

ARCHITECTURAL WOOD CASEWORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section describes the requirements for furnishing and installing architectural wood casework, including but not limited to the following:
 - 1. Custom plastic laminate faced cabinetwork.
 - 2. Custom wood veneer cabinetwork.
 - 3. Plastic laminate countertops.
- B. Related Sections:
 - 1. Interior architectural woodwork is specified in Section 06 40 23.
 - 2. Field-applied finishes are specified in Section 09 91 00.
 - 3. Stone countertops are specified in Section 12 36 40.

1.02 SUBMITTALS

- A. Samples:
 - 1. Plastic laminate colors for verification of initial selections.
 - 2. Minimum three 12-inch x 12-inch square samples of specified wood veneers showing full range of grain and color characteristics to be expected in the finished work.
 - 3. Minimum three 12-inch long wood samples showing full range of grain and color characteristics to be expected in the finished work.
- B. Shop Drawings: Show details of fabrication and installation, dimensioned plans, elevations, and sections. Each set of shop drawings shall comply with Architectural Woodwork Standards (ASW) Section 1 - Submittals and shall bear the Woodwork Institute Certified Compliance Program Label on the first page. Photocopies of architectural drawings are not acceptable. Highlight any modifications to the Specifications or AWS requirements.
- D. LEED Submittals:
 - 1. Credit IEQ 4.1: Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59, Subpart D.
 - a. Furnish LEED Online Credit Template listing the adhesives and sealants used in the building and declaring that they meet the specified LEED requirements.
 - b. Required Audit Documentation:
 - 1) Product data sheets and MSDS for each adhesive/sealant used on the interior, with the VOC content in g/L circled and indicating VOC content of each product used.
 - 2) Summary table comparing credit VOC requirements and actual VOC levels for each product.

2. Credit IEQ 4.4: Product data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain urea-formaldehyde resin or binder.
 - a. Furnish the LEED Online Credit Template listing all the composite wood and agrifiber products used in the building, stating that they contain no added urea-formaldehyde resins.
 - b. Required Audit Documentation:
 - 1) Product data that wood and agrifiber products used on the interior of the building contain no added urea-formaldehyde resins.
 - 2) Product data that laminating adhesives used to fabricate on-site and shop-applied composite composite wood and agrifiber assemblies do not contain added urea-formaldehyde resins.

1.03 QUALITY ASSURANCE

- A. Materials and fabrication of cabinetwork shall be in accordance with the standards of the Architectural Woodwork Standards (AWS) for the grades specified.
- B. WI Certified Compliance Program (CCP):
 1. Before delivery to the Project site, if the fabricator/supplier is:
 - a. A WI licensee, issue WI "Certificates of Compliance" certifying that items comply with Architectural Woodwork Standards (AWS) requirements for specified grade.
 - b. A non-WI licensee, furnish a WI "Certified Compliance Tracking Acknowledgement" with the original submittal, evidencing that they have arranged for and will pay inspections required by the WI to comply with the specified requirements. If fabrication and installation are in compliance with AWS standards, Certified Compliance labels will be affixed by the WI Inspector. After fabrication, stamp each piece of cabinetwork in an inconspicuous place with WI Compliance Grade Stamp.
 2. Each elevation of casework and plastic laminate countertops shall bear the WI Certified Compliance Label indicating conformance to specified grade.
 3. Upon completion of installation, furnish a WI Certified Compliance Certificate for the installation.
 4. In the event of question as to compliance with the referenced standard of any item of work, the County's Representative may require independent inspection service of questioned items as specified in "Independent Inspection Service " of "WI Services and Quality Control Options" published by the WI.

1.04 ENVIRONMENTAL QUALITY ASSURANCE

- A. Credit IEQ 4.1: Adhesives and sealants used on the interior of the building (defined as inside of the weatherproofing system and applied on-site) shall comply with the requirements of the following reference standards:
 1. Adhesives, Sealants and Sealant Primers: Comply with South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits as follows:

Architectural Applications	VOC Limit g/L less water	Specialty Applications	VOC Limit g/L less water
Indoor Carpet Adhesives	50	PVC welding	510
Carpet pad adhesives	50	CPVC welding	490
Wood flooring adhesives	100	ABS welding	325
Rubber floor adhesives	60	Plastic cement welding	250
Subfloor adhesives	50	Adhesive primer for plastic	550
Ceramic tile adhesives	65	Contact adhesive	80
VCT and asphalt adhesives	50	Special purpose contact adhesive	250
Drywall and panel adhesives	50	Structural wood member adhesive	140
Cove base adhesives	50	Sheet applied rubber lining operations	850
Multipurpose construction adhesives	70	Top and trim adhesive	250
Structural glazing adhesives	100		

Substrate Specific Applications	VOC Limit g/L less water	Sealants	VOC Limit g/L less water
Metal to Metal	30	Architectural	250
Plastic foams	50	Nonmembrane roof	300
Porous material (except wood)	50	Roadway	250
Wood	30	Single-ply roof membrane	450
Fiberglass	80	Other	420
Sealant Primers	VOC Limit (g/L less water)		
Architectural, nonporous	250		
Architectural, porous	775		
Other	750		

2. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.

Aerosol Adhesives	VOC Limit
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

B. Credit IEQ 4.4:

1. Composite wood and agrifiber products used on the interior of the building shall contain no added urea-formaldehyde resin.
2. Laminate adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall not contain added urea-formaldehyde resins.
3. Composite wood and agrifiber products are defined as particleboard, medium density fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates and door cores. Materials considered fixtures, furniture and equipment are not considered base building elements and are not included.

C. Applicable LEED Credits:

1. Credit IEQ 4.1 – Low-Emitting Materials - Adhesives and Sealants.
2. Credit IEQ 4.4 – Low-Emitting Materials - Composite Wood and Agrifiber Products.

1.05 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet work is completed, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the work.
 1. Verify locations of concealed framing, blocking, backing, reinforcements, and other items that support cabinetwork by accurate field measurements before being enclosed and record on shop drawings.
- C. Verify that wall, ceiling and floor surfaces to receive casework are within acceptable tolerances.

1.06 COORDINATION

- A. Cabinets shall be left in a well ventilated warehouse for a minimum of 72-hours prior to delivery to the Project site.
- B. Cabinets shall be acclimated to the field conditions for a minimum of 72-hours prior to installation.

1.07 INDOOR AIR QUALITY

- A. Do not use wood products containing urea formaldehyde glues inside the shell of the building.
- B. When machining plastic products, protect surrounding areas from dust.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. High-Pressure Decorative Laminate (HPDL): Comply with Architectural Woodwork Standards (AWS) Section 4 and NEMA LD3.
 - 1. Horizontal Surfaces: HGS, 0.048-inch nominal thickness.
 - 2. Vertical Surfaces: VGS, 0.028-inch nominal thickness.
 - 3. Horizontal Post-formed Surfaces: HGP, 0.039-inch nominal thickness.
 - 4. Fire-Rated Surfaces: HGF, 0.048-inch nominal thickness
 - 5. Cabinet Liner: CLS, 0.020-inch nominal thickness.
 - 6. Backer: BKL, 0.020-inch nominal thickness, complying with AWS Section 4 for casework Grade specified.
 - 7. Manufacturer, Pattern, Sheen, Color: As selected by the County's Representative.
- B. Low-Pressure Decorative Laminate (LPDL): Comply with Architectural Woodwork Standards (AWS) Section 4 and NEMA LD3. LPDL shall consist of melamine, polyester or foil resin-impregnated paper thermally fused under pressure to an approved core and have a balance sheet.
- C. Balance Sheet:
 - 1. Wood Veneer Casework: Wood veneer of the same or a compatible species and thickness.
 - 2. Plastic Laminate Faced Casework: HPDL or overlay of a compatible thickness.
- D. Hardwood Veneer for Transparent Finish:
 - 1. Veneer: Architectural Woodwork Standards (AWS) Grade AA, species and cut to be selected.
 - 2. Core: As specified.
- E. Hardwood Veneer for Opaque Finish:
 - 1. Veneer: Architectural Woodwork Standards (AWS) Grade B, close grain hardwood.
 - 2. Core: As specified.
- F. Hardwood Trim for Transparent Finish: Architectural Woodwork Standards (AWS) Premium Grade, species and cut to be selected.
- G. Hardwood Trim for Opaque Finish: Architectural Woodwork Standards (AWS) Custom Grade, close grain hardwood.
- H. Hardboard: Manufactured of interfelted lignocellulosic fibers, consolidated under heat and pressure to a density of 31-pcf or greater, tempered grade, 1/4-inch-thick tempered, smooth both sides.

