

## 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. Plastic laminate cabinets.
2. **Wood veneer cabinets. (Addendum 03)**
3. Hanging rail system for artwork.
4. **Wood veneer paneling at Stair C. (Addendum 03)**

- B. Related Requirements:

1. Section 066116 "Solid Surfacing Fabrications" for countertops.
2. Section 079200 "Joint Sealants."
3. Section 092216 "Non-Structural Metal Framing" for backing strips.

##### 1.3 ACTION SUBMITTALS

- A. Shop Drawings: Meeting the requirements of Architectural Woodwork Standards. Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1. Show details full size.
2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
3. Show locations and sizes of cutouts and holes for electrical switches and outlets and other items installed in architectural plastic-laminate casework.
4. Apply a WI Certified Compliance Program label to the first page of the Shop Drawings.

- B. Samples for Verification:

1. 6 in. square sample of each exposed finish.
2. Cabinet door or drawer face with all surfaces including edge treatment and exposed hardware and accessories, one unit for each type and finish. Minimum 12" square.

- C. LEED Submittals:

1. Complete the LEED Material Buyout Form (MBoF) with all materials provided to the project. A complete submittal includes providing all material costs in the MBoF and all of the supporting documentation for the following credits:
  - a. MRc3 - Sourcing of Raw Materials - Recycled Content: Provide product data for pre- and post- consumer recycled content.
  - b. MRc3 - Sourcing of Raw Materials – Forestry Stewardship Council (FSC) Certified Wood: For all wood products designated in this specification as “FSC certified,” provide vendor invoices with the vendor’s Chain-of-Custody (COC) number and identify each FSC certified product on a line-item basis. If FSC wood products are modified off-site by an architectural woodworker or millworker, the woodworker shall have an FSC COC number.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For the following:
  1. Composite wood and agrifiber products.
- C. Woodwork Quality Standard Compliance Certificates: WI Quality Certification Program certificates.

#### 1.5 QUALITY ASSURANCE

- A. Quality Standard: North American Architectural Woodwork Standards, (NAAWS), latest edition, jointly published by Woodwork Institute, Architectural Woodwork Institute, and the Architectural Woodwork Manufacturers Association of Canada.
  1. If there is a conflict between the requirements of the NAAWS and the Drawings and/or Specifications, the Drawings and specifications shall govern.
- B. Fabricator Qualifications: Shop that 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. Shop is licensee of the Woodwork Institute Certified Compliance Program.
- C. Installer Qualifications: A licensee of Woodwork Institute’s Certified Compliance Program and Certified Seismic Installation Program. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver casework until painting and similar operations that could damage woodwork have been completed in installation areas. If casework must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

#### 1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install cabinetwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 43 and 70 percent during the remainder of the construction period.
- B. Field Measurements: Where casework is indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate field-verified measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  - 1. Locate concealed framing, blocking, and reinforcements that support casework by field measurements before being enclosed, and indicate measurements on Shop Drawings.
- C. Established Dimensions: Where casework is indicated to fit to other construction, establish dimensions for areas where casework is to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

## 1.8 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.
- B. Hardware Coordination: Distribute copies of approved hardware schedule specified in Section 087110 "Door Hardware" to fabricator of architectural woodwork; coordinate Shop Drawings and fabrication with hardware requirements.

## PART 2 - PRODUCTS

### 2.1 LEED REQUIREMENTS

- A. Composite Woods: Composite wood and agri-fiber products shall be made using ultra-low-emitting formaldehyde (ULEF) resins as defined in the California Air Resources Board's "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or shall be made with no added formaldehyde (NAF).

### 2.2 PLASTIC-LAMINATE-CLAD ARCHITECTURAL CABINETS

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of cabinets indicated for construction, finishes, installation, and other requirements.
  - 1. Provide certificates from WI certification program indicating that woodwork and installation complies with requirements of grades specified.
  - 2. The Contract Documents contain requirements that are more stringent than the referenced quality standard. Comply with requirements of Contract Documents in addition to those of the referenced quality standard.
- B. Architectural Woodwork Standards Grade: Custom.

- C. Type of Construction: Frameless.
- D. Door and Drawer-Front Style: Flush overlay.
- E. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by quality standard.
  - 1. Plastic Laminate: ARPA Laminate, Formica, Nevamar, Panolam (Addendum 03) or equal.
- F. Laminate Cladding for Exposed Surfaces:
  - 1. Horizontal Surfaces: Grade HGS.
  - 2. Edges: ABS to match plastic laminate
- G. Materials for Semiexposed Surfaces:
  - 1. Surfaces Other Than Drawer Bodies: Thermoset decorative panels.
    - a. Edges of Thermoset Decorative Panel Shelves: PVC or polyester edge banding.
    - b. For semiexposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, NEMA LD 3, Grade VGS.
  - 2. Drawer Sides and Backs: Solid-hardwood lumber.
  - 3. Drawer Bottoms: Hardwood plywood.
- H. Dust Panels: 1/4-inch (6.4-mm) plywood or tempered hardboard above compartments and drawers unless located directly under tops.
- I. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.
- J. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.
  - 1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners.
- K. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:
  - 1. As indicated by laminate manufacturer's designations.
  - 2. **PL-1 and PL-2 per 090000. (Addendum 03)**

