

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION WIN-395

Effective September 1, 2004

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation 3 years after the effective date.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

Great Lakes Window, Inc. Vinyl Fixed Casement, Operable Casement, and Awning Windows, Impact Resistant, manufactured by:

Great Lakes Window, Inc.
30499 Tracy Road
P.O. Box 1896
Toledo, Ohio 43603-1896
(419) 666-5555

will be acceptable in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

The GLW-CF-101-Imp, GLW-CO-101-Imp, & GLW-AW-101-Imp vinyl windows specified in this report are manufactured from extruded vinyl (PVC). This report includes individual, impact resistant windows based on the following tested configurations:

System 1: GLW-CF-101-Imp Fixed Casement Window – Individual F-C80 60 x 66

Overall Size: 5'-0" x 5'-6"

Configuration: O

Glazing: Sealed insulating glass unit. The insulating glass unit consists of an interior laminated glass unit and an exterior glass lite separated by a Steel Intercept spacer system. The interior glass unit consists of two (2) single-strength ($\frac{1}{8}$ ") annealed glass lites with 0.090" PVB sandwiched between.

The exterior glass lite is a $\frac{1}{4}$ " annealed glass monolithic lite with 0.015" PET on the inboard surface.

Glazing Method: The insulating glass unit is interior glazed against silicone backbedding and secured with vinyl snap-in glazing beads on the inside face.

System 2: GLW-CO-101-Imp Single Casement Window – Individual C-C60 32 x 66

Overall Size: 2'-8" x 5'-6"

Operable Sash Size: 2'-6 $\frac{3}{4}$ " x 5'-4 $\frac{3}{4}$ "

Configuration: X

Glazing: Sealed insulating glass unit. The insulating glass unit consists of an interior laminated glass unit and an exterior glass lite separated by a Steel Intercept spacer system. The interior glass unit

consists of two (2) single-strength ($\frac{3}{32}$ ") annealed glass lites with 0.090" PVB sandwiched between. The exterior glass lite is a $\frac{3}{16}$ " annealed glass monolithic lite with 0.015" PET on the inboard surface.

Glazing Method: The insulating glass unit is interior glazed against silicone backbedding and secured with vinyl snap-in glazing beads on the inside face.

System 3: GLW-AW-101-Imp Single Awning Window – Individual AP-C60 54 x 36

Overall Size: 4'-5 $\frac{9}{16}$ " x 3'-0"

Operable Sash Size: 4'-4 $\frac{3}{8}$ " x 2'-10 $\frac{3}{4}$ "

Configuration: X

Glazing: Sealed insulating glass unit. The insulating glass unit consists of an interior laminated glass unit and an exterior glass lite separated by a Steel Intercept spacer system. The interior glass unit consists of two (2) single-strength ($\frac{3}{32}$ ") annealed glass lites with 0.090" PVB sandwiched between.

The exterior glass lite is a $\frac{3}{16}$ " annealed glass monolithic lite with 0.015" PET on the inboard surface.

Glazing Method: The insulating glass unit is interior glazed against silicone backbedding and secured with vinyl snap-in glazing beads on the inside face.

The following applies to all windows

Frame Construction: All frame members are constructed of extruded vinyl (PVC). All frame corners are mitered and welded.

Reinforcement: Fiberglass reinforcement is utilized in all members of the frame.

Product Identification: A label will be affixed to the window. The label includes the manufacturer's name, performance characteristics and approved inspection agency to indicate compliance with AAMA/NWWDA 101/I.S.2.

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	60	66	± 60*
2	32	66	± 60
3	54	36	± 60

* The allowable design pressure rating is limited by ASTM E 1886 impact/cyclic test.

Impact Resistance: These window assemblies satisfy the Texas Department of Insurance criteria for protection from windborne debris. The window assemblies passed Missile Level C specified in ASTM E 1996-99. The window assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. These window assemblies will not need to be protected with an impact protective system.

Acceptance of Smaller Assemblies: Windows assemblies with dimensions equal to or smaller than those specified above are acceptable within the limitations specified in this report.

INSTALLATION INSTRUCTIONS

General: The window assembly shall be installed in accordance with the manufacturer's installation instructions.

GLW-CF-101-Imp Fixed Casement Window Installation: The wood wall framing members shall be minimum Southern Yellow Pine lumber. The windows shall be mounted to the wood wall framing members using either the nailing fin or the nailing flange of the window with minimum #10 x 2 ½" long screws. Five (5) fasteners shall be set along the head and sill at a maximum distance of 7 ½" from each end, with the third, fourth and fifth screws set at 15 inches on-center, across the member. Four (4) fasteners shall be set along the jambs at a maximum distance of 7 ½" from each end, with the third and fourth screws set at 13 inches on-center, across the member. The fasteners shall be long enough to penetrate through the nailing fin of the window frame and into the wood wall framing members a minimum of 1 ½ inch.

GLW-CO-101-Imp Single Casement Window Installation: The wood wall framing members shall be minimum Southern Yellow Pine lumber. The windows shall be mounted to the wood wall framing members using either the nailing fin or the nailing flange of the window with minimum #10 x 2 ½" long screws. Two (2) fasteners shall be set along the head and sill at a maximum distance of 7" from each end. Three (3) fasteners shall be set along the jambs at a maximum distance of 7" and 20" from each end, with the third screws set in the center of the member.

GLW-AW-101-Imp Single Awning Window Installation: The wood wall framing members shall be minimum Southern Yellow Pine lumber. The windows shall be mounted to the wood wall framing members using either the nailing fin or the nailing flange of the window with minimum #10 x 2 ½" long screws. Two (2) fasteners shall be set along the head at a maximum distance of 17" from each end. Three (3) fasteners shall be set along the jambs at a maximum distance of 2" from each end, with the third screws set in the center of the member.

Note: The manufacturer's installation instructions shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC).