

# **HURRICANE ENGINEERING & TESTING INC.**

Computer Controlled Product Testing & Design,  
.....Wind Load Analysis

## ***Uniform Static Air Pressure Test Forced Entry Test***

February 9, 1999

REPORT NUMBER: **HETI-98-754**

MANUFACTURER: Alutech Corporation  
8548 N.W. 64 Street Miami, FL 33166

TEST LOCATION: Hurricane Engineering & Testing Inc.  
8532 N.W. 64 Street Miami, FL 33166

LAB. CERTIFICATION NUMBER: 98-0413.03 (DADE COUNTY FLORIDA)

SBCCI LISTING NO: TL-9596

PRODUCT: Double Entry Door

PRODUCT DESCRIPTION: Aluminum w/rigid foam core

PRODUCT SIZE: 99 5/8" wide x 97 7/8" high x 5 3/4" deep

MODEL: 200I, Series 240I

DESIGN LOADS (psf): **+60, -120**

DRAWING NUMBER: A991783, Alutech Corp. Dated Nov 9th 1998.

NOTE: HETI stamped drawing is an integral part of this report.

TEST WITNESSED BY:

Dr. Wakar Ali (HETI)  
Dr. Nasreen K. Ali (HETI)  
Mr. Leonardo Savini E.I.T. (HETI)  
Mr. Adolfo Perez (Alutech)  
Mr. Arshad Viqar, P.E. (HETI)

## *Installation Detail*

The aluminum frame (0.112" thick, 5-3/4" deep) was anchored to the wood jamb on each side with (6) 1/4" x 4" Tapcons at 18" o.c.. The out-swinging door was reinforced with a rigid foam core. (4) 4-1/2" x 4-1/2" full template steel hinges (spaced at 24" o.c.) were used to attach the door to the frame. The hinges were bolted to the door and frame with (4) 12-24 F.H. machine screws. A cylindrical lever lock and dead bolt were installed at 39" from bottom of the door and a dead bolt at 70" from the bottom of the door. The testing chamber resembled a recess using a 2" x 2" x 1/4" aluminum angle and a 2x4 wood. (4) surface SS surface bolts by ABH, model No. 1805.

### *Weatherstripping / Sealants*

Description	Quantity	Location
1/2" Bulb vinyl	Single	Around the inside perimeter of the frame

## *Test Results*

The door was initially opened and closed five times with an operating force of 5 lbs.

### *Uniform Static Air Pressure Test Results*

Load Designation	Pressure (psf)	Deflection (in)	Duration (Sec)	Set (in)	Recovery (%)
<b>Positive Pressure</b>					
Half	+45	0.51	30	0	100
Design	+60	0.68	30	0.01	98
Test	+90	1.06	30	0.021	98
<b>Negative Pressure</b>					
Half	-90	1.17	30	0	100
Design	-120	1.58	30	0	100
Test	-180	3.04	30	0.198	93

#### OBSERVATION:

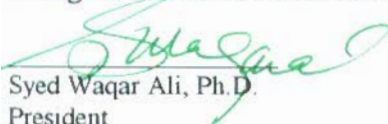
The test was performed in accordance with ASTM E 330-90. There was no visible structural damage at the conclusion of the test.


### FORCED ENTRY TEST RESULTS

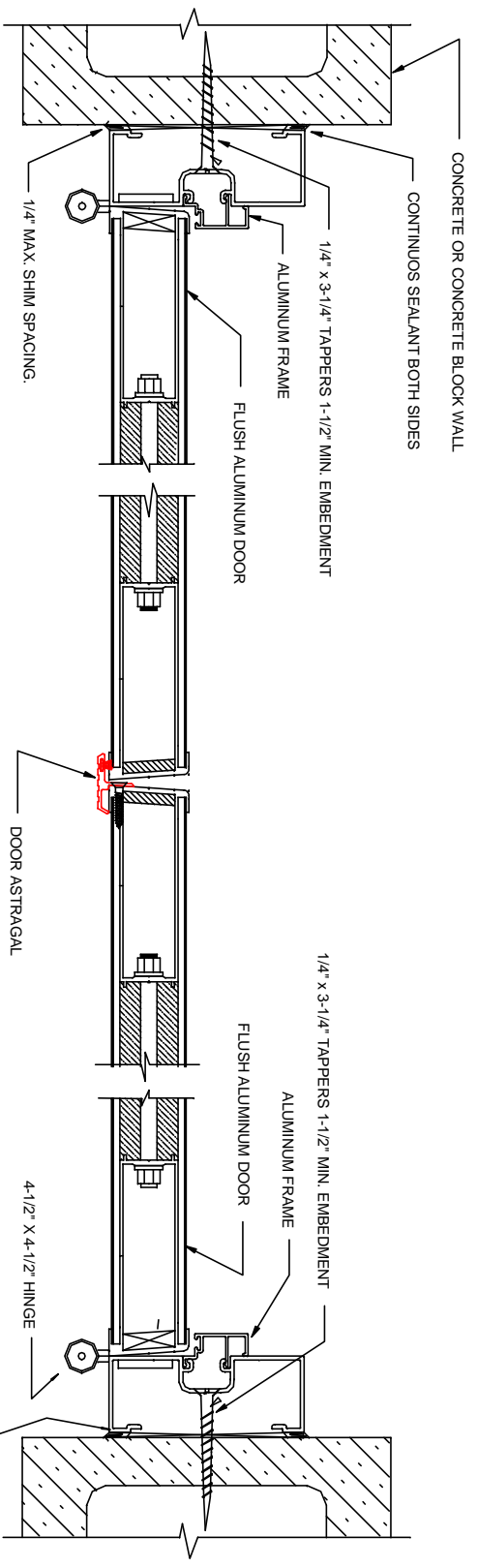
**PROCEDURE:** Specimens subjected to 300 pounds of force in the opening direction of the specimen. The force was applied separately at three locations on the door with a winch and force gage apparatus. The force was held for 30 seconds. Forces were applied successively to the right door leaf, 6" from the lower left corner, 6" above the lock, and 6" from the upper left corner.

