

SECTION 09510

COMPOSITE CORE ACOUSTICAL PANEL CEILINGS



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Techstyle E – Lay-In product

For best results, display hidden notes to specifier.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Mineral coated composite core acoustical panels.
- B. Suspended metal grid ceiling system.
- C. Trim and miscellaneous accessories.

1.2 RELATED SECTIONS

- A. Section 09510 - Acoustical Ceilings: Suspension system for acoustical panels specified in this section.
- B. Section 13851 - Fire Alarm System -- Protected Premises: Fire alarm components located in ceiling.
- C. Section 13925 - Fire Suppression Sprinklers: Sprinkler heads in ceiling.
- D. Section 15850 - Air Outlets and Inlets - Air diffusers and returns in ceiling.
- E. Section 16510 - Interior Luminaires - Light fixtures in ceiling.
- F. Section 16821 - Public Address and Music Equipment: Speakers in ceiling.

1.3 REFERENCES

- A. ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2000.

- B. ASTM C 635 - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2000.
- C. ASTM C 636 - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels; 1996.
- D. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2000a.
- E. ASTM E 580 - Standard Practice for Application of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Requiring Seismic Restraint; 2000.
- F. ASTM E 1477 - Standard Test Method for Luminance Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers; 1998a.

G. ASTM C 1338 – Standard Test Method for Fungal Resistance

- H. Cisca (AC) - Acoustical Ceilings: Use and Practice; Ceilings & Interior Systems Construction Association; 1999.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Verification Samples: Two samples, minimum size 7 by 7 inches (100 x 175 mm), representing actual acoustical panel product.
- D. Verification Samples: Two samples, minimum 12 inches (300 mm) long, representing actual suspension system.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products in manufacturer's unopened packaging and store unopened in fully enclosed space until ready for installation. Protect products from exposure to sunlight, moisture, and mechanical damage.
- B. Handle acoustical panels to avoid soiling exposed surfaces or damaging surfaces and edges.

1.6 PROJECT CONDITIONS

- A. Sequence work to ensure that acoustical ceilings are not installed until building is enclosed, permanent heating system is available, dust generating activities have terminated, wet work is complete and dry, and work above ceilings is complete.
- B. Maintain temperature within 15 degrees Fahrenheit (8 degrees C) and relative humidity within 10 percent of design conditions for spaces of installation not less than 48 hours before installation begins and thereafter.

1.7 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Provide acoustical panel manufacturer's standard written ten-year limited warranty.

1.8 EXTRA MATERIALS

- A. See Section 01600 - Product Requirements, for additional provisions.
- B. Provide not less than _____ sq. ft. (___ sq m) of acoustical ceiling panels of each panel size for Owner's use in maintenance of the project.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer of Acoustical Panels: Hunter Douglas Architectural Products; 1 Hunter Douglas Circle, Thornton, CO 80241. ASD. Tel: 866-556-1235; Fax: 720-872-7850; www.hunterdouglascontract.com/ceilings.
- B. Substitutions:
 - 1. Substitutions: Not permitted.
 - 2. Requests for substitutions may be considered in accordance with provisions of Section 01600.

2.2 ACOUSTICAL PANELS

- A. Provide panels comprising composite structural fiberglass core with non-woven mineral coated surface wrapped on two opposite edges and exposed edges on the other two sides; with properties as follows:
 - 1. Panel Thickness: 1.125 inches (28.5 mm).
 - 2. Panel Size:
 - ~~2-a.~~ Panel Size: 24 x 24 inches (610 x 610 mm).
 - ~~3-b.~~ Panel Size: 24 x 48 inches (610 x 1220 mm).
 - c. Panel Size: 24 x 60 inches
 - d. Panel Size: 24 x 72 inches
 - e. Panel Size: 24 x 96 inches
 - f. Panel Size: 30 x 30 inches
 - g. Panel Size: 30 x 60 inches
 - h. Panel Size: 30 x 72 inches
 - i. Panel Size: 48 x 48 inches (1220 x 1220 mm).
 - j. Panel Size : 48 x 60 inches
 - k. Panel Size: 48 x 72 inches
 - l. CUSTOM Panel Size: _____ (max width 48" x max length 96")
 - 3. Panel Color:
 - a. White
 - 4. Noise Reduction Coefficient (NRC): 0.85, measured in accordance with ASTM C 423 with the equal to or better than absorption coefficient reading at the following specified frequencies:

<u>Frequency:</u>	<u>125</u>	<u>250</u>	<u>500</u>	<u>1000</u>	<u>2000</u>	<u>5000</u>
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Absorp Co-ef 0.81 1.03 0.63 0.79 0.95 0.90

5. Sound Absorption Average: (SAA) 0.86, measured in accordance with ASTM C 423.
 6. Surface Burning Characteristics: Flame spread less than 25 and smoke developed less than 50, Class A (1), per ASTM E 84 and ASTM E 1264.
 7. Light Reflectance (white only): LR-1 (81%), measured in accordance with ASTM E 1477.
 8. Moisture Resistance: Resistant to relative humidity up to 95 percent at 105 degrees F (40.5 degrees C) for 30 days.
 9. Mold and Mildew Resistant: In accordance with requirements of ASTM C 665.
 10. Fungi Resistant: In accordance with requirements of ASTM C 1338.
- B. Accessibility: Panels shall be downward accessible by disengaging hinge support rail on one side of panel from the T-bar flange without the use of tools. Panel shall swing hinge downward to provide complete access without removal of the panel from the ceiling.

2.3 SUSPENSION SYSTEM

- A. General: Provide suspension system as specified in Section 09510.
- B. General: Use existing suspension system, modified as indicated on drawings.
- C. General: Provide system complying with ASTM C 635, die cut and interlocking components, with matching perimeter moldings and other accessories as required for project conditions.
1. Materials: Formed galvanized steel, commercial quality cold rolled, intermediate duty.
 2. Profile: Standard 15/16 in (24 mm) tee shape.
Standard 9/16 in tee shape
 3. Finish: Painted white or (_____).
- D. Optional Trim: Provide matching trim by acoustical panel manufacturer for conditions as follows:
1. Perimeter trim: 'L' channel 15/16" – white
 2. Perimeter trim: 'L' channel 9/16"- white
 3. Reveal Trim (WT1): 'C' Channel with 1/8" reveal to the wall – white
 - ~~4.~~ 4.4. Transition trim from drywall to acoustical panel ceiling.
 - ~~5.~~ 2-5. Curved transition trim from drywall to acoustical panel ceiling.
 6. Floating edge trim: 2-7/8" (TF2) Straight – white
 7. Floating edge trim: 5-3/4" (TF@) Straight – white
 - ~~8.~~ 3-8. Curved edge for acoustical panel ceiling, for floating effect. – white
- E. Support Channels and Hangers: Galvanized steel, size and type to suit application.

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PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that layout of hangers will not interfere with other work; make adjustments in layout as necessary.
- B. Do not begin ceiling installation until services above ceiling are complete except for final trim.

- C. Notify Architect of unsatisfactory conditions before proceeding.

3.2 PREPARATION

- A. Lay out system to a balanced grid design, with edge units not less than 50 percent of acoustical unit size.
- B. Locate system on room axis according to reflected ceiling plan.

3.3 INSTALLATION OF SUSPENSION SYSTEM

- A. Install in accordance with requirements of Section 09510.
- B. Conform to the requirements of CISCA (AC) - Acoustical Ceilings: Use and Practice.
- C. Install in accordance with manufacturer's instructions and ASTM C 636.
- D. Install in accordance with manufacturer's instructions and ASTM E 580.
- E. Attach hangers to structural members. Do not support ceilings directly from permanent metal forms or steel floor or roof deck.
- F. Space hangers not more than 48 inches (1220 mm) o.c in both directions,
- G. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- H. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- I. Support fixture loads using supplementary hangers located within 6 inches (150 mm) of each corner, or support components independently. Do not eccentrically load system or induce rotation of runners.
- J. Perimeter Trim: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.

3.4 INSTALLATION OF ACOUSTICAL PANELS

- A. Install acoustical panels in accordance with manufacturer's written instructions.
- B. Lay panels flat into the tee grid. Scribe and cut panels for accurate fit at perimeter and around penetrations.
- C. Hold tile field in compression when performing cuts.
- D. Install acoustical panels after above-ceiling work is complete. Install panels level, in uniform plane, and free from warp, twist, and dents.
- E. Installation Tolerance: Maximum variation from flat and level surface is 1:360.

3.5 CLEANING AND PROTECTION

- A. Clean exposed surfaces of acoustical panel ceilings, including suspension system and edge trim, complying with manufacturer's written instructions for cleaning of minor finish damage.

Replace acoustical panels that cannot be cleaned to an appearance matching unmarred panels.

- B. Protect installed acoustical panel ceilings until completion of project.

END OF SECTION