SECURE DOOR
STRUCTURAL PERFORMANCE TEST REPORT
Series "180" Vertical Bracing System
NCTL-210-2004-1 (S)

NATIONAL CERTIFIED TESTING LABORATORIES
STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-210-2064-1 (S)
Test Date: 06/12/98
Report Date: 02/03/04
Expiration Date: 06/30/08

Client: Secure Door
1540 NW 101st Avenue
Plantation, FL 33322

Test Specimen: Secure Door Series "180" Vertical Bracing System.


GARAGE DOOR DESCRIPTION

General: The door tested was a standard embossed raised panel steel door 16' 0" wide opening by 7' 0" high. The door was assembled in the wood test buck in accordance with the manufacturer’s installation instructions. Guide sections were attached with five track brackets to No. 2 Southern Yellow Pine pressure treated 2 x 6 wood jambs in the test chamber. The door was fabricated with 3 center stiles plus an additional stile was placed between the glazing in the top section only. There were eight glazed openings in the top section, each approximately 12" x 17". The sections were fabricated from a nominal 0.0175" thick sheet steel.

TEST SPECIMEN DESCRIPTION

Model/Series: "180"

Overall Size: 8' 3 1/4"

Configuration: Telescope type reinforcing brace

Number & Size of Braces: Two (2) outer braces 4'9 1/8" high by 0'21/4" wide. Inner brace 4'9 1/8" high by 0'21/4" wide.

Brace Material: Extruded aluminum

PROFESSIONALS IN THE SCIENCE OF TESTING
Hardware:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retainer brace</td>
<td>Four (4)</td>
<td>At each door</td>
</tr>
<tr>
<td></td>
<td>Twelve (12) total</td>
<td>Pivot hinge</td>
</tr>
<tr>
<td>Anchor Plate</td>
<td>Two (2)</td>
<td>Top and bottom of each vertical brace.</td>
</tr>
</tbody>
</table>

Installation: Each aluminum vertical brace was anchored at the bottom using a 10 gauge thick galvanized steel floor plate. Three (3) 1/2" wedge and anchor secured the floor plate to the concrete floor section. A 10 gauge thick galvanized steel top plate component was fastened to the test buck using four (4) (6 1/4 x 21/2") Hex head screws. A 3/8" x 2 1/2" x 6" "U" bolt secured the top portion of the brace to the top plate component. Four (4) 12 gauge thick galvanized steel deflection brackets were used to secure the vertical brace to garage door pivot hinges.

Glazing: The fixed lite was exterior glazed 1/4" thick annealed glass with a silicone back-bonding and exterior extruded aluminum glazing bead.

Weatherseals: No weatherseals employed.

Weeps: No apparent weeps employed.

Interior & Exterior Surface Finish: White painted aluminum

Sealant: The frame corners were sealed with a silicone sealant.
Test Results

Note: Uniform structural loads were performed on a standard 16' wide by 7'0" high garage door. The following results were obtained.

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Title of Test</th>
<th>Measured</th>
<th>Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM E330-80</td>
<td>Uniform Load Structural</td>
<td>12.74 psf interior</td>
<td>See Note No. 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.74 psf exterior</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>12.74 psf = (70) mph velocity</td>
<td></td>
</tr>
</tbody>
</table>

**Note No. 1:** Deflection at the door bottom was so excessive that successful recovery of the product could not be obtained.

**Note No. 2:** At this point in testing, an identical test specimen was tested using Secure Door's vertical bracing system. The following results were obtained.

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Title of Test</th>
<th>Measured</th>
<th>Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM E330-90</td>
<td>Uniform Load Structural</td>
<td>Design Pressure 55.3 psf exterior</td>
<td>0.540&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Design Pressure 55.3 psf interior</td>
<td>0.539&quot;</td>
</tr>
<tr>
<td></td>
<td>Uniform Load Structural</td>
<td>Full Load 83.0 psf exterior</td>
<td>0.336&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full Load 83.0 psf interior</td>
<td>0.301&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>81.0 psf = (180.0) mph velocity</td>
<td>Set</td>
</tr>
</tbody>
</table>

At the conclusion of testing normal operation of the door was observed.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report.

A copy of this report will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimens tested.

NATIONAL CERTIFIED TESTING LABORATORIES, INC.

MICHAEL E. LANE
Division Manager

MEI/Id

Baron O. Perkins 3/7/92