

SECTION 06 40 00 - ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Project Datum and Wood Matching:

1. Any deviations from the established datum and variations in wood matching appearances shall be reported to the Architect immediately for resolution prior to installation.
2. Project Matching Wood, Transparent Finished: WDC-1 and all transparent-finished wood in all Specification Sections to be clear grain Western hemlock, rift cut and finished to match specified linear wood ceilings WD-# in Section 09 54 26. Architect to determine matching and samples for use in this and for other wood in Project.
  - a. WDC-1 to be solid lumber or veneer as specified for each assembly.
  - b. Match species and cut indicated for all types of transparent- finished architectural woodwork and wood located in same area of building unless otherwise indicated.
3. Project Datum and Accessibility Standards:
  - a. Prior to fabrication and installation, establish the project datum for all horizontal alignments by measuring the maximum clear height for accessible counters indicated at 2'-10", from the lowest point on the floor across the entire length of all counter bases in Project so to not exceed maximum height. This datum shall be verified and maintained for all counters, work surfaces, and other elements shown to align with this established datum.
  - b. Verify this datum at each counter location and at all other elements indicated to align with the established datum.
  - c. Mark the established datum and distribute to all affected trades for coordination of their work.
4. Ensure consistency of established datum throughout the Project.

B. Section includes architectural woodwork:

1. Interior standing and running trim, transparent and opaque finished.
  - a. MDF base (WB-1)
2. Benches.
3. Wood screens.
4. Wood-framed tackboard.
5. Door backer for interior metal-composite-material faced plywood access panels in Section 07 42 13.23.
- ~~5-6.~~ Architectural cabinets.
  - a. Veneer faced.
- ~~6-7.~~ Countertops:
  - a. Solid surface finishes, for countertops (SS-1) and backsplashes (SS-2).
- ~~7-8.~~ Hardware and accessories.
- ~~8-9.~~ Wood furring, blocking, shims, and hanging strips for installing architectural cabinets that are not concealed within other construction.
- ~~9-10.~~ Shop priming and finishing.

C. Related Requirements:

1. Section 05 40 00 "Cold-Formed Metal Framing" for exterior wall and roof framing supporting architectural woodwork.
2. Section 05 50 00 "Metal Fabrications" for concealed supports for installing woodwork.
3. Section 06 10 53 "Miscellaneous Rough Carpentry" for concealed wood blocking for framing, furring, blocking, shims, and hanging strips required for installing cabinets that are concealed within other construction before cabinet installation; for fireblocking.
4. Section 07 42 13.23 "Metal Composite Material Wall Panels" for cladding over interior plywood access panel.
- ~~4-5.~~ Section 09 22 16 "Non-Structural Metal Framing" for framing supporting architectural woodwork.
- ~~5-6.~~ Section 09 54 26 "Wood Suspended Ceilings" for manufactured interior and exterior wood ceiling and soffit products, for Project standard wood species and finish.
- ~~6-7.~~ Section 11 30 13 "Residential Appliances" for equipment installed in casework.

1.2 COORDINATION

- A. Equipment Coordination: For operational clearances of equipment and appliances installed in casework. Provide casework fabricator product data of all equipment and appliances specified in other sections or scheduled on Drawings, prior to fabrication and shop drawing production.
- B. 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.
- C. Coordinate countertop supports with countertop assemblies in this Section.
- D. Coordinate sequence and opening requirements with wood fabrications interfacing with and supported by steel.
- E. Coordinate backers faced with other finishes.

1.3 DEFINITIONS

- A. Concealed Surfaces of Casework: Surfaces not usually visible after installation, including sleepers, web frames, dust panels, bottoms of drawers, and ends of casework installed directly against and completely concealed by walls or other casework, and tops of wall cabinets and utility cabinets.
- B. Exposed Surfaces of Casework: Surfaces visible when doors and drawers are closed, including visible surfaces in open cabinets or behind glass doors.
- C. Semiexposed Surfaces of Casework: Surfaces behind opaque doors or drawer fronts, including interior faces of doors, interiors and sides of drawers, and bottoms of wall cabinets.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  1. Before fabrication, review architectural woodwork and examine procedures for ensuring quality of installation.

