

SECTION 08620 UNIT SKYLIGHTS

Commercial Self Flash Insulated Thermal (CSFTI), Commercial Self Flash Insulated Thermal Pyramid (CSFTIP)

PART 1: GENERAL

1.1 Related Documents

- A) Specifications and drawings necessary for the complete application of Polycarbonate glazed CFSTI and CFSTIP unit skylights and related aspects of installation.
- B) Work included is limited to Factory built self-flashed unit skylights, to be installed by others.

1.2 Referenced Standards

- A) ASTM D 635: Standard Test Method for Rate of Burning and/or Extent and Times of Burning of Plastics in a Horizontal Position.
- B) ASTM D 638-D: Standard Test Method for Tensile Properties of Plastics
- C) ASTM D 1929: Standard Test Method for Determining Ignition Temperature of Plastics.
- D) ASTM E 84: Standard Test Method for Surface Burning.
- E) ASTM G 26: Practice for Operating Light-Exposure Apparatus (Xenon-Arc Type) with and without Water for Exposure of Nonmetallic Materials.
- F) AAMA/WDMA/CSA 101/I.S.2/A440-08
- G) ASTM E283-04
- H) ASTM E547-00
- I) ASTM E330-02

1.3 Performance

- A) Provide unit skylight capable of withstanding structural requirements without failure. Failure includes the following:
 - 1) Thermal stress transferred to glazing from the framing members.
 - 2) Loosening of fasteners and attachments.
 - 3) Sealant failure of the skylight.
- B) Standard and custom sizes up to 40100 (ID 49.1875 x 118.5) achieved +/- 40 psf design pressure.
- C) The Primary Product Designator is Class CW-PG40 1291 x 3045 mm (50.8125 x 119.875)-SKP/RW.

1.4 Submittals

- A) Submit copies of standard manufacturer's approval sheet for architect review and approval.



1.5 Warranty

- A) General: The warranties expressed in this section cover the skylights provided by Sun-Tek Mfg. only.
- B) Skylight warranty: Provide written warranty against material and workmanship defects. Defect is defined as uncontrolled water leakage or abnormal aging and deterioration for a period of five (5) years from the date of installation.

PART 2: PRODUCTS

2.1 Manufacturers

- A) Manufacturers: Shall be subject to compliance with requirements; provide products by the following or approved substitute.
 - 1) Sun-Tek Manufacturing, Inc. 10303 General Dr Orlando, FL 32824
- B) Substitutions: Manufacturers shall not be considered without prior approval, in writing, no later than ten (10) calendar days before bid. Substitute manufacturers must have a minimum fifteen (15) years' experience in the design and manufacture of skylights, must have similar complexity of projects completed within the past five (5) years and must submit specifications and drawings for Architect review.

2.2 Materials

- A) Extruded aluminum retaining angle.
 - 1) Aluminum retaining angle shall be fabricated from 6063-T5 aluminum with a minimum thickness of .060 inch. All corners shall be miter cut and welded using the TIG welding process.
- B) Aluminum inner frame.
 - 1) Extruded aluminum thermally broken inner frame with integral condensation gutter. Inner frame shall have a polyurethane break to reduce condensation and thermal transfer to the interior. Extruded aluminum inner frame shall be fabricated from 6063-T5 aluminum with a minimum thickness of .070 inch. All corners shall be miter cut and welded using the TIG welding process.
 - 2) Extruded aluminum inner frame with integral condensation gutter separated from glazing by closed cell PVC tape. Inner frame shall have weep holes for drainage to the exterior.
 - 3) Curb shall be fabricated from 5052H32 sheet aluminum of .050 thickness exterior and .030 thick 5052H32 sheet aluminum inner curb. Curb to be insulated with 1 inch fiberglass insulation. Thermal barrier provide top and bottom of interior curb.
 - 4) Double sided VHB (very high bond) tape.
- C) Plastic Sheet
 - 1) Polycarbonate monolithic, formable, transparent or translucent sheets with good weather resistance and excellent impact resistance.
 - 2) Single dome application, outer dome .118 minimum thickness unless otherwise



specified by architect.

- 3) Double dome application, outer dome .118 thickness unless otherwise specified by architect. Inner dome of .080 minimum thickness.
 - 4) Single and double dome applications, the domes shall extend, vertically downward, over the exterior side of the inner frame to a minimum of one (1) inch.
 - 5) Outer and inner dome shall be sealed together with silicone.
 - 6) Outer and inner dome meet the following:
 - i) ASTM D 635
 - ii) ASTM D 638
 - iii) ASTM D 1929
 - iv) ASTM E 84
 - v) ASTM G 26
- D) Fasteners
- 1) The Exterior aluminum extruded retaining angle, outer dome, and inner dome (in double dome applications) and extruded aluminum inner frame, for both CSF and CSFP shall be fastened together by 0.1875 diameter aluminum rivets with aluminum washer. The dome and both external and interior ring shall be attached to the curb using zinc electroplated #10 x 1 ¼ inch Tek point screw. All fasteners used for securing the skylight to the structure shall be provided by others.

2.3 Plastic Skylight Assemblies

- A) General: Factory assembled self-flashed unit skylight consisting of polycarbonate glazing with extruded aluminum outer and inner frames attached to curb with integral 3 inch flange, unless specified differently.
- B) Products: CSFI (commercial self-flashed Insulated) and CSFIP (commercial self-flashed Insulated pyramid)
- C) Curbs height shall be 6", 9" or 12" unless otherwise specified.
- D) All unit skylights to be factory assembled and factory glazed.
- E) Condensation control: All units shall have integral condensation gutters that drain to the exterior.
- F) Size: See schedule.
- G) Glazing: Polycarbonate outer dome minimum 0.118 thickness. Inner dome polycarbonate dome minimum 0.080 thickness. All glazing shall be separated from the frame by PVC closed cell foam.
- H) Tint: Outer and inner domes; Transparent Bronze, Clear, translucent White or other specified by architect.

2.4 Aluminum Finishes



- A) Mill Finish: Standard Mill finish unless specified.

PART 3: PART 3 INSTALLATION

- 3.1 Site Inspection: The installation opening shall be verified to the drawing, with the installer present. Installation work shall not proceed until corrections have been made or written authorization is given to proceed.
- 3.2 Substrate preparation: The substrate that comes in direct contact with the aluminum framing of the skylight shall be prepared to prevent any galvanic or corrosive action that takes place during contact of dissimilar materials.
- 3.3 Installation: Skylights shall be installed in strict compliance with manufacturer's drawings and instructions. Deviations from these drawings and instructions are only authorized with written instruction from the architect.
- 3.4 Installation of the skylight shall be coordinated with other elements of work on the roof to allow for proper installation of each element related to waterproofing the installation.
- 3.5 Sealants shall not be applied to aluminum if temperatures are below 32 degrees F.
- 3.6 Protection: Protection of skylights during construction shall be the responsibility of the general contractor or project manager.
- 3.7 Cleaning:
 - A) Installer shall remove all protective coverings from domes and frames, remove any sealant on the exterior of the skylight.
 - B) Final cleaning shall be completed in accordance with manufacturer's instructions.

END OF SECTION

