TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION Effective August 1, 2012
CWSF-22

*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 **July 2016**.*

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.

FG-3000 Aluminum Storefront System, Non-impact Resistant, manufactured by

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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 FG-3000 Storefront System, non-impact resistant is an aluminum frame window wall system used for commercial storefront installations. The aluminum frame storefronts are fixed windows. The perimeter frame members are 2" x 4 ½ " and the mullions are 2" x 4 ½ ". The aluminum storefront system evaluated in this report is standard storefront system. This product evaluation report is for an aluminum frame storefront system based on the following tested constructions:

General Description:

System E5: FG-3000 Aluminum Frame Storefront System which is comprised of four fixed window assemblies mulled together along their side jambs (vertical mull). The assembly has daylight opening sizes of 46" x 92" and 70" center two bottom lites and 20" transoms over center two lites. The overall dimension is 194" x 96". The assembly is dry glazed.

System E6: FG-3000 Aluminum Frame Storefront System which is comprised of four fixed window assemblies mulled together along their side jambs (vertical mull). The assembly has daylight opening sizes of 46" (width of all lites) 92" high (three lites on left) 45" high (stacked lites on right). The overall dimension is 194" x 96". The assembly is dry glazed.

System E7: FG-3000 Aluminum Frame Storefront System which is comprised of four fixed window assemblies mulled together along their side jambs (vertical mull). The assembly has daylight opening sizes of 46" (width of all lites) 92" high (three lites on left) 45" high (stacked lites on right). The overall dimension is 194" x 96". The assembly is dry glazed.

System E8: FG-3000 Aluminum Frame Storefront System which is comprised of three fixed window assemblies mulled together along their side jambs (vertical mull). The assembly has daylight opening sizes of 46" (width of all lites) 116" high (two lites on left) 57" high (stacked lites on right). The overall dimension is 146" x 120". The assembly is dry glazed.

System E9: FG-3000 Aluminum Frame Storefront System which is comprised of three fixed window assemblies mulled together along their side jambs (vertical mull). The assembly has daylight opening sizes of 78" wide (lites on left and right side), 46 ¼ " wide (center lite) 20" high (bottom and top lite left side 72" high (center lite, left side) 57" high (2 center lites) 57" high, 78" wide by 57" high (stacked lites, right side). The overall dimension is 210" x 120". The assembly is dry glazed.

Glazing Description:

System	Glass Construction [1]	Glazing Method [2]
E5-E9	IG-1	GM-1

Note: [1] See the "Glass Construction Key" for the glazing construction.
[2] See the "Glazing Method Key" for the glazing method description.

Glass Construction Key:

IG-1: The storefront is constructed with a 1" thick sealed insulating glass with an aluminum spacer system. The aluminum spacer is ½ " and the inner and outer lite consists of ¼ " thick tempered glass. The glass thickness and type used in the storefront system shall comply with ASTM E 1300-04.

Glazing Method Key:

GM-1: The storefront is exterior glazed against a FG-1133 vinyl gasket on both the exterior and interior side of the glass. There are two (2) neoprene setting blocks between the glass on the bottom and the aluminum at each section of the glass unit.

Frame Construction: The frame members consist of extruded aluminum members.

Vertical Mullions: The vertical members consist of hollow extruded aluminum with various wall thickness' are continuous from head to sill. The corners were straight cut, butted sealed with butyl tape and secured with (3) #14 X 1 " hex head fasteners through the jambs into the head, sill and horizontal members.

Horizontal Mullions: The horizontal members consist of hollow extruded aluminum with various wall thicknesses. The corners were straight cut, butted sealed with butyl tape and secured with (3) #14 X 1 " hex head fasteners through the jambs into the horizontal members.

Reinforcement: Specified in limitations section.

Hardware: None.

Product Identification: A label will be affixed to the window wall system. The label includes the manufacturer's name; the product name; the design pressure rating.

