



SERIES 6100 WINDOW SYSTEM

PRODUCT SPECIFICATIONS | EXTRUSION DETAILS | TEST REPORTS



SERIES 6100 3 ¾" THERMALLY OPTIMIZED WINDOW SYSTEM

INTRODUCTION

Our Series 6100 window line is an outside glazed, project out window system designed to meet lofty energy and structural performance goals. It is a strutted system, meaning two separate aluminum profiles are mechanically joined using a glass fiber reinforced polyamide thermal break.

The Series 6100 is available in the following finishes:

- Class I Clear Anodized**
- Class I Bronze Anodized**
- Standard White
- Custom Anodized
- 70% Kynar Paint Color

A combination of the above finishes on the Interior vs. Exterior. Before the interior and exterior profiles are joined with the thermal strut, they can be painted or anodized with separate colors for a two-toned window.

** Indicates Finishes In Stock.

TESTING

Our Series 6100 windows have been tested to the AAMA 101 performance grades listed below: (Test report copies are in the back of this section)

- Fixed CW60
- Casement CW60
- Awning CW30

CONSTRUCTION

The frame and vent corners are joined using top of the line European corner keys. We use both hollow and groove corner keys to provide maximum structural rigidity. TDL bars are attached using corner keys as well as screw-spline connections. The frame sill, vents and TDL bars contain weep provisions for water performance.

HARDWARE

Projected and Casement Windows: Both casements and awnings use heavy duty concealed hinges that are invisible when the window is closed. There are two operator options available: Truth Encore Roto and Fapim OUT limited opening. Both operators can be used in casements and awnings and can be mixed to meet project needs.

SCREENS

This system uses an extruded aluminum screen with corner key construction. Screens are retained using leaf springs at the corners and fit into a feature on the window frame. There is no fabrication required to attach screens.



GLAZING

The Series 6100 is available with 1" and 1.25" OA insulated glass units to yield a wide range of energy performance as needed.

WEATHER-STRIPPING

The 6100 Series windows all use foam bulb seals as well as a central gasket in casements/awnings. Operable units have 3 weather strip locations which creates excellent resistance to water penetration. All weatherstrip can be field serviced in the field should damage occur.

INSTALLATION GUIDELINES

- All windows must be installed in prepared openings in accordance with AAMA recommendations and the below-listed manufacturers' recommendations (If shop drawings are required, please refer to approved shop drawings for installation):
- All vent panels must be closed and locked.
- Each unit must be installed level, plumb and square with a ¹/₄" clearance on the jambs and the header of the window.
- Remove wet plaster, mortar, stucco and cement immediately. (Note: windows should only be cleaned with mild soap and water.)
- Do not set items on the sill.
- In nail-on applications, a bead of caulking material should be applied to the inside nail-on fin just before installation to insure a water tight seal between the building and the window. In an equal leg window a bead of caulking material should also be applied.
- Any attachment screws or bolts should be sealed during the process of installation.
- After installation is complete, building paper and stucco wire (if a stucco application) should overlap the window nail-on flange.

CARE & MAINTENANCE

- Windows should be kept free of all dust, dirt, paint and plaster.
- The sill should be kept clean at all times. A vacuum cleaner with a crevice attachment is recommended.
- Window should only be cleaned with mild soap and water.
- **Caution:** Damage will occur to the frame finish, and to the sealed glass unit, if solvents, petroleum products, or caustic chemicals such as acetone or paint thinner are used to clean window frames. Damage caused by this type of abuse is not covered under warranty.





611 NAIL ON FRAME







615 ENCORE VENT

614 FAPIM VENT









6182 SASH BEAD FOR 1" OA GLASS









6180 SASH BEAD FOR 1.25" OA GLASS 6181 FRAME BEAD FOR 1.25" OA GLASS







SERIES 6100 CONFIGURATIONS ASSEMBLY DRAWINGS

NAIL ON CASEMENT FIXED / CASEMENT











SERIES 6100 CONFIGURATIONS ASSEMBLY DRAWINGS

NAIL ON AWNING AWNING / AWNING





2





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ALL WEATHER ARCHITECTURAL ALUMINUM TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON SERIES 6100 CASEMENT WINDOW

REPORT NUMBER M0351.01-301-44-R1

TEST DATE 04/22/21

 ISSUE DATE
 REVISION 1 DATE

 07/30/21
 09/01/21

PAGES 19

DOCUMENT CONTROL NUMBER RT-R-AMER-Test-2804 (01/15/21) © 2017 INTERTEK



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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0351.01-301-44-R1 Date: 09/01/21

REPORT ISSUED TO

ALL WEATHER ARCHITECTURAL ALUMINUM 777 Aldridge Road Vacaville, CA 95688

SECTION 1 SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by All Weather Architectural Aluminum to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 on their Series 6100 Casement Window. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Fresno, California. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for two years after the test date

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.





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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0351.01-301-44-R1 Date: 09/01/21

SECTION 2

SUMMARY OF TEST RESULTS

| TITLE | RESULTS |
|--|--|
| AAMA/WDMA/CSA 101/I.S.2/A440-17 | Class C – PG60 Size Tested: 800 x 1500 mm (32 x 59 in) Type C |
| Air Infiltration | 0.2 L/s/m ² (<0.03 cfm/ft ²) |
| Canadian Air Infiltration/Exfiltration Level | A3 |
| Water Penetration Resistance Test Pressure | 440 Pa (9.19 psf) |
| Design Pressure | ±1920 Pa (±40.10 psf) |

Reference must be made to Intertek B&C Report No. M0351.01-301-44 R1, dated 09/01/21 for complete test specimen description and detailed test results.

SECTION 3

TEST SPECIFICATION(S)/METHOD(S)

The specimens were evaluated in accordance with the following:

AAMA/WDMA/CSA 101/I.S.2/A440-17- North American Fenestration Standard/Specification for Windows, Doors, and Skylights

The following test methods were used during testing:

AAMA 205-15, In-Plant Testing Guidelines for Manufacturers and Independent Laboratories

ASTM E2068-00(2016), Standard Test Method for Determination of Operating Force of Sliding Windows and Doors

ASTM E283-04(2012), Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ASTM E547-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM F588-17, Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact

Page 3 of 19

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RT-R-AMER-Test-2804

TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0351.01-301-44-R1 Date: 09/01/21

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimen was installed into a Douglas-Fir wood buck. The rough opening allowed for a 1/4" shim space and the exterior perimeter of the specimen was sealed to the test buck.

| LOCATION | ANCHOR DESCRIPTION | ANCHOR SPACING |
|-----------------------|-----------------------------|--------------------------------|
| (Nail Fin) Head, Sill | #8 x 1-5/8" flat head screw | 6" from corners, 12" on center |
| (Nail Fin) Jambs | #8 x 1-5/8" flat head screw | 6" from corners, Midspan |

SECTION 5

LIST OF OFFICIAL OBSERVERS

| NAME | COMPANY |
|------------------------|--------------|
| Meng Vang | Intertek B&C |
| Tyler Westerling, P.E. | Intertek B&C |

SECTION 6

TEST SPECIMEN DESCRIPTION Product Type: Casement Series/Model: Series 6100 Casement Window

Product Size(s):

| OVERALL AREA: | WIDTH | | HEIGHT | |
|--------------------|-------------|---------|-------------|---------|
| 1.20 m² (12.9 ft²) | Millimeters | Inches | Millimeters | Inches |
| Overall size | 800 | 31-1/2 | 1500 | 59-1/16 |
| Vent | 773 | 30-7/16 | 1475 | 58-1/16 |

Frame Construction:

Version: 01/15/21

| MEMBER | MATERIAL | DESCRIPTION |
|-------------------|-----------------|------------------------------|
| Head, Jambs, Sill | Aluminum | Thermally broken |
| | JOINERY TYPE | DETAIL |
| All corners | Mitered | Corner Keys, Screwed, Sealed |
| Vent to Frame | Multi-Arm Hinge | Screwed, Sealed |

