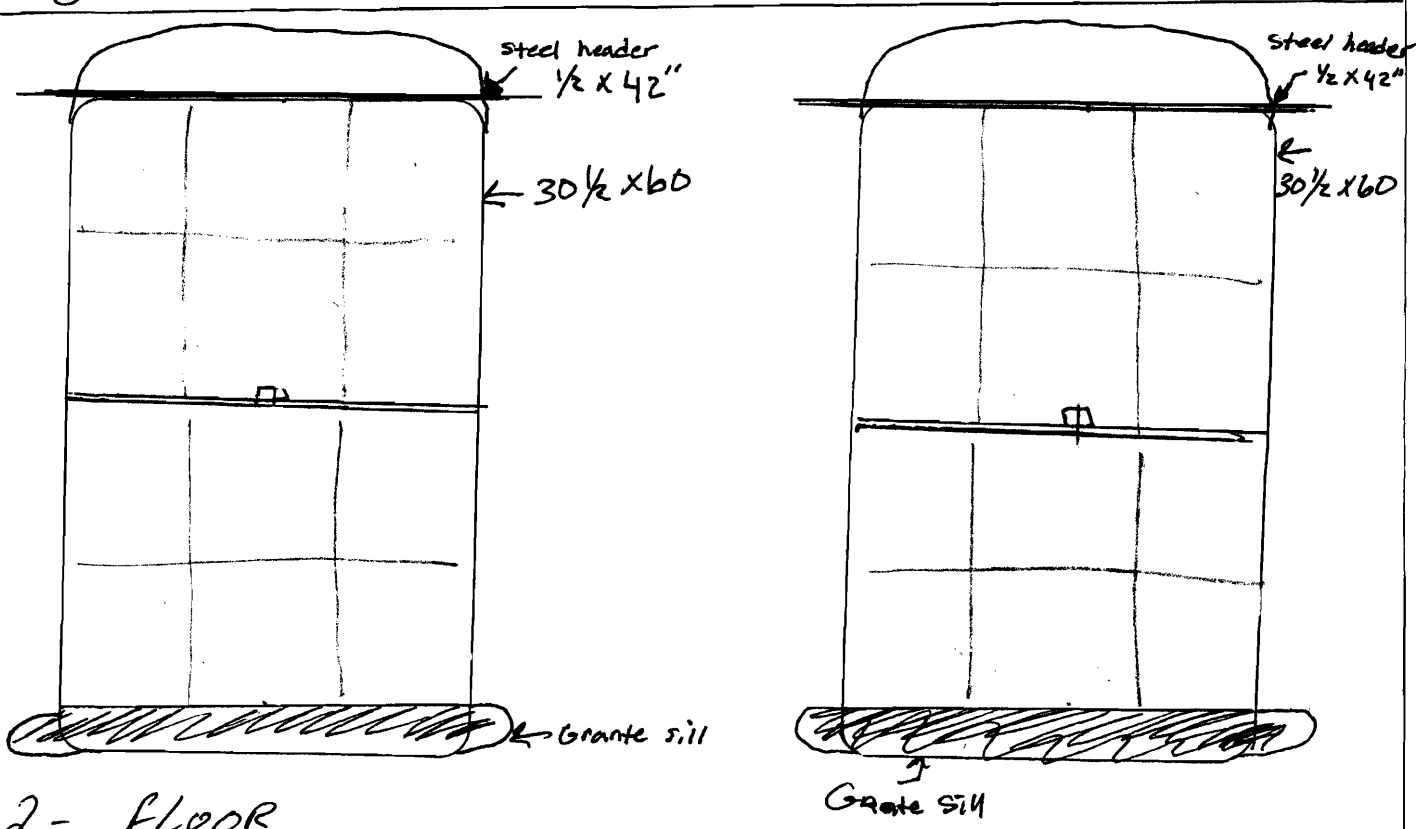
15 Franklin Street Portland Hunter Panels

wall opening for windows 2nd & 3thr floors

3- FLOOR



2- FLOOR

Note 1 - window on 3 floor 64½" x 60"

