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RESEARCH REPORT: 25885
(CSI #08 62 00)

Expires: December 1, 2017
Issued Date: December 1, 2015
Code: 2014 LABC

GENERAL APPROVAL –Renewal of General Approval - VELUX® Skylights and VELUX SUN TUNNEL™ Skylights

DETAILS

VELUX® Skylights are aluminum, aluminum-clad wood, or aluminum-clad rigid PVC framed double-pane glass-glazed skylights in fixed and vented configurations. Vented skylights are available in manually and electrically operated versions. Fixed skylights include Models QPF, FCM and FS. Vented, manually operated skylights include Models VS and VCM. Vented, electrically operated skylights include models VCE, VSE and VSS, VCS Solar variants. All covered skylight models are supplied with 17.2mm (11/16") tempered-over-laminated (Type 04 or Type 08) insulating glass. Each includes Lo-E3-coating on the tempered transparent exterior pane. The laminated interior pane is composed of two sheets of clear heat-strengthened glass with a 0.030" PVB interlayer. The interior and exterior panes are separated by an argon-filled space, sealed by a desiccant-filled stainless steel spacer system. Type 06 glass units are identical to Type 04 except they contain a triple layer of 0.030" interlayer plies. Type 08 glass units are identical to Type 04 and include a white coating on the interlayer. Type 9994 glass units are identical to Type 04 and include a hard-coat Lo-E coating on the room-side surface.

VELUX SUN TUNNEL™ Skylights are tubular daylighting devices. Models TGR, TGF, TMR, TCR and TMF use an exterior coated, galvanized steel roof flashing capped with a clear 3.2mm (118") acrylic dome unit and an interior ceiling ring. Model TLR uses a single flat pane of tempered glass mounted between a very low profile thermoplastic frame and a coated aluminum roof flashing. The TGR/TGF series consist of a low profile flashing that mounts to the roof deck, projects 4" upward, and aligns the dome unit to be parallel to the roof deck. The TMR/TMF series consist of a pitched flashing that mounts to the roof deck and projects 9" upward on the downward roof slope and allows the tunnel opening to be much less inclined than

the adjacent roof. All models are connected to two interior acrylic diffuser layers joined by a highly reflective flexible (..F) or rigid (..R) tunnel (tube).

The approval is subject to the following conditions:

1. The skylights shall be installed in accordance with Sections 2405 and 2610 of the 2014 City of Los Angeles Building Code and the manufacturer's published installation instruction. The manufacturer's installation instruction shall be available on the job site during installation.

2. The allowable negative and positive loads for the skylights are as set forth in Table 1 and Table 2.

3. Flashing must comply with Section 1503.2 of the 2014 City of Los Angeles Building Code.

4. Skylights shall be installed on roofs with slope 3:12 and steeper.

5. Skylights shall be labeled with the name of the manufacturer, City of Los Angeles Research Report No., the product designation, and the performance grade ratings as specified in AAMA/WDMA/CSA 101/I.S.2/A440.

6. Electrical and mechanical components installed in the unit skylight models listed in Tables 1 and 2 are outside the scope of this approval letter and shall comply with the Los Angeles Electrical and Mechanical Code, respectively.

DISCUSSION

The report is in compliance with the 2014 City of Los Angeles Building Code.

The polypropylene pivot and intermediate rings, ASA sash for the TLR, and acrylic dome plastic materials are classified as CC2 per Chapter 26 of the 2014 City of Los Angeles Building Code.

The clear, frosted and crepe diffusers meet the requirements of light transmitting plastics per Section 2606.4 of the 2014 City of Los Angeles Building Code. The two layers of diffuser are installed so that the crepe diffuser is on top of the frosted diffuser. The thicknesses of the diffusers are 1.5mm (0.059') and 3mm (0.118) for crepe and frosted diffusers respectively.

The standard sizes of the covered products are shown in the following table. (Custom sizes of the glass skylights are also covered, if dimensions do not exceed those shown in the table.)

The approval is based on tests in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 and material tests in accordance with chapters 24 and 26 of the Los Angeles Building Code.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval is only valid where an engineer and/or inspector of this Department have determined that all conditions of this Approval have been met in the project in which it is to be used.