LIMITATIONS

Allowable Frame Dimensions and Mullions Options

System E5:
Maximum Individual Window Dimensions: 50” x 96”
Infinite Overall Frame Width
Maximum Vertical Length: 96”
Maximum Horizontal Mullion Length: 46”
Maximum Day Light Opening: 46” x 92”
Mullion: FG-3100 & FG-3102 with no steel reinforcement
FG-3103 & FG-3164 with no steel reinforcement

System E6:
Maximum Individual Window Dimensions: 50” x 96”
Infinite Overall Frame Width
Maximum Vertical Length: 96”
Maximum Horizontal Mullion Length: 46”
Maximum Day Light Opening: 46” x 92”
Mullions: FG-3100 & FG-3164 with RS-1 steel reinforcement

System E7:
Maximum Individual Window Dimensions: 50” x 96”
Infinite Overall Frame Width
Maximum Vertical Length: 96”
Maximum Horizontal Mullion Length: 46”
Maximum Day Light Opening: 46” x 92”
Mullions: FG-3101 & FG-3164 with no steel reinforcement

System E8:
Maximum Individual Window Dimensions: 46” x 120”
Infinite Overall Frame Width
Maximum Vertical Length: 120”
Maximum Horizontal Mullion Length: 46”
Maximum Day Light Opening: 46” x 116”
Mullions: FG-3101 & FG-3164 with RS-10 steel reinforcement

System E9:
Maximum Individual Window Dimensions: 78” x 120”
Infinite Overall Frame Width
Maximum Vertical Length: 120”
Maximum Horizontal Mullion Length: 78”
Maximum Day Light Opening: 78” x 72”
Mullions: FG-3101 & FG-3164 with RS-10 steel reinforcement

Design pressures (DP):
System E5: ±40 psf
System E6: ±60 psf
System E7: +65,-55 psf
System E8: +65,-55 psf
System E8: ±50 psf

Impact Resistance: These window assemblies do not satisfy the Texas Department of Insurance’s criteria for protection from windborne debris. These window assemblies will need to be protected with an impact protective system when installed in areas where windborne debris is required.

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 storefront assembly shall be prepared and installed in accordance with "FG-3000 Storefront for High Design Pressure and Shuttered Applications Installation and Glazing Manual," sheets 1 thru 13 of 13, dated May 2012, Oldcastle BuildingEnvelope and this product evaluation report. Detailed installation instructions and drawings are available from the manufacturer.

Installation: The wall framing shall be a minimum of Spruce-Pine-Fir dimension lumber for all systems.

E5: The FG-2169 continuous subsill is sealed with Dow 795 sealant and anchored with Powers ¼" x 2¾" long Phillips flat head Tapper screws to the framing member. The screws are placed at midpoint between each lite opening. The FG-2182 sill filler and FG-3161 sill are snapped together and placed on the FG-2169 subsill. The FG-3161 sill and FG-2182 sill filler is secured to the FG-2169 subsill using Dow 795 sealant. Powers ¼" x 2¾" long Phillips flat head Tapper screws are fastened to the framing member through the FG-3161 sill, FG-2182 sill filler, and FG-2169 subsill as well as the FG-3103 head and FG-2122 flat filler. The screw spacing is 2" and 6" on center from each FG-3103 jamb and FG-3101 mullion corner. Dow 795 sealant is placed over the FG-3161 sill screw heads. The FG-3100 jamb and FG-2122 flat filler are fastened to the framing member using Powers ¼" x 2¾" long Phillips flat head Tapper screws. The screws are located 6" o.c. from each corner and spaced 12" o.c. thereafter. Dow 795 sealant is placed over the screw heads. Dow 795 sealant is also applied around the full interior and exterior perimeter of the frame.

E6: The FG-2169 continuous subsill is sealed with Dow 795 sealant and anchored with Powers ¼" x 2¾" long Phillips flat head Tapper screws to the framing member. The screws are placed at midpoint between each lite opening. The FG-2182 sill filler and FG-3161 sill are snapped together and placed on the FG-2169 subsill. The FG-3161 sill and FG-2182 sill filler is secured to the FG-2169 subsill using Dow 795 sealant. Powers ¼" x 2¾" long Phillips flat head Tapper screws are fastened to the framing member through the FG-3161 sill, FG-2182 sill filler, and FG-2169 subsill as well as the FG-3103 head and FG-2122 flat filler. The screw spacing is 2" and 6" on center from each FG-3103 jamb and FG-3100 mullion corner. Dow 795 sealant is placed over the FG-3161 sill screw heads. The FG-3103 jamb and FG-2122 flat filler are fastened to the framing member using Powers ¼" x 2¾" long Phillips flat head Tapper screws. The screws are located 6" o.c. from each corner and spaced 12" o.c. thereafter. Dow 795 sealant is placed over the screw heads. Dow 795 sealant is also applied around the full interior and exterior perimeter of the frame.

