

SECTION 09 50 00

09 51 26 WoodWorks Linear Solid Wood Panels for Ceiling

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

a) Section Includes:

1. WoodWorks Linear Solid Wood Panels
2. Exposed grid suspension system.
3. Wire hangers, fasteners, main runners, cross tees, wall angle moldings and accessories.

b) Related Sections:

1. Section 09 53 00 - Acoustical Ceiling Suspension Assembly
2. Section 09 20 00 - Plaster and Gypsum Board
3. Section 09 22 16 - Non-Structural Metal Framing
4. Divisions 23 (15) - HVAC
5. Division 26 (16) Sections - Electrical Work

c) Alternates

1. Prior Approval: Unless otherwise provided for in the Contract documents, submit proposed product substitutions no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review and acceptance. Approved products will be set forth by the Addenda. If a substitution is included in a Bid and is not approved by an Addendum, the specified products shall be provided as in place of the substitute without additional compensation.
2. Submittals, which do not provide adequate data for the product evaluation, will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); panel design, size, composition, color, and finish; suspension system component profiles and sizes; compliance with the referenced standards.

1.3 REFERENCES

a) American Society for Testing and Materials (ASTM):

1. ASTM A 641 Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
2. ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot- Dip Process.

3. ASTM A 1008 Standard Specification for Steel, Sheet, and Cold Rolled Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
4. ASTM C 635 Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
5. ASTM C 636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
6. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
7. ASTM E 580 Application of Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels in Areas Requiring Seismic Restraint.
8. ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
9. ASTM E 1264 Classification for Acoustical Ceiling Products.
10. Hardwood Plywood & Veneer Association (HPVA)
11. International Building Code
12. ASHRAE Standard 62.1-2004 Ventilation for Acceptable Indoor Air Quality
13. NFPA 70 National Electrical Code
14. ASCE 7 American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
15. International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
16. International Code Council-Evaluation Services Report - Seismic Engineer Report
 - A. ESR 1308 - Armstrong T-Bar or Dimensional Suspension
17. California Air Resources Board (CARB) compliant
18. LEED - Leadership in Energy and Environmental Design is a set of rating systems for the design, construction, operation, and maintenance of green buildings.

1.4 SUBMITTALS

- a) **Shop Drawings:** Layout and details of ceilings. Show locations of items that are to be coordinated with or supported by the ceilings.
- b) **Installation Instructions:** Submit manufacturer's installation instructions as referenced in Part three, Installation.
- c) **Product Data:** Submit manufacturer's technical data for each type of ceiling unit and suspension system required.
- d) **Samples:** Solid Wood (Poplar) Finishes - Semi-gloss tinted topcoat – Clear Finish
- e) **Certifications:** Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards.

- f) **Non-Conformance:** All products not conforming to the requirements of this specification and or the manufacturer's published values are to be disposed. The Contractor performing the work will replace with approved product at their expense.

1.5 QUALITY ASSURANCE

- a) Single-Source Responsibility: Provide ceiling panel units and grid components by a single manufacturer.
- b) Fire Performance Characteristics: Identify ceiling components with appropriate markings of applicable testing and inspecting organization.
 - 1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class C products.
 - 2. HPVA (Hardwood Plywood and Veneer Association) certification and audit program per ASTM E-84 tunnel test.
- c) Woodworking Standards: Manufacturer must comply with specified provisions of Architectural Woodworking Institute quality standards.
- d) Coordination of Work: Coordinate ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.6 DELIVERY, STORAGE, AND HANDLING

- a) Store ceiling components in a dry interior location in their cartons prior to installation to avoid damage. Store cartons in a flat, horizontal position. The protectors between the panels should not be removed until installation.
- b) Do not store in unconditioned spaces with humidity greater than 55 percent or lower than 25 percent relative humidity and temperatures lower than 50 degrees F or greater than 86 degrees F. Panels must not be exposed to extreme temperatures, for example, close to a heating source or near a window with direct sunlight.
- c) Handle ceiling units carefully to avoid chipped edges or damage to units in any way.

