TDI | Texas Department of Insurance

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Product Evaluation

SK14 | 0819

Engineering Services Program

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 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.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: SK-14

Effective Date: August 1, 2019
Re-evaluation Date: March 2020

Product Name: VELUX® Glass Skylights, Models QPF, FCM, FS, VS, and VC, Impact Resistant

Manufacturer: VELUX America, LLC
450 Old Brickyard Road
P.O. Box 5001
Greenwood, SC 29648-5001
(864) 941-4828

General Description:

System	Description	Label Rating	Design Pressure Rating
1	Model QPF 4646 2006/2016; Fixed Pan Flashed Skylight	SKG-PG100 (48 x 48) – SKG (DP=+300/-100 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf
2	Model FCM 4646 0006/0016; Fixed Curb Mounted Skylight	SKG-PG80 (51 x 51) (DP=+100/-80 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf

General Description (Continued):

System	Description	Label Rating	Design Pressure Rating
3	Model FS S06 2006; Fixed Deck Mounted Skylight	SKG-PG65 (45 x 46) (DP=+300/-65 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf
4	Model FS M08 2006; Fixed Deck Mounted Skylight	SKG-PG120 (31 x 55) (DP=+300/-120 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf
5	Model VS S06 2006 (Manual) Model VSE S06 2006 (Electric) Model VSS S06 2006 (Solar); Venting Deck Mounted Skylight	SKG-PG65 (47 x 49) (DP=+300/-65 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf
6	Model VS M08 2006 (Manual) Model VSE M08 2006 (Electric) Model VSS M08 2006 (Solar); Venting Deck Mounted Skylight	SKG-PG65 (31 x 55) (DP=+360/-65 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf
7	Model VC 4646 2006 (Manual) Model VCE 4646 2006 (Electric) Model VCS 4646 2006 (Solar); Venting Curb Mounted Skylight	SKG-PG60 (51 x 51) (DP=+230/-60 psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50/-50 psf

Product Dimensions:

System	Frame size	Daylight opening size
1	48-1/4" x 48-1/4"	43-3/4" x 43-3/4"
2	51-1/4" x 51"	47-5/8" x 47-5/8"
3	44-3/4" x 46-1/4"	41-3/8" x 43"
4	30-3/4" x 55"	27-3/8" x 51-3/4"
5	48-1/8" x 48-3/4"	39-1/4" x 40-7/8"
6	30-1/2" x 54-3/4"	25-3/16" x 49"
7	51-3/8" x 51-3/8"	44-7/8" x 44-3/8"

Product Identification (Certification Label on Skylight):

System		
1	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	QPF 4646 2006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-06 Missile Level C

Product Identification (Certification Label on Skylight) (Continued):

System		
2	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	FCM 4646 0006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-05 Missile Level C
3	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	FS S06 2006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-05 Missile Level C
4	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	FS M08 2006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-06 Missile Level C
5	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	VS S06 2006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-06 Missile Level C
6	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	VS M08 2006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-06 Missile Level C
7	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX®
	Product Name	VCM 4646 2006
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-05 Missile Level C

Product Identification (Manufacturer): A permanent identification label is affixed to the product. The permanent label includes the manufacturer's name and the product number.

Impact Resistance:

System	Impact Resistant	Requirement
1-7	Yes	These products satisfy TDI's criteria for protection from windborne debris in the Inland I and Seaward zone. Install the assemblies at a height on the structure that does not exceed the design pressure rating for the assemblies.

Limitations:

System	Model ID	Standard Sizes
1	Model QPF 4646 2006/2016	2222, 2230, 2246, 3030, 3046, 4646
2	Model FCM 4646 0006/0016	2222, 2246, 4646
3	Model FS S06 2006	S01 and S06
4	Model FS M08 2006	A06, C01, C04, C06, C08, D06, D26, M02, M04, M06 and M08
5	Model VS S06 2006 (Manual) Model VSE S06 2006 (Electric) Model VSS S06 2006 (Solar)	S01 and S06
6	Model VS M08 2006 (Manual) Model VSE M08 2006 (Electric) Model VSS M08 2006 (Solar)	VS – C04, C06, C08, M04, M06 and M08 VSE – C01, C04, C06, M04, M06, and M08 VSS – C01, C04, C06, C08, M02, M04, M06 and M08
7	Model VCM 4646 2006 (Manual) Model VCE 4646 2006 (Electric) Model VCS 4646 2006 (Solar	VCM – 2222, 2234, 2246, 3030, 3046, 3434 and 4646 VCE – 2222, 2234, 2246, 3030, 3046, 3434 and 4646 VCS – 2222, 2234, 2246, 3030, 3046, and 3434

Roof Slope:
System 1: Install the skylights on roofs with slopes between 14 degrees and 60 degrees.
Systems 2, 7: Install the skylights on roofs with slopes between 0 degrees and 60 degrees.
Systems 3-6: Install the skylights on roofs with slopes between 14 degrees and 85 degrees.