Page 4 of 19

Version: 01/15/21



| stal Quality. Assured. Telephone: 599-2338: Facsimile: 717-764-4: EST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM | 3-8705 54-4129 building |
|--|-------------------------------|
| eport No.: M0351.01-301-44-R1 ate: 09/01/21 | |
| ent Construction: | |
| MEMBER MATERIAL DESCRIPTION | |
| tails, Stiles Aluminum Thermally broken | _ |
| JUINERY TYPE DETAIL | |
| an corners Millered Corner Reys, screwed, sealed | |
| einforcement: No reinforcement was utilized. | |
| /eatherstripping: | _ |
| Commacket 1 row Vent - roils stiles along thermal break | |
| tolk with the second se | |
| 10110W Vinyi bulo gasket 1 row Frame – nead, Jambs, sili facing vent | |
| follow vinyl bulb gasket 1 row Vent – rails, stiles facing frame | |
| lazing: No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glaze est specimen(s) can be made. | azed |
| SLASS TYPE SPACER TYPE LITE COMPOSITION GLAZING METHOD | |
| L ^{II} IG Kodispace 4SG 3/16" tempered, Glass set on setting blocks Exterior | |
| OCATION QUANTITY DAYLIGHT OPENING GLASS BITE | BITE |
| Millimeters Inches | |
| /ent 1 773 x 1475 30-7/16 x 58-1/16 1/2" | |
| | |
| | |
| Notch $7/8"$ wide by $1/8"$ high 2 Frame sill @ glazing bead $2 \cdot 1/2"$ from jamb | mb |
| Notch $1/2" \times 1/2"$ 2 Vent – underside of bottom rail | |
| | |
| | |
| ardware: ESCRIPTION QUANTITY LOCATION | |
| Vote 1/2 × 1/8 2 Vent vinderside of bottommain lardware: | |
| Vent Underside of bottom rain lardware: | |
| QUANTITY LOCATION Soto-dial 1 Vitil arministry Frame sill – 5-1/2" from hinge jamb Vulti arm hinge 2 atth w/ lock arm 1 | |
| Volution 1/2 1/2 1/2 Volution 1/2 Ventron underside of bottom rain Volution 1 CACATION Volution 1 Frame sill – 5-1/2" from hinge jamb Volution 1 Frame sill – 5-1/2" from hinge jamb Volution 1 Frame lock jamb 10" from sill .ock arm 1 Frame lock jamb full span | |
| QUANTITY LOCATION Bardware: | |
| Voluti 1/2 X1/8 2 Vent * underside of boltom rain lardware: DESCRIPTION QUANTITY LOCATION Soto-dial 1 Frame sill – 5-1/2" from hinge jamb Vulti arm hinge 2 Frame head/sill @ hinge jamb corner .atch w/ lock arm 1 Frame lock jamb 10" from sill .ock arm 1 Frame lock jamb full span | |

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RT-R-AMER-Test-2804

TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0351.01-301-44-R1 Date: 09/01/21

SECTION 7 TEST RESULTS

Version: 01/15/21

The temperature during testing was 24°C (75.4°F). The results are tabulated as follows:

| THE OF ILST | RESULTS | ALLOWED | NOT |
|---------------------------------|-----------------------------|---------------------------------|------|
| | Initiate Motion: | | |
| | 40 N (8.9 lbf) | 60 N (13.49 lbf) max | |
| Operating Force, | Maintain Motion: | | |
| per ASTM E2068 | 22 N (5.0 lbf) | 30 N (6.74 lbf) max | |
| | Latches: | | |
| | 58 N (13.15 lbf) | 100 N (22.48 lbf) max | |
| Air Leakage, | | | |
| Infiltration per ASTM E283 | <0.1 L/s/m ² | 0.5 L/s/m ² | |
| at 75 Pa (1.57 psf) | (0.03 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 3 |
| Air Leakage, | | | |
| Exfiltration per ASTM E283 | <0.1 L/s/m ² | 0.5 L/s/m ² | |
| at 75 Pa (1.57 psf) | (0.02 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| Canadian Air | | | |
| Infiltration/Exfiltration Level | A3 | N/A | |
| Water Penetration, | | | |
| per ASTM E547 | | | |
| at 440 Pa (9.19 psf) | Pass | No leakage | |
| Uniform Load Deflection, | | Ť | |
| per ASTM E330 | | | |
| Deflections taken | | | |
| Between vent snubbers | | | |
| +2880 Pa (+60.15 psf) | 0.1 mm (0.01") | 1.7 mm (0.07") max. | |
| -2880 Pa (-60.15 psf) | 0.1 mm (0.01") | 1.7 mm (0.07") max. | 3,4 |
| Uniform Load Structural, | | | |
| per ASTM E330 | | | |
| Permanent set taken | | | |
| Between vent snubbers | | | |
| +4320 Pa (+90.23 psf) | 0.1 mm (0.01") | 1.2 mm (0.05") max. | |
| -4320 Pa (-90.23 psf) | 0.1 mm (0.01") | 1.2 mm (0.05") max. | 3,4 |
| Forced Entry Resistance, | | | |
| per ASTM F588, | | | |
| Type: B - Grade: 20 | Pass | No entry | |
| Sash Vertical Deflection | | | |
| 200 N (45 lbf) | 7.0 mm (0.28") | 15.5 mm (0.61") max. | |
| Distributed Load | | | |
| | Pass | No Damage | |

Page 6 of 19



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| TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUM Report No.: M0351.01-301-44-R1 Date: 09/01/21 | INUM | TEST REPORT FOR ALL WEATHER ARCHITECTU Report No.: M0351.01-301-44-R1 Date: 09/01/21 | |
| Note 1: The tested specimen meets (or exceeds) the AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance. | performance levels specified in | SECTION 9 LOCATION OF AIR SEAL | |
| <i>Note 2</i> : Test Date 04/22/21 , Time: 10:00 AM | | The air seal between the test specimen and the te foam weatherstripping and is attached to the edge buck is placed against the test wall and clamped in creating a seal | est wall is detailed below. The seal is made e of the test specimen buck. The test specimen n place, compressing the weatherstripping a |
| Note 4: Tape and film were used to seal against air leakage opinion, the tape and film did not influence the results of the ter SECTON 8 AITERATIONS No alterations were required. | e during structural testing. In our Ist. | | est Buck Air seal between test specimen and test buck (Typically Silicone) st Specimen |
| Version: 01/15/21 Page 7 of 19 | RT-R-AMFR-Text-2804 | Version: 01/15/21 Page 8 o | f 19 RT-R-AMER-Test- |



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| TEST REPORT FOR ALL WEATHER ARCHITECTURAL AL Report No.: M0351.01-301-44-R1 Date: 09/01/21 | www.intertek.com/building | TEST REPORT FOR ALL WEATHER ARCHITECTURA Report No.: M0351.01-301-44-R1 Date: 09/01/21 | www.intertek.com/building |
| SECTION 10 CONCLUSION | | SECTION 11 | |
| The specimens tested successfully met the performance re | quirements for the following ratings: | DRAWINGS | |
| Class C – PG60 , Size Tested: 800 x 1500 m | nm (32 x 59 in) Type C | test specimen drawings have been reviewed by test specimen(s) reported herein. Test specimen cor the drawings included in this report. Any deviations a | struction was verified by Intertek B&C per re documented herein or on the drawings. |
| | | All drawings are on file with Intertek-ATI. | |
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|---|-------------------------------------|-----------------|--|
| TEST REPORT Report No.: MC Date: 09/01/21 | FOR ALL WEATHE 0351.01-301-44-R1 | R ARCHITECTURAL | www.intertex.com/building |
| SECTION 12 REVISION LOG | | | |
| REVISION # | DATE | PAGES | REVISION |
| 0 | 07/30/21 | N/A | Original Report Issue |
| | 09/01/21 | Page 5 | IG spacer type changed |
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SERIES 6100

TESTING



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ALL WEATHER ARCHITECTURAL ALUMINUM TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON SERIES 6100 AWNING PROJECTED WINDOW

REPORT NUMBER M0352.01-301-44-R1

TEST DATES 03/17/21 - 03/23/21

 ISSUE DATE
 REVISION 1 DATE

 07/30/21
 09/01/21

PAGES 19

DOCUMENT CONTROL NUMBER RT-R-AMER-Test-2804 (01/15/21) © 2017 INTERTEK



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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0352.01-301-44-R1 Date: 09/01/21

REPORT ISSUED TO

ALL WEATHER ARCHITECTURAL ALUMINUM 777 Aldridge Road Vacaville, CA 95688

SECTION 1 SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by All Weather Architectural Aluminum to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 on their Series 6100 Awning Projected Window. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Fresno, California. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for two years after the test date

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.





