that continue to glow after reaching the floor.
4. At no time during the Class A intermittent flame or Class A burning brand tests shall there be sustained flaming of the underside of the deck.
5. At the conclusion of the spread of flame tests, the flaming shall not have spread beyond 6 feet for Class A, and there shall have been no significant lateral spread of flame from the path directly exposed to the test flame.

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End of Report