

SECTION 13034

ACOUSTIC ABSORPTION PANEL

I. PART 1– GENERAL

1.1 SUMMARY

- A. Section includes: Four (4) inch thick absorber acoustical panels, attachment system, and accessories.
- B. Related Sections:
 - 1. Section 05120 – Structural Steel
 - 2. Section 09900 - Painting

1.2 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Acoustical performance: Minimum NRC (Noise Reduction Coefficient) rating of 1.00 after panel fabrication.
 - 2. Reference Standards:
 - a. ASTM E795-83, Sound Absorption by the Reverberation Room Method.
- B. Field Measurements:
 - 1. Prior to shop drawing preparation and fabrication of the panels, take field measurements of structure and substrates to receive panel system. Incorporate measurements and show adjustments to panels to accommodate actual conditions.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product specifications, standard details, certified product test results, installation instructions and general recommendations, as applicable to materials and finishes for each component and for total panel system.
- B. Samples: Sample panels minimum 12 inches square, in the profile, style, color and texture indicated. Include clips, battens, fasteners, closures and other panel accessories.

- C. Shop Drawings: Showing layouts of panels on walls and/or ceilings and panels supported by steel structure, details of edge conditions, joints, corners, panel construction, panel profiles, supports, anchorages, trim, closures and special details. Distinguish between factory and field assembly work. Incorporate information derived from field measurements and inspection where it affects panel configuration.
- D. Test Reports: Provide certified test results by recognized testing laboratory or agency in accordance with specified test methods for each system. Test Reports must be submitted at bid date.
- E. Finish: 6" square samples on steel substrate to match Architect's sample.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver panels and other components so they will not be damaged or deformed. Package panels for protection against transportation damage.
- B. Handling: Exercise care in unloading, storing, and erecting panels to prevent bending, warping, twisting and surface damage.
- C. Stack materials on platforms or pallets, covered with tarpaulins or other suitable weathertight covering. Store metal panels so that they will not accumulate water. Do not store panels in contact with other materials that might cause staining, denting or other surface damage.

1.5 WARRANTY

- A. Finish Warranty: Furnish panel manufacturer's written warranty covering failure of the factory-applied finish on metal panels within the warranty period. This warranty shall be in addition to and not a limitation of other rights the Owner may have against the Contractor under the Contract Documents.

- Warranty Period: 10 years

II. PART 2 - PRODUCTS

2.1 MATERIALS

A. Acoustic absorption panels shall be QuietPerf Sound Absorbing Panels as manufactured by NoiseBarriers, LLC., Schaumburg, IL.

Manufacturer:

Noise Barriers, LLC (NBL)
1207 Remington Road, Suite E
Schaumburg, IL 60173

Phone: (847) 843-0500
Fax: (847) 843-0501
www.noisebarriers.com

Contact:

John Finnegan

Phone: (315) 682-3821
Fax: (315) 682-3868
johnfinnegan@msn.com

2.2 SHEET METALS

A. Commercial Quality Galvanized Steel Sheet: Comply with ASTM A525. Provide minimum sizes shown and as required to meet structural requirements.

1. Minimum thickness for perforated face sheet: 22 gauge
2. Minimum thickness for perimeter and support channels: 16 gauge

2.3 METAL FINISHES

A. Manufacturer's high performance coating for exterior applications to meet warranty requirements.

B. Apply electrostatically applied polyester powder coatings on all panel surfaces and connecting channels before, during or after forming and fabricating panels, as required by coating process and as required for maximum coating performance capability. Fully coat all edges of perforation in face sheet. Protect coating either by application of strippable film or by packing plastic film or other suitable material between panels to protect the finish. Provide air-drying spray finish in matching color for touch up.

1. Color: Architect will select from manufacturer's standard color chart.

2.4 ACOUSTICAL INSULATION

A. Mineral Fiber Blanket Insulation: Flexible, resilient, noncombustible blankets of mineral or glass fiber, complying with ASTM C665.

- B. Acoustic fill shall be encapsulated in a sealed, black, poly bag 2 mil. or thinner.
- C. An open mesh plastic spacer shall be included between the perforated face and the bagged insulation.

2.5 MISCELLANEOUS MATERIALS

- A. Fabricate and finish panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as required to fulfill indicated performance requirements and accommodate site constraints. Comply with indicated profiles and dimensional requirements and with structural requirements.
- B. Fabricate face sheet of perforated steel sheet in manufacturer's standard pattern to meet sound absorption requirements. Provide manufacturer's standard acoustical insulation containment system. Finish panels before, during and after fabrication as required to provide maximum performance from coating system, and to fully coat exposed edges of construction, including perforations.

2.7 PANEL SYSTEM ACOUSTICAL PERFORMANCE CHARACTERISTICS

- A. Panel system shall be tested by a recognized and approved laboratory in accordance with ASTM standards.
 - 1. Submit certified laboratory test including absorption values for special panel type and construction of not less than following:

SOUND ABSORPTION COEFFICIENTS

Octave Band Center Frequencies (Hz)	<u>125</u>	<u>250</u>	<u>500</u>	<u>1K</u>	<u>2K</u>	<u>4K</u>	<u>NRC</u>
4" Thick Panel	0.78	1.10	1.19	1.04	1.02	0.81	1.10

III. PART 3 - EXECUTION

3.1 PANEL SUPPORTS AND ANCHORAGE

- A. Install girts, purlins, and other secondary structural panel support members and anchorage in accordance with AISC Manual of Steel Construction "Code of Standard Practice".
- B. Install mounting angles, "Z" channel and "J" channel and flashing around cutouts per manufacturers recommendations.

3.2 PANEL INSTALLATION

- A. Install panels according to manufacturer's instructions and recommendations, as applicable to project conditions and supporting substrates. Anchor panels and other components of the work securely in place, with provisions for thermal and structural movement.
 - 1. Field cutting of exterior panels is not permitted.
 - 2. Install panels with exposed fasteners prefinished to match panel finishes.
- B. Accessories: Install components required for a complete acoustical absorption panel system, including trim, coping, supports and attachments, connections between panels, seam covers, sealants, fillers, closures strips and similar items.

3.3 CLEANING AND ADJUSTMENT

- A. Damaged units: Replace panels and other components of the work that have been damaged or have deteriorated beyond successful repair by means of finish touch up or similar minor repair procedures.
- B. Cleaning: Remove temporary protective coverings and strippable films (if any) as soon as each panel is installed. Upon completion of panel installation, clean finished surfaces as recommended by panel manufacturer, and maintain in a clean condition during construction.

END OF SECTION