3 - window on 2 floor 1-64½" x ~~63~~"
2 - 30½ x 60

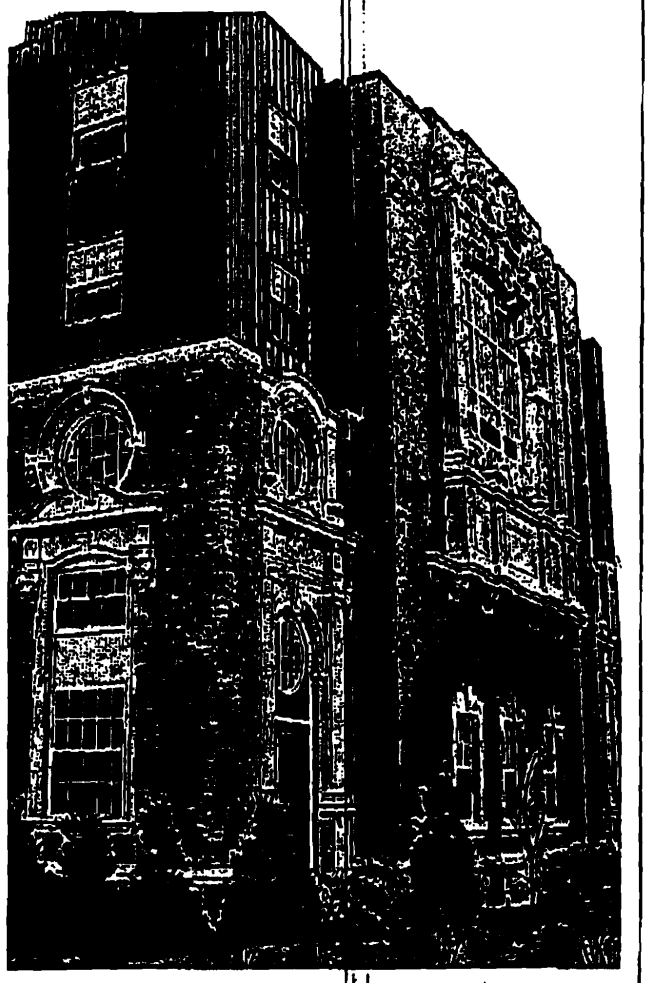
SERIES 1199

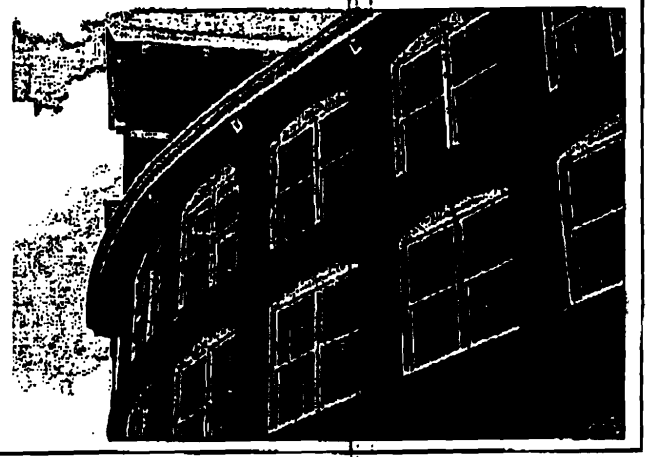
Double Hung, Rated DH Commercial

- Utilizes complete Thermal Break Sash and master frame for optimal insulating value
- Features 7/8" clear insulating glass
- Deep double-step Hospital Sill provides superior ventilating and water performance
- Marine Glazing protects glass edge and assures easy repair
- Anti-Creep Lock on top sash creates stability for worry-free operation
- Dual Assembly Screws at Sash corners for added strength
- Block and Tackle Balances are standard

PERFORMANCE

DH-HC 60 @ 4'6x7'6
Air Infiltration @ 1.57 psf: .10
Water Resistance @ 9.00: No entry
Uniform Structural Load: 90 psf
U value/conduction @ 0 mph: .50
(*U*=.44 with Low-E glazing)
Condensation Resistance Factor: 46





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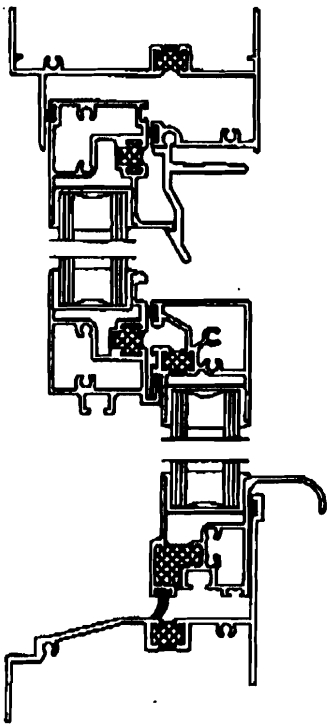
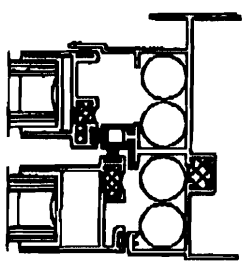
UNIVERSAL WINDOW AND DOOR, LLC.