- I. Backing for Plastic Laminate and Hardwood Veneer: One of the following, at Developer Design/Builder's option.
1. Medium Density Fiberboard:
 - a. Dry Areas: Medite Corporation "Medite II" or approved equal (no known equal) medium density fiber board, 3/4-inch thick, 48-pcf density. Fiber board shall have a recycled content of 92-percent.
 - b. Countertops with Sinks: Medite Corporation "Medex" or approved equal (no known equal) medium density fiber board, 3/4-inch thick, 48-pcf density. Fiber board shall have a recycled content of 92-percent.
 - c. Medium density fiberboard shall contain no added urea formaldehyde resins.
 2. Plywood: Architectural Woodwork Standards (AWS) Grade B close grain hardwood veneer plywood, smooth, well sanded. Provide exterior grade with waterproof glue at countertops with sinks. Plywood shall contain no added urea formaldehyde resins.
 3. Particleboard: One of the following at Developer Design/Builder's option:
 - a. Roseburg Forest Products "SkyBlend Particleboard" or approved equal complying with ANSI A208.1, Grade M-2. Particleboard shall contain 100-percent pre-consumer recycled wood fiber. Do not use at countertops with sinks.
 - b. Straw-based particleboard complying with ANSI A208.1, Grade M-2, except for density. Do not use at countertops with sinks.
 - c. Particleboard shall contain no added urea formaldehyde resins.
- J. Subframe Lumber: No. 1 grade Douglas Fir or plain sawn Yellow Poplar.
- K. Adhesives: Contact, semi-rigid or rigid adhesives as recommended by laminated plastic manufacturer.
- L. Hardware: Furnish and install as required to provide a complete casework installation.
1. Hinges: 120-degree opening, concealed hinge, passing 100,000-cycle test. Hinges shall be all-metal construction, meeting or exceeding the ANSI/BHMA Grade 1 performance and permanent set test requirements. Provide three hinges on doors over 48-inches high.
 2. Door and Drawer Pulls: Builders Brass Works No. 9054, Quality No. 812, Stanley 4483 or approved equal, satin stainless steel.
 3. Door Locks: National Lock C8123, Corbin 0737, Olympus 100DR or approved equal. Key as directed by the County.
 4. Drawer Locks: National C8138, Corbin 0738, Olympus 200DW or approved equal. Key as directed by the County.
 5. Drawer Guides: Accuride, Blum, Grant, K&V or approved equal.
 - a. Pencil Drawers: Minimum 50-pound capacity.
 - b. General Purpose Drawers: Full extension, minimum 100-pound capacity.
 - c. File Drawers: Full extension, minimum 150-pound capacity; 200-pound capacity at lateral file drawers wider than 30-inches.
 6. Adjustable Shelf Standard: Grant 120, K&V 255 or approved equal.
 7. Adjustable Shelf Clips: Grant 21Z, K&V 256 or approved equal.
 8. Plastic Grommets: Provide at penetrations through countertops. Size and color as approved by the County's Representative. Provide minimum two grommets per work station. Coordinate location with County.

