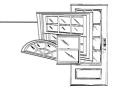
# CERTIFIED ESTING ABORATORIES

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Web Site: www.ctlarch.com E-mail: ctlarch.com

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Report No.: CTLA 1913W Report Date: December 8, 2008

Client: T

TornadoSafeRoom, Inc. 8325 Hwy. 96 East Murfreesboro, TN 37130

# STRUCTURAL PERFORMANCE TEST REPORT

Product Type and Series: Galvanized Steel 4 Panel 7 person (120" wide x 55" high x 30" deep)

TornadoSafeRoom®

Test Specifications: ASTM E330-02 "Test Method for Structural Performance Of Exterior Windows,

Curtain Walls and Doors By Uniform Static Air Pressure Difference."

Project Scope: Mr. Floyd Arnold contacted Certified Testing Laboratories (CTL) with regards to conducting testing on one (1) TornadoSafeRoom®. The test method requested is

described in the test specifications listed above.

Test Specimen Fabrication: The TornadoSafeRoom® was fully assembled at Certified Testing Lab.

facility by the client. The specimen was secured at the base and tested on a solid concrete foundation with 1/2" x 4" Ramset/Red Head LDT anchor

bolts.

Additional Description: The TornadoSafeRoom® measured 120" wide x 55" high x 30" deep overall. The

TornadoSafeRoom® side plates, back plates, front plates and door were constructed of 10 gage galvanized steel. The roof plate was constructed of 10" thick carbon steel. Each plate flange joint was bolted together with grade 8 - ½" x 1 ¼" hexagon bolts, and nylox nuts. The door was mounted to the TornadoSafeRoom® with two (2) steel custom pin hinges. One (1) operable hinged door measured 30" wide x 55" high. Two (2) steel angles were secured to the exterior face of the door. Each angle measured 2 ½" wide x 2 ½" high x ¾" thick x 31 ½" long and were located at 5.000" center line from top and bottom of door. Three (3) ½" x 35" long cold rolled steel-rods were utilized to latch door. Refer dated 7/25/08 steed and sealed by this bebrietor.

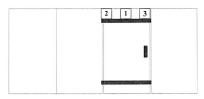
Page 2 of 3 TornadoSafeRoom, Inc. CTLA 1913W Report #:

# Performance Test Results

# Measurement Locations

# Test Sequence: ASTM E330-02 Deflection Gauge Set at Boxes 1, 2 & 3

- 1. 1/2 Test Pressure Positive
- 2. 1/2 Test Pressure Negative Test Pressure Positive
- 3
- Test Pressure Negative 4



Deflection / Permanent Set were measured with three (3) Dial Indicators: SN - 073314816, 073314814, and 053333370.

#### Measurements were taken at:

- Location 1 Center Mid-span top of door
- Location 2 2" from edge left hand side of top of door
- Location 3 2" from edge right hand side of top of door

# ASTM E330-02

Uniform structural load was conducted to ASTM E330-02 with no deviations to test method. Unit was tested to a maximum pressure of +/- 517.5 psf.

# Positive Loads

Range of Test ½ Test Load	Time (sec)	Load (psf.) 258.75		<u>Set</u>	Allowed
Test Load	30	517.5	Loc. 1	0.035"	0.120"
Negative Loads					
Range of Test	Time (sec)	Load (psf.)		Set	Allowed
½ Test Load	30	258.75	127 769	1212122	
Test Load	30	517.5	Loc. 1	0.018"	0.120"

Location (1) - Maximum allowable Permanent Set after test load at mid-span of door top: (0.4% of 30.00" span) = 0.120"

Remarks:

At the conclusion of the test there was no damage to the TornadoSafeRoom® and no visible signs of failure observed. All the locks were operable and the door opened and closed without any pressure being applied. The TornadoSafeRoom® was tested to a maximum pressure of 100 11 108

517.5 pounds per square foot positive and negative = 450 miles per hour.

Page 3 of 3 TornadoSafeRoom, Inc. Report #: CTLA 1913W

Test Date: August 14, 2008

Remarks: Detailed drawings were available for laboratory records and comparison to the test specimen at

the time of this report and will be retained by CTL for a period of four (4) years. The results obtained apply only to the specimen tested.

comment apply only to me openinent tester.

Certified Testing Laboratories certified that the 7 person (120" x 55" x 30")
TornadoSafeRoom®, when manufactured to the specifications called out on the drawings signed

and sealed by this laboratory, will meet the criteria established by this test report.

Certified Testing Laboratories assumes that all information provided by the client is accurate and that the physical and chemical properties of the components are as stated by the manufacturer.

Certified Testing Laboratories, Inc.

# Client Present:

Flovd Arnold - Tornado SafeRoom, Inc.

# Testing Performed & Witnessed by:

Ted Scanlon - CTL Gary Nations - CTL

Jonathan Pittenger Lab. Technician Architectural Division

> Ramesh Patel, P.E. Florida Reg. # 20224

Structural Engineer

cc: TornadoSafeRoom, Inc. Ramesh Patel P.E (10)

File

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