



HURRICANE ENGINEERING & TESTING INC.

ISO 17025 Accredited Computer Controlled Product Testing
Wind Load Design, Analysis & Evaluation



Uniform Static Air Pressure, Air and Water Infiltration Test, Large Missile and Cyclic Wind Pressure Test (Reference Standards FBC TAS 202, TAS201/203, ASTM E1886/E1996)

March 18th, 2026

REPORT NUMBER: **HETI-25-8263**

MANUFACTURER: Handcrafted Iron Doors LLC.
8260 Consumer Ct, Sarasota, FL 34240.

TEST LOCATION: Hurricane Engineering & Testing Inc.
6120 NW 97th Avenue, Doral, Florida, 33178

NOTIFICATION NUMBER: HETI24012 (MIAMI-DADE COUNTY, FLORIDA)

LAB. CERTIFICATION No.: 25-1203.03 (MIAMI-DADE COUNTY, FLORIDA)

IAS. CERTIFICATION No.: TL-296 (ISO 17025-17)

FBC ORGANIZATION No: TST1691

FBPE Registration #: 6905

PRODUCT: Outswing Entry Door

MATERIAL: Steel

PRODUCT SIZE: 75 3/4" wide x 120" high (without Anchor angles)

MODEL COLOR: CS007

TEST DOOR NO.: **1**

DESIGN LOADS (PSF): **+60, -70**

DRAWING NUMBER: Test Door #1 by Handcraft Iron Doors LLC. dated 03/09/2026
consisting of 6 pages, Revision 0.

TEST WITNESSED BY: Syed Waqar Ali, Ph.D. (HETI)
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Dr. Ram N. Tewari, Ph.D., P.E. (HETI)



Test Samples

Construction Details

PRODUCT

Outswing Entry Door

DESCRIPTION OF UNIT

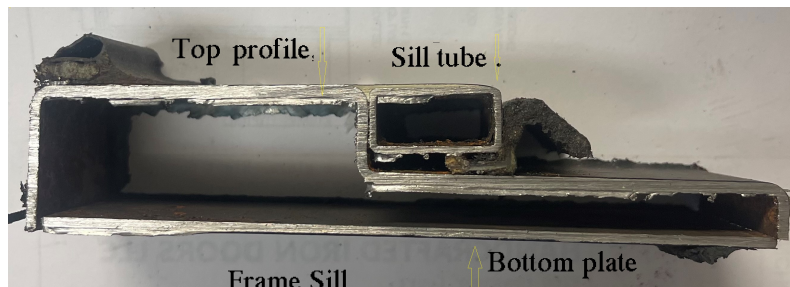
Overall size 75 ¾" wide x 120" high (without attachment plates)
Opening size 76 ½" wide x 120" high
Configuration OX
No. and size of Door Leaves Active: 36 ½" wide x 116 7/8" with astragal.
Active: 35 ¾" wide x 116 7/8" high without astragal.
Inactive: 36 ½" wide x 116 7/8" high with astragal.
Inactive: 35 ¾" wide x 116 7/8" high without astragal.

MATERIAL CHARACTERISTICS

Part No.	Component	Overall Dimensions (Inches)	Maximum Wall Thickness (Inches)	Material
Frame				
-	Overall Frame Sill	6.000 x 1.190	0.086	Steel
-	Frame Sill tube	1.039 x 0.512	0.063	Steel
-	Frame Sill top profile	5.880 x 1.111	0.0925	Steel
-	Frame Head & Jambs	6.000 x 2.000	0.121	Steel
-	Door Stop	1.400 x 0.810	0.061	Steel
-	Mounting Tab/Anchoring Angle	6.250 x 3.500	0.247	Steel
Door Leaf				
-	Exterior Glazing Leg (Flat Bar)	0.800 x 0.130	-	Steel
-	Interior Glazing Stop (tube)	0.625 x 0.600	0.058	Steel
-	Interior Door Trim	1.000 x 0.600	0.058	Steel
-	Top Rail (without Glazing Stop)	6.000 x 1.997	0.120	Steel
-	Bottom Rail (without Glazing)	6.000 x 1.997	0.120	Steel
-	Lock Stile (without Glazing Stop & Astragal)	6.000 x 1.997	0.120	Steel
-	Hinge Stile (without Glazing Stop)	6.000 x 1.997	0.120	Steel
-	Bottom Rail Gasket Adapter	2.024 x 0.586	0.100	Steel
-	Astragal	1.425 x 0.995	0.070	Steel
-	Decorative Grill Material	½ x ½" tube with steel sheet metal covering.		

