Product Evaluation

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-15

Effective Date: August 1, 2018
Re-evaluation Date: October 2021

Product Name: VELUX® Sun Tunnel™ Residential Skylights, Tubular Daylighting Devices, Impact Resistant

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

General Description:

Note: In the skylight identification numbers shown in the General Description table below, (***) correlates with the appropriate skylight dimensions in the series

System	Description	Label Rating	Design Pressure Rating
1	Model TMR *** 1000; High-profile, pitched steel flashing, Rigid tunnel, 10" or 14" diameter; Dual-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
2	Model TMR *** 1000E0; High-profile, pitched steel flashing, Rigid tunnel, 10" or 14" diameter; Quadruple-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
3	Model TMF 014 1000; High-profile, pitched steel flashing, Flexible tunnel, 14" diameter; Dual-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf

General Description (continued):

Note: In the skylight identification numbers shown in the General Description table below, (***) correlates with the appropriate skylight dimensions in the series

System	Description	Label Rating	Design Pressure Rating
4	Model TMF 014 1000E0; High-profile, pitched steel flashing, Flexible tunnel, 14" diameter; Quadruple-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
5	Model TGR *** 1000; Low-profile, parallel steel flashing, Rigid tunnel, 10" or 14" diameter; Dual-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
6	Model TGR *** 1000E0; Low-profile, parallel steel flashing, Rigid tunnel, 10" or 14" diameter; Quadruple-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
7	Model TGF *** 1000; Low-profile, parallel steel flashing, Flexible tunnel, 14" or 22" diameter; Dual-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
8	Model TGF *** 1000E0; Low-profile, parallel steel flashing, Flexible tunnel, 14" or 22" diameter; Quadruple-glazed diffuser	TDDCC-PG125 Size Tested: 22" (DP= +300/-125psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
9	Model TCR *** 1000US; High-profile, curb-mount steel flashing, Rigid tunnel, 14" diameter; Dual-glazed diffuser	TDDCC-PG165 Size Tested: 14" (DP= +300/-165psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf
10	Model TCR *** 1000USE0; High-profile, curb-mount steel flashing, Rigid tunnel, 14" diameter; Quadruple -glazed diffuser	TDDCC-PG165 Size Tested: 14" (DP= +300/-165psf) Missile Level C; Wind Zone 3 Cycle Pressure +/- 50 psf	+50 / -50 psf

Component Dimensions:

System	Component	Component Dimensions
1-8	Dome Size (Maximum)	25-5/8"
	Flashing Neck Opening Size (Maximum)	24-3/8"
	Neck Height (Maximum)	4-5/8"
	Deck Rough Opening Size (Maximum)	22-1/2"
9-10	Dome Size (Maximum)	17-1/2"
	Flashing Neck Opening Size (Maximum)	16-3/8"
	Neck Height (Maximum)	4-5/8"
	Deck Rough Opening Size (Maximum)	16-3/4"

Product Identification (Certification Agency Label on Skylight):

System		
1-8	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX® SUN TUNNEL™
	Product Name	TGF, TGR, TMF, and TMR
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E 1886-05/E1996-05 Missile Level C; Wind Zone 3
9-10	Certification Agency	WDMA
	Manufacturer's Name or Code Name	VELUX® SUN TUNNEL™
	Product Name	TCR 014
	Test Standards	AAMA/WDMA/CSA 101/I.S.2/A440-11 ASTM E1886-05/E1996-05 Missile Level C; Wind Zone 3

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
1-10	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	Tunnel Diameter
1	TMR 010 1000 and TMR 014 1000	10" and 14"
2	TMR 010 1000E0 and TMR 014 1000E0	10" and 14"
3	TMF 014 1000	14"
4	TMF 014 1000E0	14"
5	TGR 010 1000 and TGR 014 1000	10" and 14"
6	TGR 010 1000E0 and TGR 014 1000E0	10" and 14"
7	TGF 014 1000 and TGF 022 1000	14" and 22"
8	TGF 014 1000E0 and TGF 022 1000E0	14" and 22"
9	TCR 014 1000US	14"
10	TCR 014 1000USE0	14"

Roof Slope:

Systems 1-8: Install the skylights on roofs with slopes between 14 degrees and 60 degrees.
Systems 9-10: Install the skylights on roofs with slopes between 0 degrees and 60 degrees.

Installation:

General: Assemble and install TDD components in accordance with the manufacturer's installation instructions and this evaluation report. The manufacturer ships detailed installation instructions in the cartons, and may have additional drawings.

The following installation requirements apply to all tubular daylighting devices:

1. Follow manufacturer's installation instructions unless otherwise specified by this product evaluation report. The nails, clips, screws, tape, etc., required to assemble and secure the unit to the roof or curb are included in the Sun Tunnel carton.
2. Cut roof rafters as necessary to facilitate skylight installation. In such cases, a TDI appointed engineer as a qualified inspector must design and certify the roof framing modifications as well as the product installation. Install additional jamb and header bracing as necessary to provide support directly beneath all pre-punched Sun Tunnel fastener locations in the flashing, or the curb for Systems 9 and 10.
3. The roof-framing members must be minimum Spruce-Pine-Fir dimension lumber (SG ≥ 0.42).
4. Secure systems 1 through 8 to the roof decking with fasteners driven through the roof decking and into the roof framing wherever possible.

Installation (Systems 1 thru 8): The roof deck must be minimum nominal 1/2" plywood. Secure the Sun Tunnel flashing to the roof deck with 10 No. 8 x 1" long stainless steel, sharp point modified truss head screws. Install the fasteners through the pre-punched holes around the outer perimeter of the flashing.

Installation (Systems 9 and 10): The roof framing must be minimum Spruce-Pine-Fir dimension lumber. The roof deck must be minimum nominal 1/2" plywood. Construct a wood curb on site prior to installing the TCR flashing. The wood curb assembly is not included with the Sun Tunnel kits. Aquire and install the wood curb components and the roof framing fasteners separately. The wood curb must, at a minimum, consist of 2 x 4 SPF dimension lumber (SPG = 0.42). Toenail the curb must the roof framing (minimum 2 x SPF dimension lumber) with minimum 12d galvanized common nails (3-1/4" long, 0.162" nominal smooth shank diameter). Space the fasteners approximately 3" from each corner and approximately 5" on center along the perimeter of the wood curb. Drive the nails (toenailed) through the roof deck and into the roof framing members below (a minimum of 1-1/4" penetration).

The Sun Tunnel flashing is secured to the wood curb with minimum No. 8 x 1-1/2" pan head stainless steel screws, two per side, approximately 3" from each end, through pre-punched holes.

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