

Suggested Specifications

Price Acoustic Panels and Enclosures Division 23 – Heating, Ventilating, and Air Conditioning Section 23 33 19 – Duct Silencers

The following specification is for a defined application. Price would be pleased to assist in developing a specification for your specific need.

PART 1 – GENERAL

1.01 Section Includes

- A. Acoustic panels and enclosures.

1.02 Related Sections

- A. Section 01 30 00 - Administrative Requirements.
- B. Section 01 40 00 - Quality Requirements
- C. Section 01 7419 - Construction Waste Management and Disposal
- D. Section 01 78 00 - Closeout Submittals.
- E. Section 01 79 00 - Demonstration and Training
- F. Section 23 05 48 - Vibration and Seismic Controls for HVAC Piping and Equipment.
- G. Section 23 31 00 - HVAC Ducts and Casings: Connections to silencers.
- H. Section 23 33 00 - Air Duct Accessories: Flexible duct connections.

1.03 Reference Standards

- A. AMCA 511 – Certified Ratings Program Product Rating Manual for Air Control Devices
- B. ASHRAE Applications Handbook, Chapter 48 “Noise and Vibration Control”; 2015
- C. ASTM A653/A653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-dip Process; 2015
- D. ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials; 2016
- E. ASTM E90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2009
- F. ASTM C423 – Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2009
- G. NFPA 90A – Standard for the Installation of Air-Conditioning and Ventilating Systems; 2015
- H. NFPA 90B – Standard for the Installation of Warm Air Heating and Air-Conditioning Systems; 2015
- I. NFPA 255 – Standard Method of Test of Surface Burning Characteristics of Building Materials; 2006
- J. SMACNA 006-2006 – HVAC Duct Construction Standards – Metal and Flexible; 2006
- K. UL 723 – Standard for Test for Surface Burning Characteristics of Building Materials; 2008

1.04 Submittals

- A. See Section 01 30 00 – Administrative Requirements for submittal procedures.
- B. Product Data:
 - 1. Acoustic panel and enclosure manufacturer to provide submittal drawings detailing all acoustic panel data specified in the mechanical drawing or schedule.
 - 2. Acoustic panel and enclosure manufacturer shall submit certified laboratory performance obtained in accordance with ASTM E90 and ASTM C423.
 - 3. Data for each acoustic panel shall be provided with the dimensions, configuration, access door details, construction materials, material finishes, assembly instructions and installation details.

1.05 Quality Assurance

- A. Acoustic panels and enclosures shall be installed in accordance with NFPA 90A and with NFPA 90B.
- B. Acoustic panel manufacturer must have a minimum ten (10) years of industry experience.

1.06 Warranty

- A. Provide 12 month manufacturer warranty from date of shipment for duct acoustic panels and enclosures.
- B. See Section 01 78 00 – Closeout Submittals for additional warranty requirements.

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PART 2 – PRODUCTS

2.01 Acoustic Panels and Enclosures

- A. Basis of Design: Price Industries
 - 1. Acoustic panel: Model AP
- B. Alternate Manufacturers:
 - 1. Alternate manufacturers must obtain written approval by the project engineer to bid.
 - 2. As a condition of pre-approval, alternate manufacturers must submit to the project engineer HVAC acoustic panel test reports for an acoustic panel tested in accordance with ASTM E90 in a test facility that is NVLAP-accredited for ASTM E90.
- C. General:
 - 1. Furnish and install Price acoustic panels and enclosures of the sizes, configuration, and performance as described on the plans or schedules. Enclosures will include, as required, acoustical panels, trims and mounting channels, sealant, hardware, doors, and assembly drawings supplied by manufacturer for on-site assembly by others.
- D. Performance:
 - 1. Acoustic panel performance characteristics, including transmission loss and absorption coefficient, shall be attained through testing in accordance with ASTM Standard E90 and ASTM C423 test standards.
- E. Construction:
 - 1. Acoustic panels shall be tongue and groove construction, in [two-inch, four-inch, or six-inch] depth, and shall consist of:
 - a. 18 gauge solid steel skin
 - b. 22 gauge perforated steel liner
 - c. 18 gauge full depth splitters spaced a maximum of 16 inches apart
 - d. Absorptive acoustic fiberglass media
 - 2. Acoustic media:
 - a. Acoustic media shall be shot-free inorganic glass fiber with long, resilient fibers, bonded with thermosetting resin.
 - b. Glass fiber shall be packed with a minimum of 10% compression to eliminate voids and settling.
 - 3. Fire-Performance Characteristics:
 - a. Acoustic panel assemblies, including acoustic media fill, sealants, and acoustical spacers shall have combustion rating equal to or less than shown below when tested according to ASTM E84, NFPA 255 or UL 723:
 - 1. Flame-spread index not exceeding 25
 - 2. Smoke-developed index not exceeding 50

PART 3 – EXECUTION

3.01 Installation

- A. Install acoustic panels and enclosures according to manufacturer's written installation instructions.

3.02 Field Quality Control

- A. See Section 01 40 00 - Quality Requirements for additional requirements.

3.03 Cleaning

- A. See Section 01 74 19 – Construction Waste Management and Disposal for additional requirements.

3.04 Closeout Activities

- A. See Section 01 78 00 - Closeout Submittals for closeout submittals.
- B. See Section 01 79 00 - Demonstration and Training for additional requirements.

END OF SECTION 23 33 19