E7: The FG-2169 continuous subsill is sealed with Dow 795 sealant and anchored with Powers ¼" x 2¾" long Phillips flat head Tapper screws to the framing member. The screws are placed at midpoint between each lite opening. The FG-2182 sill filler and FG-3161 sill are snapped together and placed on the FG-2169 subsill. The FG-3161 sill and FG-2182 sill filler is secured to the FG-2169 subsill using Dow 795 sealant. Powers ¼" x 2¾" long Phillips flat head Tapper screws are fastened to the framing member through the FG-3161 sill, FG-2182 sill filler, and FG-2169 subsill as well as the FG-3103 head and FG-2122 flat filler. The screw spacing is 2" and 6" on center from each FG-3103 jamb and FG-3101 mullion corner. Dow 795 sealant is placed over the FG-3161 sill screw heads. The FG-3100 jamb and FG-2122 flat filler are fastened to the framing member using Powers ¼" x 2¾" long Phillips flat head Tapper screws. The screws are located 6" o.c. Dow 795 sealant is placed over the screw heads. Dow 795 sealant is also applied around the full interior and exterior perimeter of the frame.

E8: The FG-2169 continuous subsill is sealed with Dow 795 sealant and anchored with Powers ¼" x 2¾" long Phillips flat head Tapper screws to the framing member. The screws are placed at midpoint between each lite opening. The FG-2182 sill filler and FG-3161 sill are snapped together and placed on the FG-2169 subsill. The FG-3161 sill and FG-2182 sill filler is secured to the FG-2169 subsill using Dow 795 sealant. Powers ¼" x 2¾" long Phillips flat head Tapper screws are fastened to the framing member through the FG-3161 sill, FG-2182 sill filler, and FG-2169 subsill as well as the FG-3103 head and FG-2122 flat filler. The screw spacing is 2", 6" and 10" on center from each FG-3100 jamb and FG-3100 mullion corner. Dow 795 sealant is placed over the FG-3161 sill screw heads. The FG-3100 jamb and FG-2122 flat filler are fastened to the framing member using Powers ¼" x 2¾" long Phillips flat head Tapper screws. The screws are located 6" o.c. from each corner and spaced 12" o.c. thereafter. Dow 795 sealant is placed over the screw heads. Dow 795 sealant is also applied around the full interior and exterior perimeter of the frame.

E9: The FG-2169 continuous subsill is sealed with Dow 795 sealant and anchored with Powers ¼" x 2¾" long Phillips flat head Tapper screws to the framing member. The screws are placed at midpoint between each lite opening. The FG-2182 sill filler and FG-3161 sill are snapped together and placed on the FG-2169 subsill. The FG-3161 sill and FG-2182 sill filler is secured to the FG-2169 subsill using Dow 795 sealant. Powers ¼" x 2¾" long Phillips flat head Tapper screws are fastened to the framing member through the FG-3161 sill, FG-2182 sill filler, and FG-2169 subsill as well as the FG-3103 head and FG-2122 flat filler. The screw spacing is 2", 6" and 10" on center from each FG-3103 jamb and FG-3100 mullion corner. Dow 795 sealant is placed over the FG-3161 sill screw heads. The FG-3103 jamb and FG-2122 flat filler are fastened to the framing member using Powers ¼" x 2¾" long Phillips flat head Tapper screws. The screws are located 6" o.c. from each corner and spaced 12" o.c. thereafter. Dow 795 sealant is placed over the screw heads. Dow 795 sealant is also applied around the full interior and exterior perimeter of the frame.

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.