



PERFORMANCE TEST REPORT

Rendered to:

HM SUREROCK INC. DBA HM GROUP USA

**PRODUCT: Sure Jamb
TYPE: HM SureRock Composite Door Jamb**

Report No.: F2758.01-106-31

Report Date: 12/15/15

Test Record Retention Date: 11/30/19



PERFORMANCE TEST REPORT

Rendered to:

HM SUREROCK INC. DBA HM GROUP USA
15759 Tapia Street
Irwindale, California 91706

Report No.: F2758.01-106-31
Test Start Date: 11/09/15
Test Completion Date: 11/30/15
Report Date: 12/15/15
Test Record Retention Date: 11/30/19

Product: Sure Jamb

Type: HM SureRock Composite Door Jamb

Project Summary: Architectural Testing, Inc., an Intertek company ("Intertek-ATI"), was contracted by HM SureRock Inc. dba HM Group USA to evaluate the Fastener Withdrawal, Flexural Properties, and Hinge Loading Resistance of their Sure Jamb, Composite Door Jamb. The product description, test procedures and test results are reported herein.

Summary Test Results

Standard	Maximum Load (lbf)
ASTM D1761 - Fastener Withdrawal	215
ASTM D6109 - Flexural Properties	1200
WDMA TM 8 - Hinge Loading	307

Test Methods: The test specimens were evaluated in accordance with the following methods.

ASTM D1761-12, Standard Test Methods for Mechanical Fasteners in Wood

ASTM D6109-13, Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastic Lumber and Related Products

WDMA TM8-14, Hinge Loading-Test Method for Determining Hinge Loading Resistance of Wood Door Stiles

Product Description: The Sure Jamb, Composite Door Jamb was submitted to Intertek-ATI by HM SureRock Inc. dba HM Group USA and consisted of five pieces nominally 84 in. x 4-9/16 in.. Four specimens were received on November 10, 2015 and one additional specimen, with routing at three locations to accommodate 4 inch hinges, was received on November 16, 2015. The material was tested as-received with the exception of machining the smaller test pieces from the larger specimens. Refer to the photos in Appendix A for more detail.

Test Procedures and Test Results: The testing procedures and results obtained from testing are reported as follows. All conditioning of test specimens and test conditions were at standard laboratory conditions unless otherwise reported.

Test Procedures and Results: (Continued)

ASTM D1761 - Fastener Withdrawal

Ten specimens were tested in accordance with ASTM D1761. Specimens were nominally 6 inches in length by 1-1/4 in. in thickness. Two, #10 x 1" flathead screws were threaded into pilot holes to a depth equal to the threaded portion. Two pilot holes, 70% of the screw root diameter (0.937 in.), were drilled 1/2 inch in depth, 3/4 inches from the edge, 1-1/2 inches from the end, and spaced -1/2 inches apart. Specimens were loaded onto an Instron Universal Testing Machine (ICN: 005741) and loaded at a rate of 0.10 in/min until failure was achieved. The failure mode was complete withdrawal of the screws. No moisture content reading was taken due to the material being a composite.

ASTM D1761 - Fastener Withdrawal

Specimen No.	Maximum Load (lbf)	Tensile Extension at Maximum Load (in)	Mode of Failure
1-1	207	0.0577	Screw Withdrawal
1-2	209	0.0585	Screw Withdrawal
2-1	223	0.0688	Screw Withdrawal
2-2	222	0.0328	Screw Withdrawal
3-1	224	0.0473	Screw Withdrawal
3-2	211	0.0557	Screw Withdrawal
4-1	219	0.0585	Screw Withdrawal
4-2	214	0.0810	Screw Withdrawal
5-1	219	0.0385	Screw Withdrawal
5-2	209	0.0843	Screw Withdrawal
6-1	210	0.0663	Screw Withdrawal
6-2	214	0.0635	Screw Withdrawal
7-1	215	0.0673	Screw Withdrawal
7-2	217	0.0803	Screw Withdrawal
8-1	217	0.0575	Screw Withdrawal
8-2	218	0.0630	Screw Withdrawal
9-1	213	0.0850	Screw Withdrawal
9-2	204	0.0788	Screw Withdrawal
10-1	210	0.0468	Screw Withdrawal
10-2	217	0.0892	Screw Withdrawal
Mean	215	0.0641	
Standard Deviation	5.419	0.016	

Test Procedures and Results: (Continued)

ASTM D6109 - Flexural Properties

Five specimens were tested in accordance with ASTM D6109. Specimens were measured with a digital caliper (ICN: 65366), loaded into an Instron Universal Testing Machine (ICN: 005741) and tested at a crosshead speed of 0.588 in/min until failure. A 20 inch support span was utilized along with a third-point loading condition. Blocks, nominally 2-5/8 inches wide, were utilized on the 1-1/4 inch loading noses to accommodate the stepped down profile of the specimens. Refer to the photos in Appendix A for more detail.

