



HURRICANE ENGINEERING & TESTING INC.

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



**Uniform Static Air Pressure Test, Air Infiltration Tests,
Large Missile Impact & Cyclic Wind Pressure Test**
(FBC TAS 202 & AAMA/WDMA/CSA 101/I.S.2/A440-22, AAMA 501-24)
(Failed to meet water infiltration requirement for both standards listed above)
(FBC TAS 201/203 & ASTM E1886-19/E1996-23)

March 18th, 2026

REPORT NUMBER: **HETI-24-8199**
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.: 21-0413.01 (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: 72 1/4" wide x 127 high (without Anchor plates)
MODEL COLOR: CS007
TEST No. **3**
DESIGN LOADS (PSF): **+60, -70** (failed to meet water infiltration requirement)
DRAWING NUMBER: Test Door #3 by Handcraft Iron Doors LLC, dated 03/09/2026
consisting of 6 pages, Revision 0.
TEST WITNESSED BY: Syed Waqar Ali, Ph.D. (HETI)
Dr. Nasreen K. Ali. (HETI)
Mr. Alejandro Flores (HETI)
Dr. Ram N. Tewari, Ph.D., P.E. (HETI)



Exterior & Interior View

Construction Details

PRODUCT

Outswing Entry door

DESCRIPTION OF UNIT

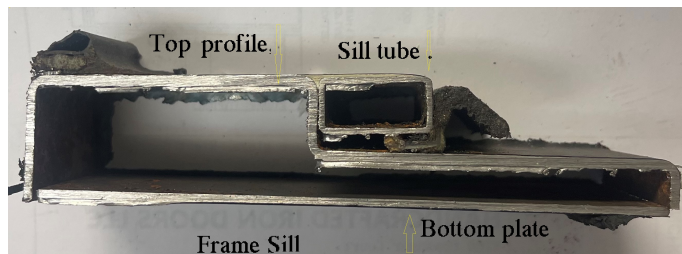
Overall size 72 ¼" wide x 127" high (without attachment plates)
Opening size 72 ½" wide x 127 ¼" high
Configuration OX
No. and size of Door Leaves (2): 34 1/16 wide x 123 3/16 high without Astragal,
 34 13/16" wide x 123 3/16 high with Astragal.

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	5.519 x 1.491	0.0925	Steel
-	Frame Head & Jambs (two welded tubes)	5.625 x 2.000	0.086	Steel
-	Head & jamb Exterior Tube	4.000 x 2.000	0.086	Steel
-	Head and Jamb Interior Tube	1.625 x 2.000	0.076	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)	0.500 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 Stop)	6.430 x 1.997	0.120	Steel
-	Lock Stile (without Glazing Stop)	6.750 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 is welded part of lock stile.			
-	Decorative Grill Material	½ x ½ bar		Steel

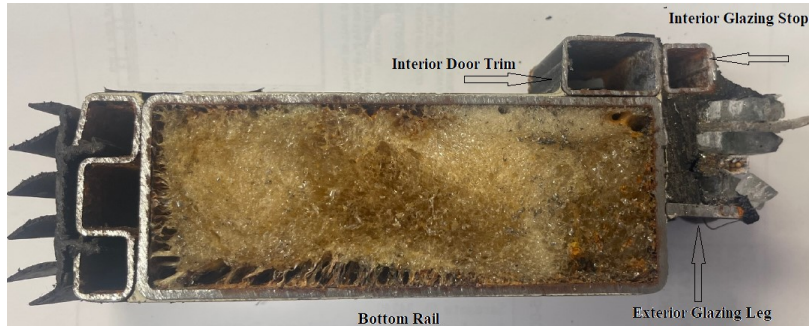
Door Frame Corner Construction

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. (4) anchoring angles were welded on exterior side of the jambs at 13 ⅞", 47", 80", 113" from the bottom, (3) anchoring angles were welded to the exterior side of the head at 13 ⅞", 36 ⅞", 60 ½" from the left end of the door frame. The hinges guides were fully welded at 13 ⅞", 64 ⅞", and 114 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, 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. 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 was welded at the attachment point on both leaves.



