

SECTION 09 80 00 - Acoustic Treatment
SECTION 09841 - Acoustic Panels

This Section is based on ACOUSTICAL SOLUTIONS AlphaSorb® Linear Acoustic Foam.

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes ceiling and/or wall mounted sound-absorptive linear wedge panels for engineered sound control systems.
- B. Furnish and install all sound-absorptive ceiling and wall products and associated installation accessories as shown on the drawings, and specified herein, or as required to complete the work.
- C. Related Documents: This section applies to drawings and general provisions of the subcontract. Review these documents for coordination with additional requirements and information that apply to work under this Section. Cross-reference approved supplementary manufacturers' sound-absorptive linear wedge panels and required installation accessories including, but not limited to construction-grade adhesive or other fasteners, as required.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM) International:
 - 1. ASTM C 423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 - 2. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 3. ASTM E 795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.
 - 4. ASTM E 336 Standard Test Method for Measurement of Airborne Sound Insulation in Buildings.
 - 5. International Building Code.
 - 6. L.E.E.D. - Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements
 - 1. Provide sound absorptive wall or ceiling systems designed and tested to provide a Class A flame spread rating when tested in accordance with ASTM E 84, unless otherwise specified.
 - a. Flamespread: 25 maximum.
 - b. Smoke Developed: 50 maximum.
 - 2. Provide sound absorptive wall and/or ceiling Wedge panel system in a layout designed by an engineer or qualified acoustic consultant, which has been manufactured, fabricated and installed to provide Noise Reduction Coefficient (NRC) rating based on Sabine and Fitzroy formulas to comply with ASTM C 423.



a. Provide Wedge panels. The Wedge panels should provide the following minimum NRC (Noise Reduction Coefficient) at the following thicknesses:

- i. 2" thick – NRC 0.75
- ii. 3" thick – NRC 0.90
- iii. 4" thick – NRC 1.05

1.4 SUBMITTALS

- B. Product Data: Manufacturer's technical data for Wedge panels including fire-resistive characteristics, finishes, details of installation, and the following:
1. Manufacturer's installation instructions.
 2. Manufacturer's SDS Sheets.
 3. Certified laboratory test reports indicating compliance with Performance Requirements specified herein.
- C. Samples: One (1) 12 inch by 12 inch (305mm x 305mm) sample of desired thickness of the following specified units for color selection or verification.
- D. Shop Drawings: Layout and details of Wedge panels provided by qualified engineer or consultant, based on performance of proposed products. Show locations of items which are to be coordinated with, or supported by the structural ceiling and walls, if applicable.
- E. Closeout Submittals:
1. Operating and Maintenance Manual, including cleaning and maintenance instructions.
 2. Extra Material for Owner's stock.
 3. Manufacturer's Safety Data Sheets (SDS).

1.5 QUALITY ASSURANCE

- F. Single-Source Responsibility: ACOUSTICAL SOLUTIONS to provide linear wedge panels (only).
- G. Installer Qualifications: Acceptable to the manufacturer of the Wedge panels being installed. Utilize an installer having demonstrated 5 years minimum experience on projects of similar size and acoustical complexity.
- H. Mock-Up: Provide a mock-up for evaluation of installed appearance.
1. Install panels in areas designated by proper authority.
 2. Do not proceed with remaining work until proper authority approves workmanship and appearance.
 3. Approved mock-up may remain as part of the work.
- I. SURFACE BURNING CHARACTERISTICS
1. Tested in accordance to ASTM E84 - Fire rating Class A
 - a. Flame Spread Index <25
 - b. Smoke Developed Index <50



1.6 DELIVERY, STORAGE AND HANDLING

- J. Delivery: Deliver material in the manufacturer's original, unopened, undamaged containers with identification labels intact.
- K. Provide labels indicating ACOUSTICAL SOLUTIONS division brand name, style, size and thickness.
- L. Storage and Protection: Comply with manufacturer's recommendations. Store acoustical product indoors and protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
- M. Wear handling gloves at all times when handling melamine foam-based products.

1.7 PROJECT CONDITIONS

- N. Environmental Limitations
 - 1. Install Wedge panels only in conditions that are within the manufacturer's published limits for temperature and humidity.
 - 2. Maintain the following conditions in areas where acoustical materials are to be installed 24 hours before, during and after installation:
 - a. Relative Humidity: 65 - 75%.
 - b. Uniform Temperature: 55 - 70 degrees F (13 - 21 degrees C).
 - 3. Areas receiving panels should be free of construction debris and dust.
 - 4. Mechanical, sprinkler and electrical trades shall have completed their work above the ceiling structure and within structural walls prior to commencement of product installation.

