



# NATIONAL CERTIFIED TESTING LABORATORIES

FIVE LEIGH DRIVE • YORK, PENNSYLVANIA 17406 • TELEPHONE (717) 846-1200  
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AAMA/WDMA/CSA 101/I.S.2/A440-05  
AAMA/WDMA/CSA 101/I.S.2/A440-08

## STRUCTURAL PERFORMANCE TEST REPORT SUMMARY

### RENDERED TO:

Remodelers Supply Center  
2622 North Pulaski  
Chicago, IL 60639

MODEL/TYPE: "1199 ClimateGuard" Horizontal Slider

TITLE	SUMMARY OF RESULTS
Primary Product Designator	2005: HS-LC40 1803 x 1422 mm (71x56) 2008: Class LC-PG40: Size tested 1803 x 1422 mm (71x56 in)-Type HS
Air Infiltration/Exfiltration	Infiltration Rate: 1.0 L/s/m <sup>2</sup> (0.2 cfm/ft <sup>2</sup> ) (0.18 cfm/ft <sup>2</sup> measured)
Water Penetration Resistance	290 pa (6.0 psf)
Design Pressure	± 1920 pa (40.0 psf)
Uniform Load Structural Test	± 2880 pa (60.0 psf)
Forced Entry Resistance	Passed ASTM F588-07 Grade 10

**Test Completion Date: 07/12/11**

**Test Expiration Date: 07/12/15**

Reference must be made to NCTL Report Number NCTL-110-14146-1 dated 07/13/11 for complete test sample description and data.

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DIGITAL SIGNATURE

JAY LEADER  
Technician



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## **STRUCTURAL PERFORMANCE TEST REPORT**

# **NCTL-110-14146-1**

### REPORT TO:

Remodelers Supply Center  
2622 North Pulaski  
Chicago, IL 60639

ORIGINAL REPORT NUMBER: NCTL-110-14146-1

ORIGINAL REPORT DATE: 07/14/11

TEST EXPIRATION DATE: 07/12/15

MODEL/TYPE: "1199 ClimateGuard" Horizontal Slider



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REPORT NCTL-110-14146-1TO: Remodelers Supply Center  
2622 North Pulaski  
Chicago, IL 60639

STARTING TEST DATE: 07/12/11  
ENDING TEST DATE: 07/12/11  
TEST EXPIRATION DATE: 07/12/15

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-05, "Standard/Specification for Windows, Doors and Unit Skylights."  
AAMA/WDMA/CSA 101/I.S.2/A440-08, "NAFS-North American Fenestration Standard/Specification for Windows, Doors and Skylights."

PERFORMANCE CLASS: 2005: HS-LC40 1803 x 1422 mm (71x56)  
2008: Class LC-PG40: Size tested 1803 x 1422 mm (71x56 in)-Type HS

## DESCRIPTION OF SAMPLE TESTED

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MODEL/TYPE: "1199 ClimateGuard"

CONFIGURATION: XX horizontal slider

FRAME SIZE: 1803.4 mm (71") wide by 1422.4 mm (56") high

EXTERIOR PANEL SIZE: 906.46 mm (35-11/16") wide by 1341 mm (52-13/16") high

EXTERIOR PANEL VIEWING AREA: 839.79 mm (33-1/16") wide by 1257.3 mm (48-1/2") high

INTERIOR PANEL SIZE: 904.88 mm (35-5/8") wide by 1341.44 mm (52-13/16") high

INTERIOR PANEL VIEWING AREA: 838.2 mm (33") wide by 1258.89 mm (49-5/8") high

FRAME & SASH TYPE: Extruded aluminum with poured urethane thermal breaks

JOINT CONSTRUCTION

    FRAME: (2) Screw butt-type

    PANEL: (2) Screw butt-type

GLAZING COMPONENTS

    OVERALL: 19.05 mm (0.75") nominal

    GLASS THICKNESS: (2) Lites of 2.5 mm (0.091") nominal annealed

    SPACER TYPE/SIZE: Coated steel U-shaped (CU-D) 14.43 mm (0.568")

GLAZING SYSTEM: Channel glazed with a flexible vinyl gasket with (5) glazing fins

WEATHERSTRIP

    TYPE: (1) Strip center fin

    SIZE: 6.86 mm (0.270") high

    LOCATION: Top and bottom rails and exterior panel jamb stile

    TYPE: (2) Strips center fin

    SIZE: 6.86 mm (0.270") high

    LOCATION: Interior meeting stile and interior panel jamb stile

**WEATHERSTRIP (continued)**

TYPE: Adhesive backed center fin dust pad 34.93 mm (1.375") x 73.03 mm (2.875")  
 SIZE: 7.37 mm (0.290") high  
 LOCATION: Top and bottom of the left jamb interior track

TYPE: Open cell baffle 98.43 mm (3.875") x 19.05 mm (0.75") x 19.05 mm (0.75") high  
 LOCATION: 139.7 mm (5.5") from each end and midspan of exterior sill track

