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DIVISION: 08—DOORS AND WINDOWS
Section: 08620—Unit Skylight

REPORT HOLDER:

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EVALUATION SUBJECT:

ELITE SOLAR SYSTEMS TUBULAR SKYLIGHT

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2000 *International Building Code*® (IBC)
- 2000 *International Residential Code*® (IRC)
- 1997 *Uniform Building Code*™ (UBC)

Properties evaluated:

- Structural
- Water-resistance
- Durability

2.0 USES

The Elite Solar Systems Tubular Skylights described in this report are plastic-glazed skylights that comply with Sections 2405 and 2610 of the IBC, Section R308.6 of the IRC, and Sections 2409 and 2603 of the UBC.

3.0 DESCRIPTION

The components of the Elite Solar System Tubular Skylight include a dome, dome ring, aluminum self-flashing curb, reflective light tube, ceiling trim ring, light diffuser, and decorative ring. The 10-, 13-, 18-, and 21-inch-diameter (254, 330, 458, and 533 mm) domes are made of 0.177-inch-thick (4.50 mm) acrylic plastic, and the 24-inch-diameter (609 mm) dome is made of 0.236-inch-thick (6.35 mm) acrylic plastic. The acrylic plastic is Plaskolite, Inc., Duraplex, which has a CC2 classification and is recognized in evaluation report ER-6042. The light tubes are from 1 to 20 feet (304.8 to 6096 mm) long and are constructed of 0.02-inch-thick (0.508 mm) Alanod Material 4270 AG Miro 27 silver finish. At the ceiling level, an aluminum ring accepts the light tube. A light diffuser of either 0.06-inch-thick (1.524 mm), or 0.10-inch-thick (2.54 mm), or 0.125-inch-thick (3.175 mm) acrylic plastic, recognized in ER-6042, terminates the lower end of the light tube held in place with a powder-coated aluminum ring.

4.0 INSTALLATION

4.1 General:

Elite Solar Systems Tubular Skylights are prepackaged in shipping cartons for field installation. The cartons contain instructions, components, and attachments, including templates for roof and ceiling holes. On sloped roofs in accordance with Section 2610.3 of the IBC or Section 2603.7.1 of the UBC, the hole for the skylight shall be 14.5, 18.5 or 22.0 inches in diameter (368, 470 or 559 mm), corresponding to the 10-, 13-, or 18-inch-diameter (254, 330, or 458 mm) skylight. The 21- and 24-inch-diameter skylights shall not be used on sloped roofs. On low sloped roofs (2:12), the hole for the skylights shall be 11, 14, 19, 22 or 25 inches in diameter (279, 356, 483, 559, and 635 mm), corresponding to the 10-, 13-, 18-, 21-, and 24-inch-diameter (254, 330, 458, 533, or 609 mm) skylights, respectively. Framing members shall not be cut. On sloped roofs with existing roof covering, a 4-inch (102 mm) slit shall be made at the nine and three o'clock positions, nails or staples shall be cut underneath the underlayment toward the ridge, flashing shall be slid under the shingles, and the underlayment shall be centered with the hole. With the bottom side of the flashing over the shingles, the base of the skylight shall be attached to the roof sheathing with eight No. 8 by 1½-inch-long (41 mm), self-drilling stainless steel screws. The exposed screw heads shall be caulked and the loose shingles shall be secured. On low sloped roofs, two or more ½-inch-diameter (12 mm) concentric beads of caulking, described in the quality control manual, shall be applied on the underside of the flashing. With the skylight centered over the hole, the skylight shall be attached to the roof sheathing using eight No. 8 by 1½-inch-long (41 mm), self-drilling stainless steel screws for 10- and 13-inch (254 and 330 mm) units, or twelve No. 8 by 1½-inch-long (41 mm), self-drilling stainless steel screws for the 18-, 21- and 24-inch (457, 533 and 609 mm) units. The dust seal provided shall be applied to seal the inside top part of the flashing. On the ceiling level, a 10½-, 13½-, 18½-, 21½-, or 24½-inch-diameter (267, 343, 470, 546, or 622 mm) hole shall be cut into the ceiling board for the 10-, 13-, 18-, 21-, and 24-inch-diameter (254, 330, 458, 533, or 609 mm) units, respectively. The trim ring shall be secured to the ceiling board with three or four No. 8 by 1½-inch-long (38 mm) sheet metal screws installed in the flat nuts. The length of the light tube shall be determined by measuring from the top of the base flashing to the bottom side of the trim ring. The light tube shall be flush to the trim ring and fastened with three No. 8 by ½-inch (13 mm), self-drilling stainless steel screws. The light tube may be trimmed using tin snips and shall be installed flush with the top of base flashing. The dome support is provided by a 0.060-inch-thick (1.58 mm) aluminum flashing. The 10-, 13-, or 18-inch-diameter (254, 330, 458, and 533 mm) domes are attached to the vertical section of the self-flashing curb with four No. 8 by 0.5-inch-long (12.7 mm), stainless steel self-drilling screws. The 21- and 24-inch-

diameter (533 and 609 mm) domes are attached to the vertical section of the self-flashing curb with six No. 8 by 0.50-inch-long (12.7 mm), self-drilling stainless steel screws. Gaps in roof shingles and around the base flashing shall be sealed with caulking materials provided. A decorative ring with a light diffuser shall be installed on the ceiling with or without the heat insulating disk by aligning standoffs with the keyholes, and twisting to fit.

