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### 095113 - Acoustical Panel Ceilings

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**SECTION 09 5113 - ACOUSTICAL PANEL CEILINGS**

1.1 SUMMARY

- A. Section includes acoustical panels and exposed suspension systems for ceilings.

1.2 SUBMITTALS

- A. LEED Submittals:
  - 1. Product Data for Credit MR 4: For products having recycled content, documentation indicating percentages by weight of postconsumer and pre-consumer recycled content. Include statement indicating costs for each product having recycled content.
  - 2. Product Data for Credit EQ 4.1: For sealants, documentation including printed statement of VOC content.
  - 3. Take Back Plan: Submit a certificate indicating that manufacturer of acoustical ceiling components has a corporate plan to take back ceiling tile scraps, or has a plan to purchase recycled ceiling panel materials for the production of new ceiling panels.

1.3 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Acoustical Ceiling Panels: Full-size panels equal to 2 percent of quantity installed.
  - 2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.

1.4 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Acoustical ceiling shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
- B. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
  - 1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.
  - 2. Smoke-Developed Index: 450 or less.
- C. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.



1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

#### 1.5 ACOUSTICAL PANELS, GENERAL

- A. Recycled Content: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 50 percent.
- B. Glass-Fiber-Based Panels: Made with binder containing no urea formaldehyde.
- C. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.

#### 1.6 ACOUSTICAL PANELS

- A. Manufacturers:
  1. Armstrong World Industries, Inc.
  2. CertainTeed Corp.
  3. Chicago Metallic Corporation.
  4. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Do not assume that every combination of fire-resistance rating, classification, pattern, color, light Classification: Provide fire-resistance-rated panels complying with ASTM E 1264 for type, form, and pattern as follows:
  1. Type and Form: Type III, mineral base with painted finish; Form 2, water felted.
  2. Type and Form: Type IV, mineral base with membrane-faced overlay; Form 2, water felted; with vinyl overlay on face.
  3. Type and Form: Type XX, other types; described as high-density, ceramic- and mineral-base panels with scrubbable finish, resistant to heat, moisture, and corrosive fumes.
  4. Type and Form: Type XII, glass-fiber with membrane-faced overlay.
- C. Color: White.
- D. Edge/Joint Detail: Square or tegular.
- E. Thickness: 5/8 inch (16 mm) or 3/4 inch (19 mm).
- F. Modular Size: 24 by 24 inches (610 by 610 mm) or 24 by 48 inches (610 by 1220 mm). 24" X 24" are preferred.



1.7 METAL SUSPENSION SYSTEMS, GENERAL

- A. Recycled Content: Postconsumer recycled content plus one-half of pre-consumer recycled content not less than 25 percent.
- B. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.

1.8 METAL SUSPENSION SYSTEM

- A. Manufacturers:
  - 1. Armstrong World Industries, Inc.
  - 2. CertainTeed Corp.
  - 3. Chicago Metallic Corporation.
  - 4. USG Interiors, Inc.; Subsidiary of USG Corporation.
- B. Narrow-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; pre-painted, electrolytically zinc coated, or hot-dip galvanized according to ASTM A 653/A 653M, not less than G30 (Z90) coating designation; with prefinished 9/16-inch- (15-mm-) wide metal caps on flanges.
  - 1. Structural Classification: Heavy-duty system.
  - 2. End Condition of Cross Runners: Override (stepped) or butt-edge type.
  - 3. Face Design: Flat, flush or Flanges formed with an integral center reveal.
  - 4. Cap Material: Steel cold-rolled sheet.
  - 5. Cap Finish: Painted white.
- C. Wide-Face, Capped, Double-Web, Hot-Dip Galvanized, G60 (Z180), Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; hot-dip galvanized according to ASTM A 653/A 653M, G60 (Z180) coating designation; with prefinished, cold-rolled, 15/16-inch- (24-mm-) wide aluminum caps on flanges.
  - 1. Structural Classification: Heavy-duty system.
  - 2. Face Design: Flat, flush.
  - 3. Face Finish: Painted white.

1.9 INSTALLATION

- A. Wall angles shall be mounted so that exposed face is aligned in the same plane as the Tees (this will require cutting a tegular edge into the ceiling panels at the wall). Provide clean tight joints at all corners of suspension system, no overlap or gaps.
- B. No exposed fasteners, including pop rivets, except in vertical or sloped soffits, are allowed.



PLANNING, DESIGN AND CONSTRUCTION GUIDELINES

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- C. Layout ceilings to balance panel widths on opposite sides of each ceiling in both directions. Avoid use of less than ½ width panels wherever possible, but no less than 6 inches in shortest direction.
- D. The height of the ceiling grid must be carefully coordinated with all MEP, FP, and Telecom systems in the plenum above the ceiling. Maintain a minimum clearance of 3” to allow UNH staff to move all tiles after the full installation is completed. Avoid obstructions with equipment and distribution piping so that tiles can be easily pushed up and slid sideways. All subcontractors working in the ceiling plenum must understand this requirement.
- E. Field cutting of panels shall provide a tegular edge matching factory finish. Provide touchup paint to cut edges of panels.
- F. Ceiling panels shall be installed after carpeting and painting is completed, to minimize the absorption of off-gassing from other materials into the ceiling panels.
- G. Provide means of locating valves and other items requiring maintenance or access, which are located concealed above ceiling panels. The identification shall be color-coded to match the color coding issued by the University Director of Utilities for heating and plumbing lines.
- H. Provide phenolic tags to locate valves and controls above ceiling mechanically attached to ceiling grid.

END OF SECTION 09 5113