

TEST REPORT

Report No.: B8026.01-301-44

Rendered to:

HUAMEI NEW COMPOSITE MATERIAL CO., LTD.
Zhejiang, China

PRODUCT TYPE: OXXO In-Swing Side-Hinged Door
SERIES/MODEL: FM 800 C

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-05, *Standard/Specification for Windows, Doors, and Unit Skylights.*

Title	Summary of Results
Primary Product Designator	SHD-R15 2871 x 2481 (113 x 98) - LW
Design Pressure	± 720 Pa (± 15.04 psf)
Air Infiltration	0.81 L/s/m ² (0.16 cfm/ft ²)
Water Penetration Resistance Test Pressure	0 Pa (0.0 psf) (LW)

Test Completion Date: 04/20/2012

Reference must be made to Report No. B8026.01-301-44, dated 05/10/12 for complete test specimen description and detailed test results.

1.0 Report Issued To: Huamei New Composite Material Co., Ltd.
2133 FarZhan Road TongXiang Economic Development Zone
Zhejiang, 314500 (China)

2.0 Test Laboratory: Architectural Testing, Inc.
2524 East Jensen Avenue
Fresno, California 93706
(559) 233 - 8705

3.0 Project Summary:

3.1 Product Type: OXXO In-Swing Side-Hinged Door

3.2 Series/Model: FM 800 C

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods. The specimen tested successfully met the performance requirements for an **SHD-R15 2871 x 2481 (113 x 98) - LW** rating.

3.4 Test Dates: 04/09/2012 - 04/20/2012

3.5 Test Location: Architectural Testing, Inc. test facility in Fresno, California..

3.6 Test Sample Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Architectural Testing for a minimum of four years from the test completion date.

3.7 Drawing Reference: A complete drawing packet was not provided by the client and therefore the drawings were not reviewed by Architectural Testing. Test specimen construction was verified by Architectural Testing per the attached report description.

3.8 List of Official Observers:

<u>Name</u>	<u>Company</u>
Ryan Shao	Huamei New Composite Material Co., Ltd.
David Douglass	Architectural Testing, Inc.
Jeffrey T. Osugi	Architectural Testing, Inc.
Jarod Hardman	Architectural Testing, Inc.

4.0 Test Specification(s):

AAMA/WDMA/CSA 101/I.S.2/A440-05, *Standard/Specification for Windows, Doors, and Unit Skylights.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 7.12 m ² (76.67 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	2871	113-1/16	2481	97-11/16
Left leaf size	940	37	2425	95-1/2
Right leaf size	915	36	2424	95-7/16
Sidelight size (x2)	460	18-1/8	2420	95-1/4

5.2 Frame Construction:

Frame Member	Material	Description
Head, sill, jambs and mullions	Wood-Plastic Composite	
Sill spacer	Wood	Located under threshold cover at exterior.
Sill riser	Wood-Plastic Composite with Polyvinyl Chloride Veneer	Secured to sill with 1/4-20 x 1" Phillips flat head screws into T nuts 3-1/2" from each end and 9" on center.
Threshold cover	Aluminum	

	Joinery Type	Detail
Head, sill and jambs	Coped	Secured with four #10 x 2" Phillips flat head screws. The corners were sealed with silicone.
Mullion	Coped at sill. Tongue and groove at head.	The left mullion was secured through the frame at the head with two #10 x 2" Phillips flat head screws and through the sill with three #10 x 2" Phillips flat head screws. The right mullion was secured through the head with six #10 x 2" Phillips flat head screws and through the sill with four #10 x 2" Phillips flat head screws. The mullions were sealed to the frame.

5.0 Test Specimen Description: (Continued)

5.3 Leaf Construction:

Leaf Member	Material	Description
Leaf	Wood-Plastic Composite / Fiber Reinforced Polyester / Pine / Polyether Glycol Foam	1-3/4" thick door with two Fiber Reinforced Polyester skins with a Wood-Plastic Composite and Pine sub-structure with a Polyether Glycol Foam core. The bottom 7" of each sidelite stile was sealed to the jambs/mullions with silicone.
Astragal	Aluminum	Secured to left leaf with five #6 x 1-1/4" Phillips flat head screws 4 – 6" from each end and 17" on center.
Sweep cover	Aluminum	Secured to bottom of each leaf and sidelight with #8 x 5/8" Phillips pan head screws located 2-1/2" from each end and 6" on center. The sweep cover was sealed to the door with silicone. The sweep cover was sealed to the sill with silicone.

	Joinery Type	Detail
Leaf	N/A	One piece.

5.4 Weatherstripping:

Description	Quantity	Location
Wrapped foam gasket	1 Row	Each jamb. Head at each sidelite. Head at secondary leaf. Sweep of each active leaf. Each side of each mullion.
Wrapped foam gasket	2 Rows	Head at primary leaf. Astragal for the top 24-1/2".
Dual leaf hollow bulb gasket	2 Rows	Each sweep.
0.290" Polypile	1 Row	Astragal.