ASTM D6109 - Flexural Properties

Specimen ID	Width (in)	Depth (in)	Maximum Flexural Load (lbf)	Maximum Flexural Strength (psi)	Modulus of Elasticity (psi)
1	4.585	1.254	1230	3404	196,500
2	4.589	1.261	1160	3176	179,500
3	4.585	1.260	1240	3400	192,700
4	4.583	1.261	1180	3243	183,700
5	4.591	1.256	1200	3314	187,300
Mean			1200	3307	187,900
Standard Deviation			32.2	99.01	6813

WDMA TM8 - Hinge Loading Resistance

Three specimens were tested in accordance with WDMA TM8. Specimens were pre-routed to a depth of 0.130 inches for the supplied 4 inch hinges. Pilot holes were drilled to 90% of the client supplied screw root diameter (0.125 in.). Specimens were cut 12 inches in length and secured to a SATEC Model MII 50UD Universal Test Machine (ICN: Y002011) and loaded at a crosshead movement rate of 0.10 in/min until failure was observed. The failure mode was complete withdrawal of the screws. No moisture content reading was taken due to the material being a composite.

WDMA TM8 - Hinge Loading Resistance

Specimen No.	Failure Load (lbf)	Mode of Failure
1	290	Screw Withdrawal
2	329	Screw Withdrawal
3	302	Screw Withdrawal
Mean	307	



Intertek-ATI will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Intertek-ATI for the entire test record retention period.

Results obtained are tested values and were secured using the designated test methods. 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 Intertek-ATI.

For INTERTEK-ATI:

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JRH:jmb/kf

Attachments (pages) This report is complete only when all attachments listed are included.
Appendix A - Photographs (4)



Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	12/15/15	N/A	Original report issue



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APPENDIX A

Photographs



Photo No. 1
Materials as Received

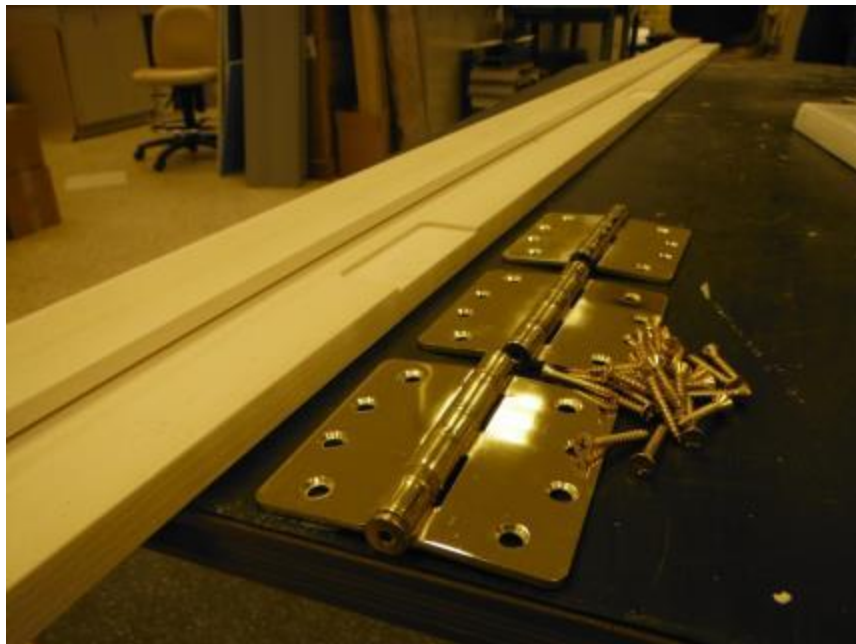


Photo No. 2
Materials as Received with Hinges and Routing

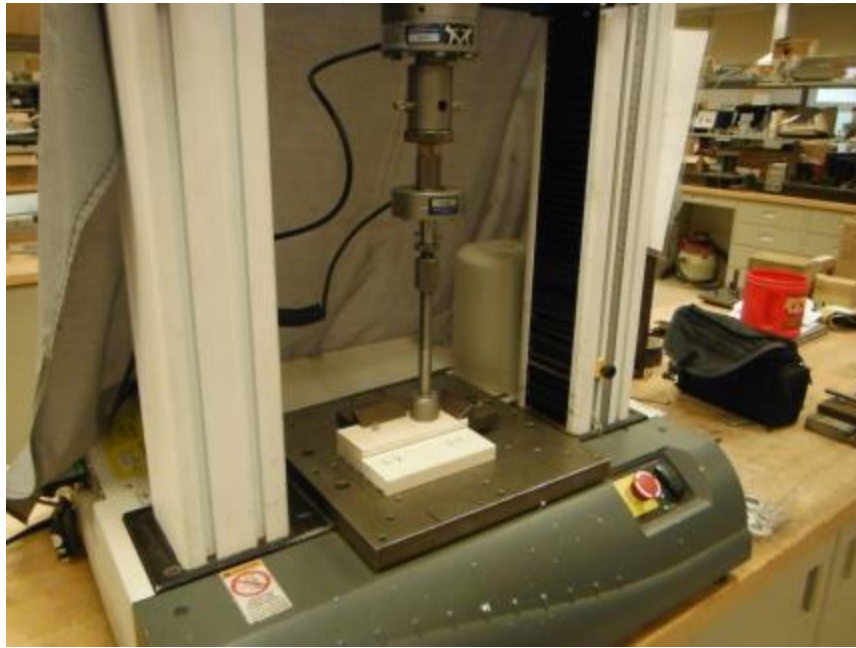


Photo No. 3
Fastener Withdrawal Test Setup

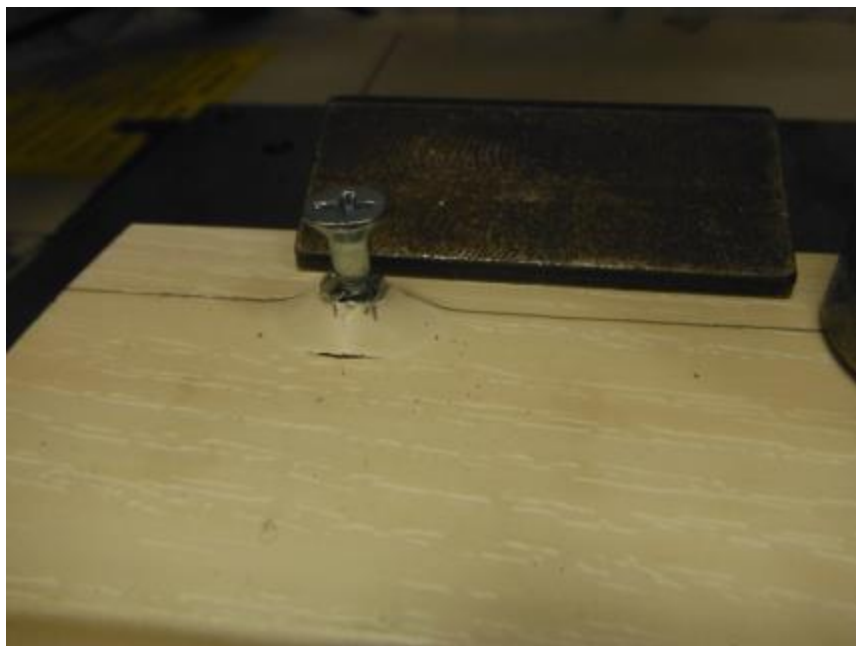


Photo No.4
Fastener Withdrawal Failure Detail (Typical)



Photo No. 5
Flexural Properties Evaluation Test Setup



Photo No. 6
Flexural Properties Test Failure Detail (Typical)

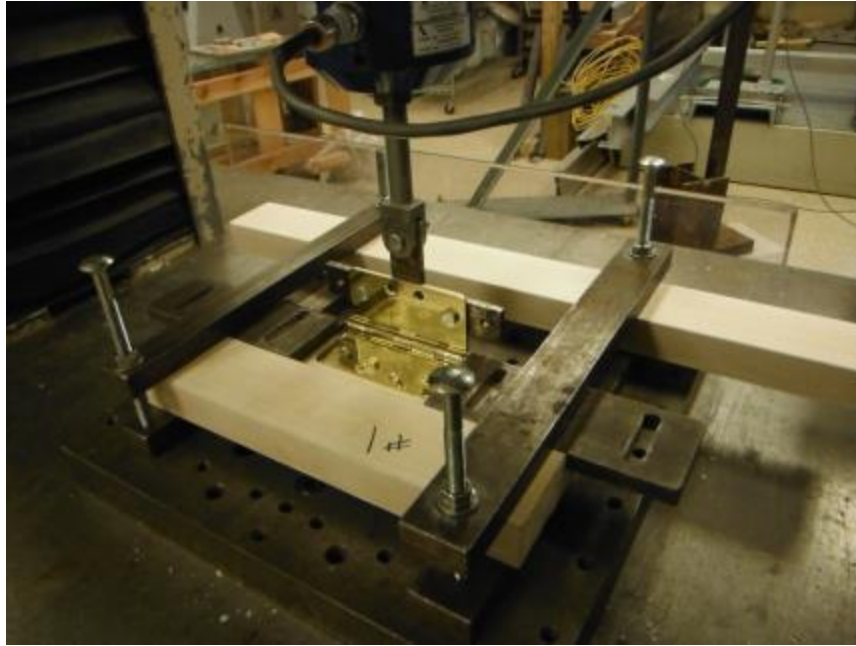


Photo No. 7
Hinge Loading Resistance Test Setup



Photo No. 8
Hinge Loading Resistance Failure Detail (Typical)