



## Farabaugh Engineering and Testing Inc.

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Project No. T166-18

Report Date: April 24, 2018

No. of Pages: 8 (inclusive)

### PERFORMANCE TEST REPORT

WIND DRIVEN RAIN TEST  
(ACROSS VARIOUS VENTS)

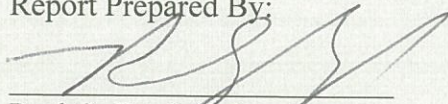
ON

ROOF VENTS

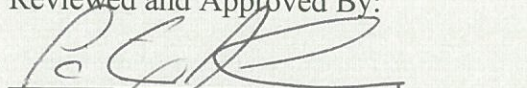
FOR

LIFETIME TOOL & BUILDING PRODUCTS LLC  
250 AIRPORT ROAD  
WINCHESTER, VA 22602

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Reviewed and Approved By:

  
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ACCREDITED  
LABORATORY



ACCREDITED  
LABORATORY



ACCREDITED  
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TEXAS DEPARTMENT  
OF INSURANCE  
ACCREDITED LABORATORY

**Objective:**

The purpose of this testing was to determine the wind speed across the multiple roof vents that water started to leak from extended piping below each vent.

**Test Specimen**

Manufacturer: Lifetime Tool & Building Products LLC  
250 Airport Road  
Winchester, VA. 22602

Specimens: Multiple roof vents from various manufacturers.

**Test Date Finished:**

4/28/18

**Deck**

The test deck consisted of a 8' long x 4' wide base structure constructed from 2 x 6 wood perimeter supports and 2 x 4 wood intermediate support near center of plywood decking. Plywood sheathing 1/2" thick was installed over the framing supports and attached with 8d ring shank nails at 6" on center at panel edges and 6" on center at intermediate supports.

**Installation**

30# felt paper was attached to the top of the plywood. Each roof vent was mounted to the top of a simulated roof system with an exposed 4" diameter exhaust pipe that extended thru the decking to underneath the roof system. All roof vents had their flashing plates nailed down and then the top perimeter was covered with flashing tape so as to stop any water from leaking at flashing plate. The top of each vent was exposed to the wind pressure and water that blew across each specimen.

**Test Procedure**

- The test assembly was positioned at a 2 on 12 slope. See photo showing actual testing of specimens.
- The test assembly was subjected to wind speed and water spray intervals as follows.

## Test Results

Test Date: 4-2-17

SPECIMEN # (NAME)	WIND SPEED  (35 mph)	WIND SPEED  (70 mph)	WIND SPEED  (90 mph)	WIND SPEED  (110 mph)	COMMENTS
1 (BROAN)	No Leaks	Leak	Leak	Leak & Rattled	While testing at 110 mph the flap rattled and specimen leaked
2 (DRYERJACK)	Leak	Leak	Leak	Leak	
3 (ABC VENT)	No Leaks	Leak	Leak	Leak & Rattled	While testing at 110 mph the flap rattled and specimen leaked
4A-Alum. (B.D. VENT)	No Leaks	No Leaks	No Leaks	Leak	
4B-Steel (B.D. VENT)	No Leaks	No Leaks	No Leaks	No Leaks	
5 (DURAFLO)	Leak	Leak	Leak	Leak	

Note: No Leak – No water coming thru 4” extended pipe on underneath of specimen  
 Leak – Water came out of 4” extended pipe underneath.

### Summary of Observations

Upon completion of the test wind speeds, visual observation indicated that there was no damage to the exposed roof vents system. See Test Data for indication of leakage thru exposed 4” diameter extended pipe on underneath of specimen.