1.7 PROJECT CONDITIONS

- a) Wood ceiling materials should be permitted to reach room temperature and have a stabilized moisture content for a minimum of 72 hours before installation. (Remove plastic wrap to allow panels to climatize).
- b) The wood panels should not be installed in spaces where the temperature or humidity conditions vary from the temperatures and conditions that will be normal in the occupied space.
- c) As interior finish products, the solid wood panels are designed for installation in temperature conditions between 50 degrees F and 86 degrees F, in spaces where the building is enclosed, and HVAC systems are functioning and will be in continuous operation. Relative humidity should not fall below 25 percent or exceed 55 percent.

1.8 WARRANTY

- a) WoodWorks Linear Solid Wood Panels: Submit a written warranty executed by the manufacturer, agreeing to repair or replace panels that fail within the warranty period. Failures include, but are not limited to:
 - 1. WoodWorks Linear Solid Wood Panels: Defects in materials or factory workmanship.
 - 2. Grid System: Rusting and manufacturing defects.
- b) Warranty Period:
 - 1. WoodWorks Linear Solid Wood Panels: One (1) year from date of installation.
 - 2. Grid: Ten years from date of installation.
- c) The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.9 MAINTENANCE

- a) Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
 - 1. Ceiling Units: Furnish quality of full-size units equal to 2.0 percent of amount installed.
 - 2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 1.0 percent of amount installed.

Attention Design Professional please edit Part 2 based on your project needs. Select product attributes and Acceptable product item(s) that fit with the requirements for your project. Please refer to the Armstrong website ([Click here to link to the Armstrong Ceilings website](#)) for additional Ceiling product, Suspension systems, Perimeter trim options and accessories. The related guide specification for these items is available on the website.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- a) Basis of Design WoodWorks Linear Solid Wood Panels:
 - 1. Armstrong World Industries, Inc.
- b) Suspension Systems:
 - 1. Armstrong World Industries, Inc.

2.2.0 WOOD CEILING UNITS

- a) Ceiling Panels Type AP-1:

1. Surface Texture: Smooth
2. Composition: Solid Wood (Poplar)
3. Finish(s): Tinted, UV Cured Topcoat Finishes on Solid Wood (Poplar)
 - Bleached Gray (GBG)
 - Classic Gray (GCG)
 - Carbon Gray (GCB)
 - Rich Mahogany (GRY)
 - Antique Oak (GAO)
 - Red Oak (GRK)
 - English Chestnut (GEC)
 - Golden Maple (GGM)
 - Natural Walnut (GWN)
 - Warm Oak (GWO)
 - Forest Walnut (GFW)
 - Maple (GMP)
 - Light Cherry (GLC)
 - Dark Cherry (GDC)
 - White (GWH)

Custom finishes available

4. Material IDs & Dimensions:

Dimensions:

- Panel Width: 12-inch (Nominal)
- Panel Length Size(s): With 1" reveal panel to panel @ lengths
 - 96-inch (Nominal): 95-inch (Actual)
- Plank Height: 3/4 inch (Actual)
- Panel Height: 1-1/4 inch (Actual)

Design Options & Material IDs:

- 1) 8176W1___: 3-1/4" (Actual Plank Width) x 3/4" (Actual Plank Height) – 3 Planks at 12"x96"x1-1/4" (Nominal Panel Width X Nominal Panel Length X Nominal Panel Height)
 - 2) 8177W1___: 5-1/4" (Actual Plank Width) x 3/4" (Actual Plank Height) – 2 Planks at 12"x96"x1-1/4" (Nominal Panel Width X Nominal Panel Length X Nominal Panel Height)
5. Acoustical Performance Infill Options:
- a) Calla Square Lay-in panel - Item 2820BK:
 - 8176W1: NRC 0.70, CAC 33
 - 8177W1: NRC 0.60, CAC 33
 - b) School Zone Fine Fissured - Item 1713BL
 - 8176W1: NRC 0.70, CAC 36
 - 8177W1: NRC 0.55, CAC 36

