

SECTION 064100
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Wood casework with laminate cladding.
- B. Shop finishing.
- C. Cabinet and drawer hardware.

1.02 ABBREVIATIONS AND ACRONYMS

- A. AWI: Architectural Woodwork Institute.
- B. CCP: Certified Compliance Program.
- C. HPDL: High-pressure decorative laminate.
- D. HDF: High-density fiberboard.

1.03 REFERENCE STANDARDS

- A. ANSI A135.4 - Basic Hardboard; 2012 (Reaffirmed 2020).
- B. ANSI/AWI 0400 - Factory Finishing; 2022.
- C. ANSI/AWI 0620 - Finish Carpentry/Installation; 2018.
- D. ANSI/AWI 0641 - Architectural Wood Casework; 2019.
- E. ASTM D1037 - Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials; 2012 (Reapproved 2020).
- F. AWI 100 - Submittals; 2018.
- G. AWI 200 - Care & Storage; 2018.
- H. AWI 300 - Materials; 2018.
- I. BHMA A156.9 - Cabinet Hardware; 2020.
- J. BHMA A156.18 - Standard for Materials and Finishes; 2020.
- K. ISO 4586-3 - High-Pressure Decorative Laminates (HPL, HPDL) – Sheets Based on Thermosetting Resins (Usually Called Laminates) – Part 3: Classification and Specifications for Laminates Less than 2 mm Thick and Intended for Bonding to Supporting Substrates; 2018.
- L. PS 1 - Structural Plywood; 2023.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination:
 - 1. Coordinate schedule of climate-controlled rooms with schedule of storage of wood and wood-based materials requiring climate-controlled environments.
 - 2. Coordinate work of this section with installation of wood blocking, wood backing, metal strapping, and other anchorage that provides casework backing and structural support.

1.05 SUBMITTALS

- A. See Section 013000 - Administrative Requirements for submittal procedures.
- B. AWI QCP Program Submittal Requirements: Comply with AWI 100.
- C. Shop Drawings:
 - 1. General: Each sheet sequentially numbered and dated.
 - a. Sheet Size: 11 by 17 inches (280 by 430 mm).
 - b. Contents: Indicate project name and project address.
 - 2. AWI QCP Program Shop Drawing Requirements:
 - a. Table of Contents: Include page number and title of each shop drawing.
 - b. Aesthetic Grade: Identify specified grade and indicate compliance.

- c. Reference Plans: Casework locations in relative context of building floor plans.
 - 1) Drawing Scale: 1/4 inch = 1 foot (1:50), minimum.
 - d. Plans and Elevations: Plan and elevation views of each assembly type.
 - 1) Include rough opening dimensions and casework assembly dimensions.
 - 2) Drawing Scale: 3/4 inch = 1 foot (1:20), minimum.
 - e. Detailed Sections: Dimensioned section views of each casework configuration.
 - 1) Include appropriate locations for casework wall anchorage.
 - 2) Drawing Scale: 1-1/2 inch = 1 foot (1:10), minimum.
 - f. Details: Dimensioned casework assembly details with material thicknesses.
 - 1) Include wood veneer panels and laminate-clad panels.
- D. Samples:
- 1. AWI QCP Program Requirements for Samples: Comply with AWI 100.
 - 2. Samples, Edgebanding:
 - a. HPDL Edgebanding: For each edgebanding type, submit one sample strip, 6 inches (150 mm) long, minimum, indicating full range of colors.
 - 3. Samples, Laminate-Clad Panels: For each laminate-clad type, submit two, laminate-clad sample panels; size: 8 by 8 inches (200 by 200 mm); thickness: 3/4 inch (19 mm).
 - 4. Samples, Hardware: For each hinge and pull type, submit one sample, full-size, indicating specified finish.
- E. Certificates, AWI: At end of AWI Quality Certification Program process, provide two samples indicating casework complies with specified performance requirements.
- F. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1.06 QUALITY ASSURANCE

- A. Fabricator/Installer Qualifications: Firm specializing in fabricating and installing products specified in this section with minimum three years of documented experience; with qualifications indicating ability to comply with requirements of this section.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.
- B. Deliver products in original packaging materials bearing product identification.
- C. Store products prior to installation on flat, level, clean surfaces; elevate products above floors and protect from sunlight.
- D. Relative Humidity Conditions for Storing Wood and Wood-Based Core Products:
 - 1. Maintain relative humidity between 25 and 45 percent.
- E. Store non-wood-based products under cover and elevated above grade.
- F. For products other than wood and wood-based products, store and handle in accordance with fabricator's documented instructions.
- G. Handle materials and products to prevent damage to edges, ends, or surfaces.