#### CONCLUSION:

The sample was tested in compliance with Dade County protocol PA 202-94. There was no structural damage to the door at the conclusion of the test.

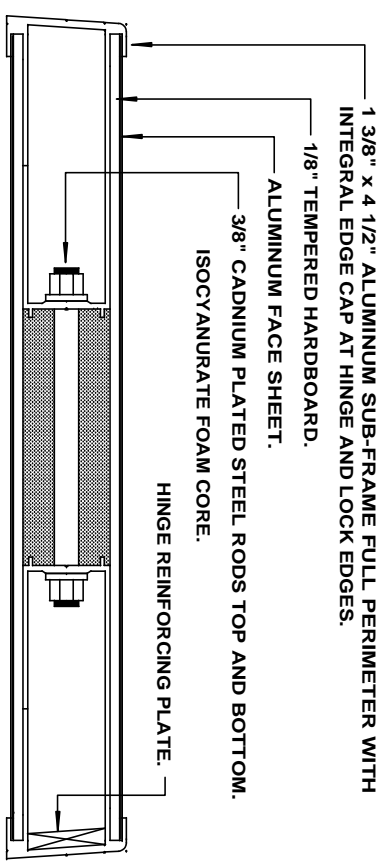
  
Syed Waqar Ali, Ph.D.  
President

 2/22/99  
Arshad Viqar, P.E.  
Engineer of Record

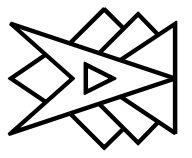
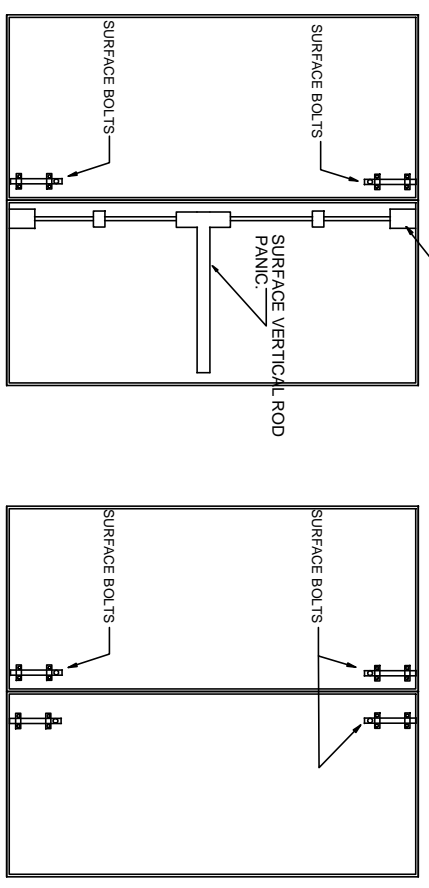


**PAIR**

EACH LEAF OF A PAIR OF DOOR SHALL INDEPENDENTLY LOCK ITSELF TO THE FRAME HEADER AND FLOOR IN ORDER TO DISTRIBUTE THE WIND LOAD AND IMPACT.



**SERIES 200**



**ALUTECH CORPORATION**  
 8548 NW 64th STREET  
 MIAMI, FL 33166  
 305/593-2080

**PAIR DETAIL AND DOOR SECTION**

JOB No.:	DATE:	DRAWN BY:
DWG No.:		SHEET No.: