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 ESSI Acoustical Products Company

 ESSI Acoustical Products Company  
 10271 Berea Road  
 Cleveland, OH 44102

Phone: 800-886-6678

Phone: 216-251-7888

Fax: 216-251-9933

E-mail: [info@essiacoustical.com](mailto:info@essiacoustical.com)Website: [www.essiacoustical.com](http://www.essiacoustical.com)

This ManuSpec® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A ManuSpec is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets [ ]; delete optional text in final copy of specification. Specifier Notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in Specifier Notes and in the specification text Article titled "Acceptable Material." Metric conversion, where used, is soft metric conversion.

This ManuSpec specifies a standard performance and a high performance fluid-applied flooring systems as manufactured by ESSI Acoustical Products Company. Revise ManuSpec section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

## SECTION 09 84 33 SOUND ABSORBING WALL UNITS

### PART 1 GENERAL

#### 1.01 SUMMARY

- A. Section Includes: Acoustical Wall Panels.

Specifier Note: Revise paragraph below to suit project requirements. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, then the related section number(s) should be listed in the paragraph below. Add section numbers and titles per CSI *MasterFormat* and specifier's practice. In the absence of related sections, delete paragraph below.

- B. Related Sections:
1. Division 09 Section: Sound-Absorbing Wall Units.
  2. Division 09 Section: Acoustic Insulation.
  3. Division 09 Section: Acoustic Treatment.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 01 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

#### 1.02 REFERENCES

- A. ASTM International:

1. ASTM C423 Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
2. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
3. ASTM E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Omit descriptions to composite and operational properties to extent necessary to link multiple components of a system and to interface with other systems.

### 1.03 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide acoustical wall panels that have been manufactured, fabricated and installed to meet the following criteria:
  1. Surface Burning Characteristics, ASTM E84:
    - a. Flamespread: 25.
    - b. Smoke Developed: [Fabric covered panel: 105] [Vinyl covered panel: 40].
  2. Noise Reduction Coefficient (NRC), ASTM C423 and ASTM E795:
    - a. [1 inch (25.4 mm) thick panel: 0.80] [2 inch (51 mm) thick panel: 1.05] [1.125 inch (28.575 mm) thick tackable panel: 0.80] [2.125 inch (53.975 mm) thick tackable panel: 0.90].

Specifier Note: Article below includes submittal of relevant data to be furnished by the Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 01 Submittal Procedures Section.

### 1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 01 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's SPEC-DATA product sheet, and installation instructions.

Specifier Note: Retain or delete paragraphs below as needed to meet project sustainability requirements.

- C. LEED:
  1. For products having pre-consumer and/or post-consumer recycled content, submit documentation for MR Credit 4: Recycled Content, indicating:
    - a. Description of product.
    - b. Manufacturer/vendor.
    - c. Product cost, excluding labor and equipment.
    - d. Cut sheets or manufacturer's letters documenting percentages by weight of pre-consumer and/or post-consumer recycled content.
    - e. Data documenting the source of the recycled content.
  2. For products and materials that comply with requirements for regional materials, submit documentation for MR Credit 5: Regional Materials, indicating:
    - a. Product name.
    - b. Manufacturer/vendor.
    - c. Product cost, excluding labor and equipment.
    - d. Percentage of product, by weight, that meets the criteria for both extraction and manufacture.
    - e. Distance between project site and extraction/harvest/recovery site.
    - f. Distance between the project site and final manufacturing location.
- D. Shop Drawings: Submit elevation drawings showing wall panel layout.

- E. Samples: Submit selection samples and 12 inches × 12 inches (305 × 305 mm) verification samples of each type of panel to be used on the project.
- F. Quality Assurance/Control Submittals: Submit the following:
  - 1. Test Reports: Upon request, submit product acoustic reports and fire test reports.

Specifier Note: Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 01 Quality Assurance Section.

#### 1.05 QUALITY ASSURANCE

- A. Qualifications: Utilize an installer with demonstrated experience on projects of similar size and complexity.
- B. Mock-Ups:
  - 1. Prepare an onsite mock-up consisting of at least 60 ft<sup>2</sup> (6 m<sup>2</sup>) of wall panels.
  - 2. The quality of work on the approved mock-up will be used to establish acceptable work for subsequent panel installation.
  - 3. Subject to approval by owner, the mock-up may be incorporated into the finished work.

