



SECTION 07720  
CURB MOUNT HEAT AND SMOKE VENTS

**PART 1-GENERAL**

1.1 SUMMARY

- A. This section includes the following:
  - 1. Model CSOS curb-mounted shrink out heat and smoke vents.  
[Formerly Wasco Model PSOS]
- B. Related Sections: The following sections contain requirements that relate to this section:
  - 1. Roof Scuttles
  - 2. Heat and smoke vents, listed
  - 3. Shrink out / drop out heat and smoke vents.
  - 4. Fall protection screens.
- C. Refer to roofing system sections for roofing accessories to be built into the roofing system to accommodate work of this section.

1.2 PERFORMANCE REQUIREMENTS

- A. General: Provide heat and smoke vents capable of withstanding loads indicated without failure. Failure includes the following:
  - 1. Thermal stresses transferred to the building structure.
  - 2. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing.
  - 3. Noise or vibration created by thermal and structural movement and wind.
  - 4. Weakening of fasteners, attachments, and other components.
- B. Structural Loads: Provide heat and smoke vents that meet a minimum of 40 PSF positive load and 20 PSF negative load.
- C. Units must be listed by Underwriters Laboratories for compliance with UL793.

1.3 SUBMITTALS

- A. Product Data Sheet: For heat and smoke vent specified, include details of construction and installation, relative to applicable roofing materials.

1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: Provide thermoformed domes fabricated from sheets identical to those tested for the following fire-test-response characteristics, per ASTM test method indicated below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.
  - 1. Self-Ignition Temperature: 651 deg F (343 deg C) or greater when tested per ASTM D 1929 on plastic sheets in the thickness intended for use.
  - 2. Smoke density of 75 or less when tested per ASTM D 2843 on plastic sheets in the thickness intended for use.

3. Relative- Burning Characteristics: As follows, when tested per ASTM D 635:
  - a. Class CC2 Burning rate of 2.5 inches (64 mm) per minute or less when tested on plastic glazing indicated above with a nominal thickness of 0.060 inch (1.5 mm) or the thickness intended for use.

## 1.5 WARRANTY

- A. General: Warranties specified in this section shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to and run concurrent with other warranties made by the Contractor under requirements of the Contract Documents.
- B. Skylight Warranty: Provide written warranty signed by manufacturer, agreeing to repair or replace work that exhibits defects in materials or workmanship and guaranteeing weather-tight and leak-free performance. "Defects" is defined as uncontrolled leakage of water and abnormal aging or deterioration.
  1. Warranty Period: 2 years from date of Substantial Completion.
- C. Plastic Warranty: Provide written warranty signed by manufacturer agreeing to repair or replace work that has or develops defects in the plastic. "Defects" is defined as abnormal aging or deterioration.
  1. Warranty Period for Acrylic: 2 years from date of Substantial Completion against yellowing.

## PART 2- PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide CSOS heat and smoke vents manufactured by Wasco Skylights part of the VELUX Group, Wells, ME (800-388-0293).
- B. Substitutions: Manufactures shall not be considered without prior approval in writing no later than ten (10) calendar days prior to bid. Substitute manufacturers must have been in the custom skylight business for not less than a period of 15 years and must submit to the Architect the following:
  1. List of similar projects successfully completed within the last five years.
  2. Proof of financial capability.
  3. Complete details of proposed skylight.
  4. Complete specifications for Architect's review.

