

## SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

- 1. Interior standing and running trim.
- 2. Interior stairs.
- 3. Wood furring, blocking, shims, and hanging strips for installing interior architectural woodwork items that are not concealed within other construction.
- 4. Shop priming of interior architectural woodwork.
- 5. Shop finishing of interior architectural woodwork.

- B. Related Requirements:

- 1. Division 6 Section "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing interior architectural woodwork that are concealed within other construction before interior architectural woodwork installation.

#### 1.3 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections, to ensure that interior architectural woodwork can be supported and installed as indicated.

#### 1.4 ACTION SUBMITTALS

- A. Product Data: For the following:

- 1. Anchors.
- 2. Adhesives.
- 3. Shop finishing materials.

- B. Qualification Data:

- 1. For architectural woodwork manufacturer and Installer.

- C. Shop Drawings:

- 1. Include the following:
  - a. Dimensioned plans, elevations, and sections.
  - b. Attachment details.

2. Show large-scale details.
  3. Show locations and sizes of furring, blocking, and hanging strips, including blocking and reinforcement concealed by construction and specified in other Sections.
  4. Apply AWI Quality Certification Program label to Shop Drawings.
- D. Samples: For each exposed product and for each shop-applied color and finish specified.
1. Size:
    - a. Lumber Products: Not less than **5 inches (125 mm)** wide by **12 inches (300 mm)** long for each species and cut, finished on one side and one edge.
- E. Samples for Initial Selection: For each type of shop-applied exposed finish.
1. Size:
    - a. Lumber Products: Not less than **5 inches (125 mm)** wide by **12 inches (300 mm)** long for each species and cut, finished on one side and one edge.
- F. Samples for Verification: For the following:
1. Lumber for Transparent Finish: Not less than **5 inches (125 mm)** wide by **12 inches (300 mm)** long for each species and cut, finished on one side and one edge.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For architectural woodwork manufacturer and Installer.
- B. Product Certificates: For the following:
  1. Adhesives.
- C. For professional engineer's experience with providing delegated design engineering services of the kind indicated, including documentation that engineer is licensed in the jurisdiction in which Project is located.
- D. Delegated Design Submittal: For stairs, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
  1. Provide Signed and Sealed shop drawings

#### 1.6 CLOSEOUT SUBMITTALS

- A. Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

#### 1.7 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.
  1. Manufacturer's Certification: Licensed participant in AWI's Quality Certification Program.
  2. Installer Qualifications: Manufacturer of products.

- B. Comply with the Architectural Woodwork Standards, Section 2.
- C. Do not deliver interior architectural woodwork until painting and similar finish operations that might damage woodwork have been completed in installation areas.
- D. Store woodwork in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

## 1.8 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior architectural woodwork until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 25 and 55 percent during the remainder of the construction period.
- B. Field Measurements: Where interior architectural woodwork is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings.
  - 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being concealed by construction, and indicate measurements on Shop Drawings.

## 1.9 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that architectural woodwork can be supported and installed as indicated.

## PART 2 - PRODUCTS

### 2.1 ARCHITECTURAL WOODWORK, GENERAL

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of interior architectural woodwork indicated for construction, finishes, installation, and other requirements.
- B. Structural Wood Publications: Comply with the International Building Code (IBC) and relevant standards including ANSI/AWI SMA 0643 for wood stairs and guard systems, unless modified by requirements in the Contract Documents.

### 2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design stairs, connections, railing, and guards, including attachment to building construction.
- B. Structural Performance of Stairs: Stairs withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
  - 1. Uniform Load: 100 lbf/sq. ft.

2. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
  3. Uniform and concentrated loads need not be assumed to act concurrently.
  4. Stair Framing: Capable of withstanding stresses resulting from railing and guard loads in addition to loads specified above.
  5. Limit deflection of treads, platforms, and framing members to  $L/360$ .
- C. Structural Performance of Railings and Guards: Railings and guards, including attachment to building construction, withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:
1. Handrails and Top Rails of Guards:
    - a. Uniform load of 50 lbf/ft. applied in any direction.
    - b. Concentrated load of 200 lbf applied in any direction.
    - c. Uniform and concentrated loads need not be assumed to act concurrently.
  2. Infill of Guards:
    - a. Concentrated load of 50 lbf applied horizontally on an area of 1 sq. ft.
    - b. Infill load and other loads need not be assumed to act concurrently.
- D. Seismic Performance of Stairs: Stairs withstand the effects of earthquake motions determined to ASCE/SEI 7

### 2.3 INTERIOR STANDING AND RUNNING TRIM FOR TRANSPARENT FINISH

- A. Architectural Woodwork Standards Grade: Custom.
- B. Hardwood Lumber:
1. Species: Red Oak
  2. Cut: Plain sliced/plain sawn
  3. Wood Moisture Content: 5 to 10 percent.
  4. For items wider than available lumber, glue for width. Do not use veneered construction.
- C. Softwood Lumber:
1. Species: Eastern white pine
  2. Cut: Plain sawn
  3. Wood Moisture Content: 5 to 10 percent.

### 2.4 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH

- A. Architectural Woodwork Standards Grade: Custom.
1. Wood Species: Eastern white pine, sugar pine, or western white pine.
  2. Wood Moisture Content: 5 to 10 percent.