Door Frame Corner Construction

The door frame sill and frame jambs were butt joined and fully welded. The frame head and the frame jambs were mitered cut and fully welded; welds were ground flush and painted over. (5) Anchoring angles were welded on exterior side of the jambs at 13 ¾" from the bottom and 23 1/8" o.c., (3) anchoring angles were welded to the exterior side of the frame head at 13 ¾" from the end and one at the center. The hinges guides were fully welded at 15", 58 ½", and 101 ½" from the bottom of the door frame. The door stop was continuously welded to the frame head, jamb and sill. The frame sill consisted of three parts, top profile, and the bottom plate and sill tube.



Door Leaf Corner Construction

The corners were mitered cut, fully welded, grounded and painted over. The male hinges were fully welded to the door leaves at 17", 60 ½", and 103 ½" from the bottom of the door leaves. The exterior glazing leg and interior door trim were fully welded to the door leaf as shown and interior door glazing tube was attached to the interior door trim using #8 x 1 ½" self-drilling screws at 4" from the end and 6" o.c., the astragal was welded to the door lock stiles. A decorative grill attached using pivot on both leaves for TAS 202 test only.



Glazing Material & Method of Glazing:

Insulated Laminated Glass Miami-Dade County Notice of Acceptance (NOA): 24-0205.08 by Kuraray America, Inc.:

- ¼" nominal (0.230") actual outboard annealed glass
- 3/16 (0.190") Air Space
- ¼" nominal (0.228") actual outboard annealed glass
- 0.090" Trosifol Clear PVB by Kuraray America, Inc.
- ¼" nominal (0.228") actual outboard annealed glass
- ½" nominal (0.546) total laminated thickness
- 1" nominal (0.966") actual, total insulated laminated glass thickness

Glass Bite: 5/8"

Glass DLO: Active & inactive leaf: 23 7/8" wide x 104 ½" high.

Glazing Method

The laminated glass was wet glazed using Dow Corning 995 structural silicone. A glazing stop was attached to the Top and bottom rails using (3) #8 x 1" Philips Flat Head (PFH) self-drilling screws, and hinge and lock stiles using (11) #8 x 1" Philips Flat Head (PFH) self-drilling screws with on Dow 995 silicone bed was used.

Setting Blocks: The glass was placed on a bed of Dow 995 Silicone

Drain Holes: None

Weep holes: None

Muntins: None

Reinforcement: None.

Sealant: None.

Weatherstrip

Location	Make Model & Type	Quantity
Frame		
Frame Jambs and Head	Pemko Q103 Kerf-in foam Gasket	1
Frame jamb bottom corner	4" long Wedge Gaskets by Builder Supply part no. B099VV9WLQ (stacked)	2
Frame Jamb Top Corner	4" long Wedge Gaskets overlapping over kerf by Builder Supply part no. B099VV9WLQ	2
Frame Jamb	½" x 1/8" thick x 1" long pieces of Trim Lock Inc. flat EPDM gasket, model X113HT-100 used as part of water dam.	1
Frame Sill	Trim Lock Inc. flat EPDM gasket, model X113HT-100 overlapping bulb vinyl by Pemko model # S88BL20 used as part of water dam.	1
Frame bottom corner	Corner gaskets were sealed using silicone.	-
Frame Sill	Pemko Q103 Kerf-in foam Gasket	1
Frame Sill	Full length Wedge Gasket by MD Building Products Model 51501 overlapping Kerf gasket	1
Door Leaf/Sash		
Top Rail	Full Length Wedge Gasket by MD Building Products Model 51501	1
Hinge Stile	Full length Wedge Gasket by MD Building Products Model 51501	1
Bottom Rail	Masonite Johnson Brown Fin Snap in Sweep part no. MJDBRFSS	1
Lock Stile of inactive leaf	2" Wedge Gasket by Builder Supply part no. B099VV9WLQ	2
Lock Stile of active leaf	2" Wedge Gasket by Builder Supply part no. B099VV9WLQ	2
Astragal	Pemko Q103 Kerf-in foam Gasket	1