2. Required representative of each entity directly concerned with architectural woodwork and accessories to attend, including the following:
  - a. Contractor's superintendent.
  - b. Owner's Representative.
  - c. Architect/Engineer.
  - d. Fabricator.
  - e. Fabricator, decorative metal used in architectural woodwork.
  - f. Installers whose work interfaces or supports architectural woodwork.
3. Review sequencing, general, quality assurance and submittal requirements, fabrication and shop finishing, leveling and plumb, scribing to surfaces, and items being directly penetrating fabrications or routed in casework.
  - a. Review protection for items exposed.

#### 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Comply with AWS Quality Standards.
  1. Include plans, elevations, sections, and attachment details.
  2. Show large-scale details.
  3. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
  4. Show operational clearances for equipment; include utility routing required in cases.
  5. Show locations and sizes of cutouts and holes for items installed in architectural cabinets and countertops.
  6. Show locations of anchors into masonry. Coordinate with Division 04.
- C. Samples: For each exposed product and for each color and texture specified, in manufacturer's or manufacturer's standard size, unless otherwise indicated below.
  1. Laminates and Veneers: 8 by 10 inches, for each type, color, pattern, and surface finish required.
    - a. Provide one sample applied to core material with specified edge material applied to one edge.
  2. Lumber for Transparent Finish: Not less than 5 inches wide by 24 inches long, for each species and cut, finished on one side and one edge.
    - a. Bench: Full size profile, 24 inches long; finish end and 12 inches of exposed faces.
      - 1) Show lumber core and mortise for supports.
  3. Lumber for Opaque Finish: For each profile, 24-inches long with half primed painted.
    - a. MDF Base: Show edge sealing.
  4. Hardware and Accessories: One full-size unit for each type and finish.

#### 1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For architectural woodwork manufacturer and Installer.
- B. Product Certificates: For the following:
  1. Composite wood products.

2. Thermally fused laminate panels.
3. High-pressure decorative laminate.
4. Adhesives.

#### 1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For hardware and finishes to include in maintenance manuals. Include instructions for adjusting door hinges and drawer guides. Include surfaces cleaning instructions, with recommended cleaning products and products and materials that are detrimental to finishes.

#### 1.8 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, with a minimum five years' experience.
- B. Installer Qualifications: Manufacturer of products.
- C. Regulatory Requirements: Accessibility. Comply with applicable building codes and provisions in the USDOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

#### 1.9 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver cabinets and woodwork until painting and similar finish operations that might damage architectural cabinets have been completed in installation areas. Store cabinets in installation areas or in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

#### 1.10 FIELD CONDITIONS

- A. Environmental Limitations without Humidity Control: Do not deliver or install cabinets until building is enclosed, wet-work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.
- B. Field Measurements: Where 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. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  1. Locate concealed framing, blocking, and reinforcements that supports by field measurements before being enclosed/concealed by construction, and indicate measurements on Shop Drawings.

## PART 2 - PRODUCTS

### 2.1 ARCHITECTURAL WOODWORK FABRICATORS

- A. Source Limitations: Engage a qualified woodworking firm to assume responsibility for production of architectural woodwork. Obtain from single source from single manufacturer each type.

### 2.2 GENERAL WOODWORK

- A. Quality Standard: Unless otherwise indicated, comply with the Architectural Woodwork Standards for grades of architectural woodwork indicated for construction, finishes, installation, and other requirements.
  - 1. The Contract Documents contain requirements that are more stringent than the referenced woodwork quality standard. Comply with requirements of Contract Documents in addition to those of the referenced quality standard.