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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0352.01-301-44-R1 Date: 09/01/21

SECTION 2

SUMMARY OF TEST RESULTS

| TITLE | RESULTS |
|--|--|
| AAMA/WDMA/CSA 101/I.S.2/A440-17 | Class C – PG60, Size Tested: 1200 x 800 mm (47 x 32 in) Type AP |
| Air Infiltration | <0.1 L/s/m ² (<0.01 cfm/ft ²) |
| Canadian Air Infiltration/Exfiltration Level | A3 |
| Water Penetration Resistance Test Pressure | 580 Pa (12.11 psf) |
| Design Pressure | ±3360 Pa (±70.18 psf) |
| Reference must be made to Intertek B&C Rep | ort No. M0352.01-301-44 R1, dated 09/01/21 for |

complete test specimen description and detailed test results.

SECTION 3

Version: 01/15/21

TEST SPECIFICATION(S)/METHOD(S)

The specimens were evaluated in accordance with the following:

AAMA/WDMA/CSA 101/I.S.2/A440-17- North American Fenestration Standard/Specification for Windows, Doors, and Skylights

The following test methods were used during testing:

AAMA 205-15, In-Plant Testing Guidelines for Manufacturers and Independent Laboratories

ASTM E2068-00(2016), Standard Test Method for Determination of Operating Force of Sliding Windows and Doors

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ASTM E547-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM F588-17, Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0352.01-301-44-R1 Date: 09/01/21

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimen was installed into a Douglas-Fir wood buck. The rough opening allowed for a 1/4" shim space and the exterior perimeter of the specimen was sealed to the test buck.

| LOCATION | ANCHOR DESCRIPTION | ANCHOR SPACING |
|-----------------------|-----------------------------|--------------------------------|
| (Nail Fin) Head, Sill | #8 x 1-5/8" flat head screw | 6" from corners, 10" on center |
| (Nail Fin) Jambs | #8 x 1-5/8" flat head screw | 6" from corners, midspan |

SECTION 5

LIST OF OFFICIAL OBSERVERS

| | NAME | COMPANY |
|---|------------------------|--------------|
| | Meng Vang | Intertek B&C |
| 1 | Tyler Westerling, P.E. | Intertek B&C |

SECTION 6

TEST SPECIMEN DESCRIPTION

Product Type: Awning

Series/Model: Series 6100 Awning Projected Window

Product Size(s):
OVERALL AREA: WIDTH HEIGHT

| 0.96 m² (10.3 ft²) | Millimeters | Inches | Millimeters | Inches |
|--------------------|-------------|--------|-------------|--------|
| Overall size | 1200 | 47-1/4 | 800 | 31-1/2 |
| Vent | 1175 | 46-1/4 | 775 | 30-1/2 |

| Frame Construction: | | | | | |
|---------------------|--------------|------------------------------|--|--|--|
| MEMBER | MATERIAL | DESCRIPTION | | | |
| Head, Jambs, Sill | Aluminum | Thermally broken | | | |
| | JOINERY TYPE | DETAIL | | | |
| All corners | Mitered | Corner Keys, Screwed, Sealed | | | |
| Vent to Frame | Stay Arms | Screwed, Sealed | | | |
| | | | | | |

Page 4 of 19

Page 3 of 19

RT-R-AMER-Test-2804

Version: 01/15/21



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|--------------------------|-------------|------------------------------|-----------------|-------------------------------|------------|---|--|
| Report No. Date: 09/0 | M03 1/21 | 52.01-301-44-I | R1 | | | | |
| Vent Const | uction | 1: | TEDI | | | DESCRIPTION | |
| Pails Stilos | | | minur | n. | | Thermally broken | |
| Nalis, Stiles | | | NERY | TYPE | | | |
| All corners | | Mit | ered | | | Corner Kevs, Screwed, Se | aled |
| Reinforcem | ent: / | No reinforceme | nt wa | s utilized. | | | |
| DESCRIPTIO | | | QUA | NTITY | LOCA | TION | |
| Foam gaske | et | | 1 rov | v | Vent | rails, stiles along therm | al break |
| Hollow vin | /l bulb | gasket | 1 rov | v | Fram | e – head, jambs, sill facin | g vent |
| Hollow vin | /l bulb | gasket | 1 rov | v | Vent | - rails, stiles facing frame | 2 |
| GLASS TYP | E | SPACER TYPE Kodispace 450 | 3 3 | LITE COMPOSI 3/16" tempere | TION d. | GLAZING METHOD Glass set on setting b | ocks Exterior |
| 1" IG | | Thermoplastic | : 1 | nterior / Exter | ior | glazed w/ aluminum s | nap-in bead. |
| LOCATION | | QUANTITY | 1 | DAYLIGHT OPE | NING | | GLASS BITE |
| Vont | | 1 | | Villimeters | | Inches | 1/2" |
| vent | | 1 | | //3 X 14//3 | | 30 7/10 × 30 1/10 | 1/2 |
| Drainage: | | | | 1 | | | |
| METHOD | SIZE | : | | QUANTITY | LOCA | TION | 211 (|
| Notch | 1/8 | wide by 1/8" r | lign | 2 | Fram | e sili @ giazing bead 2-1/ | 2" from Jamb |
| NOTCH | 1/2 | x 1/8 | | 2 | vent | – underside of bottom ra | |
| Hardware: | | | | | | | |
| DESCRIPTIO | DN | | QUA | NTITY | | | |
| Roto-dial | | | 1 | | | Frame Sill – Midspan | |
| Later | • | | 2 | | | | cill |
| Laten | | | 2 | | | rianie Jamos – 10° from | 3111 |
| Screen Con | struct | ion: No screer | n was | utilized. | | | |
| | | | | | | | |
| | | | | | | | |

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0352.01-301-44-R1 Date: 09/01/21

SECTION 7 TEST RESULTS

The temperature during testing was 21°C (69°F). The results are tabulated as follows:

| RESULTS | ALLOWED | NOTE |
|------------------------------|---|--|
| Initiate Motion: | | |
| 26 N (5.78 lbf) | 60 N (13.49 lbf) max | |
| Maintain Motion: | | |
| 18 N (3.95 lbf) | 30 N (6.74 lbf) max | |
| Latches: | | |
| 18 N (4 lbf) | 100 N (22.48 lbf) max | |
| | | |
| <0.1 L/s/m ² | 0.5 L/s/m ² | |
| (<0.01 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| | | |
| 0.2 L/s/m ² | 0.5 L/s/m ² | |
| (0.04 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| | | |
| A2 | N/A | |
| | | |
| | | |
| Pass | No leakage | |
| | | |
| | | |
| | | |
| | | |
| <0.1 mm (<0.01") | 6.1 mm (0.24") max. | |
| 0.4 mm (0.02") | 6.1 mm (0.24") max. | 3,4 |
| | | |
| | | |
| | | |
| | | |
| <0.1 mm (<0.01") | 4.3 mm (0.17") max. | |
| 0.1 mm (0.01") | 4.3 mm (0.17") max. | 3,4 |
| | | |
| | | |
| Pass | No entry | |
| | | |
| | | |
| | Dement Only | 1 |
| | Initiate Motion: 26 N (5.78 lbf) Maintain Motion: 18 N (3.95 lbf) Latches: 18 N (4 lbf) <0.1 L/s/m² | Initiate Motion: 26 N (5.78 lbf) Maintain Motion: 30 N (6.74 lbf) max 18 N (3.95 lbf) 30 N (6.74 lbf) max Latches: 100 N (22.48 lbf) max (cl. 1 L/s/m² 0.5 L/s/m² (cl. 1 L/s/m² 0.5 L/s/m² (o.04 cfm/ft²) 0.5 L/s/m² (0.04 cfm/ft²) 0.5 L/s/m² A2 N/A Pass No leakage <0.1 mm (<0.01") |

