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This MANU-SPEC™ utilizes the Construction Specifications Institute (CSI) *Manual of Practice*, including *MasterFormat*™, *SectionFormat*™ and *PageFormat*™. This 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 typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC™ specifies various types of acoustical panels. These products are manufactured by Specialty Products & Insulation. Revise the 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 09840 ACOUSTICAL PANELS

PART 1 GENERAL

1.01 SUMMARY

Specifier Note: Revise paragraphs below to suit project requirements.

- A. Section Includes: Custom fabricated acoustical panels and installation accessories.

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 1 References Section may establish the edition date of standards. This article does not require compliance with standard. It is a listing of all references used 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 E795 Standard Practices for Mounting Test Specimens During Sound Absorption Tests.
3. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit 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:

1. Surface Burning Characteristics (ASTM E84) Class A fire Rating:

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- a. Class A - Flame Spread: 0 – 25, Smoke Developed: 0 – 450.
- b. Class C- Flame Spread: 76 – 200, Smoke Developed: 0 - 450.
- c. Class A- fire rated composite fabric covered panel fire ratings are based on testing of the panel wrapped with standard, 100% polyester fabric from Guilford of Maine, Style FR 701 [or equal].
- d. Composite panel fire ratings apply to acoustical treatment products noted as such in section 2.02.
- e. Panels not listing composite panel fire test results utilize Class A fire rated components as documented by component manufacturer.

Specifier Note: Article below includes submittal of relevant data to be furnished by 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 1 Submittal Procedures Section.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit manufacturer's product data and installation instructions.
 - 1. Recommended procedures for normal cleaning and removal of stains including precaution in use of cleaning materials that may be detrimental to surfaces.
- C. Shop Drawings: Submit shop drawings showing layout, edge profiles and panel components, including anchoring, accessories, finish colors and textures.
- D. Samples: Submit selection and verification samples 9 inch x 12 inch (229 mm x 305 mm) of finishes, colors and textures required.
- E. Test Reports: Upon request, submit copies of test reports showing compliance with specified performance requirements from recognized test laboratories.
 - 1. Standard Systems: Submit copies of previous test reports substantiating performance of system in lieu of retesting.

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 1 Quality Assurance Section.

1.05 QUALITY ASSURANCE

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

- A. Regulatory Requirements and Approvals: [Specify applicable requirements of regulatory agencies].
 - 1. [Code agency name].
 - a. [Report or approval number].
- B. Pre-installation Meetings: Specify requirements for meeting.

Specifier Note: Article below should include special and unique requirements. Coordinate article below with Division 1 Product Requirements Section.

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Section.
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

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- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

- 1. Prevent soiling, physical damage or wetting.

Specifier Note: In article below, state physical or environmental limitations or criteria for installation such as weather, temperature, humidity, ventilation or illumination required for proper installation or application.

1.07 PROJECT/SITE CONDITIONS

- A. Environmental Requirements: Do not install panels until wet work such as concrete and plastering is complete; the building is enclosed; temperature is stabilized at 55 - 85 degrees F (13 - 30 degrees C) and relative humidity is not more than 70%.

1.08 MAINTENANCE

- A. Extra Materials: Provide [a recommended percentage of] [Specify percentage] additional materials 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 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: SPI-Specialty Products & Insulation

- 1. Contact: 2101 Rexford Road, Suite 300E, Charlotte, NC 28211. www.spi-co.com, fabteam@spi-co.com

Specifier Note: Edit Paragraph below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

- B. Substitutions: No substitutions permitted.

Specifier Note: Paragraphs below list proprietary acoustical panels offered by SPI-Specialty Products & Insulation. Select panel type(s) appropriate to project. Panels are custom fabricated. Consult manufacturer regarding product options. Select product characteristics required; delete characteristics not required. Refer to manufacturer's technical product information.

2.02 MANUFACTURED UNITS

- A. Absorption Plus® Wall, Deck and Cloud Panels:

- 1. Thickness: [1 inch (25.4 mm)] [1 1/2 inches (38 mm)] [2 inches (51 mm)].
 - 2. Size: As indicated on the drawings up to a maximum 48 inch (1219 mm) x 120 inch (3048 mm) panel.
 - 3. Core: [1 inch (25.4 mm)] [1 1/2 inches (38 mm)] [2 inch (51 mm)] thick fiberglass, 6-7 pcf (96-112 kg/m³) density.
 - 4. Edge Detail: [Square] [Radius] [Chamfer] [Bevel], [Plain] [Hardened].
 - 5. Facing: [100% polyester fabric, FR 701 Style 2100 by Guilford of Maine] [Factory approved customer selected fabric].
 - a. Color: [As selected from panel manufacturer's stocked range of colors] [As selected from fabric manufacturer's full range of colors].