### 2.3 INTERIOR WOOD TRIM AND LUMBER PROFILES AND FABRICATIONS

- A. Architectural Woodwork Standards Grade: Premium.
- B. Hardwood Lumber:
  - 1. Match species and cut indicated for other types of transparent-finished architectural woodwork.
  - 2. Moisture Content: 5 to 10 percent.
  - 3. Back kerf profiles recommend by AWS; door frame jambs.
- C. Standing and Running Trim:
  - 1. Transparent Finished: Solid lumber profiles indicated, WDC-1.
  - 2. Opaque Finished:
    - a. WB-1: Any closed grain hardwood or edge-sealed MDF.
    - b. Painted Solid Wood Trim: Any closed grain hardwood.
- D. Wood Frames and Jambs for Doors and Transoms: Transparent finished, solid lumber profiles, WDC-1.
  - 1. Coordinate rough opening requirements for installation and hanging.
  - 2. Thicken door frame depth as required for door weight and for hinge screw penetration.
    - a. Minimum 1-1/4-inches for hinge side jambs.
  - 3. Corners:
    - a. Frame: Rabbet.
      - 1) Miter exposed corners of rabbet is acceptable to maintain continuity of eased corners.
    - b. Trim: Mitered.
    - c. Glazing Stops: Mitered.
  - 4. Concealed fastened under stop or strap anchors attached to back.
  - 5. Mortise hardware openings according to Section 08 14 16.
- E. Wood-Framed Tackboard Panel:

1. Wood Frames: Profiles indicated.
  - a. Exposed: Transparent finished.
  - b. Interior frame to match species as exposed frame and grade appropriate for fitting.
  - c. Attachment of Exposed to Interior: Concealed connectors:
    - 1) Knapp, sCLICK or miniCLICK Dovetail Connector
2. Backer: Casework plywood, CDX. Mortise ends in frame 1/4-inch minimum.
3. Tackboard Panel:
  - a. Product: Homasote PINnacle 440, shop painted.
    - 1) Color: P-1 or as selected by Architect.
  - b. Spot adhere to backer in field, 12-inches from edges and 12-inch o.c. spots.
4. Mounting: Concealed fasten interior frame behind tackboard panel to wall support framing. Provide blocking for face of exposed frame alignment with adjacent finishes as indicated.

F. Wood Screens in Steel Frames:

1. Wood: Transparent finished.
2. Slat Profiles: As indicated.
3. Slat Fasteners: Concealed.
4. Slat faces to be coplanar across assembly without variance.
5. Cross Rod Assembly:
  - a. Concealed Rod: 1/2-inch steel rod, end tapped for flush countersunk fasteners in steel frame.
  - b. Exposed Spacers: Stainless steel with No. 4 finish, mortise ends 1/8-inch minimum into wood.
6. Steel Frame: Comply with Section 05 50 00 "Metal Fabrications" for decorative finishing.
  - a. Profiles: 1/4-inch plate frame, 1/8-inch plate border, depth indicated.
  - b. Corners:
    - 1) Joint: Butt.
    - 2) Interconnect steel members with full-length, full-penetration welds unless otherwise indicated. Use welding method that is appropriate for metal and finish indicated and that develops full strength of members joined.
    - 3) Finish exposed welds and surfaces smooth, flush, and blended to match adjoining surfaces. with no evidence of weld; NOMMA Type 1.
  - c. Finish: Shop primed and painted with prior to installation of wood slats.
7. Frame Anchors: Countersunk,
  - a. Top: Delegated design in Section 05 50 00.
  - b. Bottom: 1/4-inch diameter steel screw anchor with 2-5/8-inch embedment, factory corrosion finish in color selected by Architect.
    - 1) Product: Simpson Titen Turbo.
    - 2) Field paint to match frame after installation in Section 09 91 23.
8. Hinges: Weld type, as indicated. NOMMA Type 2 weld finish.

G. Wood Benches: Transparent-finished.

1. General Requirements:
  - a. Exposed Surfaces: Faces to be provided in no less than 4/4 solid wood. Glue to width and depth. Single piece for exposed edge.

- b. Minimize end joints to greatest extent possible. Mark in submittal drawings proposed joints for materials available. Sort and select maximum lengths available.
- c. Mortise recess for steel supports.
- d. Bracket Support, Bench: Steel, mortise into core construction; vertical concealed behind wall finishes and mounted to side of wall framing and blocking. Provide supports at ends and two supports equally spaced between end brackets, maximum 20-inches o.c.
  - 1) See "Hardware and Accessories" Article for Product.
- 2. Core Construction: Casework plywood or kiln-dried lumber stave.
  - a. 5/8-inch minimum and as recommended by AWS for spans and application.
  - b. Lumber reinforcement for box panels with full length lumber at front of box and back with minimum 2x width.
  - c. Joints: Spline.
  - d. Edges: Where exposed with reveals, provide solid edge banding with face material to reveal edge.
  - e. Assemble panels by gluing and concealed fastening.