Hardware

Surface Bolts (Active and Inactive Leaf): (2) Surface bolts per door leaf at the top and bottom of the leaf. The surface bolt consisted of a 5/8" diameter x 4 ¼" rod as a lock bolt; the lock bolt rod is guided through a 1 ¼" outside diameter cylindrical guide with a 2" w x 3 ¼" h x 0.1" thick mounting plate welded to it. The plate was used to weld the surface bolt assembly to the door leaf. The rod engaged a nominally 5/8" diameter hole in the sill and head. The surface bolts were installed at 2¼" from the edge of the lock stile.

The Surface Bolt Strikes: The lock strikes consisted of an 11/16" diameter hole in both the frame head and the sill.

Flush Bolts: (2) Trimco Flush Bolt Model #3917-12 were installed on the inactive door at 20', and 75 ½" from the bottom of the door leaf using (2) 3/16" – ½" machine screws with engaging strikes of ¾" diameter holes in the head and sill at 33 7/8" from the door frame.

Door Handle: A door handle 1 ½" in diameter x 18" long was installed on the inactive leaf using (4) #12 x 5/8" machine screws

Dead Bolt: A dead bolt from Schlage Deadbolt Part # JD60716 was installed 51" from the bottom of the active leaf door, with a strike plate located on the inactive leaf.

Hinges: (3) hinges assemblies consisting of male door hinge pivot measuring 4.775" long x 1.186" diameter with a ¾" x 1.583" long bolt, was welded to the door frame at 15", 58 ½", and 101 ½" from the bottom of the door frame, and the female steel hinges, 3.327" long x 1.266" outside diameter and 0.81" inside diameter cylinder, were welded to the door leaves and 17", 60 ½", and 103 ½" from the bottom of the door frame.

INSTALLATION SCREWS/METAL CLIPS AND METHOD OF ATTACHMENT

Substrata Double stacked 2x12 SYP wood bucks.

Shims None

Note: The door frame was attached to the substrate using attachment/anchoring angles/tabs.

Location	Type	Size	Placement	Quantity
Sill			Not Attached	
Jamb	Lag Bolt	5/16" x 3"	(2) Lag bolts per Attachment angle/tab at 1" from frame side and 2" o.c., there were 5 attachment angle/tabs.	10
Head			(2) Lag bolts per Attachment angle/tab at 1" from frame side and 2" o.c., there were 3 attachment angle/tabs.	6

Test Results

Air Infiltration Test

Test Pressure (psf)	Total Air Flow (cfm)	Chamber Air Flow (cfm)	Specimen Air Leakage (cfm)	Tributary Area (ft ²)	Air Leakage Rate (ft ³ /min-ft)
+1.57	11.7	0.0	11.7	63.23	0.19

The Air Infiltration Test was conducted as per ASTM E283-19.

Reference Test No. 25-8263 performed on January 2nd, 2025 by AF.

Uniform Static Air Pressure Test

Load Designation	Pressure (psf)	Location C1 (in)	Location C2 (in)	Location C3 (in)	Recovery C3 (%)	Duration (sec)
		Deflection (in)				
		Set (in)				
Positive Loads						
½ Test Load	+45	0.431	0.075	0.008	100	30
		0.060	0.031	0.000		
Design Load	+60	0.501	0.080	0.009	100	30
		0.043	0.013	0.000		
Negative Loads						
½ Test Load	-53	0.384	0.078	0.008	100	30
		0.014	0.018	0.000		
Design Load	-70	0.501	0.099	0.009	100	30
		0.011	0.010	0.000		

Uniform Load Test was performed with ASTM E330-14(2021) test method. See Figure on page 1 for gage locations.

Reference Test No. 25-8263 performed on 01/02/2025 by AF.