## **2.3 WOOD VENEER CABINETS (Addendum 03)**

- A. **NAAWS Requirements:**
  - 1. **Quality Standard: Comply with NAAWS Section 10.**
  - 2. **Grade: Premium**
  - 3. **Material: Veneer Plywood, White Oak, to match architect's sample.**
  - 4. **Construction Style: Type A Frameless.**
  - 5. **Construction Type: Type II single-length sections to fit across openings.**
  - 6. **Door and Drawer Front Style: Flush overlay.**
    - a. **Grain Direction: Vertically for drawer fronts, doors, and fixed panels.**
    - b. **Matching of Veneer Leaves: Slip match.**
- B. **Semi-exposed Surfaces: Provide surface materials indicated below:**
  - 1. **Surfaces Other Than Drawer Bodies: Thermoset decorative panels.**

2. **Drawer Sides and Backs: Hardwood.**
3. **Drawer Bottoms: Hardwood.**

- C. **Countertop Support: 3/4-inch plywood.**
- D. **Color and Finish: White Oak veneer, clear, satin finish, to match architect's sample.**
- E. **Edge Material: Same as cladding on faces.**

#### 2.4 HANGING RAIL SYSTEM FOR ARTWORK

- A. Basis-of-Design: Arakawa wall and ceiling surface-mounted and recessed railing systems.
- B. Components:
  1. CRB1800-a: Ceiling surface-mounted rail and BS1R gripper-type, top connector, rail clip.
  2. CRC1800-a: Ceiling surface-mounted rail, recessed flush into gypsum board/APC-1 and BS1R gripper-type, top connector, rail clip.
  3. CRJ1800-a: Wall-mounted rail system with paintable cover, end caps, and rail clips. Provide CR1 rail clip for hanging cable and CR6 hook for holding looped cable. Use two cables on two CR6 to suspend a display shelf from the rail or as shown on Drawings.
  4. Provide all required components for a complete assembly as shown on Drawings.

#### 2.5 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.
  1. Wood Moisture Content: 8 to 13 percent.
- B. Composite Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of architectural cabinet and quality grade specified unless otherwise indicated.
  1. Medium-Density Fiberboard (MDF): ANSI A208.2, Grade 130.

#### 2.6 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
  1. Use treated materials that comply with requirements of referenced quality standard. Do not use materials that are warped, discolored, or otherwise defective.
  2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
  3. Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.
- B. Fire-Retardant-Treated Lumber and Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E84, with no evidence of significant progressive combustion

when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1. Kiln-dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent, respectively.
2. For items indicated to receive a stained or natural finish, use organic resin chemical formulation.
3. Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking shop certified by testing and inspecting agency.
4. Mill lumber before treatment and implement procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of architectural cabinets.

## 2.7 HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087001 "Door Hardware."
- B. Butt Hinges: 2-3/4-inch, five-knuckle steel hinges made from 0.095-inch-thick metal, and as follows:
  1. Semiconcealed Hinges for Overlay Doors: BHMA A156.9, B01521.
- C. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 170 degrees of opening, self-closing.
- D. Pulls: Back mounted, stainless steel, as selected by Architect, ANSI/BHMA A156.9, B02011.
- E. Adjustable Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.
- F. Drawer Slides: BHMA A156.9.
  1. Grade 1 and Grade 2: Side mounted and extending under bottom edge of drawer; full-extension type; zinc-plated steel with polymer rollers.
  2. Grade 1HD-100 and Grade 1HD-200: Side mounted; full-extension type; zinc-plated-steel ball-bearing slides.
  3. For drawers not more than 3 inches high and not more than 24 inches wide, provide Grade 2.
  4. For drawers more than 3 inches high but not more than 6 inches high and not more than 24 inches wide, provide Grade 1.
  5. For drawers more than 6 inches high or more than 24 inches wide, provide Grade 1HD-100.
  6. For computer keyboard shelves, provide Grade 1.
  7. For trash bins not more than 20 inches high and 16 inches wide, provide Grade 1HD-100.
  8. Provide self-closing soft-close door slides at all drawers.
- G. Door Locks: BHMA A156.11, E07121.
- H. Drawer Locks: BHMA A156.11, E07041.
- I. Exposed Hardware Finishes: Satin stainless steel.
- J. For concealed hardware, provide manufacturer's standard painted finish or stainless steel finish.

## 2.8 MISCELLANEOUS MATERIALS

- A. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

## 2.9 FABRICATION

- A. Fabricate architectural cabinets to dimensions, profiles, and details indicated.
- B. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
  - 1. Notify Architect seven days in advance of the dates and times architectural cabinet fabrication will be complete.
  - 2. Trial fit assemblies at manufacturer's shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- C. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Before installation, condition casework to average prevailing humidity conditions in installation areas.
- B. Before installing casework, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

### 3.2 INSTALLATION

- A. Grade: Install casework to comply with same grade as item to be installed.
- B. Assemble casework and complete fabrication at Project site to the extent that it was not completed in the shop.
- C. Install casework level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
- D. Scribe and cut casework to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

- E. Casework: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
  - 1. Install casework with no more than 1/8 inch in 96-inch sag, bow, or other variation from a straight line.
  - 2. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. with No. 10 wafer-head sheet metal screws or toggle bolts through metal backing or metal framing behind wall finish.
- F. Touch up finishing work specified in this Section after installation of woodwork.

### 3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective casework, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate, and adjust hardware.
- C. Clean casework on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

**END OF SECTION**

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