4.2 Concrete Tile Roof:

Holes shall be made in the roof deck following procedures as described in Section 4.1 of this report for shingle roofs. Several roof tiles shall be removed around and beyond the opening, and shall be reinstalled after the skylight is in place. Two or more $\frac{1}{2}$ -inch-diameter (12 mm) concentric beads of supplied roof caulking shall be applied to the underside of the flashing. With the skylight centered over the hole, the flashing shall be secured to the roof deck using eight No. 8 by $1\frac{1}{2}$ -inch-long (41 mm), self-drilling stainless, aluminized or galvanized steel screws for 10- and 13-inch (254 and 330 mm) units, and twelve No. 8 by $1\frac{1}{2}$ -inch-long (41 mm), self-drilling stainless, aluminized or galvanized steel screws for the 18-, 21- and 24-inch (457, 533 and 609 mm) units. Roof tiles shall then be replaced at the bottom part of the flashing. An aluminum sheet with an EPDM skirt shall be installed over the flashing, and the roof tiles to be reinstalled on top of the EPDM skirt shall be cut to fit around the flashing as needed, and formed to fit the profile of the tile. Caulk supplied or specified in the installation instructions shall be applied between tiles and skirt to seal the gap. Installation at the ceiling level follows procedures as described in Section 4.1 of this report.

4.3 Allowable Loads:

When installed in accordance with this report, the tubular skylights are capable of resisting positive and negative loads of up to 20 psf (0.958 kN/m²).

5.0 CONDITIONS OF USE

The Elite Solar Systems Tubular Skylights described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 Installation shall be in accordance with this report and Sections 2405 and 2610.3 of the IBC, Section R308.6 of the IRC, or Sections 2409 and 2603.7.1 of the UBC, as applicable, and the manufacturer's published installation instructions.
- 5.2 The maximum positive and negative load shall be as described in Section 4.3 of this report.
- 5.3 The use of the skylights as a component of fire-resistance-rated assemblies is outside the scope of this report.

6.0 EVIDENCE SUBMITTED

- 6.1 Data in accordance with the ICC-ES Acceptance Criteria for Plastic Skylights (AC16), dated October 2003.
- 6.2 Manufacturer's published installation instructions.
- 6.3 A quality control manual.

7.0 IDENTIFICATION

Elite Solar Systems Tubular Skylight components are packaged in boxes bearing the manufacturer's name (Elite Solar Systems, Inc.) and address, model number or size of the unit, the CC2 plastic classification, production date, and the evaluation report number (ESR-1761). Additionally, a label bearing the name of the Elite Solar Systems Tubular Skylight, the model number or size of the unit, and a safety warning shall be attached to the vertical portion of the flashing. The safety warning shall address risk of fall in compliance with Class I, ANSI Standard Z35.1, specifications.

TUBULAR SKYLIGHTS
Assembly and Part Identification Drawing

ITEM	PART DESCRIPTION
1	Dome Assembly
2	No. 8 x 1/2" Dome Stainless Steel Pan Head Screws
3	Dust Seals
4	Flashing (Seamless Aluminum)
5	No. 8 x 1 1/2" Flashing Stainless Steel Tek Screws
6	Light Tubes (2-24" Lengths)
7	Foil Tape
8	No. 8 x 1/2" Light Tube Stainless Steel Tek Screws
9	Flat Nuts
10	Trim Ring
11	No. 8 x 1 1/2" Trim Ring Phil Flat HD SMS
12	Heat Insulating Disk
13	Light Diffuser
14	Ceiling Deco-Ring

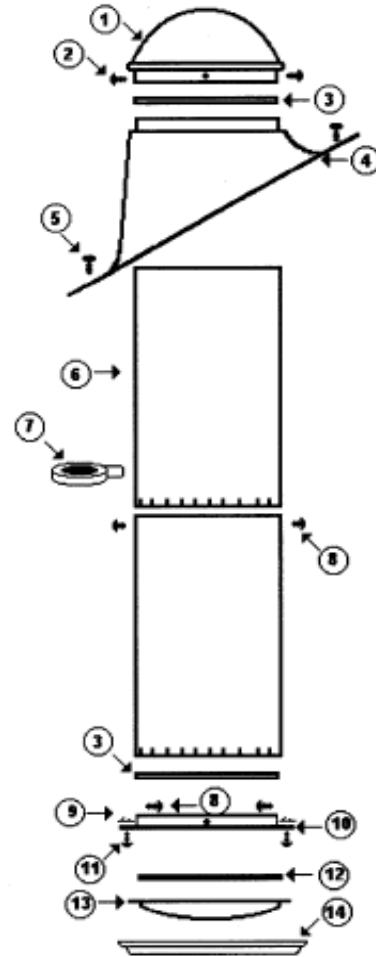


FIGURE 1—TYPICAL ELITE SOLAR SYSTEMS TUBULAR SKYLIGHTS ASSEMBLY