**OPERATING HARDWARE****LOCKS**

TYPE: Metal cam-type  
 LOCATION: 434.98 mm (17.125") from each end of the interior meeting stile

**KEEPER**

TYPE: Metal  
 LOCATION: Exterior meeting stile at the lock positions

**AUXILIARY**

TYPE: Rigid vinyl filler/ vertical leg  
 LOCATION: Head and sill

TYPE: Rigid vinyl cover  
 LOCATION: Left jamb exterior track and right jamb interior track

TYPE: Double metal rollers with plastic housing  
 LOCATION: 41.28 mm (1.625") from each end of the bottom rails

TYPE: Urethane foam  
 LOCATION: Frame webbing

TYPE: Rigid vinyl panel guide  
 LOCATION: Each end of the top and bottom rails

**REINFORCEMENT**

None employed

**WEEP HOLES**

SIZE: (2) 25.4 mm (1") wide by 6.35 mm (0.25") with plastic weep cover  
 LOCATION: 158.75 mm (6.25") from each end and midspan of the exterior sill face

SIZE: 25.4 mm (1") wide by 6.35 mm (0.25")  
 LOCATION: 139.7 mm (5.5") from each end and midspan of the interior sill track

**INTERIOR & EXTERIOR**

**SURFACE FINISH:** White painted aluminum

**SEALANT**

LOCATION: Frame and panel corners  
 MATERIAL: Small joint sealant

**INSECT SCREEN**

SIZE: 900.13 mm (35.438") wide by 1320.8 mm (52")  
 CORNER CONSTRUCTION: Mitered with plastic corner key  
 MATERIAL: Fiberglass mesh with hollow vinyl spline and with (2) retainer springs and (1) strip of single leaf vinyl weatherstrip at the stile

**INSTALLATION METHOD:**

The window was installed in a 50.8 mm x 254 mm (2" x 10") wood buck and with 25.4 mm (1") x 12.7 mm (0.5") wood blind stops at the interior and exterior perimeter of the frame. Each blind stop was secured with 31.75 mm (1.25") long brad nails located at 76.2 mm (3") from each end and 254 mm (10") on center thereafter. The exterior perimeter was sealed with a silicone sealant.

**TEST RESULTS****5.3.1.1. OPERATING FORCE**

ASTM E2068	<b><u>Measured</u></b>	<b><u>Allowed</u></b>
Exterior Panel		
Initiate Open	71.0 N (16 lbf)	-----
Initiate Close	58.0 N (13 lbf)	115.0 N (25 lbf)
Maintain Open	62.0 N (14 lbf)	-----
Maintain Close	71.0 N (16 lbf)	115.0 N (25 lbf)
Interior Panel		
Initiate Open	49.0 N (11 lbf)	-----
Initiate Close	58.0 N (13 lbf)	115.0 N (25 lbf)
Maintain Open	58.0 N (13 lbf)	-----
Maintain Close	58.0 N (13 lbf)	115.0 N (25 lbf)
Latch Operation	31.0 N (9 lbf)	100.0 N (22.5 lbf)

**5.3.2 AIR LEAKAGE RESISTANCE AT 75 PA (1.6 PSF)**

ASTM E283	<b><u>Measured</u></b>	<b><u>Allowed</u></b>
Infiltration Rate	1.0 L/s/m <sup>2</sup>	1.5 L/s/m <sup>2</sup>
	(0.2 CFM/ft <sup>2</sup> )	(0.3 CFM/ft <sup>2</sup> )
	(0.18 CFM/ft <sup>2</sup> measured)	

*The Tested Specimen Meets Or Exceeds the Performance Levels Specified in AAMA/WDMA/CSA 101/I.S.2/A440-05/08*

**5.3.3 WATER RESISTANCE TEST**

ASTM E547

No Leakage after 4 cycles of 5 minutes @ 290 pa (6.0 psf)

*\* Tested with and without insect screen*

**5.3.4.2 UNIFORM LOAD DEFLECTION AT DESIGN PRESSURE**

ASTM E330

No Damage After Positive 1920 pa (40.0 psf)

No Damage After Negative 1920 pa (40.0 psf)

	<b><u>Measured</u></b>	
Measured Deflection Positive	6.55 mm	(0.258 inches)
Measured Deflection Negative	7.01 mm	(0.276 inches)

**5.3.4.3 UNIFORM LOAD STRUCTURAL TEST**

ASTM E330

No Damage After Positive 2880 pa (60.0 psf)

No Damage After Negative 2880 pa (60.0 psf)

	<b><u>Measured</u></b>	
Measured Permanent Set Positive	0.203 mm	(0.008 inches)
Measured Permanent Set Negative	0.229 mm	(0.009 inches)
Maximum Allowed 0.4% for R Rating 5.28 mm (0.208 inches)		

*\*\* No glass breakage or permanent damage causing the unit to be inoperable*

**5.3.5 FORCED ENTRY RESISTANCE.**

Passed ASTM F588-07 Grade 10

See Appendix for results.