1.08 FIELD CONDITIONS

- A. Ambient Conditions for Acclimation, Installation, and Post-Installation of Wood-Based Products:
- 1. Acclimation Period Prior to Installation: 72 hours minimum, inside installation environment.

PART 2 PRODUCTS

2.01 ARCHITECTURAL WOOD CASEWORK

- A. Casework Finish: Wood casework with laminate cladding.
- B. Provide casework and casework components in sizes and profiles as indicated on drawings.

- C. Adjustable Shelves, Number of Shelves Per Cabinet Unit:
 - 1. Base Cabinets: One shelf for each cabinet unit.
 - 2. Wall Cabinets: Two shelves for each cabinet unit.
- D. Scribed Fillers:
 - 1. Finish and Materials: Same materials and finish as exposed surfaces.

2.02 PERFORMANCE REQUIREMENTS

- A. Architectural Woodwork Institute (AWI) Performance Requirements:
 - 1. Comply with AWI 300, ANSI/AWI 0641, ANSI/AWI 0400, and ANSI/AWI 0620 as applicable for specified casework finish, aesthetic grade, and performance duty level.
 - a. Aesthetic Grade: Custom.
 - b. Product Performance Duty Level: Duty Level 3.
 - 2. Panel and Material Thicknesses: Provide panels and materials as required to meet specified performance duty level, subject to minimum thickness requirements of AWI 300 and ANSI/AWI 0641 and flatness requirements indicated below.
 - 3. Panel Flatness: Provide panels with maximum variation from flat in 12 inches (300 mm) as measured diagonally across panel.
 - a. Custom Grade: Plus or minus 0.047 inch (1.2 mm) maximum.
 - 4. Cabinet Door Flatness:
 - a. Comply with specified performance requirements.

2.03 WOOD CASEWORK WITH LAMINATE CLADDING

- A. Casework Construction:
 - 1. Face Frame Cabinet and Door Interface: Full Overlay.
 - 2. Door and Drawer Front Profile: Full Overlay.
- B. Custom Grade - Laminate-Clad Wood Casework:
 - 1. Exposed Exterior Surfaces, Panels to Receive Laminate Cladding:
 - a. HPDL Panels; Surface Finish: As indicated on drawings.
 - 2. Exposed Interior Surfaces at Door and Drawer Fronts:
 - a. Same laminate materials and thicknesses as exposed exterior surfaces.
 - 1) Color to match exposed interior or face.
 - 3. Exposed Interior Surfaces Except Door and Drawer Front Surfaces:
 - a. HPDL: Compatible laminate in color and pattern to exposed exterior surfaces.
 - 4. Semi-Exposed Surfaces; Panels to Receive Laminate Cladding:
 - a. Comply with specified performance requirements.
- C. Edgebanding Applications for Laminate-Clad Wood Casework:
 - 1. Drawer Box Top Edges:
 - a. Visible Cores: Provide edgebanding to match drawer side.
- D. Edgebanding Materials for Laminate-Clad Wood Casework:
 - 1. Thickness: 0.02 inch (0.50 mm) minimum; 0.12 inch (3.0 mm) maximum.
 - 2. PVC: Well-matched to exposed face; radiused and beveled on edges and corners if thickness is greater than 0.039 inch (1.0 mm).

2.04 EDGE TREATMENT APPLICATIONS

- A. Top Edges of Cabinets:
 - 1. Provide edgebanding materials compatible to exposed exterior surfaces.
- B. Hinged Door Edges
 - 1. Provide edgebanding on all four edges except for solid wood doors.
- C. Drawer Front and Drawer False Front Edges:
- D. Edges of Cut-Outs:
 - 1. Provide edgebanding at cut-outs with reveals greater than 1/8 inch (3.18 mm).