H. Access Panel Backer: Interior metal-composite-material faced plywood access panel.

- 1. Coordinate profiles for hardware and attachment of facing over plywood.
- 2. Facing: Shop-faced under Section 07 42 13.23.
- 3. Backer, Access Panel: 3/4-inch casework plywood, B-faced.
- 4. Hinges: Two, of type indicated.
  - a. Allow for facing return fastening above and below hinges.
- 5. Finish: Shop-paint edges and unfaced back of backer to match facing color.
- 6. Shop mortise for hinges prior to delivery to Section 07 42 13.23.

2.4 WOOD VENEER CABINETS AND ASSEMBLIES FOR TRANSPARENT FINISH

- A. Architectural Woodwork Standards Grade: Premium.
- B. Type of Construction: Frameless, as indicated on Drawings.
- C. Door and Drawer-Front Style: Flush overlay.
- D. Wood for Exposed Surfaces: Transparent finished.
  - 1. WDC-1 Veneer Matching within Panel Face: Running match.
  - 2. Confirm grain and veneer matching in Shop Drawings.
  - 3. Substrate, Shelving: Casework plywood.
    - a. Edges: Bonded lumber profiles of same species and cut.
- E. Semiexposed Surfaces:
  - 1. Surfaces Other Than Drawer Bodies: Thermally fused laminate panels.
    - a. Edges: Polyester edge banding.
    - b. Color: White selected by Architect.
  - 2. For semiexposed backs of panels with exposed wood surfaces, match exposed surface.
  - 3. Drawer Subfronts, Backs, and Sides: Solid-hardwood lumber; paint to match white.
  - 4. Drawer Bottoms: Hardwood plywood.

- F. 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 or glued dovetail joints.
- G. Paneling: Transparent finished panel fronts.
  - 1. Substrate: Minimum 5/8-inch thick MDO or MDF.
  - 2. Edge: Solid edge banding with reveal indicated.
  - 3. Joints: At leaf matching, continuous splines.
  - 4. Mount: Face or recessed panel clips; back attached to carcass framing.

## 2.5 SOLID SURFACE COUNTERTOPS AND BACKSPLASHES

- A. Architectural Woodwork Standards Grade: Premium.
- B. Solid Surface: Solid sheets consisting of plastic resin or quartz aggregates bound together with a matrix of filled plastic resin and complying with ICPA SS-1, except for composition; cementitious terrazzo consisting of cement and aggregates.
  - 1. General: Coordinate with fabricator and sequence as required for installation.
    - a. Drawings show "prior to countertops" for reference.
    - b. Confirm in shop drawings each location installation method with associated coordination required for installation and details of conditions.
  - 2. Basis-of-Design Product (SS-#): Consentino Silestone.
    - a. Colors and Patterns: Cincel Grey.
  - 3. Thickness:
    - a. SS-1: 3 cm.
    - b. SS-2: 2 cm.
  - 4. Edge Profile: Square.
  - 5. Mounting: Comply with manufacturer's instructions and recommendations.
    - a. Countertops: Flexible adhesive on subtop.
      - 1) Floating-Open Cabinets: No subtop, mounted to support brackets, see "Hardware and Accessories" Article.
        - a) Spacing, Brackets: 20 inches o.c. maximum between end cabinet supports.
    - b. Wall: Thinset adhesive.
  - 6. Mounting, Backsplash:
    - a. Adhere solid surface to untreated CDX CDX 3/4-inch plywood backer secured to framing. Backprime backer where installed over gypsum board.
    - b. Wall, Solid Surface to Plywood: Adhesive mounted.
      - 1) Adhesive: Approved for use and recommended by manufacturer. Minimum 290 psi shear strength, with shear bond strength ANSI A118.3 of minimum 730 psi.
        - a) Latapoxy 310 or equal.
    - c. Provide sealant joint at bottom at countertop. Color-match sealant to solid surface with color selected by Architect; Laticrete Latisil.



- 1) 1/8-inch sealant joint depth and height with corner rabbeted 1/8-inch with sealant stop.
- d. Coordinate anchoring with countertop and cabinet below.
7. Base cabinets back to be designed to support weight of backsplash without impeding or impinging functional operation of cabinet drawers and doors, with solid back of cabinet reinforcement in addition to cabinet divider panels extending to back of wall. Bottom of subtop at bearing to have minimum 2x bearing surface, continuous with blocking below to floor.

