

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION SK-1

Effective August 1, 2005  
Revised January 1, 2007

*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.*

## **Solatube SolaMaster® Series and Brighten Up® Series Tubular Daylighting Devices, Non-Impact Resistant,**

Manufactured by:

**Solatube International, Inc.**  
**2210 Oak Ridge Way**  
**Vista, CA 92081-8341**  
**(800) 966-7652**

Will be acceptable in the designated catastrophe zones along the Texas Gulf Coast when installed in accordance manufacturer's installation instructions and this product evaluation.

## **PRODUCT DESCRIPTION**

The Solatube SolaMaster® Series and Brighten Up® Series Tubular Daylight Devices are non-impact resistant tubular skylights consisting of a dome, flashing, tunnel section, and diffuser assemblies. SolaMaster® Series and Brighten Up® Series Tubular Daylight Devices can be used in residential and commercial applications.

This report includes individual, non-impact resistant skylights based on the following tested configurations:

### **SolaMaster® Series 21" (Single Acrylic Dome) Tubular Daylighting Device**

The SolaMaster® Series 21" Tubular Daylighting Device is tested and approved for curb-mounted and self-flashed configurations. The Series 21" is suitable for mounting on either flat or sloped roofs. This series is available with a standard 0.143" injection molded acrylic dome or an optional 0.125" polycarbonate dome. The standard acrylic dome may be used within the Inland II areas, but it is not acceptable within the Seaward or Inland I areas. The single-layer polycarbonate dome is required in the Inland I and Seaward areas.

- **Performance Rating:** (SP-110, 21" diameter)
- **Configuration:** O
- **Glazed Dome Construction:** Single-Layer Acrylic Dome
- **Glazed Dome Dimensions:** Outside Diameter: 22  $\frac{9}{16}$  "; Height: 9; Thickness: 0.143"
- **Glazing Method:** The dome is mechanically fastened to the flashing using six (6) #8 x  $\frac{3}{4}$ " long truss head SMS and a dense EPDM rubber grommet equally spaced on the perimeter. The holes in the dome are pre-punched.

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### PRODUCT DESCRIPTION (Continued)

#### **Brighten Up® Series 160 DS and Series 290 DS (Single Acrylic Dome) Tubular Daylighting Devices**

The Brighten Up® Series 160 DS (10" diameter) & Series 290 DS (14" diameter) Tubular Daylighting Devices are tested and approved for self-flashed configurations. The Series 160 DS & Series 290 DS are suitable for mounting on either flat or sloped roofs. This series is available with a standard single layer acrylic dome or an optional double-layer acrylic dome. The standard single-layer acrylic dome may be used within the Inland II areas, but it is not acceptable within the Seaward or Inland I areas. The double-layer acrylic dome is required in the Inland I and Seaward areas.

- **Performance Rating:** (SP-60, 14" diameter)
- **Configuration:** O
- **Glazed Dome Construction:** Single-Layer Acrylic Dome
- **Exterior Glazed Dome Dimensions:** Outside Diameter: 10" or 14"; Thickness:  $\frac{1}{8}$ "
- **Glazing Method:** The dome is mechanically fastened to the top curb extension flashing using four (4) #8 x  $\frac{3}{4}$ " long truss head SMS and a dense EPDM rubber grommet equally spaced on the perimeter. The holes in the dome and flashing are pre-punched.

#### **The following applies to all skylights:**

**Product Identification:** A label will be attached to the skylight. The label includes the model name, performance characteristics and approved inspection agency to indicate compliance with AAMA/NWWDA/CSA 101/I.S.2/A440-05.

### LIMITATIONS

Design Pressures:

Model	Glazing Material	Type	Diameter	Design Pressure
SolaMaster® Series 21"	Single-Layer Acrylic Dome	Curb-Mount	21"	± 110 psf
SolaMaster® Series 21"	Single-Layer Acrylic Dome	Self-Flashed	21"	± 110 psf
Brighten Up® Series 290 DS	Single-Layer Acrylic Dome	Self-Flashed	14"	± 60 psf
Brighten Up® Series 160 DS	Single-Layer Acrylic Dome	Self-Flashed	10"	± 60 psf

**Roof Slope:** Solatube Tubular Daylighting Devices are available with a variety of flashing configurations and installation options. Solatube Tubular Daylighting Devices can be installed on flat, built-up roofs or sloped, composition shingle and tile roofs. Flashing configuration should be selected in accordance with the manufacturer's recommendations.

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

**Acceptance of Smaller Assemblies:** Skylight assemblies with width and height dimensions equal to or smaller than those specified in this evaluation report are acceptable within the limitations specified.

## INSTALLATION INSTRUCTIONS

### 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 screws required to secure the skylight to the decking are included in the skylight kit.
2. Roof rafters may be cut as necessary to facilitate skylight installation. Additional jamb and header bracing shall be installed as necessary to provide support directly beneath the skylight flashing. The screws shall be driven through the decking into the framing members below.

### Installation:

**SolaMaster® Series 21" (curb-mounted)** A wood curb must be constructed on site prior to installing the curb-mounted skylight. The wood curb assembly and flashing are not included in the skylight kit. The wood curb components and the roof deck fasteners must be acquired and installed separately. Additional jamb and header bracing shall be installed as necessary to provide support directly beneath the skylight curb. The wood curb shall, at minimum, consist of 2 x 8 Southern Pine lumber (SPG = 0.55). The curb shall be toe-nailed to the roof assembly with galvanized 8d common nails (2½ inches long, 0.131" nominal diameter). Fastener spacing shall not exceed 6 inches. The nails shall be driven through the decking into the framing members below. Curb construction and fastening Instructions are shown in engineered drawing W04-65, sheet 8 of 10, dated July 16, 2004, signed and sealed by Dr. Humayoun Farooq, P.E., on December 15, 2004. The metal curb is attached to the wood curb using twenty-one (21) #10 by 2" long truss head sheet metal screws. The screws are driven horizontally through pre-drilled and site-drilled holes in the side of the metal flashing.

**SolaMaster® Series 21" (self-flashed)** The metal curb flashing flange is attached to the plywood deck using twenty-one (21) #10 x 2" long truss head sheet metal screws spaced approximately 6" on center. The screws are driven vertically through pre-drilled and site-drilled holes in the top of the metal flashing.

**Brighten Up® Series 160 and Series 290 (self-flashed)** The metal pitched curb flashing flange is attached to the plywood deck using eight (8) truss head sheet metal screws (#10 by 2"). The screws are driven vertically through pre-drilled holes and site-drilled holes in the top of the metal flashing.

**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) and the International Building Code (IBC).