

## SECTION 06 20 23 -INTERIOR FINISH CARPENTRY

### 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. This Section includes the following:
  - 1. Interior standing and running trim, pre-finished and for field-painted finish.
- B. Related Sections include the following:
  - 1. Division 06 Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view and for structural wood decking and framing exposed to view.
  - 2. Division 09 Section "Interior Painting" for priming and back-priming of interior finish carpentry.

#### 1.3 DEFINITIONS

- A. Lumber grading agencies, and the abbreviations used to reference them, include the following:
  - 1. WCLIB: West Coast Lumber Inspection Bureau.
  - 2. WWPA: Western Wood Products Association.
- B. MDF: Medium-density fiberboard.
- C. OSB: Oriented-strand board.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.
  - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained. Include chemical treatment manufacturer's written instructions for finishing treated material.
  - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
  - 3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

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- B. Samples for Initial Selection: For each type of paneling indicated.
- C. Samples for Verification:
  - 1. For each finish system and color of lumber and panel products with factory-applied finish, 50 sq. inches for lumber and 8 by 8 inches for panels.
- D. LEED Submittals:
  - 1. Product Data for Credits MR 3.1 and MR 3.2: For reused products (salvaged and/or refurbished), submit invoices and documentation indicating origin and actual material costs (taxes, fees, shipping, labor, profit, etc. not included) and estimated material costs if purchased brand new from manufacturer.
  - 2. Product Data for Credits MR 4.1 and MR 4.2: For products having recycled content, submit invoices and documentation from manufacturer indicating percentages (by weight) of post-consumer and pre-consumer recycled content. Include material costs (taxes, fees, shipping, labor, profit, etc. not included) for each product having recycled content.
  - 3. Manufacturing Data for Credits MR 5.1 and MR5.2: Submit invoices and documentation indicating location of manufacture and locations of extraction and/or harvest for each raw material sourced within 500 miles of the project site. Indicate method of calculating distance from location to project site.
  - 4. Product Data for Credit MR 6: Submit invoices and documentation of rapidly renewable materials provided. For products containing a mix of materials, provide documentation from manufacturer showing amount of rapidly renewable content by weight.
  - 5. Certificates for Credit MR 7: If applicable, submit invoices showing material costs (taxes, fees, shipping, labor, profit, etc. not included) and the vendor's Forest Stewardship Council (FSC) number, documentation indicating chain-of-custody, and lists identifying FSC-certified products on an item-by-item basis, as documentation that an FSC-accredited organization has certified that the wood or wood products are from a well-managed forest.
  - 6. Product Data for Credit IEQ 4.1: Submit cut sheets and/ or material safety data sheets (MSDS) for all sealants and installation adhesives, with VOC levels highlighted. (Information on adhesives and sealants used on the exterior surface of the building – defined as outside of the waterproofing – are not required.)
  - 7. Product Data for Credit IEQ 4.2: Submit cut sheets and/ or material safety data sheets (MSDS) for all paints and coatings applied on-site, with VOC levels highlighted and chemical components listed. (Information on paints and coatings used on the exterior surface of the building – defined as outside of the waterproofing – are not required.)
  - 8. Product Data for Credit IEQ 4.4: Submit cut sheets, material safety data sheets (MSDS), and/ or other documentation indicating that the bonding agent for all composite wood and agrifiber products contains no added urea formaldehyde.
- E. Warranty: Special warranty specified in this Section.

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Package for delivery to best protect finish surfaces while using the least amount of single-use packaging as possible. If possible, package and ship product using reusable blankets and fabrics or reusable cardboard and crate systems.
- B. Protect materials against weather and contact with damp or wet surfaces from time of delivery through time of installation. Store materials inside under cover and keep them dry and protected against damage from weather, condensation, direct sunlight, construction traffic, and other causes.
- C. Deliver materials only when environmental conditions meet requirements specified for installation areas. If materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.
- D. When storing prior to installation, raise off floor on pallets, stack flat with protective material between to eliminate chance of creating nicks, scratches, and other imperfections and damage to finish surfaces, wrap weather-tight, and provide for air circulation within and around stacks and under temporary coverings.
- E. Do not store materials near other materials that may off-gas or emit harmful fumes, such as kerosene heaters, fresh paint, adhesives, etc.
- F. Do not allow materials to become damp. Maintain temperatures at 60°F or higher, and humidity between 20% and 60% prior to, during and after installation.

## 1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and temporary ventilation system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.
  - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

## PART 2 - PRODUCTS

### 2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by ALSC's Board of Review.
  - 1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.

