

SECTION 07 72 00

SOLAR POWER VENTILATOR

*****This is a CSI Three-Part Specification using CSI MasterFormat 2004-2010 Section Numbers and Titles. This specification must be edited to delete types of roof accessories not required on a particular project. Also, for your guidance in editing this master guide specification we have put in ****Notes**** in asterisks' and italicized to help guide you in your product selection. You can then delete these notes once editing is completed.*****

*****This section is based on the Lomanco Incorporated line of roofing ventilation. For more information on Lomanco Inc. products and availability, or for the name of your local Lomanco, Inc. representative, contact us at the following: Lomanco, Incorporated, 2101 West Main Street, P.O. Box 519, Jacksonville, Arkansas 72076, 1-800-643-5593 phone, (501) 982-1258 fax; or visit our website at: www.lomanco.com.*****

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

*****Note: Delete roof accessories not used in project.*****

1. Solar power ventilators. *****Note: Solar powered vents must be used in conjunction with adequate intake vents for proper operation.*****

2. Accessories.

- B. Related Sections:

*****Note: Coordinate sections listed below with actual project requirements. *****

1. Section 07 31 13 - Asphalt Shingles
2. Section 07 41 00 - Standing Seam Metal Roofing
3. Section 07 51 13 - Built-Up Asphalt Roofing
4. Section 07 52 13 - Modified Bituminous Membrane Roofing
5. Section 07 53 23 - EPDM Roofing
6. Section 07 54 19 - PVC Roofing

7. Section 07 54 23 - TPO Roofing
8. Section 07 61 00 - Sheet Metal Roofing
9. Section 07 60 00 - Sheet Metal Flashing and Trim
10. Section 07 71 00 - Roof Specialties
11. Section 07 90 00 - Joint Sealants

1.3 REFERENCE STANDARDS

*****Note: Delete unnecessary references not used in project.*****

- A. American Society for Testing and Materials:
 1. ASTM B 209/B 209M - Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
- B. National Fire Protection Association:
 1. NFPA 70 - National Electrical Code.
- C. Institute of Electrical and Electronics Engineers:
 1. IEEE C2 - National Electric Safety Code.
- D. Underwriters Laboratories Inc.:
 1. UL 1703 - Flat-Plate Photovoltaic Modules and Panels.

1.4 DESIGN/PERFORMANCE REQUIREMENTS

- A. General Performance: Solar powered ventilators shall withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Design solar powered ventilators and components to be safe, normal operation and designed and installed in accordance with manufacturer's written instructions and as designed on approved shop drawings, and in compliance with applicable codes and jurisdictions.

1.5 QUALITY ASSURANCE

- A. Certification:
 1. CSA International: #253110.

2. **Passed Miami-Dade County test requirements for structural uplift and wind driven rain infiltration. Miami-Dade County Approved - NOA No.: 12-0315.03 expires 06/14/2017.**
 3. **Texas Department of Insurance “Windstorm” Approved - Product Evaluation Report No.: RV-68.**
- B. **Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.**
 - C. **Comply with NFPA 70.**
 - D. **Comply with IEEE C2, “National Electrical Safety Code.”**
 - E. **Comply with UL 1703.**

1.6 ACTION SUBMITTALS

- A. **Product Data: For solar power ventilator indicated.**

1.7 INFORMATIONAL SUBMITTALS

- A. **Coordination Drawings:**
 1. **Indicate locations of solar powered ventilator connections to utilities.**
 2. **Include plans and elevations; clearance requirements for access and maintenance; details of supports; and utility service characteristics.**
- B. **Product Certificates: For specified solar power ventilator, from manufacturer.**

1.8 DELIVERY, STORAGE AND HANDLING

- A. **Store products in manufacturer’s unopened packaging with labels intact until ready for installation.**
- B. **Protect pipe openings and piping from debris and other foreign matter by using caps on piping connections.**

1.9 SEQUENCING

- A. **Ensure that locating templates and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.**