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 01 Product Requirements Section.

#### 1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 01 Product Requirements Section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Packaging Waste Management:

Specifier Note: The disposal of packaging waste into landfill sites demonstrates an inefficient use of natural resources and consumes valuable landfill space. Specifying appropriate packaging and construction waste management and disposal procedures may contribute to points required for USGBC's LEED® construction project certification.

Specifier Note: Include the following Subparagraphs to specify information that will provide direction to the Contractor for the disposal of construction waste materials using environmentally responsible methodology other than landfill resources.

- 1. Separate waste materials for [reuse] [and] [recycling] in accordance with Section [01 74 19 - Construction Waste Management and Disposal].

Specifier Note: USGBC's LEED certification includes credits for the diversion of construction waste from landfill. Diversion can be tracked by either weight or volume but must be consistent for all materials. Manufacturer may reclaim packaging and delivery materials for recycling.

- 2. Remove packaging materials from site and dispose of at appropriate recycling facilities.
- 3. Collect and separate for disposal [paper] [plastic] [polystyrene] [corrugated cardboard] packaging material [in appropriate onsite bins] for recycling.
- 4. Fold metal and plastic banding, flatten and place in designated area for recycling.
- D. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
  - 1. Remove damaged or deteriorated materials from the site.

#### 1.07 PROJECT/SITE CONDITIONS

- A. Environmental Requirements: Do not proceed with installation of wall panels until building is closed in and the HVAC system is capable of maintaining a temperature of 60 - 85 degrees F (16 - 29 degrees C) at not more than 70 percent relative humidity.

## 1.08 MAINTENANCE

- A. Extra Materials: Provide [ ] percent of additional material for use by owner in building maintenance and repair.

## PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as “or equal” or “or approved equal” or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining “or equal” products.

### 2.01 ACOUSTICAL WALL PANELS

Specifier Note: Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier’s practice.

- A. Manufacturer: ESSI Acoustical Products Company
- Contact: 10271 Berea Road, Cleveland, OH 44102; Phone: 800-886-6678, Phone: 216-251-7888, Fax: 216-251-9933; Email: info@essiacoustical.com; Website: www.essiacoustical.com.
- B. Proprietary Products/Systems: Acoustical Wall Panels, including the following:
- Silentspace Wall Panels:
    - Manufacturer Designation: MODEL W-103: Faced rigid fiberglass core with metal edge [galvanized steel] [aluminum].
    - Manufacturer Designation: MODEL W-104: Faced rigid fiberglass core with metal edge [galvanized steel] [aluminum] for impact resistant exposure.
    - Manufacturer Designation: MODEL W-105: Mineral core for tackable application.
    - Manufacturer Designation: MODEL W-106: Faced rigid fiberglass core with chemically hardened edge.
    - Manufacturer Designation: MODEL W-107: Faced rigid fiberglass core with chemically hardened edge for impact resistant exposure.

Specifier Note: Edit Article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 01 Project Requirements (Product Substitutions Procedures) Section.

### 2.02 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted.

### 2.03 MATERIALS

- A. Rigid Fiberglass Core: Manufacturer’s standard rigid fiberglass core.
- Nominal Density: 6 pcf (96 kg/m<sup>3</sup>).
  - Impact Resistant Fiberglass Core: Manufacturer’s standard rigid fiberglass core 6–7 pcf (96–112 kg/m<sup>3</sup>) density with a 1/8 inch (3.2 mm) thick fiberglass facer, 16 pcf (256 kg/m<sup>3</sup>) density, laminated to core.
- B. Mineral Board Core: Manufacturer’s standard mineral board core.
- Nominal Density: 18 pcf (288 kg/m<sup>3</sup>).
- C. Facing Material: Manufacturer’s standard facing material as follows:
- Fabric: [Guilford FR 701 Style 2100] [Custom fabric (Specify type.)].
  - Perforated Vinyl Facing: [Genon Type II] [Custom vinyl (Specify type.)].

