

## SECTION 09 54 27

### SUSPENDED WOOD GRILLE CEILINGS



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#### PART 1 GENERAL

[FSC-C115051]

##### 1.01 SUMMARY

- A. Section Includes: Suspended wood grille ceiling systems.

**Note to Specifier:** Retain paragraph below and one of three options in subparagraph if the metal suspension system used to support the ceiling system is not specified in this Section.

- B. Related Requirements:
1. [Section 09 22 26 "Suspension Systems"] [Section 09 51 13 "Acoustical Panel Ceilings"] [Section <Insert section number> "<Insert section title>"] for metal suspension systems used to support linear wood panels.

##### 1.02 ADMINISTRATIVE REQUIREMENTS

- A. To extent practical, schedule installation of suspended wood grille ceiling system after work above ceiling is complete.
- B. Preinstallation Meeting: Include installers of suspension system and wood grille panels. Comply with requirements in [Section 01 31 00 "Project Management and Coordination."] <Insert Section number and title.>

##### 1.03 ACTION SUBMITTALS

- A. Product Data: Submit manufacturer's product data sheets and installation instructions.
- B. Finish Selection Samples: Provide printed color charts or finished chips.
- C. Verification Samples: Provide [two] <other number>12- by 12-inch samples of each wood grille panel specified, showing two adjacent edges and a corner.

**Note to Specifier:** Retain below if LEED credit compliance is required; adjust list to reflect credits sought. Credits are based on LEED v4 BD+C for New Construction, Schools, Core and Shell, Retail, Data Centers, Hospitality, Warehouses and Distribution Centers, and Healthcare.

D. LEED Submittals:

**Note to Specifier:** Bio-blend core has high recycled content.

1. MR Credit, Building Product Disclosure and Optimization – Sourcing of Raw Materials; Option 2 Recycled Content: Product Data indicating percentage by weight of post-consumer and post-industrial recycled content for products having recycled content. Include a statement indicating costs for each product having recycled content.

**Note to Specifier:** Suspended wood grille ceilings contribute to credit below when specified with FSC®-certified cores and veneers.

1. MR Credit, Building Product Disclosure and Optimization - Sourcing of Raw Materials; Option 2 Wood Products: Chain-of-custody certificates certifying that wood products comply with forest certification requirements. Include evidence that manufacturer is certified for chain of custody by an FSC®-accredited certification body. Include statement of costs for linear wood panels.

**Note to Specifier:** This prerequisite only applies to LEED BD+C for Schools.

2. EQ Prerequisite, Minimum Acoustic Performance; Option 1: Test data indicating the NRC of the ceiling system.

**Note to Specifier:** Suspended wood grille ceilings contribute to credit below when specified with recycled-fiber core.

3. EQ Credit, Low-Emitting Materials: For each composite-wood product used in ceiling panel fabrication, provide documentation indicating that the bonding agent contains no urea formaldehyde. For each adhesive used in ceiling panel fabrication, documentation indicating that the adhesive contains no urea formaldehyde.

#### 1.04 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Reflected ceiling plans, drawn to scale, showing wood grille panels and the following items:
  1. Suspended ceiling system attachment locations to building structure.
  2. Lighting fixtures.
  3. Sprinklers.
  4. HVAC vents and diffusers.
  5. Audio-visual equipment.
  6. <Insert item>.

#### 1.05 QUALITY ASSURANCE

**Note to Specifier:** Retain the following paragraph if FSC® Certified wood products are required.

- A. Manufacturer Qualifications: FSC® Chain of Custody Certification.

**Note to Specifier:** Mockups are generally not required. If retained, coordinate with “Related Requirements” Paragraph.

- B. Mockups: Install [one] <Insert number> panel(s). **[Approved Mockups may remain in place in completed Work if undisturbed at Substantial Completion.]**

## 1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver wood grille panels after building is enclosed, concrete, plaster, and gypsum board work is complete, and HVAC system is operating and maintaining temperature and humidity at occupancy levels.
- B. Store wood grille panels in conditioned space. Keep panels dry.

## PART 2 PRODUCTS

### 2.01 PRODUCT

- A. Acceptable Product: Ceiling Grille; Madrid Inc.
  - 1. Address: 2361 B Ave Ogden, UT 84401
  - 2. Phone: 562-381-2820
  - 3. Email: [info@madridacoustics.com.com](mailto:info@madridacoustics.com.com)
  - 4. Website: [www.madridacoustics.com.com](http://www.madridacoustics.com.com)
- B. Substitutions will not be considered.

**Note to Specifier:** Select substitution limitation paragraph above or below.

- C. Substitutions will be considered [**according to Instructions to Bidders**] [**as specified in Division 01**].

### 2.02 PERFORMANCE CRITERIA

- A. Sound Absorption: ASTM C 423, Type A mounting.
  - 1. NRC: 0.85.
  - 2. SAA: 0.82.
- B. Surface-Burning Characteristics: Comply with ASTM E 84.
  - 1. Flame-Spread Index: 25 or less.
  - 2. Smoke-Developed Index: 65 or less.

### 2.03 MATERIALS

- A. Solid Wood: **<Insert species>**.
- B. Hardwood Plywood: ANSI/HPVA HP-1.
  - 1. Species: Baltic birch.
- C. Veneer-Faced Plywood: Made with no added urea formaldehyde per California Air Resources Boards "ATCM to Reduce Formaldehyde Emissions from Composite Wood Products."
  - 1. Core: Medium density fiberboard, ANSI A208.2, Grade 130, fire-retardant-treated.

**Note to Specifier:** Veneers in paragraph below are standard. See <http://madridacoustics.com.com/veneer-1.html> for custom veneer options.

- 2. Veneer: [**Cherry**] [**Maple**] [**Red oak**] [**Ash**] [**White birch**] [**Beech**] [**Bamboo**] **<Insert custom veneer>**.

### 2.04 WOOD GRILLE PANELS

**Note to Specifier:** Certified materials are not standard. Retain paragraph below if FSC®-certified are required.

- A. Certified Materials: Provide wood components certified as “FSC® 100%” or “FSC® Mixed” according to FSC® STD-01-001.
- B. Grille Members: [Veneer-faced plywood] [Solid wood].
  - 1. Size: 2 by 4 inches.
  - 2. Finish: Transparent.
- C. Support Members: 1/2-inch-thick hardwood plywood with offset screws.
  - 1. Width: 1-1/4 inches.
  - 2. Finish: Opaque.
- D. Grille Panel Assembly:
  - 1. Overall Panel Size: 12 inches wide by 96 inches long.
  - 2. Grille Member Spacing: 4 inches on center.
    - a. Attachment to Support Member: Manufacturer’s standard wood screws through support member into grille member. Countersink heads into support member.
  - 3. Support Member Spacing: <Insert spacing>.
  - 4. Complete fabrication and finishing before shipment to Project site.
- E. Access Panels: Provide at locations indicated on Drawings. Access panels shall match adjacent linear wood panel.
  - 1. Size: [24 by 20 inches] <Insert size>.
  - 2. Opening: [Upward] [Downward] [Upward or downward].
  - 3. Lock: [Prepared to receive cylinder specified in Section 08 71 00 “Door Hardware.”] [Cam latch operated by screwdriver, knob, or hex wrench.]

## 2.05 SUSPENSION SYSTEM

**Note to Specifier:** Retain paragraph below and select appropriate option if the suspension system is specified in another section. If the suspension system is not specified in another section, delete paragraph below and copy suspension system requirements from ceiling guide specification.

- A. Provide 15/16-inch-wide heavy-duty [wire hanger] [and] [hanger rod] suspension system(s) specified in [Section 09 22 26 “Suspension Systems.”] [Section 09 51 13 “Acoustical Panel Ceilings.”] [Section <Insert section number> “<Insert section title>.”]
  - 1. Finish and Color: Painted; black.

## 2.06 FINISHING

- A. Transparent Finish: Waterborne, UV-curable acrylated epoxy, polyester, or urethane.
  - 1. Stain: [None required] [Match Architect’s sample] <Insert stain color>.
  - 2. Sheen: [Flat] [Satin] [Semi-gloss] [Gloss].
- B. Opaque Finish: Water-based latex acrylic.
  - 1. Color: Black.
  - 2. Sheen: [Flat] [Satin] [Semi-gloss] [Gloss].
- C. Apply finishes to all exposed surfaces, including top surfaces of grille and support members.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. Examine areas, including structural framing, for compliance with requirements.

### 3.02 PREPARATION

- A. Condition linear wood panels by placing panels into spaces where they will be installed at least 72 hours prior to installation.

### 3.03 SUSPENDED WOOD GRILLE CEILING INSTALLATION

**Note to Specifier:** Retain paragraph below and select appropriate option if the suspension system installation is specified in another section. If the suspension system installation is not specified in another section, delete paragraph below and copy suspension system installation requirements from ceiling guide specification.

- A. Install **[wire hanger] [and] [hanger rod]** suspension system(s) as specified in **[Section 09 22 26 "Suspension Systems.]" [Section 09 51 13 "Acoustical Panel Ceilings.]" [Section <Insert section number> "<Insert section title>."]**
- B. Install wood grille panels in coordination with suspension system.
  - 1. Install panels with grille orientation as indicated on Drawings.
  - 2. Attach panels to suspension system using manufacturer-approved fasteners.
  - 3. Alignment:
    - a. Side-by-Side: Maintain specified grille spacing with ends aligned.
    - b. End-to-End: Maintain continuous lines with grille members of adjacent panels aligned with uniform joints between ends.

**END OF SECTION**