2.02 FABRICATION

- A. Fabricate products in accordance with the approved Shop Drawings and specified Architectural Woodwork Standards (AWS) Grade requirements. The architectural drawings indicate form and profile concept only. Fabrication and construction details shall comply with AWS unless otherwise specified.
- B. Fabricate laminated plastic casework in accordance with Architectural Woodwork Standards (AWS) Section 10, Custom grade, except as otherwise specified, Construction Type A – Frameless Construction; Interface Style 1 – Overlay.
 - 1. Exposed exterior portions shall be covered with a HPDL as specified.
 - 2. Exposed interior surfaces, except at doors and drawer fronts shall be covered with a HPDL matching exposed exterior surfaces.
 - 3. Exposed interior surfaces of door and drawer fronts shall be covered with the same material, pattern, color and thickness as the door face.
 - 4. Edge Banding: HPDL, minimum 0.02-inch thick, color-matched to the exposed face.
 - 5. Semi-exposed surfaces of cabinet tops and bottoms, cabinet ends, fixed and adjustable shelves, cabinet back, cabinet doors, and drawers shall be finished with a polyester laminate; exposed edges of semi-exposed surfaces shall be finished with extruded PVC or self-edged plastic laminate.
 - 6. Door and Drawer Front Style: Flush overlay.
 - 7. Door and Drawer Edge: Square edge with thin applied band.
 - 8. Shelf Thickness: As specified in Architectural Woodwork Standards (AWS) for a uniform load of 50-lb./sq. ft.
- C. Fabricate wood casework for transparent finish in accordance with Architectural Woodwork Standards (AWS) Section 10, Premium grade, Construction Type A – Frameless Construction; Interface Style 1 – Overlay. Cabinets shall receive a transparent finish to match County's Representative's sample.
 - 1. Door and Drawer Edge: Square edge with thin applied band.
 - 2. Shelf Thickness: As specified in Architectural Woodwork Standards (AWS) for a uniform load of 50-lb./sq. ft.
- D. Fabricate wood casework for opaque finish in accordance with Architectural Woodwork Standards (AWS) Section 10, Custom grade, Construction Type A – Frameless Construction; Interface Style 1 – Overlay. Cabinets shall receive an opaque finish as specified in Section 09 91 00.
 - 1. Door and Drawer Edge: Square edge with thin applied band.
 - 2. Shelf Thickness: As specified in Architectural Woodwork Standards (AWS) for a uniform load of 50-lb./sq. ft.
- E. Laminated Plastic Countertops: Fabricate in accordance with Architectural Woodwork Standards (AWS) Section 11, Premium grade.
 - 1. Countertop Splash Assembly Type: 2.
 - 2. Countertop Edges: Self-edged with plastic laminate or hardwood trim as approved.
 - 3. Back Splash: Horizontal square butt joints or integral cove as approved.
 - 4. Top of Back Splash: Square with self edge.
 - 5. Back Splash Height: As approved.

- F. Make cuts required to accommodate the work of other Sections in the shop where possible. Review other drawings and work to determine extent of items to be mounted in cabinetwork. Notify the County's Representative of discrepancies.
- G. Shop-fabricate cabinets and countertops in whole units or partial units practical for handling and transporting. Assemble partial units in place so that each complete unit becomes a unified whole visually and structurally. Fabricate fillers and scribe strips of same materials and finishes as adjacent units.
- H. Make cuts for hardware and equipment neat and true. Install hardware and fit securely.
- I. Adjust drawers, doors, and movable shelves to operate easily and smoothly without binding.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install cabinetwork in accordance with Architectural Woodwork Standards (AWS) Premium Grade requirements.
- B. Install products plumb and level.
- C. Securely fasten cabinetwork to supporting substrates.
- D. Anchor tops to base units and other supports. Seal space between backsplash and wall with sanitary sealant specified in Section 07 92 00. Install with no more than 1/8-inch in 8'-0" sag, bow, or other variation from straight line.
- E. Fit tight and scribe to walls, ceilings, and other surfaces so no open joints occur.
- F. Remove and replace materials damaged beyond repair or stained beyond cleaning.

3.02 ADJUSTMENT, CLEANING, AND PROTECTION

- A. Repair damaged and defective cabinetwork where possible to eliminate defects; where not possible to properly repair, replace.
- B. Clean, lubricate and make final adjustments to hardware for proper operation.
- C. Clean cabinetwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.
- D. Protect cabinetwork to ensure work will be without damage at time of Substantial Completion. Cover completed cabinetwork with 4-mil polyethylene film protective enclosure, applied in a manner to permit easy removal.

3.03 WASTE MANAGEMENT

- A. General: Comply with Section 01 74 19.
- B. Separate the following categories for salvage or re-use on the site:
 - 1. Sheet materials larger than 2-sq. ft.
 - 2. Solid wood trim longer than 16-inches and multiple offcuts of any size larger than 12-inches.
- C. Separate the following for recycling. Material shall be placed in source-separated or comingled recycling bins.
 - 1. Composite wood.
 - 2. Clean dimensional lumber.
- D. Separate the following categories for disposal and place in designated areas for hazardous materials:
 - 1. Treated, stained, painted, or contaminated wood.

END OF SECTION