**TEST RESULTS** (continued)**5.3.6.3 DEGLAZING.**

## ASTM E987

Exterior Panel		<b><u>Measured</u></b>		
Top Rail	230 N (50 lbf)	12.6 %	1.60 mm	(0.063 inches)
Bottom Rail	230 N (50 lbf)	13.4 %	1.70 mm	(0.067 inches)
JambStile	320 N (70 lbf)	17.6 %	2.24 mm	(0.088 inches)
Meeting Stile	320 N (70 lbf)	18.4 %	2.34 mm	(0.092 inches)
Interior Panel		<b><u>Measured</u></b>		
Top Rail	230 N (50 lbf)	12.4 %	1.57 mm	(0.062inches)
Bottom Rail	230 N (50 lbf)	13.4 %	1.70 mm	(0.067 inches)
Jamb Stile	320 N (70 lbf)	17.0 %	2.16 mm	(0.085 inches)
Meeting Stile	320 N (70 lbf)	16.2 %	2.06 mm	(0.081 inches)

The tested specimen meets (or exceeds) the performance level specified in AAMA/WDMA/CSA 101/I.S.2/A440-05 and AAMA/WDMA/CSA 101/I.S.2/A440-08 for air leakage resistance. The listed results were secured by using the designated test methods and indicate compliance with the performance requirements of the referenced specification paragraphs for the 2005: HS-LC40 1803 x 1422 (71 x 56) and 2008: Class LC-PG40: Size tested 1830 x 1422mm (71x 56 in)-Type HS product designations.

This test report was prepared by National Certified Testing Laboratory (NCTL), for the exclusive use of the above named client and it does not constitute certification of this product. The results are for the particular specimen tested and do not imply the quality of similar or identical products manufactured or installed from specifications identical to the tested product. The test specimen was supplied to NCTL by the above named client. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen are to be drawn from the ASTM E330 test. Forced entry resistance test equipment used is in compliance with Section 7 of the ASTM F588-07 test method. Foam tape is mounted to the perimeter of the test buck prior to clamping to the test wall. NCTL is a testing lab and assumes that all information provided by the client is accurate and does not guarantee or warranty any product tested or installed.

Detailed drawings were available for laboratory records and compared to the test specimen at the time of this report. Component drawings were reviewed for product verification. The bill of materials contains details with any deviations noted. Ambient conditions during the referenced testing are available upon request. A copy of this report along with representative sections of the test specimen will be retained by NCTL. This report does not constitute certification or approval of the product, which may only be granted by a certification program validator or recognized approval entity. All tests were conducted in full compliance with the referenced specifications and/or test methods. This report may not be reproduced, except in full, without the written consent of NCTL.

## NATIONAL CERTIFIED TESTING LABORATORIES



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Vice-President Engineering &amp; Quality

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## Attachments

- Appendix A – Forced Entry Test Results
- Appendix B – Drawing & Revision Summary
- Appendix C – Drawings

**APPENDIX A**  
Forced Entry Resistance Test Results

**Test Method:** ASTM F 588-07, "Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact". Grade 10

**TEST RESULTS**

<u>Paragraph No.</u>	<u>Loads</u>	<u>Duration</u>	<u>Measured</u>	<u>Allowed</u>
A2.1 –Disassembly Test	N/A	5 Minutes	No Entry	No Entry
A2.2-Lock Manipulation	N/A	5 Minutes	No Entry	No Entry
A2.3 –Sash Manipulation	N/A	5 Minutes	No Entry	No Entry
A2.5.2-Test A1	L1= 667 N (150 lbf)	1 Minute	No Entry	No Entry
A2.5.3-Test A2	L1= 667 N (150 lbf) L2= 333 N (75 lbf) interior	1 Minute	No Entry	No Entry
A2.5.4-Test A3	L1= 667 N (150 lbf) L2= 333 N (75 lbf) exterior	1 Minute	No Entry	No Entry
A2.5.5-Test A4	L1= 667 N (150 lbf) L2= 333 N (75 lbf) interior	1 Minute	No Entry	No Entry
A2.5.6-Test A5	L1= 667 N (150 lbf) L2= 333 N (75 lbf) exterior	1 Minute	No Entry	No Entry
A2.5.8-Test A7	L1= 667 N (150 lbf) L2= 333 N (75 lbf) interior L3= 111 N (25 lbf) interior	1 Minute	No Entry	No Entry
A2.2 - Lock Manipulation	N/A	5 Minutes	No Entry	No Entry
A2.3 –Sash Manipulation	N/A	5 Minutes	No Entry	No Entry

## APPENDIX B

### **Section 1:**

Component Drawings, with Applicable Part Numbers, Manufacturing and Modeling Details, were reviewed (as submitted) for Product Verification  
(Reference: NCTL-110-14146-1)

See Attached Documentation;  
any deviations noted.

Note: The above referenced component drawings along with representative sections of the test specimen will be retained per procedure by NCTL. This testing facility assumes that all information provided by the client is accurate.

### **Section 2:**

<u>Identification</u>	<u>Date</u>	<u>Page &amp; Revision</u>
Original Issue	07/14/11	Not Applicable