HEAD

MEETING RAIL

SILL



JAMB

SPECIFICATIONS

General: The Series 1159 (Thermal Barrier Double-Hung) is de- signed to meet or exceed AAMA performance standards both structurally and thermally. It carries a thermal rating and the AAMA structural rating of HC-60. Windows are furnished with all necessary hardware, trim and miscellaneous items as specified.

Material: Aluminum is commercial quality, with minimum ultimate tensile strength of 22,000 psi, free from defects impairing strength and durability, and with standard wall tolerances as defined in the Architectural Aluminum Manufacturers Association Master Specifi-cations for Aluminum Windows HC-60. All members of the frame and sash are split and bridged with a continuous structural thermal break of high density, low conductivity urethane insulation cavity fill, with removal of the extrusion cavity bridging cavity after curing.

Weatherstripping: Equal to fin pile or virgin vinyl where called for.

Construction and Operation: Windows are designed to perform as herein specified, to assure a neat appearance and weather tight construc-tion. All sash and frame members are firmly joined with mechanical joints using stainless steel screws into integral screw posts. Each frame corner joint is secured with two screws. Sash corner joints are nested for rigidity and neatness. Meeting rails have mechanical interlocks, and horizontal rails of the upper and lower sashes have extruded handles for operating the sashes. When windows are not being used expressly for ventilation, they must be fully closed and locked. Failure to do so may result in personal injury or damage to property. All sashes are tilt type for easy cleaning. Top sashes have "Anti Creep" latch.

Glazing: Sashes are glazed with 7/8" sealed insulated glass, using "Float Glass" quality, and constructed to allow field replacement of glazing material. Glazing is "Marine" type, wrap around vinyl gasket, without the use of removable beads or glazing compound. All insulated glass conforms to, and is in compliance with ASTM E 773-83 AM E 744-74A- Class CBA.

Finish: The exposed surfaces of all aluminum members are clean and free of serious blemishes, scratches or tool marks. Standard finish is electrostatically applied acrylic enamel with a 5-stage chromate undercoating conforming to AAMA 603.8 standard. Standard colors are white, black, bronze, green and beige.(see color chart). Other architect specified finishes may be available at additional cost.

Hardware: All fasteners, screws and other miscellaneous fastening devices are of non-corrosive material compatible with aluminum. Balances of appropriate size and capacity to hold each sash stationary at open position are factory installed. They meet AAMA 902.2 specification, and are easily replaceable after the window is installed. Block and Tackle balances are standard. Ultra-Lift and spiral balances are available at additional cost.

Screens: Optional half-screens have extruded aluminum frames securely joined at the corners, and finish will match that of the window frame. Screens are of fiberglass screen cloth 18x18 mesh, and easily removable by side compression of two springs. WARNING: Insect screens are intended to provide reasonable insect control, and are not intended to provide for the retention of objects or persons from the interior.

OPTIONS

Glass: Low-E, Soft-coat, Solar Control, Argon, Tempered, Obscure, wire or spandrel
Ultra-Lift or Spiral Balances
Exterior Panning Systems (Square and Colonial types)
Interior Trim System
Receptor Systems
Flange Frame
Special Finishes and custom Architectural Finishes
Child Guard and Vandal Screens
Internal or External Grids and External Colonial Grids

UNIVERSAL WINDOW AND DOOR, LLC.
303 Mechanic Street,
Marlborough, MA 01752
800-633-0108 508-481-2850
www.universalwindow.com

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STRUCTURAL PERFORMANCE TEST REPORT

Report No: NCTL-110-9160-1

Client: *Universal Window and Door LLC.*
303 Mechanic Street
Marlboro, MA 01752

Test Specimen: *Universal Window and Door LLC.'s Series "1199" Tilt Double Hung Aluminum Prime Window (H-C50 54x90).*

Test Specification: *AAMA/NWWDA 101/I.S.2-97, "Voluntary Specifications for Aluminum, Vinyl (PVC), and Wood Windows and Glass Doors."*