5.0 Test Specimen Description: (Continued)

5.5 Glazing:

Glass Type	Spacer Type	Interior Lite	Center Lite	Exterior Lite	Glazing Method
1" IG	Aluminum reinforced butyl with internal caming	1/8" tempered	1/8" annealed pattern	5/32" tempered	Secured on each side with a PVC glazing stop. The glazing stops were secured together with #8 x 1-3/8" Phillips pan head screws 3 – 5" from each corner and 10 – 16" on center. The screws heads were sealed with PVC caps and filler. The glazing stop was sealed to the leaf and the glazing.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Sidelight	2	185 x 2015	7-5/16 x 79-5/16	1/2"
Leaf	2	375 x 1117 oval	14-3/4 x 44 oval	3/4"

5.6 Drainage: No drainage was utilized.

5.7 Hardware:

Description	Quantity	Location
Lock assembly	1	36" from the bottom rail secured through the leaf with two 8-32 x 1-7/8" Phillips pan head screws. The handle assembly was secured to the door with one #8 x 1-1/2" Phillips flat head screw. The strike plate was secured to the leaf using two #8 x 5/8" Phillips flat head screws.
Strike	1	Opposite the lock secured with two #8 x 1-1/2" Phillips flat head screws through a plastic spacer and into the astragal.

5.0 Test Specimen Description: (Continued)

5.7 Hardware: (Continued)

Description	Quantity	Location
Deadbolt	1	41-1/4" from the bottom rail secured through the assembly with two 10-32 x 2-1/2" Phillips oval head screws. The strike plate was secured to the leaf with two #8 x 5/8" Phillips flat head screws.
Deadbolt strike	1	Opposite the deadbolt and the lock each secured with two #8 x 1-1/2" Phillips flat head screws through a plastic spacer and into the astragal.
Hinges	6	11-1/2", 36-1/4", 60-7/8" and 85-1/2" from the bottom rail secured to the mullion with four #10 x 1-5/8" Phillips flat head screws and to the leaf with four #10 x 2" Phillips flat head screws.
Shoot bolt	2	Employed at top and bottom rail of the meeting stile. A rubber gasket was employed at the bottom rail.

5.8 Reinforcement: No reinforcement was utilized.

6.0 Installation:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/2 - 9/16" shim space. The exterior perimeter of the window was sealed with silicone.

Location	Anchor Description	Anchor Location
Head and sill	2" drywall screws	21 - 25-1/4" from each jamb and 2-1/4 - 2-1/2" on each side of midspan.
Jambs	#8 x 3" Phillips flat head screws	Four screws located 4 - 6-1/2" from each end and 16 - 38" on center.

7.0 Test Results: The temperature during testing was 19 - 23°C (66 - 73°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Force to Latch Side-Hinged Door System, per ANSI/BHMA A156.2	Force to Latch: 44 N (10.0 lbf) Deadbolt: 147 N (33.0 lbf)	Report Only Report Only	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.81 L/s/m ² (0.16 cfm/ft ²)	1.5 L/s/m ² (0.3 cfm/ft ²) max.	1
Water Penetration, per ASTM E 331 at 0 Pa (0.00 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 taken at right mullion +720 Pa (+15.04 psf) -720 Pa (-15.04 psf)	6.5 mm (0.26") 6.0 mm (0.24")	Report Only.	2,3,4
Uniform Load Deflection, per ASTM E 330 taken at astragal +720 Pa (+15.04 psf) -720 Pa (-15.04 psf)	16.5 mm (0.65") 12.0 mm (0.47")	Report Only.	3,4,5
Uniform Load Structural, per ASTM E 330 taken at right mullion +1080 Pa (+22.56 psf) -1080 Pa (-22.56 psf)	0.8 mm (0.03") 0.3 mm (0.01")	9.4 mm (0.37") max.	3,4
Uniform Load Structural, per ASTM E 330 taken at astragal +1080 Pa (+22.56 psf) -1080 Pa (-22.56 psf)	1.0 mm (0.04") 0.3 mm (0.01")	9.4 mm (0.37") max.	3,4
Forced Entry Resistance, per AAMA 1304, 1330 N (300 lbf) point load	Pass	No entry	
Operation/Cycling Performance, per AAMA 920 25,000 cycles	Pass	Meets as stated	

7.0 Test Results: (Continued)

Title of Test	Results	Allowed	Note
Vertical Loading Resistance, per AAMA 925 Pre-load – 200 N (45.0 lbf) Vertical permanent set	0.8 mm (0.03")	Report Only	
Vertical Loading Resistance, per AAMA 925 Test load – 675 N (151.7 lbf) Vertical deflection Vertical permanent set	1.8 mm (0.07") 0.8 mm (0.03")	Report Only	
Vertical Loading Resistance, per AAMA 925 Diagonal deformation	0.0 mm (0.0")	Report Only	
Vertical Loading Resistance, per AAMA 925 Force to latch	Force to Latch: 44 N (10.0 lbf) Deadbolt: 147 N (33.0 lbf)	Report Only Report Only	

Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

Note 3: Loads were held for 10 seconds.

Note 4: Tape and film were used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

The service life of this report will expire on the stated Test Record Retention End Date, at which time such materials as drawings, data sheets, samples of test specimens, copies of this report, and any other pertinent project documentation, shall be discarded without notice.

If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

Jarod Hardman
Technician

Kenny C. White
Laboratory Manager

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Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Alteration Addendum (1)

Appendix-B: Photographs (1)

Appendix A

Alteration Addendum

Alteration #1: Date - 04/16/12
Cause for alteration - Failed water penetration test.
Remedial action taken - Sealed door sweep to panel. Sealed sidelights to frame. Added weatherstripping to head at primary panel and active leaf sweeps. Sealed glazing stop.

Appendix B
Photographs



Photo No. 1
Exterior View