Page 6 of 19

Version: 01/15/21



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| Note 1: The tested specimen meets (or exceeds) the per AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance. | erformance levels specified in | SECTION 9 LOCATION OF AIR SEAL | |
| Note 2: Test Date 03/18/21 , Time: 11:15 AM | | The air seal between the test specimen and the test foam weatherstripping and is attached to the edge of burk is njaced avainst the test wall and clamped in n | wall is detailed below. The seal is made of f the test specimen buck. The test specimen lace compressing the weatherstrinning and |
| Note 3: Loads were held for 10 seconds. | | creating a seal. | and the measure and |
| Note 4: Tape and film were used to seal against air leakage a opinion, the tape and film did not influence the results of the test. | luring structural testing. In our | | Test Buck |
| SECTION 8 ALTERATIONS | | | Air seal between test specimen |
| No alterations were required. | | | – and test buck (Typically Silicone) Test Specimen |
| Version: 01/15/21 Page 7 of 19 | RT-R-AMER-Test-2804 | Version: 01/15/21 Page 8 of 19 | RT-R-AMER-Test-2804 |



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| TEST REPORT FOR ALL WEATHER ARCHITECTU Report No.: M0352.01-301-44-R1 Date: 09/01/21 | www.intertek.com/building | TEST REPORT FOR ALL WEATHER ARCH Report No.: M0352.01-301-44-R1 Date: 09/01/21 | www.intertek.com/building |
| SECTION 10 CONCLUSION | | SECTION 11 | |
| The specimens tested successfully met the perform | nance requirements for the following ratings: | DRAWINGS | |
| Class C – PG60, Size Tested: 1200 | x 800 mm (47 x 32 in) Type AP | the test specimen drawings have been rev test specimen(s) reported herein. Test sp the drawings included in this report. Any d | viewed by intertek B&C and are representative of the ecimen construction was verified by Intertek B&C per leviations are documented herein or on the drawings. |
| | | All drawings are on file with Intertek-ATI. | |
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|---|-------------------------------|-------------|-----------------------|---|
| TEST REPORT I Report No.: M0 Date: 09/01/21 | FOR ALL WEA 352.01-301-44- | THER ARCHIT | ECTURAL ALUMINUM | |
| SECTION 12 REVISION LOG | | | | |
| REVISION # | DATE | PAGES | REVISION | |
| 0 | 07/30/21 | N/A | Original Report Issue | |
| 1 | 09/01/21 | Page 5 | IG Spacer Type Change | d |
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SERIES 6100

TESTING



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ALL WEATHER ARCHITECTURAL ALUMINUM TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON SERIES 6100 CASEMENT WINDOW WITH FAPIM HARDWARE

REPORT NUMBER M0455.01-301-44 R1

TEST DATES 04/22/21 - 04/23/21

 ISSUE DATE
 REVISION 1 DATE

 07/30/21
 09/01/21

PAGES

DOCUMENT CONTROL NUMBER RT-R-AMER-Test-2804 (01/15/21) © 2017 INTERTEK



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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0455.01-301-44 R1 Date: 09/01/21

REPORT ISSUED TO

ALL WEATHER ARCHITECTURAL ALUMINUM 777 Aldridge Road Vacaville, CA 95688

SECTION 1 SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by All Weather Architectural Aluminum to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 on their Series 6100 Casement Window with Fapim Hardware. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Freso, California. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for two years after the test date

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.



Version: 01/15/21 Page 2 of 19 RT-R-AMER-Test-2804



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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0455.01-301-44 R1 Date: 09/01/21

SECTION 2

SUMMARY OF TEST RESULTS

| TITLE | RESULTS |
|---|---|
| AAMA/WDMA/CSA 101/I.S.2/A440-17 | Class C - PG80 Size Tested: 810 x 1500 mm (32 x 59 in) |
| Air Infiltration | <0.1 L/s/m ² (<0.01 cfm/ft ²) |
| Canadian Air Infiltration/Exfiltration Level | A3 |
| Water Penetration Resistance Test Pressure | 580 Pa (12.11 psf) |
| Design Pressure | ±3840 Pa (±80.20 psf) |
| Reference must be made to Intertek B&C Report N | o M0455 01-201-44 dated 08/20/21 for complete |

Reference must be made to Intertek B&C Report No. M0455.01-301-44, dated 08/30/21 for complete test specimen description and detailed test results.

SECTION 3

Version: 01/15/21

TEST SPECIFICATION(S)/METHOD(S)

The specimens were evaluated in accordance with the following:

AAMA/WDMA/CSA 101/I.S.2/A440-17- North American Fenestration Standard/Specification for Windows, Doors, and Skylights

The following test methods were used during testing:

AAMA 205-15, In-Plant Testing Guidelines for Manufacturers and Independent Laboratories

ASTM E2068-00(2016), Standard Test Method for Determination of Operating Force of Sliding Windows and Doors

ASTM E283-04(2012), Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ASTM E547-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM F588-17, Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0455.01-301-44 R1 Date: 09/01/21

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimen was installed into a Douglas-Fir wood buck. The rough opening allowed for a 1/4" shim space and the exterior perimeter of the specimen was sealed to the test buck.

| LOCATION | ANCHOR DESCRIPTION | ANCHOR SPACING |
|-----------------------|-----------------------------|--------------------------------|
| (Nail Fin) Head, Sill | #8 x 1-5/8" flat head screw | 6" from corners, 12" on center |
| (Nail Fin) Jambs | #8 x 1-5/8" flat head screw | 6" from corners, Midspan |

SECTION 5

LIST OF OFFICIAL OBSERVERS

| NAME | COMPANY |
|------------------------|--------------|
| Meng Vang | Intertek B&C |
| Tyler Westerling, P.E. | Intertek B&C |

SECTION 6

TEST SPECIMEN DESCRIPTION

Product Type: Casement Series/Model: Series 6100 Casement with Fapim Hardware

Product Size(s):

| OVERALL AREA: | WIDTH | | HEIGHT | | | | |
|--------------------|-------------|--------|-------------|---------|--|--|--|
| 1.22 m² (13.1 ft²) | millimeters | inches | millimeters | inches | | | |
| Overall size | 810 | 31-7/8 | 1500 | 59-1/16 | | | |
| Vent | 775 | 30-1/2 | 1475 | 58-1/16 | | | |
| | | | | | | | |

Frame Construction:

Version: 01/15/21

| Traine construction. | | |
|----------------------|-----------------|------------------------------|
| MEMBER | MATERIAL | DESCRIPTION |
| Head, Jambs, Sill | Aluminum | Thermally broken |
| | JOINERY TYPE | DETAIL |
| All corners | Mitered | Corner Keys, Screwed, Sealed |
| Vent to Frame | Multi-Arm Hinge | Screwed, Sealed |
| | | |

