



# ETC Laboratories

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ENGINEERING DEPT

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## Fenestration Impact Test Report

Rendered To:

Atlantic Premium Shutters  
29797 Beck Road  
Wixom, MI. 48393

### **Summary Description:**

The products tested were shutters of varying materials and styles. Each shutter was 30 inches wide x 102 inches high covered with a protective 1/8 inch thick polycarbonate facing, secured to the exterior of the products with #12 x 1 inch long pan head screws. The overall rough opening was 60-1/4 wide x 102-1/4 high framed with 2 x 10 lumber and covered with plywood. The shutters were braced to the exterior face with two L shaped bars 60 inches wide x 2 inches high x 3 inches deep.

### **Specification:**

The test specimens were impacted in accordance with ASTM test method E1886-05 and pressure cycling section was not performed.

Series / Model  
Standard Mount Horizontal Storm Bar  
Atlantic Classic Collection Raised Panel Shutters

**IMPACT TEST RESULTS**

| Impact Location Specimens 1-3     | Missile Speed (ft/sec) | Missile Orientation (deg.) | X Measurement (in.) | Y Measurement (in.) |
|-----------------------------------|------------------------|----------------------------|---------------------|---------------------|
| Center of right panel             | 49.5                   | 3.3                        | 47                  | 52                  |
| Upper right corner of right panel | 49.9                   | 2.0                        | 55                  | 7-1/2               |
| Lower left corner of right panel  | 49.5                   | 2.0                        | 37-1/2              | 97                  |
| Center of right panel             | 49.5                   | 3.6                        | 46-1/2              | 52                  |
| Center of right panel             | 49.6                   | 3.8                        | 46-1/2              | 51-1/2              |
| Upper right corner of right panel | 50.5                   | 3.3                        | 55-1/2              | 8                   |
| Mid-span of bottom brace          | 50.3                   | 3.7                        | 32                  | 75-1/2              |

**Test Notes for Impact Tests**

1. All three specimens were of identical construction.
2. The circles on the diagrams indicate the impact locations for that specimen.
3. The X measurement is from the left edge of the specimen.
4. The Y measurement is from the top edge of the specimen.
5. The large missile used was a piece of #2 southern yellow pine 2 x 4 dimensional lumber 92 inches long and weighing 9.0 lbs.
6. The specimens were conditioned in an environment with a temperature between 65 and 75 degrees F for at least 48 hr prior to testing.
7. Shutter cracked at impact locations, top corner impacts bent hinge.
8. Wind Zone 4 definition per ASTM E1996-05b, Section 6.2.2.4 *Wind Zone 4*-basic wind speed > 140 mph (63 m/s).

**Summary of Results**

|                                |                        |
|--------------------------------|------------------------|
| Missile level resisted         | D                      |
| Nominal missile speed resisted | 15.25 m/sec (50ft/sec) |
| Wind zone achieved             | 4                      |

**NOTE:** The test specimens were only tested to the impact portion of ASTM specification E 1886-05 and pressure cycling section was not performed.