### 2.5 INTERIOR WOOD STAIRS

- A. Architectural Woodwork Standards Grade: Custom.
- B. Wood for Transparent Finish:
1. Species and cut:

- a. Risers: Red Oak, plain sawn.
    - b. Treads: Red Oak, plain sawn.
  - 2. Wood Moisture Content: 5 to 10 percent.
  - 3. Finishes for Stair Parts:
    - a. Treads: Transparent.
    - b. Risers: Transparent.
- C. Wood for Opaque Finish:
- 1. Species and cut:
    - a. Risers: Eastern white pine.
    - b. Treads: Eastern white pine.
  - 2. Wood Moisture Content: 5 to 10 percent.
  - 3. Finishes for Stair Parts: Paint exposed wood at stairs ST1 and ST3 after installation.

## 2.6 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Nailers: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Provide self-drilling screws for metal-framing supports, as recommended by metal-framing manufacturer.
- C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage.
  - 1. Provide metal expansion sleeves or expansion bolts for post-installed anchors.
  - 2. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.
- D. Installation Adhesive: Product recommended by fabricator for each substrate for secure anchorage.

## 2.7 FABRICATION

- A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- B. Fabricate interior architectural woodwork to dimensions, profiles, and details indicated.
  - 1. Ease edges to radius indicated for the following:
    - a. Edges of Solid-Wood (Lumber) Members: **1/16 inch (1.5 mm)** unless otherwise indicated.
    - b. Edges of Rails and Similar Members More Than **3/4 Inch (19 mm)** Thick: **1/8 inch (3 mm)**.
- C. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site.
  - 1. Disassemble components only as necessary for shipment and installation.
  - 2. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.

3. Notify Architect seven days in advance of the dates and times interior architectural woodwork fabrication will be complete.
4. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled.
  - a. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting.
  - b. Verify that parts fit as intended, and check measurements of assemblies against field measurements indicated on approved Shop Drawings before disassembling for shipment.

D. Stairs:

1. Glue treads to risers, and glue and nail treads and risers to blocking.
2. Fabricate stairs with treads and risers no more than **1/8 inch (3 mm)** from indicated position and no more than **1/16 inch (1.5 mm)** out of relative position for adjacent treads and risers.

## 2.8 SHOP FINISHING

- A. Finish interior architectural woodwork indicated on Drawings at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.
- B. Preparation for Finishing: Comply with Architectural Woodwork Standards, Section 5 for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing interior architectural woodwork, as applicable to each unit of work.
  1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of interior architectural woodwork. Apply two coats to end-grain surfaces.
- C. Transparent Finish:
  1. Architectural Woodwork Standards Grade: Custom.
  2. AWI Finish System: Conversion varnish.
  3. Staining: As selected by Architect from manufacturer's full range.
  4. Filled Finish for Open-Grain Woods: After staining (if any), apply paste wood filler to open-grain woods and wipe off excess. Tint filler to match stained wood.
    - a. Apply wash-coat sealer after staining and before filling.
  5. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.
- D. Opaque Finish:
  1. Architectural Woodworking Standards Grade: Custom.
  2. Color: As selected by Architect from manufacturer's full range.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Before installation, condition interior architectural woodwork to humidity conditions in installation areas for not less than 72 hours prior to beginning of installation.

- B. Before installing interior architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming of concealed surfaces.

### 3.2 INSTALLATION

- A. Grade: Install interior architectural woodwork to comply with same grade as item to be installed.
- B. Assemble interior architectural woodwork and complete fabrication at Project site to the extent that it was not completed during shop fabrication.
- C. Install interior architectural woodwork level, plumb, true in line, and without distortion.
  - 1. Shim as required with concealed shims.
  - 2. Install level and plumb to a tolerance of **1/8 inch in 96 inches (3 mm in 2400 mm)**.
- D. Scribe and cut interior architectural woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor interior architectural woodwork to anchors or blocking built in or directly attached to substrates.
  - 1. Secure with countersunk, concealed fasteners and blind nailing.
  - 2. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with interior architectural woodwork.
  - 3. For shop-finished items, use filler matching finish of items being installed.
- F. Standing and Running Trim:
  - 1. Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible.
  - 2. Do not use pieces less than **60 inches (1500 mm)** long, except where shorter single-length pieces are necessary.
  - 3. Scarf running joints and stagger in adjacent and related members.
  - 4. Fill gaps, if any, between top of base and wall with plastic wood filler; sand smooth; and finish same as wood base if finished.
  - 5. Install standing and running trim with no more variation from a straight line than **1/8 inch in 96 inches (3 mm in 2400 mm)**.
- G. Stairs: Securely anchor carriages to supporting substrates.
  - 1. Install stairs with treads and risers no more than **1/8 inch (3 mm)** from indicated position.
  - 2. Secure with countersunk, concealed fasteners and blind nailing.
  - 3. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with wood surface.

### 3.3 REPAIR

- A. Repair damaged and defective interior architectural woodwork, where possible, to eliminate functional and visual defects and to result in interior architectural woodwork being in compliance with requirements of Architectural Woodwork Standards for the specified grade.
- B. Where not possible to repair, replace defective woodwork.

- C. Shop Finish: Touch up finishing work specified in this Section after installation of interior architectural woodwork.
  - 1. Fill nail holes with matching filler where exposed.
  - 2. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats are shop applied.
  
- D. Field Finish: See Division 9 Section "Interior Painting" for final finishing of installed interior architectural woodwork not indicated to be shop finished.

#### 3.4 CLEANING

- A. Clean interior architectural woodwork on exposed and semiexposed surfaces.

END OF SECTION 064023