

TEST REPORT

ASTM F2090-21

REPORT No.: 29730.01-106-11

RENDERED TO: 3D LOCKDOWN SUPPLY, LLC
Algonquin, IL

PRODUCT TYPE: Single Action Window Opening Control Device

Test Completion Date: 11/19/2024
Report Date: 12/9/2024

Reference must be made to Report No. 29730.01-106-11, dated 12/9/2024 for complete test specimen description and detailed test results.

CLIENT INFORMATION: 3D LOCKDOWN SUPPLY, LLC
Algonquin, IL 17030

TEST LABORATORY: Molimo, LLC
1410 Eden Road
York, Pennsylvania 17402
717-900-6034

PROJECT SUMMARY:

PRODUCT TYPE: Single Action Window Opening Control Device

PROJECT SUMMARY:

Molimo, LLC was contracted to perform testing on the above referenced product. The Window Opening Control Device tested met the requirements specified in ASTM F 2090, Sections 4.15, 4.18, and 8.8.

PROJECT DETAILS:

Test Dates: 11/14/2024 – 11/18/2024

Test Record Retention End Date: 11/18/2028

Test Location: Molimo LLC test facility in York, Pennsylvania.

Test Specimen Source: The test specimens were provided by the client. Representative samples of the test specimen will be retained by Molimo for a minimum of four years from the test completion date.

Drawing Reference: The test specimen drawings were supplied by the client. The test specimen construction was verified by Molimo and was found to be representative of the product tested.

WITNESSES:

The following representatives witnessed all or part of the testing.

Name	Company
Justin Bupp	Molimo, LLC
Brett Shultz	Molimo, LLC

TEST METHOD:

ASTM F2090-21 – *Standard Specification for Window Fall Prevention Devices With Emergency Escape (Egress) Release Mechanisms*

TEST SPECIMEN DESCRIPTION:**WINDOW DESCRIPTION:**

Overall Size: 39-1/2" x 59-1/2" (1003 mm x 1511 mm)

Overall Area: 16.3 ft² (1.51 m²)

Window Description: The window was a PVC Single Hung Window.

WINDOW OPENING CONTROL DEVICE DESCRIPTION:

The Window Opening Control Device (WOCD) was a PVC single action device. The device features a one-time retention clip located on the upper surface, designed to securely capture the stop-bracket within the body of the WOCD. Once the device is installed in the window sash, the retention clip is pushed down to release and engage the device for secure operation. The device utilized a spring to keep the device in the engaged position. The device was disengaged by pressing the lever towards the window until the bottom sash could be raised. The device automatically re-engaged after the sash was moved over the device and the sash was returned to the closed position.

Two devices were installed into the window. Each device was located approximately 5" above the meeting rail to allow for an opening dimension of 3-1/4". The devices were installed into the frame jambs on the interior side of the top fixed lite.

TEST RESULTS:**WINDOW OPENING CONTROL DEVICE TESTING: (per ASTM F 2090-10)**Initial Measurements: (Section 8.5)

Test	Results	Allowable
Operational Force	6lbf (27 N)	15 lbf (66 N)
Initial Opening Measurement	3-1/4"	4" (102 mm)

Pre-Load Testing: (Section 8.6)

Test	Results	Allowable
5 cycles of 75 lbf (333 N)	No Damage	No Damage

Note 1: Each cycle of the pre-load was applied for a minimum duration of 10 seconds.

Opening Measurement: (Section 8.6)

Test	Results	Allowable
Opening Measurement	3-1/4"	4" (102 mm)

Cycle Testing: (Section 8.7)

Test	Results	Allowable
4000 cycles	No Damage	No Damage

Note 2: Each cycle consisted of disengaging the WOCD(s), moving sash past the WOCD(s), and then closing the sash, automatically re-engaging the WOCD(s).

Test Load Cycle Testing: (Section 8.8)

Test	Results	Allowable
100 cycles of 75 lbf (333 N)	No Damage	No Damage

Note 3: Each cycle of the pre-load was applied for a minimum duration of 10 seconds.

Final Measurements: (Section 8.9)

Test	Results	Allowable
Operational Force	6lbf (27 N)	15 lbf (66 N)
Final Opening Measurement	3-1/4"	4" (102 mm)

General Note: Upon completion of testing, the WOCD(s) remained operational and did not allow passage of a 4" diameter sphere, thus meeting the requirements of Sections 8.5, 4.15, and 4.18 of ASTM F 2090.

A copy of this report, detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Molimo, LLC for the entire test record retention period. At the end of this retention period, the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. This test 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 permission of Molimo, LLC.

For MOLIMO, LLC:

Written by:

Authorized by:

Justin L. Bupp
Manager – Product Testing

Robert J. Beatty
Project Manager

JLB:bnr

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

Appendix-A: Photographs (3)

Appendix-B: Drawings (1)

This report was produced from controlled document template MMO 00014.

Appendix A

Photographs



Photo 1
WOCD installed into frame

Photo 2
WOCD (side view)



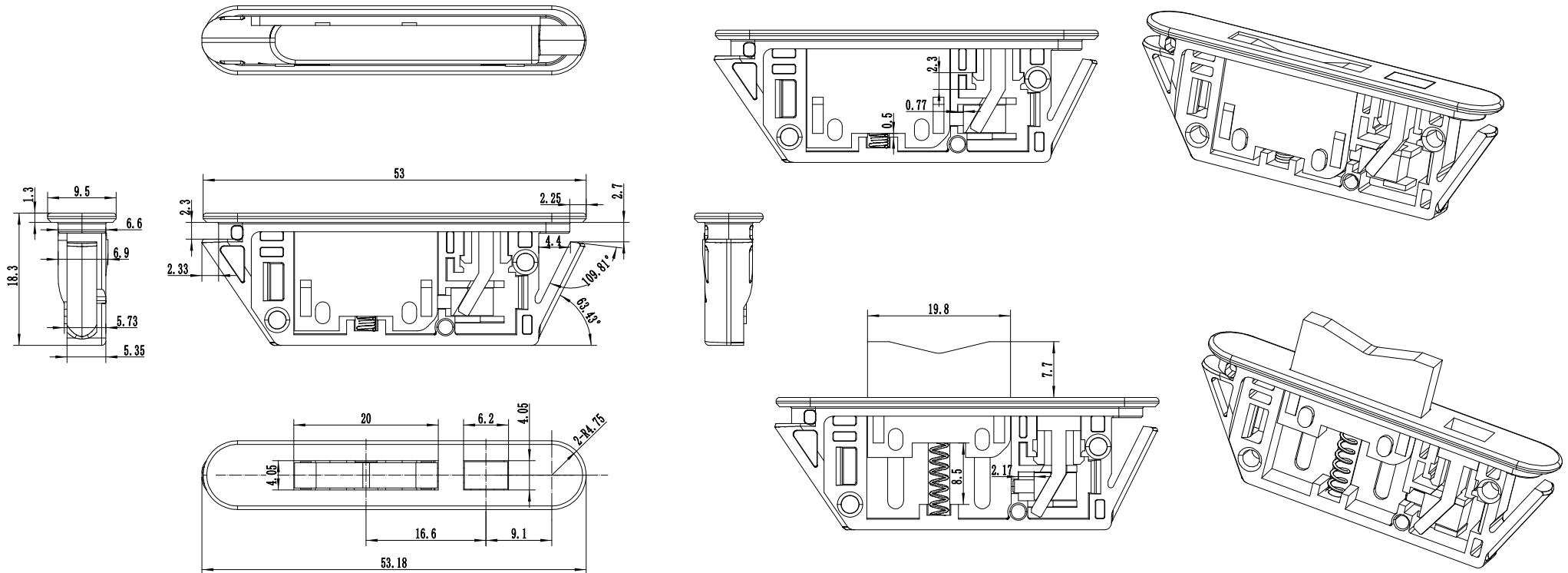
Photo 3
WOCD (side view)



Appendix B

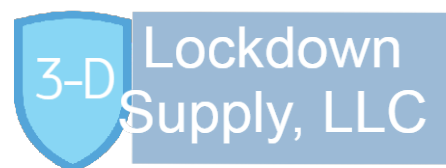
Drawings

Remsafe - Engaged WOCD Limiter - Model LMT-E-01



STRICTLY CONFIDENTIAL

Release with written request from 3-D Lockdown Supply LLC



Safety Solutions For Every Window