Water Infiltration Test Results

Test Pressure (psf)	Test Duration (min.)	Water Leakage (inches ³ /sec)
9.0	15.0	Passed

The water infiltration test was conducted as per ASTM E331-00(2016). A uniform water spray was applied to the exterior surface of the mockup at a rate of 5.0 gal/ft²/hr., for 15 minutes. There was no water leakage or structural damage to the sample at the conclusion of the 15.0-minute cycle.

Reference Test 25-8263 performed on 01/03/2025 by AF.

Test Loads

Load Designation	Pressure (psf)	Location C1 (in)	Location C2 (in)	Location C3 (in)	Recovery C3 (%)	Duration (sec)
		Deflection (in)				
		Set (in)				
Positive Loads						
Test Load	+90	0.869	0.190	0.017	100	30
		0.156	0.059	0.000		
Negative Loads						
Test Load	-105	0.886	0.204	0.026	100	30
		0.087	0.034	0.000		

Uniform Load Test was performed with ASTM E330-14(2021) test method. See Figure on page 1 for gage locations.
Reference Test No. 25-8263 performed on 01/03/2025 by AF.

Forced Entry Test Results

The Door passed the forced entry test, which was performed as per AAMA 1304-18 using 300 pounds of force at Top, Bottom, and at lock location of the active and inactive leaf in the opening direction.

Reference Test: 25-8263, performed on 01/03/2025 by AF

Large Missile Impact Test

Impact Location	Speed (fps)	Description of Result
Center of right Leaf	50	No Penetration or Failure
Bottom left corner of right leaf	50	No Penetration or Failure
Mid span bottom rail right panel	50	No Penetration or Failure

The samples were impacted with a #2 Southern Yellow Pine S4S, 2 x 4 missile, 9 lbs. 96" long. See Picture on Page for panel number and impact locations.

Reference Test No. 25-5337 performed on May 13, 2025 by AF as per TAS 201, TAS 202, ASTM E1886, and ASTM E1996.

Cyclic Wind Pressure Test Results

Number of Cycles	Pressure (psf)	Deflection (in)	Set (in)	Recovery (%)	Duration (sec)
Positive Pressure Cycles					
3500	+30	----	----	----	1.1
300	+36	----	----	----	1.3
600	+48	----	----	----	1.3
100	+60	----	----	----	1.9
Negative Pressure Cycles					
50	-70	----	----	----	1.6
1050	-56	----	----	----	1.0
50	-42	----	----	----	1.7
3350	-35	----	----	----	1.0

Reference Test No. 25-5337 performed on May 13, 2025 by AF as per TAS 201, TAS 202, ASTM E1886, and ASTM E1996.

Note: The sample permanent sets were negligible and below the allowable permanent set as per AAMA/WDMA/CSA 101/I.S.2/A440, North American Fenestration Standard/Specification for windows, doors, and skylights.

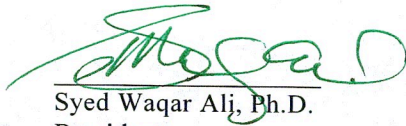
Conclusion

The sample was tested in accordance with Florida Building Code Test application standard for HVHZ TAS 202, Standard Building Code and ASTM Test Standards as indicated along with the test results. The sample meets or exceeds the requirements of ANSI/AAMA/NWDA 101/IS.2.97. The sample was also tested as per TAS 201, TAS 203 of Florida Building Code for HVHZ for the large missile impact and cyclic wind pressure test. The sample was structurally intact at the conclusion of the test. The frame extrusions show negligible permanent deformation and no bearing failure at the fastener locations. Only one sample of this configuration was tested.

NOTE: The above results were obtained using the designated test methods, which indicates compliance with the performance requirements of the referenced specifications. This report does not constitute certification of the specimens tested. The test records are maintained for a period of ten years and selected sample pieces and hardware are maintained for a period of five year, and therefore this report will expire after ten year from the test date.

STATEMENT OF INDEPENDENCE

The Hurricane Engineering & Testing, Inc., does not have, nor does it intend to acquire or will acquire, a financial interest in any company manufacturing or distributing products tested or labeled by the Hurricane Engineering & Testing, Inc. Hurricane Engineering & Testing, Inc., is not owned, operated or controlled by any company manufacturing or distributing products it test or labels.



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