

SECTION 09570 - WOOD STRIP CEILING SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes
 - 1. Linear wood **or panelized linear wood** strip ceiling panels including suspension system.
- B. The materials in this Section are part of the overall USGBC "Leadership in Energy and Environmental Design" LEED prerequisites and credits needed for Project to obtain LEED Silver certification based on LEED 2009 requirements. See Section 01352 LEED Requirements and this section for more information.
- C. Related Sections:
 - 1. Division 9 Section, "Acoustical Ceilings" for mineral fiber ceilings.
 - 2. Division 9 Section, "Gypsum Board" for gypsum board ceilings and soffits.
 - 3. Division 9 Section "Interior Painting" for application of paint above ceilings exposed to view.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Submit manufacturer's shop drawings as referenced in Part 3, Installation
- C. Coordinate Drawings for Ceiling Systems: Reflected ceiling plans drawn to scale and coordinating penetrations and ceiling-mounted items. Show the following:
 - 1. Ceiling suspension members.
 - 2. Method of attaching hangers to building structure.
 - a. Furnish layouts for clips, and other ceiling attachment devices whose installation is specified in other Sections.
 - 3. Ceiling-mounted items including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.
 - 4. Minimum Drawing Scale: 1/4 inch = 1 foot.
- D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.
 - 1. Linear wood ceiling panels minimum 24 in. by 24 in. in size.
 - 2. Suspension System Members, Moldings, and Trim: Set of 12-inch- long samples of each type.

1.3 LEED SUBMITTALS:

- A. LEED Credit MR 5.1 and Credit MR 5.2: Submit product data for products that have been extracted, harvested, or recovered, as well as manufactured within 500 miles of the Project site.
 - 1. Include a statement indicating the percentage by weight which is extracted, harvested, or recovered within 500 miles of the Project site.
 - 2. Include statement indicating costs for each regionally extracted, harvested or recovered and manufactured product.
- B. LEED credit MR 7: Submit certificates of chain-of-custody (COC) with a letter signed by vendors and manufacturers certifying that wood used to make products was obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
 - 1. Certificates shall include evidence that vendor (the company that sells wood products to the building project contractors or subcontractors) is certified for chain of custody by an FSC-accredited certification body.
 - 2. Provide line item invoice with cost for all wood products; include COC number for those that are FSC certified and identify type of FSC certification (FSC Pure, FSC Mixed Credit, FSC Mixed [NN]%).
- C. LEED credit EQ 4.1: Submit product data for adhesives and sealants installed on site and used inside the weatherproofing system.
 - 1. LEED credit EQ 4.1: Submit product data for adhesives based on LEED requirements in Section 01352
- D. LEED credit EQ 4.4: Submit product data for composite wood and agrifiber products certifying that they contain no added urea-formaldehyde resins.
 - 1. Submit product data certifying that laminating adhesives used to fabricate on site or in the shop composite wood and agrifiber assemblies contain no added urea-formaldehyde resins.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain type of wood strip ceiling and wall system and supporting suspension system through one source from a single manufacturer.
- B. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver wood ceiling materials to jobsite in unopened containers identified with product manufacturer's name, trade name and other applicable identification.
- B. Storage: Store all materials in dry and protected locations until installation. Relative humidity should be approximately 50-55% at 70 degrees F (21 degrees C). Store away from direct

sunlight. Install when space is completely conditioned, clean and free of airborne particles. Handle panels carefully to avoid damaging units in any way.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install ceiling panels until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, and work above ceilings is complete. Installation shall be done only when the temperature and humidity closely approximate the interior conditions that will exist when the building is occupied. The heating and cooling systems shall be operating before, during, and after installation, with the humidity of the interior spaces maintained between 25% and 55%.
- B. Plenums shall have proper ventilation, in high moisture areas. There shall be no excessive build up of heat in the ceiling areas.
- C. Mechanical, electrical, and other utility service installations above the ceiling plane shall have been completed. No materials should rest against, or wrap around, the ceiling suspension components or connecting hangers.

1.7 COORDINATION

- A. Coordinate layout and installation of ceiling panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, and fire-suppression system.