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6. Sound Absorption (ASTM C423), Type A mounting (ASTM E795): Noise Reduction Coefficient (NRC) of 0.80 for 1 inch (25.4 mm) panel, 0.95 for a 1 1/2 inch (38 mm) panel or NRC of 1.05 for a 2" inch (51 mm) panel.
7. Mounting Accessories: [Manufacturer's standard aluminum Z-Clip] [Impaling clips] [Hook & Loop] [Adhesive] [with optional mounting brackets by others].
8. Composite panel meets Class A fire requirements.

B. Absorption Plus® Imagine Panels:

1. Thickness: [1 inch (25.4 mm)] [1 1/2 inches (38 mm)] [2 inches (51 mm)].
2. Size: As indicated on the drawings up to a maximum 48 inch (1219 mm) x 120 inch (3048 mm) panel.
3. Core: [1 inch (25.4 mm)] [1 1/2 inches (38 mm)] [2 inch (51 mm)] thick fiberglass, 6-7 pcf (96-112 kg/m³) density. SCS Certified with minimum 25% recycled content.
4. Edge Detail: [Square] [Radius] [Chamfer] [Bevel], [Plain] [hardened].
5. Facing: Facing: [100% polyester fabric, FR 701 Style 2100 by Guilford of Maine] [Factory approved customer selected fabric].
 - a. Image: [As selected from panel manufacturer's stocked images] [Custom image supplied by others].
6. Sound Absorption (ASTM C423), Type A mounting (ASTM E795): Noise Reduction Coefficient (NRC) of 0.80 for 1 inch (25.4 mm) panel, 0.95 for a 1 1/2 inch (38 mm) panel or NRC of 1.05 for a 2" (51 mm) panel.
7. Mounting Accessories: [Manufacturer's standard aluminum Z-Clip] [Impaling clips] [Hook & Loop] [Adhesive] [with optional bottom mounting brackets by others].
8. Panel components are Class A Fire Rated.
9. Composite panel meets Class A fire requirements with base fabric.

C. Absorption Plus® High Impact / Tack Panels:

1. Thickness: [1 1/8 inches (29 mm)] [1 5/8 inches (41 mm)] [2 1/8 inches (54 mm)].
2. Size: As indicated on the drawings up to a maximum 48 inch (1219 mm) x 120 inch (3048 mm) panel.
3. Core: [1 inch (25.4 mm)] [1 1/2 inches (38 mm)] [2 inches (51 mm)] thick fiberglass, 6 - 7 pcf (96 - 112 kg/m³) density, with bonded facing layer of 16 - 20 pcf (256 - 320 kg/m³), 1/8 inch (3.2 mm) thick impact resistant fiberglass.
4. Edge Detail: [Square] [Radius] [Chamfer] [Bevel], [Plain] [hardened].
5. Facing: 100% polyester fabric, FR 701 Style 2100 by Guilford of Maine or equal.
 - a. Color: [As selected from panel manufacturer's stocked range of colors] [As selected from fabric manufacturer's full range of colors].
6. Sound Absorption (ASTM C423), Type A mounting (ASTM E795): Noise Reduction Coefficient (NRC) of 0.85 for a 1 1/8 inch (29 mm) panel or 0.95 for a 2 1/8 inch (54 mm) panel.
7. Mounting Accessories: [Manufacturer's standard aluminum Z-Clip] [Impaling clip] [Hook & Loop] [Adhesive] [with optional bottom mounting bracket by others].
8. Composite panel meets Class A fire requirements.

