**SECTION 07 72 36**

**HEAT AND SMOKE VENTS**

**Milcor™ Heat and Smoke Vent - Big Smoky® - Double Leaf**

**PART 1 – GENERAL**

* 1. **RELATED DOCUMENTS**

1. All of the Contract Documents, including General and Supplementary Conditions and Division 01 General Requirements, apply to the work of this Section.
   1. **SCOPE**
2. Section Includes: Furnishing and installing factory fabricated roof hatches.
3. Related Sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
4. Section 07 01 40 – Maintenance Roofing
5. Section 07 01 70 – Operation and Maintenance of Roof Specialties and Accessories
6. Section 07 06 70 – Schedules for Roof Specialties and Accessories
7. Section 07 22 00 – Roof and Deck Insulation
8. Section 07 71 00 – Roof Specialties
9. Section 07 72 00 – Roof Accessories
10. Section 07 72 43 – Roof Walkboards
11. Section 07 72 46 – Roof Walkways
12. Section 07 81 00 – Applied Fireproofing
    1. **REFERENCE STANDARDS**

A. The following standards and publications are applicable to the extent referenced in the text.

B. American Society of Testing and Materials (ASTM) and Others:

ASTM A36-93a Standard Specifications for Structural Steel

ASTM A123 Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

ASTM A143 Standard Practice for Safeguarding Against Embrittlement of Hot-Dip Galvanized Structural Steel Products and Procedure for Detecting Embrittlement

ASTM A153 Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware

ASTM A384 Standard Practice for Safeguarding Against Warpage and Distortion during Hot-Dip Galvanizing of Steel Assemblies

ASTM A653 Standard Specifications for Steel Sheet, Zinc Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvanized) by the Hot-Dip Process

ASTM B209-14 Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate

ASTM B308 Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles

ASTM C208/C209 Standard Specification for Cellulosic Fiber Insulating Board

ASTM C591-13 Standard Specification for Unfaced Preformed Rigid Cellular Polyisocyanurate Thermal Insulation

ASTM D4549-11 Standard Classification System and Basis for Specification for Polystyrene and Rubber-Modified Polystyrene Molding and Extrusion Materials (PS)

IBC 2015 2015 International Building Codes

* 1. **SYSTEM DESCRIPTION**

1. **Milcor™ Big Smoky® Heat & Smoke Vent**: Spring Mounted in Frame: Aluminum/Galvanized Steel:

**Model U-LPAG-***Insert Model # Here***.**

* 1. **SUBMITTALS**

A. General: Submit in accordance with Section 01 33 00.

B. Product Data: Submit manufacturer’s product literature and installation instructions, use limitations and recommendations.

C. Samples: Manufacturer to provide, upon request, sized to represent material adequately.

D. Technical Support: Contact the engineering group of manufacturer as stated in 2.01A.

E. Subcontractor’s approval by Manufacturer: Submit document stating manufacturer’s acceptance of subcontractor.

F. Warranty: Submit a sample of manufacturer’s warranty identifying the terms and conditions stated

in 1.09.

G. Substitutions: To be accepted as an equal, a product substitution must have demonstrated documented field trials. Contractor guarantees that proposed substitution shall meet the performance and quality standards of this specification.

**1.06 QUALITY ASSURANCE**

A. Manufacturer Qualifications: Heat and Smoke Vents must be manufactured by a company with a minimum of 5 years’ experience in the production and sales of Heat and Smoke Vents.

B. Installer Qualifications: A firm having at least 3 years’ experience in installing Heat and Smoke Vents.

C. Materials: For each type of material required to complete the work of this section, provide primary materials which are the products of a single manufacturer.

D. Pre-Application Conference (As needed): A pre-application conference shall be held to establish procedures and to review conditions, installation procedures and coordination with other related work. Meeting agenda shall include review of the special details.

E. Manufacturer’s Representative: Arrange to have trained representative of the manufacturer on site periodically to review installation procedures.

* 1. **DELIVERY, STORAGE, HANDLING**

1. Store products per manufacturers’ instructions in unopened packaging until ready for installation.
2. Store products under cover and elevated above grade.
   1. **PROJECT CONDITIONS**

A. Work should be performed only when existing and forecasted weather conditions are within the limits established by the manufacturer.