1.10 COORDINATION

****Note: Coordinate with your project roofing requirements. ****

- A. Coordinate layout and installation of solar power ventilator with roofing membrane and base flashing and interfacing and adjoining construction to provide a leakproof, weathertight, secure, and noncorrosive installation.**
- B. Coordinate dimensions with rough-in information or Shop Drawings of equipment to be supported.**

1.11 WARRANTIES

- A. Manufacturer's standard 10-year limited warranty for defects in manufacturer's materials and workmanship; 5-year warranty for ventilator motor and panel.**

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Basis of Design: Lomanco, Incorporated, 2101 West Main Street, P.O. Box 519, Jacksonville, Arkansas 72076, 1-800-643-5593 phone, (501) 982-1258 fax, www.lomanco.com is specified.**

2.2 SOLAR POWER VENTILATOR

- A. Model "OSV-40 OMNI Solar Vent Power Ventilator".**
- B. Description: Self-flashing, roof mounted, solar-powered panel, attic exhaust ventilator with one-piece dome, one-piece base, and one-piece molded continuous rain shield/motor mount. Double row of screen is secured in place around rain shield and covers vent opening.**
- C. Materials and Components:**
 - 1. Aluminum: Conform to ASTM B 209.**

- a. **Base: 0.0305" aluminum coiled sheet.**
 - b. **Dome: 0.051" aluminum coiled sheet.**
 - c. **Fan Blade: 0.039" aluminum coiled sheet.**
 - d. **Panel Mounting Brackets: 0.061" aluminum coiled sheet.**
 - h. **Shaft: 0.500" diameter aluminum extrusion.**
- 2. **Motor Mount/Rain Shield: High molecular terpolymer (ABS) with UV stabilization additives.**
 - 3. **Solar Panel: 40 Watt, poly-crystalline silicon solar cell; comply with UL 1703; National Electrical Code, NFPA 70; and National Safety Electric Code, IEEE C2.**
 - a. **Photovoltaic modules with maximum system voltage of 600 V dc and Class C fire rating.**
 - 4. **Motor: Fully enclosed, thermally protected, 24 Volt DC motor.**
 - 5. **Fan Blade: 5 blade design, stamped and formed as one-piece.**
 - 6. **Screen: Manufacturer's standard, 16x18 aluminum mesh.**
- D. Dimensions: Overall 33.5" x 33.5" x 6.5", Opening Size of 16"; Panel - 26" x 20.5".**

2.3 FINISHES:

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.**
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.**
- C. Manufacturer's standard "Valspar Super Flex" polyester coating with minimum 0.8 top coat and minimum 0.3 wash coat. Colors Available: Brown, White, Black, Weathered Bronze.**

PART 3 - EXECUTION

3.1 EXAMINATION

- A. **Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.**
- B. **Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.**
- C. **Proceed with installation only after unsatisfactory conditions have been corrected.**

3.2 INSTALLATION

- A. **General: Install solar power ventilators according to manufacturer's written instructions.**
 - 1. **Install solar power ventilators level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.**
 - 2. **Anchor ventilators securely in place so they are capable of resisting indicated loads.**
 - 3. **Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of ventilators and fit them to substrates.**
 - 4. **Install ventilator to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.**
- B. **Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.**
 - 1. **Coat concealed side of ventilator with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.**
 - 2. **Underlayment: Where installing ventilator directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.**
 - 3. **Bed flanges in thick coat of asphalt roofing cement where required by manufacturer of ventilator for waterproof performance.**

- C. **Solar Power Ventilator Installation:** Verify that ventilators operate properly and have unrestricted airflow. Clean, lubricate, and adjust operating mechanisms.

****Note: Coordinate type of sealant required with project requirements. ****

- D. Seal joints with elastomeric or butyl sealant as required by solar power ventilator manufacturer. Comply with requirements of Section 07 90 00 - Joint Sealants.

3.3 REPAIR AND CLEANING

****Note: Retain paragraph below for galvanized-steel surfaces. ****

- A. **Galvanized Surfaces:** Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.

****Note: Retain paragraph below for primed surfaces. Coordinate section numbers with your project requirements****

- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 09 91 13 - Exterior Painting and Section 09 91 23 - Interior Painting.
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Clean off excess sealants.
- E. Replace solar power ventilators that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION