

### Email

To: Corinne Schevin Date: June 23, 2014

From: Jason Simmons

Specimens:

Subject: Test Status for Bora Bora

Product samples were received from Tikimundo on April 21, 2014 for testing in accordance with **ASTM D** 3161-13: Standard Test Method for Steep Slope Roofing Products (Fan Induced Method). Results for the testing are contained below.

client assembled

Date of Installation: off site

Temperature (°F): N/A

Component	Description
Roofing Covering	Bora Bora Aloha leaf with Rail and clips Screwed to framing with #10-8x2"o double thread Hex head with bonded washer and rubber gasket screw. Leaves set 5" apart vertically
Perimeter attachment	None Open frame
Underlayment	None Open frame
Deck	2x4 20" oc.

Conditoning: Start Temperature(°F): N/A

Start Date/Time: N/A

 End Temperature(°F):
 N/A

 End Date/Time:
 N/A

Testing:

Equipment			
Date: 4/8/14	Description	PRI-CMT ID No.	
	Manometer	PRI-001	
	Stopwatch	CMTROA	
Equipment:	Data logger	CMT-119	
Equipment.	sling		
	thermometer	CMT-022	



#### **TECHNOLOGIES**

Deck 1 Tested 4/21/14

		P <sub>v</sub> (inWC)	
Run Time (min)	Location 1	Location 2	Location 3
Start at power on (130mph)	8.1	8.1	8.2
1	8.1	8.1	8.2
21	8.1	8.1	8.2
45	8.1	8.1	8.2
140 mph 0.5	9.4	9.5	9.6
150 mph 5.5	10	10	10.1
160 mph 10.5	12	12	12.1

Test Observations		
Run Time (min)	Comments	
Power on (130 mph)	leaves lifted at start rows 4, 5, 6, 7	
1	leaves lifted at start rows 4, 5, 6, 7	
	leaves lifted at start rows 4, 5, 6, 7 (row 4 corner of leaf	
21	detached from bracing)	
	leaves lifted at start rows 4, 5, 6, 7 (row 4 corner of leaf	
45	detached from bracing)	
	leaves lifted at start rows 4, 5, 6, 7 (row 4 corner of leaf	
	detached from bracing) client pushed leaves down and	
	fixed the corner of the leaf and reinstalled it back in the	
119	bracing	
7min down time		
	leaves lifted at start rows 4, 5, 6, 7 (row 4 corner of leaf	
140 mph 0.5	detached from bracing)	
	leaves lifted at start rows 4, 5, 6, 7 (row 4 corner of leaf	
150 mph 5.5	detached from bracing)	
	leaves lifted at start rows 4, 5, 6, 7 (row 4 corner of leaf	
160 mph 10.5	detached from bracing)	
End		



#### **TECHNOLOGIES**

Deck 2 Tested 4/21/14

		P <sub>v</sub> (inWC)	
Run Time (min)	Location 1	Location 2	Location 3
Start (130mph)	8.2	8.2	8.3
0.5	8.2	8.2	8.3
43	8.2	8.2	8.3
140 mph0.5	9.3	9.4	9.5
150mph 5.5	10.7	10.8	10.9
160mph	12.4	12.4	12.5

Test Observations		
Run Time (min)	Comments	
Start	rows 4, 5, 6, 7, 8 lifted	
0.5	rows 4, 5, 6, 7, 8 lifted	
43	rows 4, 5, 6, 7, 8 lifted	
119	rows 4, 5, 6, 7, 8 lifted	
	4th course center (20"in from left the right) clip	
5 min down time	permanent deformation	
140mph 0.5min in	rows 4, 5, 6, 7, 8 lifted	
150mph 5.5	rows 4, 5, 6, 7, 8 lifted	
160 mph 10.5	rows 4, 5, 6, 7, 8 lifted	
End		



**TECHNOLOGIES** 



Representative Photograph Deck #1: One leaf has disengaged from rail at 29 minutes into testing at 130mph





**TECHNOLOGIES** 



Representative Photograph Deck #2: One clip exhibits permanent deformation.