### 2.2 MATERIALS

- A. Curb Frame: Extruded aluminum alloy 6063-T5 (min.) ASTM B 221 (ASTM B 221 M) with minimum effective thickness of 0.060 inch. Provide integral condensation gutter system with corners fully welded for waterproof quality.
- B. Retainer Frame: Extruded aluminum alloy 6063-T5 (min). ASTM B 221 (ASTM B 221 M) with minimum effective thickness of 0.060 inch.
- C. Plastic Sheets: Monolithic, formable, transparent (colorless) or translucent (white) sheets with good weather and impact resistant.
  1. Acrylic: Thermoformable, acrylic (methacrylate), Category C-2 or CC-2 Type UVA (formulated with ultraviolet absorber), with Finish 1 (smooth or polished), unless otherwise indicated.
- D. Shape and Size: As indicated by model number.
- E. Glazing:
  1. Outer: Thermoformed acrylic: (Clear, #2447 White, #2412 Bronze).
  2. Inner: Thermoformed impact modified acrylic (Clear, #2447 white).
- F. Fasteners: Same metal as metals being fastened, or nonmagnetic stainless steel or other non-corrosive metal as recommended by manufacturer.

- G. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil (0.4 mm) dry film thickness per coating.

## 2.3 PLASTIC SKYLIGHT UNITS

- A. General: Factory-assembled, curb-mounted heat and smoke vent unit consisting of plastic glazing, gasketing, inner curb frame, optional fusible link.
- B. Products: Provide model CSOS meeting the requirements of this section.
- C. **OPTIONAL**: Provide unit with [360] or [500] degree fusible link operation for use on ESFR sprinklered buildings.
- D. Curb: By others, UL listed
- E. Condensation Control: Fabricate skylight units with integral internal gutters and weeps to collect and dispose of condensation.
- F. Shape and Size: As indicated by model number.
- G. Glazing: Thermoformed acrylic.

## 2.4 FALL PROTECTION SAFETY SCREENS

- A. Screen: Welded steel wire mesh, 4" x 4" spacing, wire diameter - .188" min. hot dipped galvanized finish on carbon steel or unfinished stainless steel.
- B. Adjustment Bar: Extruded aluminum bar stock, ¼" x 1", alloy 6063-T5 (min). ASTM B 221 (ASTM B 221 M).
- C. Adjustment bar is slotted for width adjusted in the field.

## 2.5 FABRICATION

- A. Units shall be Underwriters Laboratories (UL) listed, factory assembled, and consisting of a 100% acrylic double dome designed to drop out in the event of a fire. The vent shall operate at a maximum temperature of 286 degrees F per UL standard 793. Outer acrylic dome to be minimum .177" thick 100% acrylic. The inner dome shall be impact modified acrylic configured for stiffness to support the outer dome and a 40 PSF live load. Dome to be configured as not to require the addition of screens for fire brand protection.

## 2.6 ALUMINUM FINISHES

- A. General: Comply with NAAMM "Metal Finishes Manual" recommendations for application and designations of finishes.
- B. Finish designations prefixed by AA conform to the system for designations of aluminum finishes established by the Aluminum Association.
- C. Mill Finish: Manufacturer's standard mill finish.

## PART 3- EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates and conditions, with installer present, for compliance with requirements for installation tolerances and other conditions affecting skylight performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Metal Protection: As follows:
  - 1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
3. Where aluminum will contact pressure-treated wood, separate dissimilar materials by methods recommended by manufacturer.

### 3.3 INSTALLATION

- A. General: Comply with manufacturer's written instructions for protecting, handling, and installing skylight components.
- B. Coordinate with installation of roof deck and other substrates to receive skylight units.
- C. Coordinate with installation of vapor barriers, roof insulation, roofing, and flashing as required to assure that each element of the work performs properly and that combined elements are waterproof and weather tight. Anchor units securely to supporting structural substrates, adequate to withstand lateral and thermal stresses as well as inward and outward loading pressures.
- D. Counter Flashing: Where counter flashing is required as component of the skylight, install to provide an adequate waterproof overlap with roofing or roof flashing (as counter flashing). Seal with thick bead of mastic sealant, except where overlap is indicated to be left open for ventilation.

### 3.4 CLEANING AND PROTECTION

- A. Clean exposed metal and plastic surfaces according to manufacturer's instructions. Touch up damaged metal coatings.
- B. Clean plastic skylight units, inside and out, not more than 5 days prior to date of substantial completion per manufacturer's recommendations.

END OF SECTION