Page 4 of 19

Page 3 of 19



| UILCET COENT Total Quality. Assured. TEST REPORT FOR ALL WEATHER ARCHITECTUR. | | | | | | 254 E. Jensen Ave Fresno, California 93706 Telephone: 559-233-8705 Facsimile: 717-764-4129 www.intertek.com/building | |
|---|----------------------|---|---------------------------------------|---|---|--|--|
| Report No.: Date: 09/02 | M04 1/21 | 55.01-301- | 44 R1 | R ARCHITEC | IUKAL | ALUMINUM | |
| Vent Consti | ructio | on: | ATEDI | A1 | D | SCRIPTION | |
| Rails Stiles | | A | | m | Tł | ermally broken | |
| | | JC | INERY | ТҮРЕ | D | | |
| All corners | | M | itered | | Co | orner Keys, Screwed, Se | aled |
| Reinforcem Weatherstr | ent: ippin | No reinford | ement | was utilized. | | | |
| DESCRIPTIC | DN . | | QL | JANTITY | LOCAT | ION | l breek |
| Hollowviny | l bulk | askot | 1 1 | ow | Frame | hand in the sill facing | |
| Hollow viny | d bulk | a gasket | 1 1 | ow | Vont - | rails, stiles facing frame | , vent |
| giuzeu iesi i | speci | men(s) can | be ma | de. | | | 5 , |
| GLASS TYPE | speci | men(s) can SPACER TYI Kodispace 4 Thermoplas | <i>be ma</i> PE ISG itic | de. LITE COMPO 3/16" tempe Interior / Ext | <mark>SITION</mark> red, erior | GLAZING METHOD Glass set on setting bl glazed w/ aluminum so | ocks Exterior nap-in bead. |
| GLASS TYPE 1" IG LOCATION | speci | men(s) can SPACER TYI Kodispace 4 Thermoplas QUANTITY | be ma PE ISG itic | de. LITE COMPO: 3/16" tempe Interior / Exte DAYLIGHT OI | SITION red, erior PENING | GLAZING METHOD Glass set on setting bli glazed w/ aluminum si | ocks Exterior hap-in bead. |
| GLASS TYPE 1" IG LOCATION | speci | men(s) can SPACER TYI Kodispace 4 Thermoplas QUANTITY 1 | be ma PE ISG itic | de. LITE COMPO: 3/16" temper Interior / Extr DAYLIGHT OI Millimeters 773 x 1475 | SITION red, erior PENING | GLAZING METHOD Glass set on setting bli glazed w/ aluminum si Inches 30-7/16 x 58-1/16 | ccks Exterior hap-in bead. GLASS BITE 1/2" |
| GLASS TYPE 1" IG LOCATION Vent | speci | men(s) can SPACER TYI Kodispace ⁴ Thermoplas QUANTITY 1 | be ma PE ISG tic | de. LITE COMPO: 3/16" tempe: Interior / Ext. DAYLIGHT OF Millimeters 773 x 1475 | SITION red, erior PENING | GLAZING METHOD Glass set on setting bl glazed w/ aluminum su Inches 30-7/16 x 58-1/16 | Cocks Exterior hap-in bead. GLASS BITE 1/2" |
| GLASS TYPE 1" IG LOCATION Vent Drainage: | | men(s) can SPACER TYI Kodispace 4 Thermoplas QUANTITY 1 | be ma PE ISG tic | de. LITE COMPO 3/16" tempe Interior / Ext DAYLIGHT OI Millimeters 773 x 1475 | SITION red, erior PENING | GLAZING METHOD Glass set on setting bl glazed w/ aluminum si Inches 30-7/16 x 58-1/16 | cks Exterior nap-in bead. GLASS BITE 1/2" |
| GLASS TYPE 1" IG LOCATION Vent Drainage: METHOD | SIZE | men(s) can SPACER TYI Kodispace 4 Thermoplas QUANTITY 1 | be ma PE ISG tic | de. LITE COMPO 3/16" tempe Interior / Ext DAYLIGHT OI Millimeters 773 x 1475 QUANTITY | SITION red, erior PENING | GLAZING METHOD Glass set on setting bli glazed w/ aluminum si Inches 30-7/16 x 58-1/16 ATION | cks Exterior nap-in bead. GLASS BITE 1/2" |
| GLASS TYPE 1" IG LOCATION Vent Drainage: METHOD Notch Notch | SIZE 7/8' 1/2' | men(s) can SPACER TYI Kodispace 4 Thermoplas QUANTITY 1 " wide by 1, " x 1/8" | be ma PE SG ttic | de. LITE COMPO: 3/16" tempe Interior / Ext DAYLIGHT OI Millimeters 773 x 1475 QUANTITY h 2 2 | SITION red, erior PENING (LOC Fran Ven | GLAZING METHOD Glass set on setting bli glazed w/ aluminum si Inches 30-7/16 x 58-1/16 ATION he sill @ glazing bead 2 t - underside of bottom | cks Exterior hap-in bead. GLASS BITE 1/2" |
| GLASS TYPE 1" IG LOCATION Vent Drainage: METHOD Notch Notch | SIZE 7/8' 1/2' | men(s) can SPACER TYI Kodispace 4 Thermoplas QUANTITY 1 1 " wide by 1, " x 1/8" | be mailer FE ISG ISG Itic | de. LITE COMPO: 3/16" tempe Interior / Ext DAYLIGHT OF Millimeters 773 x 1475 QUANTITY h 2 2 | SITION red, erior Ven Ven | GLAZING METHOD Glass set on setting bli glazed w/ aluminum s Inches 30-7/16 x 58-1/16 ATION ne sill @ glazing bead 2 t – underside of bottom | CLASS Exterior nap-in bead. GLASS BITE 1/2" |

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Hardware:

| D | ESCRIPTION | QUANTITY | LOCATION |
|---------|--|----------|--|
| A Ic | ctuating Lever (with limit-arm, sliding ock arms and snubbers as a set) | 1 | Frame Lock Jamb – 21" from sill |
| - | Limit-arm | 1 | Frame Lock Jamb – adjacent to lever |
| - | Sliding lock arms | 1 set | Vent – Lock stile, top / bottom rails |
| - | Snubbers | 1 | Frame Head / Sill - midspan |
| U | pper / Lower hinges | 1 set | Frame Hinge Jamb at Head / Sill, adjacent to Vent hinge corners |

Screen Construction: No screen was utilized.

SECTION 7

TEST RESULTS

The temperature during testing was 23°C (74°F). The results are tabulated as follows:

| TITLE OF TEST | RESULTS | ALLOWED | NOTE |
|---------------------------------|------------------------------|---------------------------------|------|
| | Initiate Motion: | | |
| | 38 N (8.6 lbf) | 155 N (34.85 lbf) max | |
| Operating Force, | Maintain Motion: | | |
| per ASTM E2068 | 37 N (8.5 lbf) | 100 N (22.48 lbf) max | |
| | Latches: | | |
| | 32 N (7.2 lbf) | 100 N (22.48 lbf) max | |
| Air Leakage, | | | |
| Infiltration per ASTM E283 | <0.1 L/s/m ² | 0.5 L/s/m ² | |
| at 75 Pa (1.57 psf) | (<0.01 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| Air Leakage, | | | |
| Exfiltration per ASTM E283 | <0.1 L/s/m ² | 0.5 L/s/m ² | |
| at 75 Pa (1.57 psf) | (<0.01 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| Canadian Air | | | |
| Infiltration/Exfiltration Level | A3 | N/A | |
| Water Penetration, | | | |
| per ASTM E547 | | | |
| at 580 Pa (12.11 psf) | Pass | No leakage | |
| Uniform Load Deflection, | | | |
| per ASTM E330 | | | |
| Deflections taken | | | |
| Between vent sliding lock arm | | | |
| +3840 Pa (+80.20 psf) | 0.9 mm (0.04") | 6.1 mm (0.24") max. | |
| -3840 Pa (-80 20 nsf) | 0.9 mm (0.04") | 6.1 mm (0.24") max. | 3, 4 |

Page 6 of 19

Version: 01/15/21





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SECTION 9 LOCATION OF AIR SEAL

The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.