1.8 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Ceiling Strips: Full-size panels equal to 2.0 percent of quantity installed.
 - 2. Suspension System Components: 2.0 percent of quantity installed.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Basis-of-Design Wood Strip Ceiling System: Subject to compliance with requirements, provide The Rulon Company Linear Wood Strips **or Panelized Linear Wood Panels**, or a comparable product by one of the following:
 - 1. Architectural Surfaces, Inc.
 - 2. Hunter Douglas Contract.

2.2 WOOD STRIP CEILING UNITS

- A. Wood Strips: Open Style shall be a 6" module, having wood strips 5/8" thick x 5-1/4" wide, and a 3/4" reveal with a factory-installed fiber felt spacer between the wood strips. The fiber felt spacers shall be standard black color.
1. **Panelized Linear Wood Panels are assembled from boards using 6" modules, having wood strips 5/8" inches thick x 5-1/4" inches wide with a 3/4" inches space between the boards. A fiberfelt spacer shall be factory-installed between the wood strips. The fiberfelt spacer is provided in a standard black color.**
- B. Wood Species and Finish: Strips shall be made from prime grade, all-natural Forest Stewardship Council (FSC) certified plain sliced maple with a Satin Clear finish. Strips shall be manufactured in random lengths with tongue-and-groove ends.
1. Edges, borders, and perimeter trims shall be in accordance with manufacturer's standard design details available, unless otherwise indicated. All wood ceiling products specified shall be supplied by the ceiling manufacturer.
 - a. Provide vertical wood trim around each panel, in height to match the suspension grid. Trim shall be 3/4" by 3" high with 3/4" reveal from edges and ends of wood strips. Trim shall be of same wood species and finish as wood strips.
 2. Accessories: Provide cutouts and apertures for audio speakers, air diffusers, flexible head sprinklers and certain light fixtures.

2.3 CEILING SUSPENSION SYSTEM

- A. Supporting grid system shall consist of 'T'-rail carriers, adequate thickness, to support loads. Finish tee color black.
1. **Linear Wood Panels shall be suspended from standard heavy-duty 15/16" T-rail carriers.**
- B. Ceiling suspension shall meet structural requirements as required in ASTM 635, ASTM 636, heavy duty direct hung ceilings. Main runners shall be spaced min 2' on center to support load of panels.
- C. Hanger attachments shall be 12-ga. pre-straightened steel wires, rods or other approved hanging device that will support required loads.
- D. Tolerances: Maximum deviation of ceiling panels from edge to edge in width shall not exceed 1/8" in 10' when measured with a straightedge placed at any directional location on the finished surfaces. Maximum deviation shall not exceed 1/4" from level in any area or room.
- E. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated.
1. Power-Actuated Fasteners: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for

attaching hangers of type indicated, and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing per ASTM E 1190, conducted by a qualified testing and inspecting agency.

2. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
 - a. Zinc-Coated Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
 - b. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- diameter wire.

PART 3 - EXECUTION

3.1 EXAMINATION PRIOR TO CEILING INSTALLATION

- A. Examine substrates, areas, and conditions, including structural framing to which panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of panel ceilings.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 CEILING INSTALLATION, GENERAL

- A. Materials shall be installed in strict accordance with procedures recommended by the manufacturer and requirements of agencies having jurisdiction. All materials for this section shall be from a single source ceiling manufacturer.
- B. Ceiling Layout: The contractor shall measure ceiling areas, and establish layout of panels and rails, in accordance with installation instructions.
- C. Suspend ceiling hangers from building's structural members and as follows:
 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.
 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.

5. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
6. Do not attach hangers to steel deck tabs.
7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
8. Space hangers not more than 48 inches o.c. along each member supported directly from hangers, unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.

3.3 WOOD STRIP CEILING INSTALLATION:

- A. Suspension: Locate cliprails perpendicular to wood direction, 4" from one wall for the first cliprail, continuing 24" maximum, on center, ending within 4" of the opposite wall.
- B. Wood Strip Installation: Use manufacturer's clamping tool to snap wood strips onto cliprails. The clips, which are attached to the cliprail shall have projections that insert into grooves cut into the back side of the wood strips. Proper tool adjustment is important to assure that the clips achieve a deep seat within the wood grooves. Installation shall proceed, in sequence, from one wall to the opposite side.
- C. When installing ceilings with fiber felt spacers the hang wood strips with felt edge facing the area yet to be filled.

3.4 CLEANING

- A. Clean exposed surfaces of panel ceilings and wall panels, including trim, edge moldings, and suspension system members as applicable. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09570