

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 23 05 01 – Common Work Results for Mechanical.

1.2 REFERENCES

- .1 American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
- .2 American Society for Testing and Materials International (ASTM)
 - .1 ASTM C 423-17, Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 - .2 ASTM E 90-09(2016), Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
 - .3 ASTM E 477-20, Test Method for Measuring Acoustical and Airflow Performance of Duct Liner Materials and Prefabricated Silencers.
- .3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
- .4 Material Safety Data Sheets (MSDS).
- .5 National Building Code (NBC)-2015
- .6 Sheet Metal and Air Conditioning Contractors' National Association (SMACNA)

1.3 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle in accordance with Section 01 61 00 – Common Product Requirements.
Silencers supplied and installed by this contractor.

Part 2 Products

2.1 ABSORPTION AND INSULATING MEDIA

- .1 Acoustic quality, glass fibre, bacteria and fungus resistant; free of corrosion causing or accelerating agents; packed to density to meet performance requirements; and meet NBC fire requirements or requirements of authority having jurisdiction for duct lining.
- .2 Due to cleanroom all acoustic media shall be encapsulated with two layers of fiber free film.

2.2 SILENCERS

- .1 Factory manufactured of prime coated or galvanized steel, compatible with ductwork specified elsewhere and to ASHRAE and SMACNA standards.
 - .2 Outer casing and galvanized steel inner casing with clean cut circular perforations to enclose acoustic media. Inner casing to have half-splitters running full length of silencer where any cross sectional dimension exceeds 450 mm. Protect media from erosion with two layers of non-fibrous membrane between media and perforated metal.
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- .3 Insulation and media shall contain no formaldehyde. Provide documentation proving such.
- .4 Performance shall be as per drawings, but silencer shall provide final selection of silencer by acoustic calculation using AHU reviewed shop drawing sound power, ductwork and diffuser layout to attain a sound level of NC 35 in the occupied space.

Part 3 Execution

3.1 INSTALLATION

- .1 Install in accordance with manufacturer's and SMACNA recommendations.
- .2 Reinforce and brace as indicated.