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RR25885
R11/24/2015
TLB1500255
2405.5, 2610

Table 1 - VELUX® Skylights

Description / Hallmark Number		Glass Skylight Model / Size Codes	Outside Dimensions (in.)		Performance Grades (psf)	
			Width	Height	Downward	Uplift
Fixed, Curb-mounted	426-H-671.00	FCM 4646	51 1/4	51 1/4	**175**	**170**
		FCM 3434	39 1/4	39 1/4		
		FCM 3046 (or 4630)	35 1/4	51 1/4		
		FCM 3030	35 1/4	27 1/4		
		FCM 2246 (or 4622)	27 1/4	75 1/4		
		FCM 2234 (or 3422)	27 1/4	51 1/4		
		FCM 2230 (or 3022)	27 1/4	39 1/4		
		FCM 2222	27 1/4	35 1/4		
		FCM 1446 (or 4614)	27 1/4	27 1/4		
		FCM 1430 (or 3014)	19 1/4	51 1/4		
	426-H-671.01	FCM 2270 (or 7022)	19 1/4	35 1/4	**110**	**95**
Fixed, Deck-mounted	426-H-675.00	FS S06	44 3/4	46 1/4	**100**	**55**
		FS S01	44 3/4	27 3/8		
	426-H-675.01	FS M08	30 9/16	54 15/16	**285**	**80**
		FS M06	30 9/16	46 1/4		
		FS M04	30 9/16	38 3/8		
		FS M02	30 9/16	30 1/2		
		FS D26	23 1/4	23 7/16		
		FS D06	23 1/4	46 1/4		
		FS C08	21 1/2	54 15/16		
		FS C06	21 1/2	46 1/4		
		FS C04	21 1/2	38 3/8		
		FS C01	21 1/2	27 3/8		
		FS A06	15 1/4	46 1/4		
Fixed, Pan-Flashed	426-H-668.01	QPF 4646	48 1/4	48 1/4	**210**	**105**
		QPF 3046 (or 4630)	32 1/4	48 1/4		
		QPF 3030	32 1/4	32 1/4		
		QPF 2246 (or 4622)	24 1/4	48 1/4		
		QPF 2234 (or 3422)	24 1/4	36 1/4		
		QPF 2222	24 1/4	24 1/4		
Vented, Curb-mounted	426-H-696.01	VCE / VCM / VCS 4646	51 1/4	51 1/4	**165**	**40**
		VCE / VCM / VCS 3046	35 1/4	51 1/4		
		VCE / VCM / VCS 3030	35 1/4	35 1/4		
		VCE / VCM / VCS 2246	27 1/4	51 1/4		
		VCE / VCM / VCS 2234	27 1/4	39 1/4		
		VCE / VCM / VCS 2222	27 1/4	27 1/4		
Vented, Deck-mounted	426-H-679.00	VSE / VSS / VS S06	44 3/4	46 1/4	**235**	**50**
		VSE / VSS / VS S01	44 3/4	27 3/8		
	426-H-679.01	VSE / VSS / VS M08	30 9/16	54 15/16	**270**	**70**
		VSE / VSS / VS M06	30 9/16	46 1/4		
		VSE / VSS / VS M04	30 9/16	38 3/8		
		VSE / VSS / VS C08	21 1/2	54 15/16		
		VSE / VSS / VS C06	21 1/2	46 1/4		
		VSE / VSS / VS C04	21 1/2	38 3/8		
		VSE / VSS / VS C01	21 1/2	27 3/8		

Table 2 - VELUX SUN TUNNEL™ Skylights

Hallmark Number	SUN TUNNEL TDD Model /Size Codes	Outside Dimension (in.)		Performance Grades (psf)	
		Exterior	Tunnel	Downward	Uplift
Curb-mounted, Rigid Tunnel, Low-Slope Roof, Round Double Diffuser					
426-H-665.00	TCR 022 P1	25 5/8 dia.	21 7/16 dia.	**150**	**150**
Curb-mounted, Rigid Tunnel, Low-Slope Roof, Square Single Diffuser					
426-H-665.01	TCR 022 P1	25 5/8 dia.	21 7/16 dia.	**150**	**150**
Low-Profile and Very Low-Profile Self-Flashed, Rigid Tunnel, High-Slope Roof					
426-H-691.00	TGR 014	17 9/16 dia.	13 5/8 dia.	**250**	**125**
	TGR 010	13 7/16 dia.	9 1/2 dia.		
426-H-693.00	TLR 014	18 1/4 square	13 5/8 dia.	**250**	**170**
Low-Profile Self-Flashed, Flexible Tunnel, High-Slope Roof					
426-H-692.00	TGF 021	25 5/8 dia.	20 9/16 dia.	**250**	**40**
	TGF 014	17 9/16 dia.	14 1/8 dia.		
Pitched-Profile Self-Flashed, Rigid Tunnel, High-Slope Roof					
426-H-689.00	TMR 014	17 9/16 dia.	13 5/8 dia.	**250**	**85**
	TMR 010	13 7/16 dia.	9 1/2 dia.		
Pitched-Profile Self-Flashed, Flexible Tunnel, High-Slope Roof					
426-H-690.00	TMF 014	17 9/16 dia.	14 1/8 dia.	**250**	**80**