D. Absorption Plus® Tack Panels:

1. Thickness: [1/2 inch (12.7 mm)] [3/4 inch (19.1 mm)].

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2. Size: As indicated on the drawings up to a maximum 48 inch (1219 mm) x 120 inch (3048 mm) panel.
3. Core: [1/2 inch (12.7 mm)] [3/4 inch (19.1 mm)] thick mineral fiber board, 24 pcf (384 kg/m³) density.
4. Edge Detail: [Square] [Radius] [Bevel].
5. Facing: [100% polyester fabric, FR 701 Style 2100 by Guilford of Maine or equal] [Factory approved customer selected fabric].
 - a. Color: [As selected from panel manufacturer's stocked range of colors] [As selected from fabric manufacturer's full range of colors].
6. Mounting Accessories: [Manufacturer's standard aluminum Z-Clip] [Hook & Loop] [Adhesive] [with optional bottom mounting brackets by others].
7. Panel components are Class A Fire Rated

E. Absorption Plus® Baffle Panels:

1. Thickness: [1 1/2 inch (38 mm)] [2 inches (51 mm)] [3 inches (76 mm)] [4 inches (102 mm)].
2. Size: As indicated on the drawings up to a maximum 48 inches (1219 mm) × 120 inches (3048 mm).
3. Core Construction: [1 1/2 inch (38 mm)] [2 inches (51 mm)] [3 inches (76 mm)] [4 inches (102 mm)] thick fiberglass, 6-7 pcf (96-112 kg/m³) density.
4. Edge Detail: Square with soft corner.
5. Sound Absorption Coefficients (ASTM C423), Type J Mounting (ASTM E795): 2 inch (54 mm) thickness, 125 Hz. 0.18, 250 Hz. 0.57, 500 Hz. 1.16, 1000 Hz. 1.50, 2000 Hz. 1.33, 4000 Hz. 1.31.
6. Mounting Accessories: Eye Hooks
7. Composite panel meets Class A fire requirements.

F. Absorption Plus® High NRC Panels:

1. Thickness: [4 inch (102 mm)]
 2. Size: 24 inch (610 mm) wide, 48" (1219 mm) length.
 3. Core Construction: [4" (102 mm)] thick mineral wool, 4 pcf. (64 kg/m³) density.
- Edge Detail: Square with soft corner.
4. Sound Absorption Coefficients (ASTM C423), Type A Mounting (ASTM E795): 4" (102 mm) thickness, 125 Hz. 1.07, 250 Hz. 1.01, 500 Hz. 1.07, 1000 Hz. 1.06, 2000 Hz. 1.07, 4000 Hz. 1.06, NRC = 1.05.
 5. Mounting Accessories: [Manufacturer's standard insulation pins or screws suitable for the substrate fastening]
 6. Insulation R Value (ASTM C518): R Value 4.1 per inch, R16.4 for 4 inch thick.
 7. Composite panel meets Class A fire requirements.

2.03 FABRICATION

Specifier Note: Retain or delete paragraphs below per project requirements.

- A. General: fabric wrapped panels with smooth facing.
- B. Absorption Plus Panels: (Wall, Deck and Cloud) Wrap panel edges and return facing fabric 1 inch (25.4 mm) minimum on back of panel. Secure fabric with adhesive.

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- C. Absorption Plus Imagine Panels: (Wall, Deck and Cloud) Wrap panel edges and return facing fabric 1 inch (25.4 mm) minimum on back of panel. Secure fabric with adhesive.
- D. Absorption Plus High Impact / Tack Panels: Wrap panel edges and return facing fabric 1 inch (25.4 mm) minimum on back of panel. Secure fabric with adhesive.
- E. Absorption Plus Baffle Panels: Wrap panel edges and return facing fabric 1 inch (25.4 mm) minimum on back of panel. Secure fabric with adhesive.
- F. Absorption Plus Tack Panels: Wrap panel edges and return facing fabric 1 inch (25.4 mm) minimum on back of panel. Secure fabric with adhesive.
- G. Absorption Plus High NRC Panels: Black mat facing on panel face only.

Note: Liner fabric may be needed under light colors or thin fabric to prevent core color variation from showing through fabric facing.

PART 3 EXECUTION

Specifier Note: Paragraph below is an addition to CSI *SectionFormat*. Retain or delete paragraph below per project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product installation instructions and product carton instructions for proper handling, storage and installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
 - 1. Do not install panels until unsatisfactory conditions are corrected.

3.03 CLEANING

- A. Follow manufacturer's instructions for cleaning panels soiled during installation. Replace panels that cannot be cleaned to as new condition.
- B. Keep site free from accumulation of waste and debris.

END OF SECTION