2.05 HDPL-CLAD PANELS

- A. Description: Panels consisting of High-Pressure Decorative Laminate (HPDL) faces applied to cores; panel layup with face ply, back ply, and core of either single ply or odd number of inner plies, to produce balanced construction panel.
 - 1. Panels subject to size limitations, minimum thickness requirements, and fabrication tolerances of specified aesthetic grade and performance duty level in accordance with AWI 300 and ANSI/AWI 0641.
- B. High-Pressure Decorative Laminate (HPDL): Sheet consisting of fibrous material impregnated with thermosetting resins; bonded by high-pressure process.
- C. HPDL Laminates Less than 0.08 inch (2 mm) Thick: Comply with ISO 4586-3.
 - 1. Exposed Backer Materials:
 - a. Same materials, thickness and color as laminate face.
 - 2. Concealed Backer Materials:
 - a. Laminate materials as required for balanced construction panel and recommended by laminate manufacturer for application.
- D. Panel Cores:
 - 1. Hardboard (HDF).

2.06 PANEL CORES

- A. Moisture-Resistant or Fire-Resistant Cores: Provide color-tinting or other distinguishing markings to indicate cores with moisture-resistant or fire-resistant properties.
- B. Hardboard (HDF):
 - 1. Description: Panels manufactured from inter-felted lignocellulosic fibers consolidated under heat and pressure to 31 pcf (500 kg/cu m) density or greater; comply with ANSI A135.4.
 - 2. Surfaces: Smooth two sides (S2S).
 - 3. Class and Thickness: As required to meet specified performance requirements applications.

2.07 CONCEALED CABINET BASE COMPONENTS

- A. Cabinet Base Toe-Kick Subfronts:
 - 1. Materials: Plywood.
 - 2. Size: As indicated on drawings.
 - 3. Finished Face of Toe Kick Subfronts: As indicated on drawings.
- B. Cabinet Base Blocking and Stretchers:
 - 1. Materials: Plywood.
 - 2. Size: As indicated on drawings.
- C. Cabinet Base Sleepers:
 - 1. Materials: Fabricator's option.
 - 2. Size: As indicated on drawings.

2.08 WOOD AND WOOD-BASED MATERIALS

- A. AWI 200 Wood Moisture Content Requirements:
 - 1. Climate Zone 2: Between 6 and 10 percent.
- B. AWI 300 General Requirements for Wood.
 - 1. Provide wood in accordance with AWI 300.
- C. Plywood: Comply with PS 1.
 - 1. Structural I, Grade C-D, Exposure I.
- D. Moisture-Resistant Wood: Where moisture-resistant wood is specified or indicated on drawings for cabinet base components, provide wood with thickness swelling of not more than 5 percent when tested in accordance with ASTM D1037.

2.09 CABINET AND DRAWER HARDWARE

- A. Hinges, Number of Hinges for Each Cabinet Door:
 - 1. Comply with specified performance requirements.
- B. Hinges, Self-Closing, Integrated Damper Hinges:
 - 1. Description: Self-closing hinges with integrated damper mechanisms.
 - 2. Features: Provide soft-closing integrated damper hinges.
 - 3. Opening Range: Between 115 to 150 to degrees.
 - 4. Material and Finish: Satin anodized aluminum.
 - 5. Products:
 - a. Blum, Inc; CLIP top BLUMOTION: www.blum.com/#sle.
 - b. Grass America Inc: www.grassusa.com/#sle.
 - c. Hettich America, LP; Sensys: www.hettich.com/#sle.
 - d. Sugatsune America, Inc: www.sugatsune.com/#sle.
- C. Cabinet Door Pulls:
 - 1. Description: Back-mounted pulls.
 - 2. Provide one pull for each drawer 24 inches (610 mm) or less in width.
 - 3. Design: U-shape wire pulls.
 - 4. Center-to-Center Mounting Dimension: 4 inches (100 mm).
 - 5. Length: 4 inches (100 mm).
 - 6. Material and Finish: Satin anodized aluminum.
- D. Shelf Rests:
 - 1. Description: Metal shelf rests for installation into prepared holes in substrate.
 - 2. Comply with specified performance requirements.
 - 3. Material and Finish: Satin anodized aluminum.
 - 4. Products:
 - a. Knappe & Vogt Manufacturing Company: www.knappeandvogt.com/#sle.
 - b. Sugatsune America, Inc: www.sugatsune.com/#sle.
- E. Drawer Slides:
 - 1. Description: Hardware units that suspend drawers and provide controlled drawer sliding.
 - 2. Comply with specified performance requirements.
 - 3. Comply with BHMA A156.9, Heavy Duty Grade 1HD-100.
 - 4. Features: Self-closing.
 - 5. Mounting: Side-mounted self-closing.
 - 6. Travel: Full extension.
 - 7. Material and Finish: Satin anodized aluminum.
 - 8. Products:
 - a. Accuride International, Inc; Heavy-Duty Drawer Slides: www.accuride.com/#sle.
 - b. Blum, Inc; TANDEM: www.blum.com/#sle.
 - c. Knappe & Vogt Manufacturing Company; Heavy-Duty Drawer Slides: www.knappeandvogt.com/#sle.
 - d. Sugatsune America, Inc: www.sugatsune.com/#sle.
- F. Cabinet Door and Drawer Silencers:
 - 1. Description: Self-adhesive rubber silencers.
 - 2. Doors, Quantity: One silencer at top and bottom of closing edge of each door.
 - 3. Drawers, Quantity: One silencer at back side of each drawer front cover.
 - 4. Size: 1/4 inch (6.4 mm) diameter; 1/8 inch (3.2 mm) projection.
 - 5. Color: Clear.
- G. Cabinet Door Keyed Locks with Latch Bolts:
 - 1. Description: Keyed locks for securing cabinet doors.
 - 2. Keying Action: Key retracts latch bolt.