1.8 MAINTENANCE

- O. Extra Materials: Provide a minimum of 1/2 box or 2%, whichever is larger, of additional materials if required for use by owner or the building maintenance and repair.
- P. Provide new unopened cartons of extra materials, packaged with protective covering for storage and identified with appropriate labels.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- Q. ACOUSTICAL SOLUTIONS
Acoustical Solution 2420 Grenoble Road, Richmond, VA 2329 | PH: 800-782-5742 | AcousticalSolutions.com

2.2 MATERIALS

- R. ACOUSTICAL SOLUTIONS Accent Wedge Panels. Wedge Panels are manufactured from 100% open-cell melamine foam with the following characteristics:



1. Fire Resistance: ASTM E84, Class A
2. ACOUSTICAL SOLUTIONS Natural White Linear Wedge Panels
 - a. NRC: 0.75 per ASTM C423 Type A mounting at 2 inches thick
 - b. NRC: 0.90 per ASTM C423 Type A mounting at 3 inches thick
 - c. NRC: 1.05 per ASTM C423 Type A Mounting at 4 inches thick
3. ACOUSTICAL SOLUTIONS Natural Light Grey Linear Wedge Panels
 - a. NRC: 0.75 per ASTM C423 Type A mounting at 2 inches thick
 - b. NRC: 0.95 per ASTM C423 Type A mounting at 3 inches thick
 - c. NRC: 1.05 per ASTM C423 Type A Mounting at 4 inches thick
4. ACOUSTICAL SOLUTIONS Natural White Wedge Panels should achieve the following total absorption:

White	2.00	0.12	0.30	0.73	0.95	1.03	1.10	0.74	0.75	A
	3.00	0.22	0.47	0.99	1.06	1.13	1.19	0.92	0.90	A
	4.00	0.33	0.67	1.19	1.18	1.23	1.24	1.05	1.05	A

5. ACOUSTICAL SOLUTIONS Natural Light Grey Wedge Panels should achieve the following total absorption:

Light Grey	2.00	0.10	0.30	0.76	0.93	1.05	1.12	0.76	0.75	A
	3.00	0.21	0.50	0.99	1.07	1.16	1.20	0.93	0.95	A
	4.00	0.28	0.68	1.17	1.19	1.23	1.21	1.06	1.05	A

6. Foam Density: Natural Light Grey 0.56 lbs./ft³ +/- 0.09 lbs./ft³
 Natural White 0.47lbs./ft³ +/- 0.13lbs./ft³
7. Service Temperature: -40 ° F to 350 ° F
8. Size: Nominal: 24 inches x 24 inches (610 mm x 610 mm)
9. Panel Thickness: Nominal 2 inches (51 mm), 3 inches (51 mm) or 4 inches (76mm) thick. Other thicknesses available upon request, such as 4 inches thick.
10. Panel Standard Thickness: Nominal 2 inches (51mm), 3 inches (76mm) or 4 inches (102mm) thick. Other thicknesses available upon request.
11. Manufacturers Standard Textiles/Colors: Available upon request.

S. Product Substitutions: Not permitted.

2.3 ACCESSORIES

A. Linear Wedge Ceiling and/or Wall Panels

1. Instant grab, high strength construction adhesive such as Power Grab by Loctite.
2. Z-clips, Z-channel, Velcro and magnetic strips or other mechanical fastener as provided by others.

PART 3 - EXECUTION



3.1 EXAMINATION

- A. Examine Linear Wedge panel installation, with installer present, for compliance with requirements specified in this and other applicable Sections affecting product installation and with requirements for installation tolerances and other conditions affecting performance of the selected ACOUSTICAL SOLUTIONS product.

3.2 INSTALLATION

- A. Do not begin installation until materials sufficient to complete an entire room are received and prepared for installation.
- B. Symmetrically locate product layout, as desired, in each space. Coordinate work with other trades so that lighting fixtures, HVAC and other ceiling and/or wall mounted fixtures work with Wedge panel layout.
- C. Install materials in accordance with manufacturer's printed instructions and to comply with governing regulations, fire resistance rating requirements as indicated and industry standards applicable to the work.
- D. Take care not to damage or mark the product; wear clean cotton or canvas gloves and avoid the use of latex gloves.

3.2 CLEANING

- A. Clean exposed surfaces of acoustical product and any installation accessories to comply with manufacturer's instructions for cleaning.
- B. Touch up any minor finish damage.
- C. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

3.3 PROTECTION

- A. Protect installed products until completion of project.

END OF SECTION