TEST SPECIMEN DESCRIPTION

General: *The test specimen was a one-over-one tilt double hung aluminum prime window measuring 54" wide by 90-1/4" high overall. The top sash measured 50-3/8" wide by 45" high. The bottom sash measured 51-1/8" wide by 44-1/2" high. The frame and sash were thermally broken using poured urethane thermal barriers, debridged to 1/8". Both sash were removable via a double block and tackle balance with locking tilt shoe located in each jamb track. One (1) metal sweep lock was located at 13" from each end of the interior meeting rail. The metal keepers were extruded onto the exterior meeting rail. One (1) metal spring-loaded snap-lock was located at 12" from each end of the head. The metal keepers were extruded onto the top rail. One (1) solid metal anti-bow pin was located at midspan of the sash stiles. One (1) metal lockable tilt latch with thumb actuator was located at each end of the top rail and interior meeting rail. One (1) solid metal pivot bar was fastened with one (1) screw at each end of the exterior meeting rail and bottom rail. A rigid parting vinyl was located at each jamb. A rigid vinyl sash stop was snap-fitted at the top of each interior jamb track and bottom of each exterior jamb track. The frame and sash were of double screw butt-type corner construction.*

Glazing: *Both sash were channel glazed using sealed insulating glass with a flexible vinyl glazing bead; three (3) leaves of dual durometer glazing fingers per channel face. The overall insulating glass thickness was 7/8" consisting of two (2) lites of 3/16" thick annealed glass and one (1) space created by a desiccant-filled aluminum spacer system.*

Weatherseals: *One (1) strip of center fin weatherstrip (0.270" high) was located at the head, sill, top rail, interior meeting rail and bottom rail. Two (2) strips of center fin weatherstrip (0.270" high) were located at the sash stiles. One (1) strip of bulb-vinyl weatherstrip was located at the bottom rail. An open cell foam plug measuring approximately 1" x 1-1/4" x 3/8" was located at each end of the interior jamb track/ sill corner.*

Weeps: *No apparent weeps employed.*

Interior & Exterior Surface Finish: *Brown painted aluminum.*

Sealant: *The frame corners were sealed with a small-joint sealant.*

Insect Screen: *An insect screen measuring 52-1/8" wide by 45-3/16" high was of mitered type corner construction with pressure-fitted die cast corner keys. The screen employed fiberglass mesh cloth with a hollow vinyl spline, two (2) jamb retainer springs and an open cell foam weatherseal at the top rail. A 1/8" high spacer button was located at 5" from each end of the bottom rail.*

TEST RESULTS

Par. No.	*Title of Test & Method*		*Measured*	*Allowed*
2.2.1.6.1	*Operating Force - ASTM E2068*			
	Top Sash	*Up*	*45 lbf*	*45 lbf*
		Down	*40 lbf*	*45 lbf*
	Bottom Sash	*Up*	*42 lbf*	*45 lbf*
		Down	*38 lbf*	*45 lbf*
2.2.1.6.2	*Deglazing - ASTM E987*			
	Top Sash			
	Top Rail (70 lbf)		*9.4 % (0.047")*	*<100%*
	Meeting Rail (70 lbf)		*10.4 % (0.052")*	*<100%*
	Left Stile (50 lbf)		*3.6 % (0.018")*	*<100%*
	Right Stile (50 lbf)		*6.0 % (0.030")*	*<100%*
	Bottom Sash			
	Meeting Rail (70 lbf)		*13.4 % (0.067")*	*<100%*
	Bottom Rail (70 lbf)		*9.8 % (0.049")*	*<100%*
	Left Stile (50 lbf)		*4.2 % (0.021")*	*<100%*
	Right Stile (50 lbf)		*4.0 % (0.020")*	*<100%*
2.1.2	*Air Infiltration - ASTM E283*			
	1.57 psf (25 mph)		*0.1 cfm/ft²* *(0.13 cfm/ft²)*	*0.3 cfm/ft²*
2.1.3 *	*Water Resistance - ASTM E547*			
	5.0 gph/ft²			
	WTP= 4.5 psf		*No Leakage*	*No Leakage*
2.1.4.2 **	*Uniform Load Structural - ASTM E330*			
	45.0 psf Exterior		*0.009"*	*0.198"*
	45.0 psf Interior		*0.009"*	*0.198"*
2.1.8	*Forced Entry Resistance - ASTM F588*			
	Grade 10	*(See Appendix A for test results)*	*Meets As Stated*	