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| TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALL Report No.: M0455.01-301-44 R1 Date: 09/01/21 | www.intertek.com/building | TEST REPORT FOR ALL WEATHER ARCHITECTUR. Report No.: M0455.01-301-44 R1 Date: 09/01/21 | www.intertek.com/building |
| SECTION 10 CONCLUSION | | SECTION 11 DRAWINGS | |
| The specimens tested successfully met the performance re- | quirements for the following ratings: | The test specimen drawings have been reviewed by test specimen(s) reported herein. Test specimen co | Intertek B&C and are representative of the instruction was verified by Intertek B&C per |
| Class C - PG 80 Size Testeu. 810 X 1500 III | 1 (52 x 55 iii) iype c | the drawings included in this report. Any deviations All drawings are on file with Intertek-ATI. | are documented herein or on the drawings. |
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|-------------------------------|------------------------------------|-------------------|--|
| TEST REPORT Report No.: MO | FOR ALL WEATH 0455.01-301-44 R1 | IER ARCHITECTURAL | ALUMINUM |
| SECTION 12 REVISION LOG | L | | |
| | | | |
| REVISION # | DATE 07/20/21 | PAGES | REVISION |
| 1 | 09/01/21 | Page 3 | Performance Grade to Match |
| - | 55/01/21 | Page 5 | IG Spacer Type Changed |
| | | | |
| | | Page 19 of 19 | PT.P.AMEP.Tect.2004 |

SERIES 6100

TESTING



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ALL WEATHER ARCHITECTURAL ALUMINUM TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON SERIES 6100 AWNING WINDOW WITH FAPIM HARDWARE

REPORT NUMBER M0456.01-301-44-R1

TEST DATES 03/17/21 - 03/22/21

ISSUE DATE **REVISION 1 DATE** 07/30/21 09/01/21

PAGES 19

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0456.01-301-44-R1 Date: 09/01/21

REPORT ISSUED TO

ALL WEATHER ARCHITECTURAL ALUMINUM 777 Aldridge Road Vacaville, CA 95688

SECTION 1 SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by All Weather Architectural Aluminum to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 on their Series 6100 Awning Window with Fapim Hardware. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Fresno, California. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for two years after the test date

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.



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| Version: 01/15/21 | Page 2 of 19 | RT-R-AMER-Test-2804 |
|-------------------|--------------|---------------------|
| | | |



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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0456.01-301-44-R1 Date: 09/01/21

SECTION 2

SUMMARY OF TEST RESULTS

| TITLE | RESULTS |
|--|---|
| AAMA/WDMA/CSA 101/I.S.2/A440-17 | Class C - PG30 Size Tested: 1200 x 800 mm (47 x 32 in) Type AP |
| Air Infiltration | 0.1 L/s/m ² (0.02 cfm/ft ²) |
| Canadian Air Infiltration/Exfiltration Level | A3 |
| Water Penetration Resistance Test Pressure | 580 Pa (12.11 psf) |
| Design Pressure | ±1440 Pa (±30.08 psf) |
| Design Pressure | ±1440 Pa (±30.08 psf) |

Reference must be made to Intertek B&C Report No. M0456.01-301-44, dated 08/31/21 for complete test specimen description and detailed test results.

SECTION 3

TEST SPECIFICATION(S)/METHOD(S)

The specimens were evaluated in accordance with the following:

AAMA/WDMA/CSA 101/I.S.2/A440-17- North American Fenestration Standard/Specification for Windows, Doors, and Skylights

The following test methods were used during testing:

AAMA 205-15, In-Plant Testing Guidelines for Manufacturers and Independent Laboratories

ASTM E2068-00(2016), Standard Test Method for Determination of Operating Force of Sliding Windows and Doors

ASTM E283-04(2012), Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

ASTM E547-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM F588-17, Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact

Page 3 of 19

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0456.01-301-44-R1 Date: 09/01/21

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimen was installed into a Douglas-Fir wood buck. The rough opening allowed for a 1/4" shim space and the exterior perimeter of the specimen was sealed to the test buck.

| LOCATION | ANCHOR DESCRIPTION | ANCHOR SPACING |
|-----------------------|-----------------------------|--------------------------------|
| (Nail Fin) Head, Sill | #8 x 1-5/8" flat head screw | 6" from corners, 10" on center |
| (Nail Fin) Jambs | #8 x 1-5/8" flat head screw | 6" from corners, midspan |

SECTION 5

LIST OF OFFICIAL OBSERVERS

| NAME | COMPANY |
|------------------------|--------------|
| Meng Vang | Intertek B&C |
| Tyler Westerling, P.E. | Intertek B&C |

SECTION 6

TEST SPECIMEN DESCRIPTION

Product Type: Awning Series/Model: Series 6100 Awning Project Window with Fapim Hardware

Product Size(s):

| OVERALL AREA: | WIDTH | | HEIGHT | |
|---|-------------|--------|-------------|--------|
| 0.96 m ² (10.3 ft ²) | Millimeters | Inches | Millimeters | Inches |
| Overall size | 1200 | 47-1/4 | 800 | 31-1/2 |
| Vent | 1175 | 46-1/4 | 775 | 30-1/2 |

Frame Construction:

Version: 01/15/21

| MEMBER | MATERIAL | DESCRIPTION |
|--------------------|--------------|------------------------------|
| Heads, Jambs, Sill | Aluminum | Thermally broken |
| | JOINERY TYPE | DETAIL |
| All corners | Mitered | Corner Keys, Screwed, Sealed |
| Vent to Frame | Stay Arms | Screwed, Sealed |
| | | |

Page 4 of 19

Version: 01/15/21



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|---------------------------------------|------------------------------------|----------------------|-------------------------------|--|---|---------------------|
| TEST REPO Report No. Date: 09/0 | DRT FOR AL : M0456.01-)1/21 | L WEATH 301-44-R1 | | CTURAL A | LUMINUM | |
| Vent Const | ruction: | MAATEDI | A.1 | | COURTION | |
| Rails Stiles | | | m | T | ermally broken | |
| Runs, Seres | , | JOINERY | ТҮРЕ | D | | |
| All corners | | Mitered | | C | orner Keys, Screwed, S | Sealed |
| Reinforcem | ient: No rein | forcement | was utilized. | | | |
| DESCRIPTI | ON ON | | QUANTITY | LOCA | TION | |
| Foam gask | et | | 1 row | Vent | - rails, stiles along th | ermal break |
| Hollow vin | yl bulb gaske | t | 1 row | Fram | e – head, jambs, sill fa | acing vent |
| Hollow vin | yl bulb gaske | t | 1 row | Vent | rails, stiles facing fr | ame |
| Glazing: No test specim | o conclusions en(s) can be i | of any kin made. | d regarding the | e adequacy | or inadequacy of the | glass in any glazed |
| GLASS TYP | E SPACE | R TYPE | LITE COMPO | SITION | GLAZING METHOD | |
| 1" IG | Kodisp Therm | ace 4SG oplastic | 3/16" tempe Interior / Ext | red, erior | Glass set on setting glazed w/ aluminum | snap-in bead. |
| LOCATION | QUAN | тітү | DAYLIGHT O | PENING | | GLASS BITE |
| | | | Millimeters | | Inches | |
| Vent | 1 | | //3 x 14/5 | | 30-7/16 x 58-1/16 | 1/2" |
| Drainage: | | | | | | |
| METHOD | SIZE | | QUANTIT | Y LOCA | TION | |
| Notch | 7/8" wide l | oy 1/8" hig | ;h 2 | Fram | e sill @ glazing bead 2 | 2-1/2" from jamb |
| Notch | 1/2" x 1/8" | | 2 | Vent | underside of bottor | n rail |
| | | | | | | |
| | | | | | | |