### 2.04 MANUFACTURED UNITS

- A. Acoustical Wall Panels: Provide acoustical panels complying with the following:

1. Facing: [Fabric-faced] [Vinyl-faced] one side, including reveals, if any.
2. Core Construction: Rigid fiberglass with [Galvanized steel frame edge] [Aluminum frame edge] [Chemically hardened edge] [Mineral board core].
3. Edge Detail: [Square] [Bevel] [Miter] [Radius].
4. Thickness: [1 inch (25.4 mm)] [2 inches (51 mm)].
5. Size: [48 inches wide × 96 inches high (1219 × 2438 mm)] [48 inches wide × 120 inches high (1219 × 3048 mm)] [Custom size as shown on Drawings].
6. Noise Reduction Coefficient, ASTM C423: [NRC 0.80 for 1 inch (25.4 mm) thick panels] [NRC 1.05 for 2 inch (51 mm) thick panels] [NRC 0.80 for 1.125 inch (28.575 mm) thick tackable panels] [NRC 0.90 for 2.125 inch (53.975 mm) thick tackable panels].
7. Surface Burning Characteristics, ASTM E84: Flamespread 25 or less, Class A.
8. Installation: [Permanent] [Movable].

## 2.05 ACCESSORIES

- A. Provide manufacturer's standard wall panel attachment accessories, including:

Specifier Note: Retain one or more of the five attachment accessory systems below to suit project requirements and specifier practice. Retain leveling angle to be used with specified attachment system.

1. Mechanical Clips: Two-part panel Z-clips, with one part attached to back of panel and the other part to wall.
2. Impaling Plates: Metal impaling plates mechanically attached to wall.
3. Velcro Fasteners: Two-part Velcro fasteners adhesively attached to wall and to backs of panels.
4. Magnetic Hangers: Two-part magnetic tape system with magnetic tape adhesively attached to wall and to back of panel.
5. Adhesive: Manufacturer's recommended adhesive applied to back of panels.
6. Leveling Angle: In combination with other attachment hardware, provide continuous metal leveling support angle mechanically attached to wall designed to support full weight of panel.

## PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI *SectionFormat* and a supplement to ManuSpec. Revise article below to suit project requirements and specifier's practice.

### 3.01 MANUFACTURER'S INSTRUCTIONS

- A. Comply with the instructions and recommendations of the acoustical wall panel manufacturer.

### 3.02 EXAMINATION

- A. Site Verification of Conditions:
1. Verify that conditions are satisfactory for installation of wall panels.
  2. Do not begin acoustical panel installation until wet work such as concrete, plastering and terrazzo work is completely dry.
  3. Do not proceed with installation until unsatisfactory conditions are corrected.

Specifier Note: Coordinate article below with manufacturer's recommended installation details and requirements.

### 3.03 INSTALLATION

- A. Allow acoustical panels sufficient time to stabilize to ambient temperature and humidity conditions in the building before proceeding with installation.
- B. Install acoustical panels fitted accurately into pattern indicated.
1. Scribe panels to fit adjacent construction.

2. Wrap around cut edges with [Fabric] [Vinyl].

Specifier Note: Coordinate article below with Division 01 Execution Requirements (Cleaning) Section.

#### 3.04 CLEANING

- A. Clean in compliance with manufacturer's recommended methods exposed surfaces of acoustical wall panels that have become soiled during handling and installation. Remove and replace wall panels that cannot be completely and successfully cleaned.
- B. Upon completion, remove surplus materials, rubbish, tools and equipment in accordance with Section [01 74 23 - Final Cleaning].

Specifier Note: Specify special measures needed to minimize waste, collect recyclable waste and dispose of or recycle field-generated construction waste created during demolition, construction or final cleaning.

- C. Waste Management:
  1. Coordinate recycling of waste materials with Section [01 74 19 - Construction Waste Management and Disposal].
  2. Collect recyclable waste and dispose of or recycle field generated construction waste created during demolition, construction or final cleaning.
  3. Remove recycling containers and bins from site.
  4. [\_\_\_\_\_].

Specifier Note: Coordinate article below with Division 01 Execution Requirements Section.

#### 3.05 PROTECTION

- A. Protect finished work from damage due to subsequent construction activity on the site.

### END OF SECTION