B. Verify that other trades with related work are complete before installing roof vent(s).

C. Mounting surfaces shall be straight and secure; substrates shall be of proper width.

D. Observe all appropriate OSHA safety guidelines for this work.

E. Waste Disposal: This material is not defined as hazardous by the Resource Conservation and Recovery Act. It is the product users’ responsibility to determine at the time of disposal. Dispose of in accordance with all federal, state and local regulations.

* 1. **WARRANTY**

A. **Milcor™** warrants all goods sold to be free from defects in workmanship, but limits liability to five years from date of shipment and expressly to the replacement of goods not complying with this warranty; or, at our election, a credit to original purchaser for the original purchase price paid less 1/60th of the price for each month elapsed from the original invoice date to the date of claim against this warranty.

B. Electric motors, special finishes and any other optional special components required shall be warranted separately by the manufacturers of those products.

**PART 2 – PRODUCTS**

**2.01 MANUFACTURER**

A Provide **Milcor™** Heat and Smoke Vents as manufactured by:

**Milcor™** Company

5030 Corporate Exchange Blvd. SE

Grand Rapids, MI 49512

Phone: 800-624-8642

Fax: 855-549-2674

Email: info@milcorinc.com

Website: http://www.milcorinc.com

**2.02 HEAT AND SMOKE VENT**

1. **Milcor™ Big Smoky® Model U-LPAG-***Insert Model # Here***:** Double Leaf: Spring Mounted in Frame.
2. Size: Width [ *ft. in*. ] x Length [ *ft. in.* ] Length denotes hinge side.
3. Curbs: One-piece curb and frame with integral cap flashing, continuous center channel, 3-1/2” wide mounting flanges with pre-drilled holes.
   * + 1. Material:

Curb: Galvanized steel, 14 gauge, .070 inch thick.

Cap Flashing: Galvanized steel, 12 gauge, .100 inch thick

* + - 1. Insulation: 1 inch fiberboard.
      2. Height: 12-1/2 inches.

1. Metal Covers: Flush, insulated, hollow metal construction.
   * + 1. Material: Aluminum, outer cover .100 inch thick, liner .100 inch thick.
       2. Insulation: 2 inch rigid foam.
       3. Gasket: Polyurethane foam gasket adhered to cover, continuous around cover perimeter.
2. Operation:
   * + 1. Covers automatically spring open to approximately 90 degrees in the event of fire, actuated by the parting of a single 165 degrees F (74 degrees C) fusible link for FM approval, automatically locking in the fully open position.
       2. Covers are of double-leaf construction, with each leaf equipped with sufficient gas spring operators to open against a maximum 10 psf (0.5 kPa) snow or wind load.
       3. Unit’s gas springs are dampened to allow the covers to open at a safe and controlled speed.
       4. Covers shall not open when subjected to a maximum uplift pressure of 90 psf.
       5. Vent design allows covers to be released manually from inside or outside without disturbing the fusible link assembly.
       6. Covers latch automatically and manual release mechanism resets automatically by closing covers.
3. Performance:
   * + 1. Fire Safety: Complies with the requirements of Class “A” burning brand test (UL 790).
       2. UL Tested: Tested and listed by Underwriter’s Laboratories, Inc. (UL 793)
       3. Insulated covers provide a minimum thermal transmittance value of U = 0.093 to reduce heat loss or gain and to prevent condensation
       4. Meets building requirements requiring a live load of up to 50 psf.

**PART 3 – EXECUTION**

**3.01 INSPECTION**

A. Verify that Milcor™ Heat and Smoke Vent installation will not disrupt other trades. Verify that the substrate is dry, clean, and free of foreign matter. Report and correct any defects prior to any installation.

B. Verify by comparing packing slip and box label that product is per specification.

**3.02 SURFACE PREPARATION**

A. Refer to manufacturer’s product literature for surface preparation requirements. Surfaces should be structurally sound, free of voids, spalls, loose aggregate and sharp ridges. Remove dust, dirt, debris or any other foreign materials.

**3.03 INSTALLATION**

A. Submit product design drawings for review and approval to the Architect/Specifier before fabrication.

B. Installer shall check as-built conditions and verify the manufacturer’s roof hatch details for accuracy to fit the applications prior to fabrication. The installer shall comply with the roof hatch manufacturer’s installation instructions.

C. The installer shall furnish mechanical fasteners consistent with the roof requirements.

**3.04 CLEANING AND PROTECTION**

A. Product requires no spill or leak containment. Dispose of damaged material in accordance with all governmental regulations.

B. Protect completed work from subsequent construction activities as recommended by manufacturer.

**END OF SECTION 07 72 36**