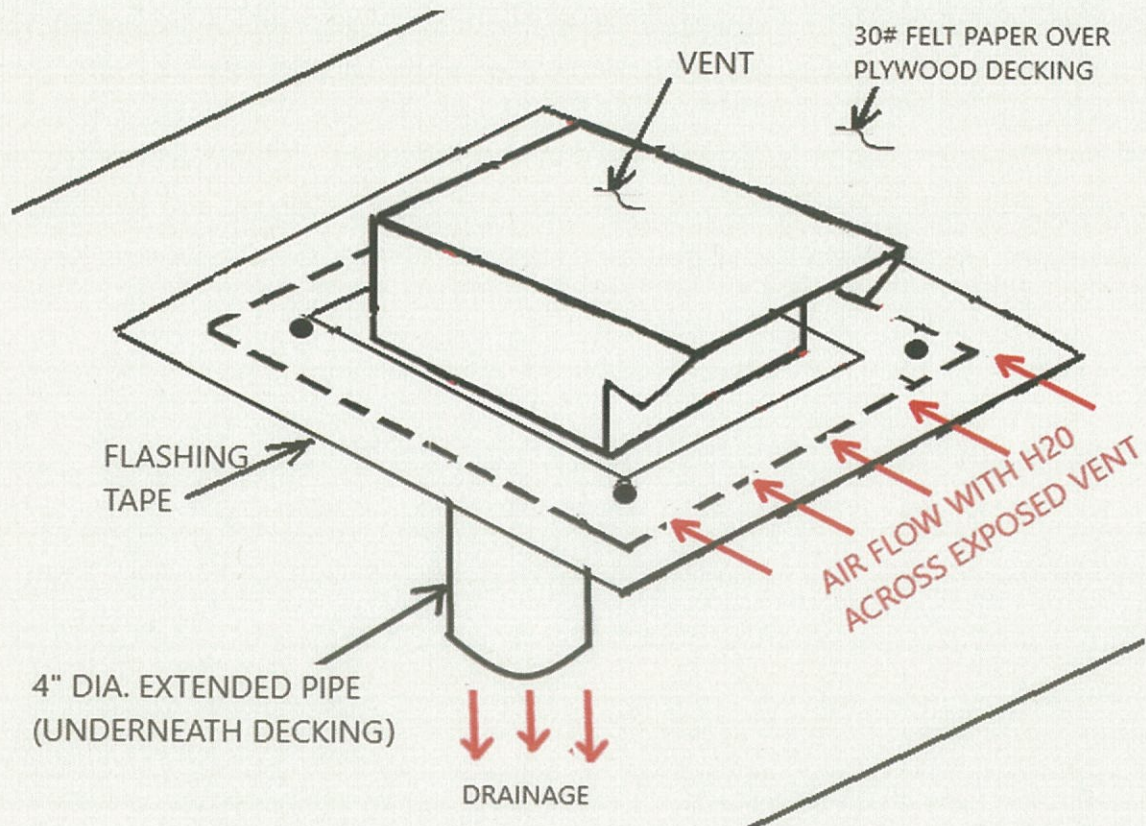


**TOP OF DECKING**



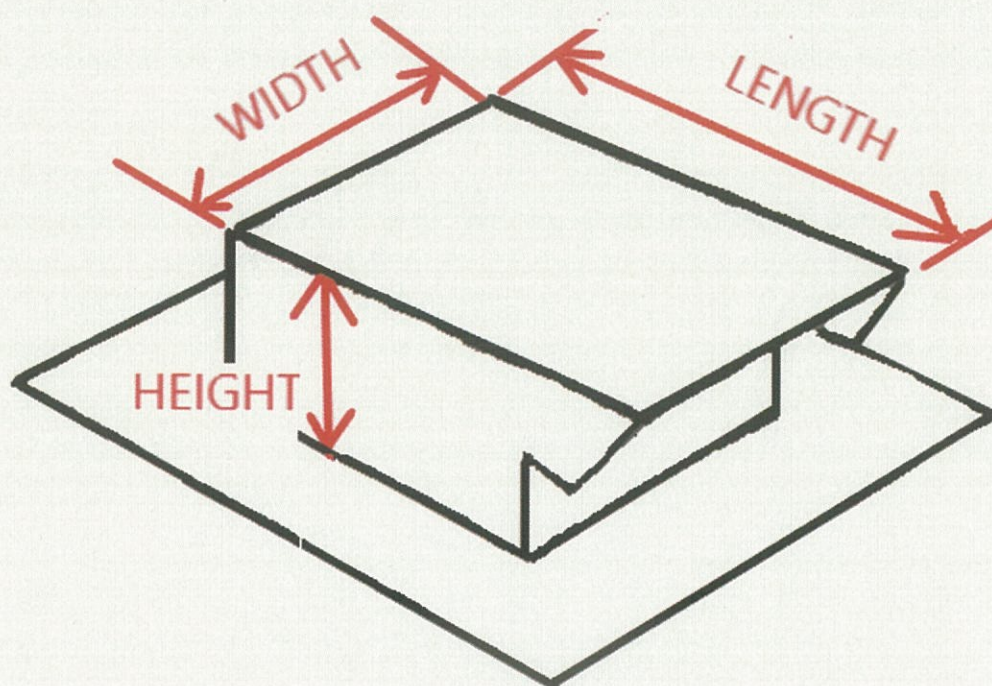
**BELOW DECKING WITH 4" DIAMETER EXTENDED PIPING**





**TEST SPECIMEN SET UP  
(AIR/H2O FLOW ON TOP & DRAINAGE  
UNDERNEATH DECKING)**





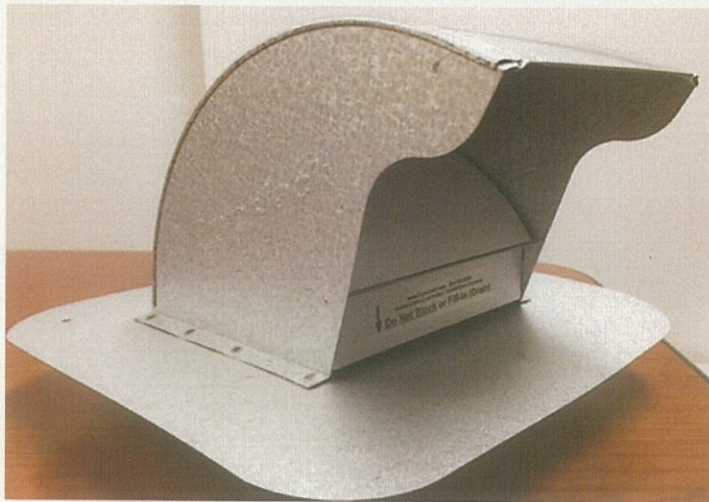
### DIMENSION OF SPECIMENS

SPECIMEN # / NAME	DIMENSIONS	MATERIAL
#1 - BROAN	5-1/4" W. X 8-1/4" LENGTH X 4-3/8" HT.	STEEL
#2 - DRYER JACK	6-3/8" W. X 9-1/4" LENGTH X 6-3/4" HT.	STEEL
#3 - ABC VENT	5-1/2" W. X 8-1/4" LENGTH X 4-3/8" HT.	STEEL
#4A & 4B - B.D. VENT (ALUM. OR STEEL FLAP)	7-1/4" W. X 10-1/4" LENGTH X 5-7/8" HT.	PLASTIC HOOD
#5 - DURAFLO	5-3/4" W. X 7-3/4" LENGTH X 3-1/4" HT.	PLASTIC





**SPECIMEN #1 - BROAN**



**SPECIMEN #2 – DRYERJACK**



**SPECIMEN #3 – ABC VENT**





**SPECIMEN #4A & 4B – B.D. VENT (PLASTIC HOOD WITH ALUM  
FLAP OR STEEL FLAP)**



**SPECIMEN #5 - DURAFLO**