3. Mounting: Half-mortised into back of door.
4. Comply with specified performance requirements.
5. Interchangeable Cores: Provide interchangeable cores.
6. Key Control: See Section 087100.
7. Material and Finish: BHMA A156.18, 627 or 628 satin aluminum.

2.10 CASEWORK ACCESSORY COMPONENTS

- A. Grommets: Plastic, with matching slotted caps; round.
 1. Applications: Where indicated on drawings.
 2. Shape: Round.
 3. Inside Diameter: 1-1/2 inches (38 mm).
 4. Color: Black.

2.11 COUNTERTOP BRACKETS

- A. Workstation Brackets: Fixed, L-shaped, corner reinforced, face-of-stud mounting.
 1. Support Length: 12 inches (300 mm).
 2. Height: 12 inches (300 mm).
 3. Materials: Formed steel shapes.
 - a. Finish: Manufacturer's standard, factory-applied, textured powder coat.
 - b. Color: Black.
- B. Countertop Support Brackets; L-shaped, top of knee-wall mounting.
 1. Support Length: 12 inches (300 mm).
 2. Height: 12 inches (300 mm).
 3. Plate Thickness and Width: 3/8 inch (9.5 mm) by 2-1/2 inches (64 mm).
 4. Finish: Manufacturer's standard, factory-applied, powder coat.
 5. Color: Black.

2.12 FABRICATION

- A. Shop-fabricate casework to dimensions, profiles, and details indicated on drawings.
- B. Fabricate to maximum extents plausible, including doors, drawers, and hardware; fabricate units in sizes transportable through building openings.
- C. Wood Casework with Laminate Cladding: Apply laminates in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline.
- D. Fabrication Tolerances: Comply with specified performance requirements.

2.13 SHOP FINISHING

- A. Surface Preparation: Comply with:
 1. ANSI/AWI 0400 for specified aesthetic grade.
- B. Shop Finishing: Shop finish architectural wood casework.
 1. Comply with ANSI/AWI 0400 for specified aesthetic grade.
- C. Grain Fillers: Apply to open-grained wood substrates; tint to match wood; work fillers into wood grain; wipe excess from surfaces.
- D. Wash Coats: Apply to closed-grained wood substrates.

2.14 SOURCE QUALITY CONTROL

- A. See Section 014000 - Quality Requirements for additional requirements.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify casework and materials required for installation have been delivered, handled and stored as specified.

3.02 INSTALLATION

- A. Install and secure work of this section in accordance with specified performance requirements.
- B. Install work of this section rigid, plumb, and level and in accordance with fabricator's documented instructions; secure casework as indicated on drawings.
 - 1. Align and secure adjoining cabinet units with fasteners in concealed locations.
- C. Install cabinet hardware in accordance with hardware manufacturer's documented instructions using hardware manufacturer's furnished fasteners.
- D. Install scribe fillers to close gaps between casework and adjacent walls.

3.03 TOLERANCES

- A. Comply with specified performance requirements for tolerances.

3.04 ADJUSTING

- A. Adjust hardware for smooth operation in accordance with hardware manufacturer's documented instructions.

3.05 CLEANING

- A. See Section 017000 - Execution and Closeout Requirements for additional requirements.
- B. Clean exposed surfaces of casework, shelving, and hardware.

3.06 PROTECTION

- A. Protect installed casework from subsequent construction operations.

END OF SECTION