

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-178

Effective September 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.

Perma-Shield Vinyl Clad Wood Operating and Fixed Casement Windows, Impact Resistant,
manufactured by

Andersen Corporation
100 Fourth Avenue North
Bayport, MN 55003-1096
Telephone: (651) 264-5150

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

PRODUCT DESCRIPTION

The Perma-Shield casement window is a vinyl clad wood window. The windows evaluated in this report are impact resistant windows. This evaluation report includes vinyl clad wood operating and fixed casement windows based on the following tested constructions:

General Description:

System	Description	Label Rating
1	Individual Vinyl Clad Wood Operating Casement Window; Series CW16; (X)	C-C50 29 x 72
2	Twin Vinyl Clad Wood Operating Casement Windows; Series CW26; (XX)	C-C50 57 x 72
3	Triple Vinyl Clad Wood Casement Windows (Two operating and one fixed); Series C35; (XOX)	C-C50 72 x 60

Product Dimensions:

System	Overall Window Size	Vent Size(s)	Fixed Vent Daylight Opening Size
1	28 $\frac{3}{8}$ " x 71 $\frac{7}{8}$ "	27 $\frac{7}{32}$ " x 70 $\frac{5}{16}$ "	N/A
2	56 $\frac{1}{2}$ " x 71 $\frac{7}{8}$ "	27 $\frac{7}{32}$ " x 70 $\frac{5}{16}$ "	N/A
3	71 $\frac{7}{8}$ " x 59 $\frac{7}{8}$ "	23" x 58 $\frac{5}{16}$ "	19 $\frac{1}{2}$ " x 54 $\frac{13}{16}$ "

Glazing Description:

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

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: Sealed insulating glass unit. The sealed insulating glass unit is comprised of a laminated glass unit and a single strength ($\frac{3}{32}$ ") annealed glass lite separated by a desiccant-filled aluminum spacer system. The laminated glass unit is comprised of two lami ($\frac{7}{64}$ ") annealed glass lites with a 0.090 inch SGP interlayer.

Glazing Method Key:

GM-1: The glass is set from the interior against silicone backbedding. Vinyl glazing stops are used to secure the insulating glass unit at the exterior.

Frame Construction: The frame members are molded pine sections. The frame corners are butted, sealed with silicone, and secured with three staples per corner. **Cladding:** Vinyl (PVC) cladding is glued and stapled to the exterior frame members.

Vent Construction: The vent members are molded pine sections. The vent corners are butted, sealed with silicone, and secured with staples. **Cladding:** Vinyl (PVC) cladding is glued and stapled to the exterior frame members.

Fixed Vent Construction (System 3): The fixed vent members are molded pine sections. The fixed vent corners are butted, sealed with silicone, and secured with staples. The fixed vent is secured to the frame with galvanized steel straps. The straps are located at the midspan of the top and bottom rails and three per stile. The straps are secured to the sash and to the frame with screws. **Cladding:** Vinyl (PVC) cladding is glued and stapled to the exterior frame members.

Intermediate Members (Systems 2 and 3): Constructed of molded pine sections. The frame members are coped and secured with three staples and one No. 10 screw to the top and bottom members. **Cladding:** Vinyl (PVC) cladding is glued and stapled to the exterior frame members.

Hardware (all systems):

Description

Location

Continuous aluminum snigger
Roto-operator with split arm
Split arm hinge assembly
Three-point surface-mounted lock with keeper

Hinge jamb, secured with screws
Sill of operating window
Top and bottom of vent
Frame jamb

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 and with ASTM E 1886 and ASTM E 1996.

LIMITATIONS

Design pressures (DP):

System	Maximum Width (in.)	Maximum Height (in.)	Design Pressure (psf)
1	28 $\frac{3}{8}$	71 $\frac{7}{8}$	± 50
2	56 $\frac{1}{2}$	71 $\frac{7}{8}$ "	± 50
3	71 $\frac{7}{8}$	59 $\frac{7}{8}$	± 50

Impact Resistance: These window assemblies satisfy the Texas Department of Insurance's criteria for protection from windborne debris. The window assemblies passed the Missile Level D specified in ASTM E 1996-01 and may be installed in the **Inland I** and **Seaward** zones. The window assembly may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded. These 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 windows shall be assembled and installed in accordance with the manufacturer's installation instructions and as specified in this report. The window assembly shall be fastened to minimum Spruce-Pine-Fir wood framing members.

Installation (System 1): The windows are secured to the wood wall framing members with Andersen steel installation clips. Refer to the Andersen Installation Guide for a description of the installation clips. The installation clips are secured to the window frame with two (2) No. 8 x 1 $\frac{1}{4}$ inch screws. The installation clips are secured to the wood wall framing with two (2) No. 8 screws. Three installation clips are equally spaced along each jamb. One installation clip is located at the midpoint of the head and the sill. The fasteners shall be long enough to penetrate a minimum of 1 $\frac{1}{2}$ inches into the wood wall framing members.

Installation (System 2): The windows are secured to the wood wall framing members with Andersen steel installation clips. Refer to the Andersen Installation Guide for a description of the installation clips. The installation clips are secured to the window frame with two (2) No. 8 x 1 $\frac{1}{4}$ inch screws. The installation clips are secured to the wood wall framing with two (2) No. 8 screws. Three installation clips are equally spaced along each jamb. Two installation clips is located at the head and sill, one at the midpoint of each vent. The fasteners shall be long enough to penetrate a minimum of 1 $\frac{1}{2}$ inches into the wood wall framing members.

Installation (System 3): The windows are secured to the wood wall framing members with Andersen steel installation clips. Refer to the Andersen Installation Guide for a description of the installation clips. The installation clips are secured to the window frame with two (2) No. 8 x 1 $\frac{1}{4}$ inch screws. The installation clips are secured to the wood wall framing with two (2) No. 8 screws. Three installation clips

are equally spaced along each jamb. Four installation clips is located along the head and sill, spaced approximately 16 inches on center. The fasteners shall be long enough to penetrate a minimum of 1 ½ inches into the wood wall framing members.

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), the International Building Code (IBC), and the Texas Revisions.