- c) Back Stage Noir - Item 1318
 - 8176W1: NRC 0.70, CAC 28
 - 8177W1: NRC 0.60, CAC 29
- d) Fiberglass Infill Panel - Item 8200T10
 - 8176W1: NRC 0.60, CAC N/A
 - 8177W1: NRC 0.50, CACN/A
- 6. Flame Spread: Class C ASTM E84
- 7. Acceptable Product: WoodWorks Linear Solid Wood Panels: As Manufactured by Armstrong World Industries
8176W1___ (Finish Suffix)
8177W1___ (Finish Suffix)

Accessories:

- 1. 8ft Ledger item 6571___
- 2. Heavy Duty Wall Anchor – item 7100
- 3. Backer Clip – item 5687
- 4. Flat Bracket Kit – item 7290GBL
- 5. WoodWorks Solid End-Stain (Gallon Size) - item 5457GAL1___ (Finish Suffix)
- 6. WoodWorks Solid End-Stain (Quart Size) - item 5457QT1___ (Finish Suffix)

2.2.1 SUSPENSION SYSTEMS

- b) Components: All main beams and cross tees shall be commercial quality hot dipped galvanized steel as per ASTM A653. Main beams and cross tees are double-web steel construction with 15/16-inch type exposed flange design. Exposed surfaces chemically cleansed, capping prefinished galvanized steel in baked polyester paint. Main beams and cross tees shall have rotary stitching.
 - 1. Structural Classification: ASTM C635 (Heavy Duty).
 - 2. Color: Tech Black.
 - 3. Acceptable Product: Prelude XL 15/16" Exposed Tee Main beam item 7301BL, Prelude XL Exposed Tee item XL7341BL, Prelude XL Exposed Tee 2' item XL7328BL, and Prelude XL Exposed Tee 2' item XL8320BL as manufactured by Armstrong World Industries, Inc.
- c) Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
- d) Wire for Hangers and Ties: ASTM A641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least times-three design load, but not less than 12 gauge.
- e) Accessories/Edge Moldings and Perimeter Trim:
 - a. 4" Solid Wood Trim with 4 Clips – item7146H4L96___ (Finish Suffix)
 - b. 6" Solid Wood Trim with 4 Clips – item7146H6L96___ (Finish Suffix)
 - c. Replacement Trim Clip – item 5925
 - d. Adjustable Trim Clip – item 7239

- e. Axiom Straight Trim - Recommend in Black 6" and up – AX_VESTR___ (Finish Suffix)
- f. Axiom Curved Trim - Recommend in Black 6" and up – AX_VECUR___ (Finish Suffix)

PART 3 - EXECUTION

3.1 EXAMINATION

- a) Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out.
- b) Proper designs for both supply air and return air, maintenance of the HVAC filters and building interior space are essential to minimize soiling. Before starting the HVAC system, make sure supply air is properly filtered and the building interior is free of construction dust.

3.2 PREPARATION

- a) Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less than half width units at borders and comply with reflected ceiling plans. Coordinate panel layout with mechanical and electrical fixtures.
- b) WoodWorks ceiling materials should be permitted to reach room temperature and have a stabilized moisture content for a minimum of 72 hours before installation. (Remove plastic wrap to allow panels to climatize).

3.3 INSTALLATION

- a) Interior WoodWorks products, the solid wood panels are designed for installation in temperature conditions between 50 degrees F and 86 degrees F, in spaces where the building is enclosed, and HVAC systems are functioning and will be in continuous operation. Relative humidity should not fall below 25 percent or exceed 55 percent.
- b) Install suspension system and panels in compliance with ASTM C636, ASTM E580, with the approval of the authorities having jurisdiction, and in accordance with the manufacturer's WoodWorks Linear Solid Wood Panels Installation Instructions.

3.4 ADJUSTING AND CLEANING

- a) Replace damaged and broken panels.
- b) Clean exposed surfaces of ceilings panels, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage.

END OF SECTION