## 2.6 WOOD MATERIALS

- A. Formaldehyde Free Materials: Composite materials shall be formaldehyde free.
- B. 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: 5 to 10 percent.
- C. 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. Particleboard (Medium Density): ANSI A208.1, Grade M-2.
    - a. Use Grade M-2-Exterior Glue at all sink cabinets and other wet locations.
  3. Softwood Plywood: DOC PS 1. Exterior Glue at all sink cabinets and other wet locations.
  4. Thermally Fused Laminate (TFL) Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.
    - a. Color: Match assemblies and finishes where occurring.
- D. Lumber for Carcass Framing: FRT in Section 06 10 53. Alternately, use metal framing in Section 09 22 16 with FRT blocking for attachments.
- E. Concealed Blocking: See Section 06 10 53.
  1. In Framed Partitions: FRT.
  2. In Framed Exterior Walls: FRT and preservative treated.
  3. In contact with Concrete: FRT and preservative treated; fastened to concrete with stainless steel washered shot pins or coated concrete screws.
  4. Concealed, behind casework over gypsum boards: Non-treated and fireblock in all directions or use FRT to edges as furring-fireblocking.

## 2.7 HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.
  1. Products: Single named products are basis-of-design.
  2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Accuride International.

- b. Blum, Julius & Co., Inc.
  - c. CompX International, Inc.
  - d. Grass America Inc.
  - e. Knappe & Vogt Manufacturing Company.
  - f. Schlage.
- 3. Keying: Provide no less than 4 keys for each different casework assembly area. Key cores and key quantity confirmed in keying conference in Section 08 71 00.
- 4. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with ANSI/BHMA A156.18 for ANSI/BHMA finish number indicated.
  - a. Satin Nickel: ANSI/BHMA 646.
- 5. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in ANSI/BHMA A156.9.
- B. Frameless Concealed Hinges (European Type): ANSI/BHMA A156.9, B01602, 135 degrees of opening.
  - 1. Blum Clip top Blumotion or equal.
- C. Pulls: Emtek Modern Edge Pull, Satin Nickel.
  - 1. Length: 1.25" doors; 4.25-inch drawers.
- D. Appliance Pulls: Emtek Rectangular Bar Smooth, satin nickel, 24-inches.
- E. Catches: Magnetic catches, ANSI/BHMA A156.9, B03141. Ives 325, 12-lb pull or equal.
- F. Adjustable Shelf Standards and Supports: ANSI/BHMA A156.9, B04071; with cushioned shelf rests, B04081. Recess flush with case and painted to match exposed finishes in color selected by Architect.
  - 1. Product: Knappe and Vogt 255 with 256R.
  - 2. Pin type on Drawings are for reference only. Pin type are not acceptable.
- G. Drawer Slides: ANSI/BHMA A156.9.
  - 1. Heavy-Duty (Grade 1HD-100 and Grade 1HD-200): Side mount.
    - a. Type: Full extension.
    - b. Material: Zinc-plated ball bearing slides.
    - c. Motion Feature: Self-closing mechanism.
  - 2. Pencil drawers not more than 3 inches high and not more than 24 inches wide, provide 50 lb load capacity.
  - 3. General-purpose drawers more than 3 inches high, but not more than 6 inches high and not more than 24 inches wide, provide 100 lb load capacity.
  - 4. File drawers more than 6 inches high or more than 24 inches wide, provide 100 lb load capacity.
  - 5. Lateral file drawers more than 6 inches high and more than 24 inches but not more than 30 inches wide, provide 150 lb load capacity.
  - 6. Lateral file drawers more than 6 inches high and more than 30 inches wide, provide 200 lb load capacity.
- H. Door and Drawer Silencers: ANSI/BHMA A156.16, L03011.
- I. Locks:
  - 1. Door: ANSI/BHMA A156.11, E07121.