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2. For exposed lumber, mark grade stamp on end or back of each piece, or omit grade stamp and provide certificates of grade compliance issued by inspection agency.
- B. Hardboard: AHA A135.4.
  - C. MDF: ANSI A208.2, Grade 130, made with binder containing no urea-formaldehyde resin.
  - D. Particleboard: ANSI A208.1, Grade M-2, made with binder containing no urea-formaldehyde resin.
  - E. Melamine-Faced Particleboard: Particleboard complying with ANSI A208.1, Grade M-2, finished on both faces with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
    1. Color: White.

## 2.2 STANDING AND RUNNING TRIM

- A. Trim and Moldings for Opaque Finish (Painted):
  1. Species and Grade: Poplar, clear Pine or clear Fir, A finish; NeLMA, NLGA, or WWPA.
  2. Maximum Moisture Content: Not greater than that required by applicable grading rules.
  3. Face Surface: Surfaced (smooth).
  4. Optional Material: Primed MDF of same actual dimensions as lumber indicated may be used in lieu of lumber.
- B. Trim and Moldings for Stained Finish (Post and Wall Cap trim):
  1. Species and Grade: Douglas Fir, Select for Appearance; NeLMA, NLGA, or WWPA.
  2. Maximum Moisture Content: Not greater than that required by applicable grading rules.
  3. Face Surface: Surfaced (smooth).

## 2.3 SHELVING AND CLOTHES RODS

- A. Exposed Closet Shelving: Made from one of the following materials, 3/4 inch thick. Do not use particleboard or MDF that contains urea formaldehyde.
  1. Particleboard with solid-wood front edge.
  2. MDF with solid-wood front edge.
- B. Shelf Cleats: 3/4-by-5-1/2-inch (19-by-140-mm) boards with hole and notch to receive clothes rods, as applicable.
- C. Shelf Brackets with Rod Support: BHMA A156.16, B04051; prime-painted formed steel.
- D. Shelf Brackets without Rod Support: BHMA A156.16, B04041; prime-painted formed steel.
- E. Standards for Adjustable Shelf Brackets: BHMA A156.9, B04102; powder-coat finished steel.
- F. Adjustable Shelf Brackets: BHMA A156.9, B04112; powder-coat finished steel.
- G. Standards for Adjustable Shelf Supports: BHMA A156.9, B04071; powder-coat finished steel.

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- H. Adjustable Shelf Supports: BHMA A156.9, B04081 or B04091; powder-coat finished steel.
- I. Clothes Rods: 1-5/16-inch- diameter, aluminum tubes.
- J. Rod Flanges: Aluminum.

## 2.4 MISCELLANEOUS MATERIALS

- A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.
  - 1. Where galvanized finish is indicated, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153/A 153M.
- B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.
  - 1. Use wood glue that has a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.
  - 1. Use adhesive that has a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## 2.5 FABRICATION

- A. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.

- B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

### 3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
  - 1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
  - 1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
  - 2. Countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.
  - 3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
  - 4. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads and risers within each flight.
  - 5. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

### 3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.
  - 1. Match color and grain pattern of trim for transparent finish (stain or clear finish) across joints.
  - 2. Install trim after gypsum board joint finishing operations are completed.
  - 3. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.

### 3.5 SHELVING AND CLOTHES ROD INSTALLATION

- A. Cut shelf cleats at ends of shelves about 1/2 inch less than width of shelves and sand exposed ends smooth.
- B. Install shelf cleats by fastening to framing or backing with finish nails or trim screws, set below face and filled. Space fasteners not more than 16 inches o.c. Use 2 fasteners at each framing member or fastener location for cleats 4 inches nominal in width and wider.

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- C. Install shelf brackets according to manufacturer's written instructions, spaced not more than 36 inches o.c. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.
- D. Install standards for adjustable shelf supports according to manufacturer's written instructions. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors. Space fasteners not more than 12 inches o.c.
- E. Install standards for adjustable shelf brackets according to manufacturer's written instructions, spaced not more than 36 inches o.c. and within 6 inches of end of shelves. Fasten to framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors.
- F. Cut shelves to neatly fit openings with only enough gap to allow shelves to be removed and reinstalled. Install shelves, fully seated on cleats, brackets, and supports.
  - 1. Fasten shelves to brackets to comply with bracket manufacturer's written instructions.
- G. Install rod flanges for rods as indicated. Fasten to shelf cleats, framing members, blocking, or metal backing, or use toggle bolts or hollow wall anchors. Install rods in rod flanges.

3.6 ADJUSTING

- A. Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.7 CLEANING

- A. Clean interior finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.8 PROTECTION

- A. Protect installed products from damage from weather and other causes during remainder of the construction period.
- B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.
  - 1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

3.10 WASTE MANAGEMENT

- A. Separate waste in accordance with the Waste Management plan. Set aside and protect offcuts and remainder greater than 1 sq. yd. for reuse by Owner or deliver to MRWMD's Last Chance Mercantile.

END OF SECTION

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