Glazing Material & Method of Glazing:

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

- ¼" nominal (0.191") actual outboard fully tempered glass
- 3/8" Air Space
- 3/16" nominal (0.183") actual outboard Heat Strengthened glass
- 0.090" Trosifol Clear PVB by Kuraray America, Inc.
- 3/16" nominal (0.183") actual outboard Heat Strengthened glass
- ½" nominal (0.461) total laminated thickness
- 1" nominal (1.03") actual, total insulated laminated glass thickness

Glass Bite: 1/2"

Glass DLO: Active & inactive leaf: 20 ¼" wide x 109 7/16" 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 (12) #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 Sill, head & jambs	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 Bottom Rail	Masonite Johnson Brown Fin Snap in Sweep part no. MJDBRFSS	1
Door leaf Top rail	Full length Wedge Gasket by MD Building Products Model 51501	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 11 3/4" rod with 1.21" diameter x 2.82" long head as a lock bolt; the lock bolt rod is guided through a 1 1/4" outside diameter x 5 1/2" long cylindrical guide welded to the door leaf. The lock rod engaged a cylindrical lock strike welded to the door frame sill and head. The surface bolts were installed at 2 1/4" from the edge of the lock stile.

The Surface Bolt Strikes: The lock strikes consisted of a 1 1/4" x 1 5/8" cylinder welded to 1/2" x 1/2" standoff bar, which was welded to the sill and head. The frame head and the sill.

Door Handle: 15" and 22" long door handles were installed in active and inactive door leaves, respectively. (4) #12 x 5/8" machine screws.

Dead Bolt: A dead bolt manufactured by Schlage Deadbolt Part # JD60716 was installed at 51 3/16" from the bottom of the door; strikes were cut in the inactive leaf

Hinges: (3) hinges assemblies measuring 4.78" long 1.19" diameter male hinge pivot with 1/58" x 0.75" pivot rod was installed on door frame and 3.180" long x 1.20" diameter female steel hinge with 0.77" hole were welded to the door frame and door leaves at 13 7/8", 64 1/4", 114 1/2" from the bottom.



INSTALLATION SCREWS/METAL CLIPS AND METHOD OF ATTACHMENT

Substrata Double stacked 2x12 SYP wood bucks. Shims: 1/8"

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

Location	Type	Size	Placement	Quantity
Sill			Not Attached	
Jamb	Lag Bolt	5/16" x 3"	(4) Attachment angle/tab at 13 3/8", 46 7/8", 79 5/8", 112 7/8" from the bottom of the door frame with (2) lag bolt per tab.	8
Head			(3) Attachment angle/tab at 13 3/8", 35 5/8", and 58" from the right end of the door frame with (2) lag bolts per tab.	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	13.4	0.0	13.4	63.7	0.21

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

Reference Test No. 24-8199 performed on July 12, 2024 by AF.

Uniform Static Air Pressure Test

Load Designation	Pressure (psf)	Location C2 (in)	Location C3 (in)	Location C4 (in)	Recovery C2 (%)	Duration (sec)
		Deflection (in)				
		Set (in)				
Positive Loads						
½ Test Load	+45	0.234	0.007	0.025	98	30
		0.006	0.000	0.002		
Design Load	+60	0.308	0.010	0.032	100	30
		0.002	0.000	0.002		
Test Load	+90	0.522	0.015	0.061	95	30
		0.031	0.001	0.009		
Negative Loads						
½ Test Load	-53	0.305	0.009	0.033	96	30
		0.014	0.002	0.004		
Design Load	-70	0.393	0.011	0.042	98	30
		0.011	0.001	0.002		
Test Load	-105	0.602	0.018	0.070	97	30
		0.018	0.002	0.004		

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

Reference Test No. 24-8199 performed on July 12, 2024 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: 24-8199, performed on 07/21/2024 by AF

Large Missile Impact Test

Impact Location	Speed (fps)	Description of Result
Center of right Leaf	50	No Penetration or Failure
Bottom right corner of right leaf	50	No Penetration or Failure
6" above the lock	50	No Penetration or Failure
Mid span bottom rail	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. 24-8200 performed on July 22, 2024 by AF.

Cyclic Wind Pressure Test Results

Number of Cycles	Pressure (psf)	Deflection (in)	Set (in)	Recovery (%)	Duration (sec)
Positive Pressure Cycles					
3500	+30	----	----	----	1.0
300	+36	----	----	----	1.4
600	+48	----	----	----	1.0
100	+60	----	----	----	1.3
Negative Pressure Cycles					
50	-70	----	----	----	1.7
1050	-56	----	----	----	1.0
50	-42	----	----	----	1.2
3350	-35	----	----	----	1.0

Reference Test No. 24-8200 performed on July 22, 2024 by AF.

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.

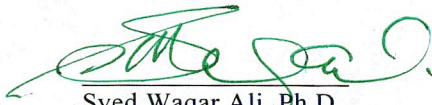
Conclusion

The sample was tested in accordance with Florida Building Code Test application standard for HVHZ TAS 202 without water infiltration test, 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 except water infiltration. 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 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.


Syed Waqar Ali, Ph.D.
President

