

TEXAS DEPARTMENT OF INSURANCE

Engineering Services / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION WIN-454

Effective November 1, 2005

*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.

Series 9000H Vinyl Single Hung Windows, Impact Resistant, manufactured by:

**Modern Window and Doors, Inc.
2200 Spring Street
Hot Springs, Arkansas 71901
(800) 835-8998**

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 Series 9000H window is a vinyl single hung window. The single hung window evaluated in this report is an individual, impact resistant window. This product evaluation report is for a vinyl single hung window based on the following tested construction:

General Description:

System	Description	Label Rating
1	Series 9000H; Individual Single Hung Window; W/Sash Retainers; (OX)	H-R65 44 x 84
2	Series 9000H; Individual Single Hung Window; W/Sash Retainers; (OX)	H-R55 54 x 74

Product Dimensions:

System	Overall Size	Sash Size	Fixed Daylight Opening Size
1	44" x 84"	41 $\frac{5}{16}$ " x 41 $\frac{13}{16}$ "	38 $\frac{3}{4}$ " x 38"
2	53 $\frac{1}{2}$ " x 74"	50 $\frac{7}{8}$ " x 36 $\frac{7}{8}$ "	49 $\frac{3}{4}$ " x 33"

Product Description (cont)

Glazing Description:

System	Glass Construction ¹	Glazing Method ²
1	IG-1	GM-1
2		GM-2

Note: ¹ See the "Glass Description Key" for the glazing construction.

² See the "Glazing Method Key" for the glazing method description.

Glazing Description Key:

IG-1: The fixed lite and the operable sash contain sealed insulating glass units. The sealed insulating glass units are comprised of a laminated glass unit and a double strength ($\frac{1}{8}$ ") Low-E AC annealed glass lite separated by a Swiggle™ spacer system. The laminated glass lite is comprised of two double strength ($\frac{1}{8}$ ") annealed glass lites with a Solutia 0.090" PVB interlayer.

Glazing Method Key:

GM-1: The insulating glass units are set from the interior against acrylic backbedding at the interior and the heel of the insulating glass unit, along the full perimeter. A dual durometer snap-in glazing bead secures the insulating glass unit from the interior.

GM-2: The insulating glass units are interior glazed with Sika 250-PC-C one-part polyurethane backbedding compound at the interior and the heel of the insulating glass unit, along the full perimeter. Glass stop rails and stile are located at the interior of the insulating glass unit.

Frame Construction: The frame members are manufactured from extruded vinyl (PVC). The frame corners are mitered and welded construction. There are snap-in pocket covers at the frame head and sill sash pockets. A sash retainer is snap-fit at the jamb interior leg.

Sill Extender: A sill extender, manufactured from extruded vinyl (PVC), is snap-fit to the interior of the frame sill.

Sash Construction: The sash members are manufactured from extruded vinyl (PVC). The sash corners are mitered and welded construction. As sash retainer is snap-fit onto the interior of the sash jambs.

Reinforcement:

System 1: Extruded steel C-channel is located in the lower sash members, the fixed meeting rail, and in the frame members. The reinforcement extends the length of the members.

System 2: Extruded steel C-channel is located in the sash members, the fixed meeting rail, and in the frame members. The reinforcement extends the length of the members.

Hardware:

<u>Description</u>	<u>Location</u>	<u>System</u>
Cam action locks	Each end of sash top rail	1, 2
Keepers	Attached to upper sash bottom rail with screws	1, 2
Block and tackle balance	Each sash stile	1
Three steel coil balances	Each sash stile	2
Pivot bar	Lower sash bottom rail, attached with screws	1, 2
Tilt latch	Lower sash top rail, attached with screws	1, 2

Product Identification: A certification program label will be affixed to the window. The certification program label includes the manufacturer's name, performance characteristics and approved inspection agency to indicate compliance with the requirements of AAMA/NWWDA 101/I.S.2. The certification program label also includes a tab that references AAMA 506-2000 and that the product conforms to ASTM E 1886 and E 1996.

LIMITATIONS

Design pressures:

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressures (psf)
1	44	84	± 65
2	53 ½	74	± 55

Impact Resistance: These window assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris in the **Inland I and the Seaward zone**. The window assemblies passed Missile Level D specified in ASTM E 1996-01. 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: Window 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. The wood wall framing members shall be minimum Southern Yellow Pine lumber.

Installation:

System 1: The window assemblies may be installed with or without a nailing fin. As a minimum, the window frame shall be installed with steel clips (4.75" x 1.125" x 0.025" thick) that are slotted and twist into groove of the frame. The clips are located approximately 6 inches from each corner and are spaced a maximum of 22 inches on center. The clips are attached to the frame with one (1) minimum No. 8 x 5/8" metal screw at the exterior slot of the clip and one (1) minimum No. 8 x 1" metal screw at the clips interior slot. Each clip is attached to the wood framing members with one (1) minimum No. 8 x 1" wood screw. In the presence of a nailing fin, the window assembly fin may also be secured to the wood framing members with a continuous bead of silicone and with minimum No. 8 wood screws spaced within 6 inches from each corner and a maximum of 8 inches on center along the perimeter of the frame. The fastener shall be long enough to penetrate a minimum of 1 ½" into the wall framing.

System 2: The window assemblies may be installed with or without a nailing fin. As a minimum, the window frame shall be installed with fasteners penetrating through the window frame. The fasteners shall be minimum No. 8 screws. Along the head, the fasteners shall be spaced 2 inches from each corner and a maximum of 11 inches on center. Along each jamb, the fasteners shall be located 2 inches from each end, one at the mid-span of the jamb, one 6 inches from the fixed interlock at the sash opening, and one 3 inches above the fixed interlock. The fasteners shall be long enough to penetrate a minimum of 1 ½" into the wall framing.

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) and the Texas Revisions.