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0456.01-301-44-R1 Date: 09/01/21

| Hardware: | | |
|---|----------|---|
| DESCRIPTION | QUANTITY | LOCATION |
| Actuating Lever (with limit-arm, sliding lock arms and snubbers as a set) | 1 | Frame Sill – Midspan |
| - Limit-arm | 1 | Frame Sill – adjacent to lever |
| Sliding lock arms | 1 set | Vent – Stiles, Bottom rails |
| - Snubbers | 1 | Frame Jambs - midspan |
| Left / Right Vent hinges | 1 set | Frame Top rail both ends, adjacent to Vent hinge corners |

Screen Construction:

FRAME MATERIAL CORNER CONSTRUCTION MESH TYPE MESH ATTACHMENT METHOD

Plastic corner keys Vinyl ridged spline Aluminum Vinyl

SECTION 7 TEST RESULTS

The temperature during testing was 20°C (68°F). The results are tabulated as follows:

| TITLE OF TEST | RESULTS | ALLOWED | NOTE |
|---------------------------------|-----------------------------|---------------------------------|------|
| | Initiate Motion: | | |
| | 26 N (5.78 lbf) | 155 N (34.85 lbf) max | |
| Operating Force, | Maintain Motion: | | |
| per ASTM E2068 | 18 N (3.95 lbf) | 100 N (22.48 lbf) max | |
| | Latches: | | |
| | 19 N (4.25 lbf) | 100 N (22.48 lbf) max | |
| Air Leakage, | | | |
| Infiltration per ASTM E283 | 0.1 L/s/m ² | 0.5 L/s/m ² | |
| at 75 Pa (1.57 psf) | (0.02 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| Air Leakage, | | | |
| Exfiltration per ASTM E283 | 0.1 L/s/m ² | 0.5 L/s/m ² | |
| at 75 Pa (1.57 psf) | (0.02 cfm/ft ²) | (0.1 cfm/ft ²) max. | 1, 2 |
| Canadian Air | | | |
| Infiltration/Exfiltration Level | A3 | N/A | |
| Water Penetration, | | | |
| per ASTM E547 | | | |
| at 580 Pa (12.11 psf) | Pass | No leakage | |
| Uniform Load Deflection, | | | |
| per ASTM E330 | | | |
| Deflections taken | | | |
| Vent top rail between hinges | | | |
| 11110 Do (130.09 pcf) | 0.1 mm (0.01") | 6.1 mm (0.24") max. | |
| +1440 Pa (+50.06 psi) | | C 4 | 2.4 |

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| Date: 09/01/21 | 1 | | | |
| | | | | |
| TITLE OF TEST | RESULTS | ALLOWED | NOTE | |
| Uniform Load Structural, | | | | |
| per ASTM E330 | | | | |
| Permanent set taken | | | | |
| Vent top rail between hinges | .0.4 | 1.2 | | |
| +2160 Pa (+45.11 pst) | <0.1 mm (<0.01") | 1.2 mm (0.05") max. | 24 | |
| -2100 Pd (-45.11 pST) | <0.1 mm (<0.01") | 1.2 mm (0.05°) max. | 3,4 | |
| per ASTM F588 | | | | |
| Type: B - Grade: 20 | Pass | No entry | | |
| Sash Vertical Deflection | . 035 | | | |
| 270 N (60 lbf) | 5.1 mm (0.20") | 15.5 mm (0.61") max. | | |
| Distributed Load | | | | |
| 300 Pa (6.27 psf) | Pass | No Damage | | |
| Note 2: Test Date 03/17/21 , Tir Note 3: Loads were held for 10 s Note 4: Tape and film were us painion, the tape and film did no | ne: 1:15 PM seconds. ed to seal against air lea t influence the results of t | kage during structural testi he test. | ng. In our | |
| Note 2: Test Date 03/17/21 , Tir Note 3: Loads were held for 10 s Note 4: Tape and film were us opinion, the tape and film did no SECTION 8 | ne: 1:15 PM seconds. ed to seal against air lea t influence the results of t | kage during structural testi he test. | ng. In our | |
| Note 2: Test Date 03/17/21, Tir Note 3: Loads were held for 10 s Note 4: Tape and film were us opinion, the tape and film did no SECTION 8 ALTERATIONS | ne: 1:15 PM seconds. ed to seal against air lea ti influence the results of ti | kage during structural testi he test. | ng. In our | |
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| Note 2: Test Date 03/17/21 , Tir Note 3: Loads were held for 10 : Note 4: Tape and film were us opinion, the tape and film did no SECTION 8 ALTERATIONS No alterations were required. | ne: 1:15 PM seconds. ed to seal against air lea t influence the results of t | kage during structural testi he test. | ng. In our | |
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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0456.01-301-44-R1 Date: 09/01/21

SECTION 9 LOCATION OF AIR SEAL

The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.





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| TEST REPORT FOR ALL WEATHER ARCHITECTUR Report No.: M0456.01-301-44-R1 Date: 09/01/21 | www.intertek.com/building | TEST REPORT FOR ALL WEATHER ARCHITECTURA Report No.: M0456.01-301-44-R1 Date: 09/01/21 | www.intertek.com/building |
| SECTION 10 CONCLUSION | | SECTION 11 | |
| The specimens tested successfully met the performa | ance requirements for the following ratings: | DRAWINGS | |
| Class C – PG30, Size Tested: 1200 x | 800 mm (47 x 32 in) Type AP | the test specimen drawings have been reviewed by test specimen(s) reported herein. Test specimen cor the drawings included in this report. Any deviations a | ntertek B&C and are representative of the struction was verified by Intertek B&C per re documented herein or on the drawings. |
| | | All drawings are on file with Intertek-ATI. | |
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| REVISION # | DATE | PAGES | REVISION |
| 0 | 07/30/21 | N/A | Original Report Issue. |
| | | | |
| Version: 01/15/21 | | Page 19 of 19 | RT-R-AMER-Test-2804 |

SERIES 6100

TESTING



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ALL WEATHER ARCHITECTURAL ALUMINUM TEST REPORT

SCOPE OF WORK

AAMA/WDMA/CSA 101/I.S.2/A440 TESTING ON SERIES 6100 FIXED WINDOW

REPORT NUMBER M0355.01-301-44-R1

TEST DATES 03/22/21 - 03/23/21

ISSUE DATE **REVISION 1 DATE** 08/06/21 09/01/21

PAGES 16

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0355.01-301-44-R1 Date: 09/01/21

REPORT ISSUED TO

ALL WEATHER ARCHITECTURAL ALUMINUM 777 Aldridge Road Vacaville, CA 95688

SECTION 1 SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by All Weather Architectural Aluminum to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 on their Series 6100 Fixed Window. Results obtained are tested values and were secured by using the designated test method(s). Testing was conducted at the Intertek B&C test facility in Fresno, California. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends ten years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for two years after the test date

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called "Shared Risk approach," of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.



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| Version: 01/15/21 | Page 2 of 16 | RT-R-AMER-Test-2804 |
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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0355.01-301-44-R1 Date: 09/01/21

SECTION 2

SUMMARY OF TEST RESULTS

| TITLE | RESULTS |
|--|---|
| AAMA/WDMA/CSA 101/I.S.2/A440-17 | Class LC – PG 70 - Size Tested: 1524 x 1524 mm (60 x 60 in) Type: FW |
| Air Infiltration | 0.9 L/s/m ² (0.17 cfm/ft ²) |
| Canadian Air Infiltration/Exfiltration Level | A2 |
| Water Penetration Resistance Test Pressure | 580 Pa (12.11 psf) |
| Design Pressure | ±3360 Pa (±70.18 psf) |
| Reference must be made to Intertek B&C Be | nort No. M0355.01-301-44.81. dated 09/01/21 fo |

complete test specimen description and detailed test results.

SECTION 3

Version: 01/15/21

TEST SPECIFICATION(S)/METHOD(S)

The specimens were evaluated in accordance with the following:

AAMA/WDMA/CSA 101/I.S.2/A440-17- North American Fenestration Standard/Specification for Windows, Doors, and Skylights

The following test methods were used during testing:

AAMA 205-15, In-Plant Testing Guidelines for Manufacturers and Independent Laboratories

ASTM E283-04(2012), Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen ASTM E547-00(2016), Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

ASTM E330/E330M-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference

ASTM F588-17, Standard Test Methods for Measuring the Forced Entry Resistance of Window Assemblies, Excluding Glazing Impact

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TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0355.01-301-44-R1 Date: 09/01/21

SECTION 4

MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek B&C for a minimum of two years from the test completion date.

The specimen was installed into a Douglas-Fir wood buck. The rough opening allowed for a $1/4^{\prime\prime}$ shim space and the exterior perimeter of the specimen was sealed to the test buck.

| LOCATION | ANCHOR DESCRIPTION | ANCHOR SPACING |
|------------------------------|-----------------------------|--------------------------------|
| (Nail Fin) Head, Jambs, Sill | #8 x 1-5/8" flat head screw | 6" from corners, 10" on center |

SECTION 5

LIST OF OFFICIAL OBSERVERS

| NAME | COMPANY |
|------------------------|--------------|
| Meng Vang | Intertek B&C |
| Tyler Westerling, P.E. | Intertek B&C |

SECTION 6

TEST SPECIMEN DESCRIPTION

Product Type: Fixed Window Series/Model: Series 6100 Fixed Window

| OVERALL AREA: | WIDTH | | HEIGHT | |
|---|-------------|--------|-------------|--------|
| 2.32 m ² (25.0 ft ²) | Millimeters | Inches | Millimeters | Inches |
| Overall size | 1524 | 60 | 1524 | 60 |

Page 4 of 16

| Frame Construction: | | |
|---------------------|--------------|------------------------------|
| MEMBER | MATERIAL | DESCRIPTION |
| Head, Jambs, Sill | Aluminum | Thermally broken |
| | JOINERY TYPE | DETAIL |
| All corners | Mitered | Corner Keys, Screwed, Sealed |

Reinforcement: No reinforcement was utilized.

Weatherstripping: No weatherstripping was utilized.

Page 3 of 16

RT-R-AMER-Test-2804

Version: 01/15/21



| Cotal Quality. Assured. TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0355.01-301-44-R1 Date: 09/01/21 | | | 25; Freno, Telephone: Facsimile: www.intert ALUMINUM | 24 E. Jensen Ave California 93706 : 559-233.8705 : 717-764-4129 ek.com/building | | Test Report For All WEATHI Report No.: M0355.01-301-44-R1 Date: 09/01/21 | 2524 E. Jensen Ave Fresno, California 93706 Telephone: 559-233-8705 Facsimile: 717-764-4129 www.intertek.com/building 0.1-301-44-R1 | | | |
|---|---|--|---|---|--|--|---|--|--|--|
| Glazing: No co glazed test spe GLASS TYPE | onclusions of any kin ccimen(s) can be mo SPACER TYPE | nd regarding the adequade. | uacy or inadequacy of the glas | ss in any | | SECTION 7 TEST RESULTS The temperature during testing w | as 23°C (73.9°F). The resu | ults are tabulated as follow | s: | |
| 1" IG | Kodispace 4SG | 3/16" tempered, | Glass set on setting block | ks Exterior | | TITLE OF TEST | RESULTS | ALLOWED | NOTE | |
| | Thermoplastic QUANTITY | Interior / Exterior DAYLIGHT OPENING Millimeters | glazed w/ aluminum snap G Inches | p-in bead. GLASS BITE | | Air Leakage, Infiltration per ASTM E283 at 75 Pa (1.57 psf) | 0.9 L/s/m ² (0.17 cfm/ft ²) | 1.5 L/s/m ² (0.3 cfm/ft ²) max. | 1.2 | |
| Frame | 1 | 1387 x 1387 | 54-5/8 x 54-5/8 | 1/2" | | Air Leakage, Exfiltration per ASTM E283 | 1.0 L/s/m ² | 1.5 L/s/m ² | 1.2 | |
| Drainage: METHOD Notch | SIZE | QUANTIT | TY LOCATION | miamh | | Canadian Air Infiltration/Exfiltration Level | A2 | N/A | 1, 2 | |
| Hardware: No | hardware was utili | zed. | 51111662-2-1/2 1101 | | | Water Penetration, per ASTM E547 at 580 Pa (12.11 psf) | Pass | No leakage | | |
| Screen Constr | uction: No screen v | vas utilized. | | | | per ASTM E330 Deflections taken at <u>Between Anchors @ Jamb</u> +3360 Pa (+70.18 psf) -3360 Pa (-70.18 psf) | <0.1 mm (<0.01") 0.3 mm (0.01") | Report only | 3,4,5 | |
| | | | | | | Uniform Load Structural, per ASTM E330 Permanent set taken at <u>Between Anchors @ Jamb</u> +5040 Pa (+105.26 psf) -5040 Pa (-105.26 psf) | 0.1 mm (0.01") | 1.0 mm (0.04") max. | 4.5 | |
| | | | | | | Forced Entry Resistance, per ASTM F588, Type: D - Grade: 10 | Pass | No entry | 1,5 | |
| | | | | | | Note 1: The tested specimen AAMA/WDMA/CSA 101/I.S.2/A44 Note 2: Test Date 03/22/21 , Time Note 3: The deflections reported product designation. The deflectio information only. Note 4: Loads were held for 10 se Note 5: Tape and film were used opinion, the tape and film did not | meets (or exceeds) ti D for air leakage resistance 2:22 PM are not limited by AAM/ In data is recorded in this r conds. d to seal against air leak influence the results of th | he performance levels s, re. A/WDMA/CSA 101/I.S.2/A4 report for special code com, age during structural testi e test. | becified in 140 for this bliance and ng. In our | |
| Version: 01/15/2: | L | Page 5 of 16 | RT-R-AN | MER-Test-2804 | | Version: 01/15/21 | Page 6 of 16 | RT-R-AM | ER-Test-2804 | |







| INTECTECK Total Quality. Assured. | 2524 E. Jensen Ave Fresno, California 93706 Telephone: 559-233-8705 | Total Quality. Assu | itek | | | 2524 E. Jensen Av Fresno, California 9370 Telephone: 559-233-870 | |
|--|---|---|--|--------|-------------|--|--|
| TEST REPORT FOR ALL WEATHER ARCHITECTURAL AI Report No.: M0355.01-301-44-R1 bate: 09/01/21 | Facsimile: 717-764-4129 www.intertek.com/building .UMINUM | TEST REPORT Report No.: M Date: 09/01/2 | TEST REPORT FOR ALL WEATHER ARCHITECTURAL ALUMINUM Report No.: M0355.01-301-44-R1 Date: 09/01/21 | | | | |
| SECTION 11 | | SECTION 12 | | | | | |
| DRAWINGS The test specimen drawings have been reviewed by Inter | tek B&C and are representative of the | REVISION LOG | | | | | |
| test specimen(s) reported herein. Test specimen constru | ction was verified by Intertek B&C per | REVISION # | DATE | PAGES | REVISION | | |
| the drawings included in this report. Any deviations are d | ocumented herein or on the drawings. | 0 | 08/06/21 | N/A | Original Re | port Issue | |
| | | 1 | 09/01/21 | Page 5 | IG Spacer 1 | ype Changed | |
| All drawings are on file with Intertek-ATI. | | | | | Weep Loca | tions Revised | |
| | | | | | | | |
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