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

Installation:
General: The skylight assembly must be prepared and installed in accordance with the manufacturer's installation instructions and this evaluation report. Detailed installation instructions and drawings are available from the manufacturer.

The following installation requirements apply to all skylights:
1. Manufacturer's installation instructions must be followed unless otherwise specified by this product evaluation report. The nails or screws required to secure the skylight to the decking are included in the skylight kit (except for the FCM, VCM, VCE and VCS models, which require a site-constructed wood curb).

2. Roof rafters may be cut as necessary to facilitate skylight installation. Skylights must be oriented as allowed by the manufacturer. Additional jamb and header bracing must be installed as necessary to provide support directly beneath the entire skylight frame. The roof framing members must be a minimum Spruce-Pine-Fir dimension lumber (SG ≥ 0.42). When the skylight jamb length exceeds two feet, double 2 x 6 lumber must be used to construct the upper and lower jambs. All skylight models must be secured to the roof decking with fasteners driven through the roof decking and into the roof framing.

Installation:

System 1: The roof framing must be minimum SPF dimension lumber. The roof deck must be minimum nominal 1/2" plywood or OSB. The skylight may be oriented in two directions. The pan flashing must be properly centered over the rough opening. The skylight is secured to the roof framing through the pre-drilled holes in the frame flashing with ring shank nails (minimum 10 gauge, 3/8" diameter head). Minimum 1-1/4" long ring shank nails must be located 3" from each corner and 8" on center. Four minimum 2" long ring shank nails are required 4" in from the top and bottom corners.

System 2: The roof framing must be minimum SPF dimension lumber. The roof deck must be minimum nominal 1/2" plywood or OSB. The skylight may be oriented in two directions. A wood curb must be constructed on site prior to installing the FCM skylight. The wood curb assembly and flashing are not included in the skylight kit. The wood curb components and the roof framing fasteners must be acquired and installed separately. Skylight flashing, likewise, must be acquired and installed separately. The wood curb must, at a minimum, consist of 2 x 4 SPF dimension lumber (SPG = 0.42). The curb must be toe-nailed to the roof framing (minimum 2 x SPF dimension lumber) with minimum 12d galvanized common nails (3-1/4" long, 0.162" nominal diameter). The fasteners must be located approximately 3" from each corner and approximately 6" on center along the perimeter of the wood curb. The nails must be driven (toe-nailed) through the roof deck and into the roof framing members below (a minimum of 1-1/4" penetration). The skylight frame is set against the wood curb and, while compressing the gasket between the insulating glass unit and the wood curb, the skylight is secured to the wood curb through the pre-drilled holes in the exterior leg of the skylight frame. Minimum No. 8 x 1-3/4" self-tapping screws must be used. The fasteners must be located 5" from each corner and one at the mid-span.

Systems 3-6: The roof framing must be minimum SPF dimension lumber. The roof deck must be minimum nominal 1/2" plywood or OSB. The skylight must be oriented in one direction. Flashing is not provided with the skylight kit. Skylight flashing must be acquired and installed separately. The mounting flange must be properly centered over the rough opening. The skylight is secured to the roof framing through the pre-drilled holes in the mounting flange with ring shank nails (minimum 10 gauge, 3/8" diameter head). Minimum 1-1/4" long ring shank nails must be located 3" from each corner and approximately 9" on center. The membrane material included in the skylight kit must be installed as specified in the manufacturer's installation instructions.

System 7: The roof framing must be minimum SPF dimension lumber. The roof deck must be minimum nominal 1/2" plywood or OSB. The skylight must be oriented in one direction. A wood curb must be constructed on site prior to installing the skylight. The wood curb assembly and flashing are not included in the skylight kit. The wood curb components and the roof framing fasteners must be acquired and installed separately. Skylight flashing, likewise, must be acquired and installed separately. The wood curb must, at a minimum, consist of 2 x 4 SPF dimension lumber (SPG = 0.42). The curb must be toe-nailed to the roof framing (minimum 2 x SPF dimension lumber) with minimum 12d galvanized common nails (3-1/4" long, 0.162" nominal diameter). The fasteners must be located approximately 3" from each corner and approximately 6" on center along the perimeter of the wood curb. The nails must be driven (toe-nailed) through the roof deck and into the roof framing members below (a minimum of 1-1/4" penetration). The skylight installation counter flashing is set against the wood curb with the PVC frame and foam tape against the wood curb. The skylight is secured to the wood curb through the pre-drilled holes in the counter flashing of the skylight frame. Minimum No. 8 x 1-3/4" self-tapping screws must be used. The fasteners must be located 4-1/2" from each corner and one at the mid-span.

Note: Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.