OPTIONAL PERFORMANCE

Par. No.		*Title of Test & Method*	*Measured*	*Allowed*
4.3	*	*Water Resistance - ASTM E547 & E331* *5.0 gph/ft²* *WTP= 7.5 psf*	*No Leakage*	*No Leakage*
4.4.2	**	*Uniform Load Structural - ASTM E330 – Without anti-bow pins*		
		67.5 psf Exterior	*0.014"*	*0.198"*
		67.5 psf Interior	*0.002"*	*0.198"*
4.4.2	**	*Uniform Load Structural - ASTM E330 – With anti-bow pins*		
		75.0 psf Exterior	*0.021"*	*0.198"*
		75.0 psf Interior	*0.006"*	*0.198"*

* *Tested with and without screen*

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

The tested specimen meets (or exceeds) the performance levels specified in Table 2.1 of AAMA/ NWWDA 101/I.S.2-97 for air infiltration. 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 (H-C45 54x90 without anti-bow pins) (H-C50 54x90 with anti-bow pins) product designation.

Detailed drawings were not available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by NCTL for a period of four (4) years. The results obtained apply only to the specimen tested. No conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen may be drawn from this test. This report does not constitute certification of the product which may only be granted by a certification program validator.

NATIONAL CERTIFIED TESTING LABORATORIES

JUSTIN L. BUPP
Technician

SCOTT R. HANLON
Manager of Testing Services

JLB/amb

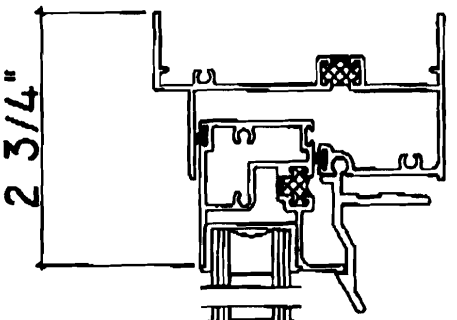
APPENDIX A
Forced Entry Resistance Test Results

Test Method: *ASTM F588-97, "Standard Test Method for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact".*

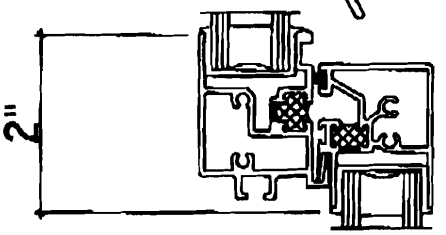
TEST RESULTS

Paragraph No.	Loads	Duration	Measured	Allowed
10.1-Lock Manipulation		5 Minutes	No Entry	No Entry
10.2.1.1-Test A1	L1=150 lbf	1 Minute	No Entry	No Entry
10.2.1.2-Test A2	L1=150 lbf L2= 75 lbf interior	1 Minute	No Entry	No Entry
10.2.1.3-Test A3	L1=150 lbf L2= 75 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.4-Test A4	L1=150 lbf L2= 75 lbf interior	1 Minute	No Entry	No Entry
10.2.1.5-Test A5	L1=150 lbf L2= 75 lbf exterior	1 Minute	No Entry	No Entry
10.2.1.7-Test A7	L1=150 lbf L2= 75 lbf interior L3= 25 lbf interior	1 Minute	No Entry	No Entry
10.2.1.8 Lock Manipulation		5 Minutes	No Entry	No Entry

HEAD



MEETING RAIL



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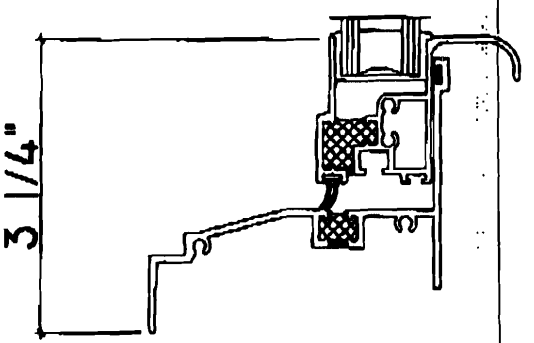

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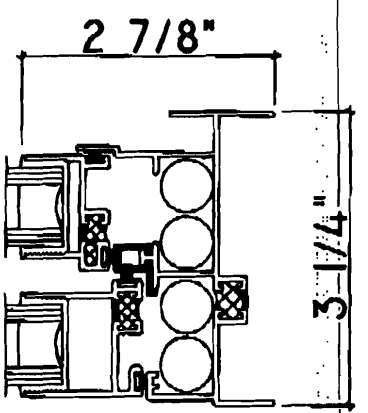

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SERIES #1199 DOUBLE HUNG		
SERIES #1199	DRAWING NO 1199-1	SCALE HALF