- a. Product: Schlage, CL725G or equal and accepts key cores.
- 2. Drawer: ANSI/BHMA A156.11, E07041.
  - a. Product: Schlage, CL775G or equal and accepts key cores.
- 3. Mortise Lock Strike: Match lock.
- 4. Block door and drawer fronts to match barrel body.
- 5. Cores: Provided in Section 08 71 00.
- J. Hasps: Hafele Padlockable Cam Lock Hasp.
- K. Grommets:
  - 1. Cable Passage: Plated metal grommets and caps with slots for wire passage.
    - a. Size: As selected by Architect, 1-1/4-inch to 2-1/2-inch diameter
    - b. Manufacturers: Mockett or Hafele.
    - c. Finish: Satin nickel.
- L. Support Brackets: For counters and benches.
  - 1. Products: by A and M Hardware. Concealed Bracket Flat 2-inch wide.
    - a. Countertop, Check-In Desk 1: ECFlat 24(2.0), EC-24".
    - b. Bench: ECFlat 18 (2.0), EC-18".
  - 2. Color: Black, unless otherwise indicated and selected by Architect.
- M. Panel Z-Clips: Extruded aluminum, two-part cleat mounting hardware, 6005A T5 aluminum; brackets designed to support full weight of panels and clips designed for lateral support, with one part mechanically attached to back of panel and the other attached to substrate.
- N. Metal Toe Kick: Steel L-shape, fabricated from welded butt-joint plates oversized angle stock with radius edge nosing removed. Comply with Section 05 50 00 "Metal Fabrications" for decorative fabrications.
  - 1. Mounting: Blind welded threaded studs on back and back attached to substate.
  - 2. Scribe tight to floor.
  - 3. Shop primed and painted.
    - a. Zinc-rich primer for steel.
    - b. Color: As indicated.

## 2.8 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
  - 1. See Section 06 10 53 for requirements where installed in cavities of partitions.
- B. 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.
  - 1. Design, select and provide anchorage for casework assemblies attached to partitions with masonry veneer, to be located in mortar joints and sized not to exceed mortar joint widths.
    - a. Coordinate with masonry in Division 04.

- b. Mark anchorage on backing on Shop Drawing Submittal.
- C. Adhesive for Bonding Plastic Laminate: Manufacturer's standard meeting VOC requirements.
  - 1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.
- D. Adhesive for Blocking and Furring: For gluing blocking and furring to concrete and steel plate:
  - 1. To Concrete: Adhesive in Section 06 10 53.
  - 2. To Steel: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.
  - 3. Adhesive is supplemental to anchors according to fastening requirements in Section 06 10 53 and as required for supporting item attached to blocking.
- E. Metal Trim: Profiles specified elsewhere in this Section or indicated on Drawings and part of woodwork assemblies.

## 2.9 FABRICATION

- A. General: Do not commence fabrication of casework without confirmation of equipment operational requirements where installed within casework.
- B. Fabricate architectural woodwork to dimensions, profiles, and details indicated.
- C. Fabricate lumber dimensions, profiles, and details indicated. Ease edges and corners to 1/16-inch radius unless otherwise indicated.
- D. 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. 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.
  - 2. Protect shop-finished surfaces during fabrication, shipping, handling and installation, until Substantial Completion.
  - 3. Accommodate for fireblocking of cavities behind cabinets not serving as storage with separator baffles of fire-treated plywood or mineral board profiles cut to cavity profile at spacing required in Section 06 10 53.
- E. Standing and Running Trim, Frames, Slats and Benches: AWS Section 6 for grade indicated.
  - 1. Door and Transom Frames: Use single piece for jambs. Finger jointing or jointing is not permitted. Increase depth of jamb profiles for length as required for rigidity, transport and handling. Gluing for depth is acceptable where concealed by face trim.
- F. Casework and Cabinets: AWS Section 10 for grade indicated.
  - 1. Cabinet Shelves: Unless otherwise indicated, particle board or other composite with thickness conforming to AWI Section 400-G-8 with 1/4-inch maximum deflection or less for a uniform loading of 46 pounds per lineal foot and not less than 5/8-inch.

2. Dado case for standards.
3. Reinforce back for units mounted on masonry assemblies.
4. Provide continuous reinforcement, blocking or framing at all base toe kicks.
5. Locking: Verify final quantity in Shop Drawing Submittals:
  - a. Drawer and door locks: As indicated on Drawings.
  - b. Hasps: Lockers, each door. Center on door jamb unless otherwise indicated.
    - 1) Adjust for unlocking rotating opposite of leading edge.

G. Cabinet Tops: AWS Section 11, Premium grade.

H. 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.

1. Mortise hardware flush with adjacent surfaces.

## 2.10 COUNTERTOP AND BACKSPLASH FABRICATION

A. Fabricate countertops according to quartz agglomerate manufacturer's written instructions and the AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Grade: Premium.

B. Configuration:

1. Countertop Edges: As indicated on the Drawings.
2. Backsplash Edges: As indicated on the Drawings.
  - a. Backsplash is considered part of countertop assembly except at full wall cladding.
  - b. Adhere backsplashes to countertops. Abut to wall finishes in field but not attached to walls.
  - c. Provide loose end splashes where indicated.
  - d. Coordinate wall finishes for recesses for splashes and finishes. Confirm in shop drawings end and back splashes.

C. Fabricate tops with shop-applied edges unless otherwise indicated. Comply with quartz agglomerate manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.

1. Fabricate with loose backsplashes for field assembly.
2. Fabricate with edges required for mounting style.

D. Joints: Fabricate countertops without joints to the greatest extent possible. When joints are unavoidable, fabricate countertops in sections for joining in field.

1. Joint Locations: Not within 18 inches of a sink or cooktop and not where a countertop section less than 36 inches long would result, unless unavoidable.
2. Joint Type: Bonded, 1/32 inch or less in width.
3. Corner Joints:
  - a. At non-adhered monolithic corners, at counter to full-height solid surface backsplashes, accommodate 1/8-inch minimum sealant joint with no bearing on cabinetry below.
  - b. At masonry, Rabbet back edge of countertop for 2-times the sealant joint width. Sealant joint shall not be less than 1/4-inch and approved by Architect. Provide sealant stop for moisture control behind countertop recess to bottom of solid surface.

E. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures in shop using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.
  - a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch into fixture opening.
2. Counter-Mounted Plumbing Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.
3. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.
4. Counter-Mounted Appliances: Prepare appliances in shop for field cutting openings for appliances. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.

## 2.11 SHOP FINISHING

- A. General: Finish architectural woodwork assemblies at manufacturer's shop. Defer only final touchup, cleaning, and polishing until after installation.
- B. Preparation for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural cabinets, as applicable to each unit of work.
  1. Backpriming: Apply one coat of sealer, compatible with finish coats, to concealed surfaces of woodwork.
- C. Transparent Finish:
  1. Architectural Woodwork Standards Grade: Same as item to be finished.
  2. Finish: Provide one of the following:
    - a. System - 5, conversion varnish.
    - b. System - 9, UV-curable urethane.
  3. Finish, Bench Surfaces: Water-based UV urethane finish for wood flooring.
    - a. Basis-of-Design Product: Basic Coatings, Streetshoe NXT.
      - 1) 3-coat application wear and contact surfaces. 2-coat application on exposed non-contact surfaces. 1-coat on concealed surfaces.
  4. Wash Coat for Closed-Grain Woods: Apply wash-coat sealer to surface made from closed-grain wood before staining and finishing.
  5. Staining: As indicated on the Drawings.
  6. Filled Finish for Open-Grain Woods: After staining, apply wash-coat sealer and allow to dry. Apply paste wood filler and wipe off excess. Tint filler to match stained wood.
  7. Sheen: Satin, 31-45 gloss units measured on 60-degree gloss meter per ASTM D523 and as scheduled on Drawings.

## 2.12 SHOP PRIMING

- A. Preparations for Finishing: Comply with the Architectural Woodwork Standards for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing interior architectural woodwork, as applicable to each unit of work.
- B. Interior Architectural Woodwork for Opaque Finish: Shop prime with one coat of wood primer with tanin blocker as specified in Section 09 91 23 "Interior Painting".

1. Backpriming: Apply one coat of primer, compatible with finish coats, to concealed surfaces of woodwork.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of casework.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Before installation, condition cabinets to humidity conditions in installation areas for not less than 72 hours.
- 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.

#### 3.3 INSTALLATION, GENERAL

- A. Grade: Install interior architectural woodwork to comply with same grade as item to be installed.
- B. Assemble architectural woodwork and complete fabrication at Project site to the extent that it was not completed during shop fabrication.
- C. Install 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.
- D. Scribe and cut architectural woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Install fireblocking in concealed spaces behind woodwork according to Section 06 10 53.
- F. 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. Secure to backup masonry using appropriate embedded anchors.
  3. Use fine finishing nails for exposed fastening, countersunk and filled flush with interior architectural woodwork.
  4. For shop-finished items, use filler matching finish of items being installed.
- G. 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 96 inches 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 latex sealant, painted to match wall.
  - a. Protect transparent finished base from sealant and paint and wipe clean after installing sealant.
5. Fill screw holes of opaque finished base with filler, sand smooth and reprime.
6. Install standing and running trim with no more variation from a straight line than 1/8 inch in 96 inches.

H. Frames:

1. Install level and plumb. Anchor with concealed fasteners.
2. Door Frames:
  - a. Solid shim at each hinge and anchor frames to framing at each hinge during installation of hinges or separately concealed by hinges.
  - b. Attach using cConcealed back strap anchors to stud framing ~~are acceptable~~.
3. Conceal fasten, blind nail and finish nail trim on faces; apply color match filler and finish smooth.

I. Bench:

1. Cut rough carriages and securely anchor carriages to supporting substrates.
2. Screw fasten with countersink fasteners in Division 05 shop drilled holes.
3. Secure with countersunk, concealed fasteners and blind nailing or screwing.
4. Use fine finishing nails for exposed fastening, countersunk and filled flush with wood surface.

J. Paneling: Select and arrange panels on each wall to minimize noticeable variations in grain character and color between adjacent panels.

1. Leave 1/4-inch gap to be covered with trim at top, bottom, and openings.
2. Install with uniform tight joints between panels.
3. Attach panels to supports with manufacturer's recommended panel adhesive and fasteners.
4. Space fasteners and adhesive as recommended by panel manufacturer.
5. Conceal fasteners to greatest practical extent.

~~K. Frames:~~

3.4 INSTALLATION, CABINETS

- A. Install cabinets to comply with quality standard grade of item to be installed.
- B. Assemble cabinets and complete fabrication at Project site to extent that it was not completed in the shop.
- C. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with wafer-head cabinet installation screws.
- D. Install cabinets level, plumb, and true in line to a tolerance of 1/8 inch in 96 inches using concealed shims.



1. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
2. Install cabinets without distortion so doors and drawers fit openings 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.
3. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches o.c. as follows:
  - a. At wood framed walls: No. 10 wafer-head screws sized for not less than 1-1/2-inch penetration into wood framing, blocking, or hanging strips.
  - b. At metal stud framed walls: No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish.

### 3.5 INSTALLATION, COUNTERTOPS AND BACKSPLASHES

- A. Install countertops level to a tolerance of 1/8 inch in 8 feet, 1/4 inch maximum. Do not exceed 1/64-inch difference between planes of adjacent units.
  1. Countertop heights shall not exceed heights indicated on drawings. Countertops out of compliance with regulatory requirements, for Americans with Disabilities Act, shall be replaced without cost to either Project or Owner at Installer's expense.
- B. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.
- C. Set backsplashes and end splashes against walls with sealant where overlapping finishes occur above. Do not adhere to walls.
  1. End splashes may be adhered to wall and with sealant joint where abutting countertop and backsplashes where no finishes are lapping ends where approved in shop drawings.
- D. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.
- E. Install aprons to backing and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears. Fasten by screwing through backing. Predrill holes for screws as recommended by manufacturer.
- F. Complete cutouts not finished in shop where approved by Architect. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.
- G. Apply sealant to gaps at walls; comply with Section 07 92 00 "Joint Sealants."
  1. For 1/8-inch to 1/4-inch width joints, provide 1/8-inch depth of sealant to match height, with sufficient backer to maintain consistent sealant depth. Do not install sealant deeper than 1/8-inch for 1/8-inch joints.

### 3.6 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork, where possible, to eliminate functional and visual defects. Where not possible to repair, replace architectural woodwork. Adjust joinery for uniform appearance.

- B. 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.
- C. Field Finish: See Section 09 91 23 "Interior Painting" for final finishing of installed interior architectural woodwork not indicated to be shop finished.
- D. Clean, lubricate, and adjust hardware.
- E. Clean cabinets on exposed and semiexposed surfaces.

END OF SECTION