

**SECTION 12 32 00
MANUFACTURED WOOD CASEWORK**

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This section specifies plastic laminate casework as detailed on the drawings, including related components and accessories required to form integral units. Wood casework items shown on the drawings, but not specified below shall be included as part of the work under this section, and applicable portions of the specification shall apply to these items. Each like item of casework shall be of the same design and by one manufacturer.
- B. Provide plastic laminate casework for all base cabinets, wall cabinets, full height cabinets, and other casework items as shown on drawings.

1.02 RELATED WORK

- A. Custom Casework: Section 06 20 00, FINISH CARPENTRY.
- B. Color and Finish of Plastic Laminate: Section 09 06 00, SCHEDULE FOR FINISHES.
- C. Countertop: Section 12 36 00, COUNTERTOPS.
- D. Lavatories and Plumbing in Casework: Section 22 40 00, PLUMBING FIXTURES.

1.03 QUALITY ASSURANCE

- A. Single Source Responsibility: All custom casework, countertops, hardware, etc. specified under this Section shall be the product of one manufacturer and supplied under this manufacturer's direction to eliminate incompatible items.
- B. The Drawings and Specifications outline the design intent and the general requirements for custom casework for the project. Construction details and specifications for casework are not complete, and casework furnished shall be complete for the intended use.
- C. The Drawings and Specifications indicate requirements which may differ from manufacturer's standard product. Make all modifications necessary to comply with the requirements.
- D. Casework shall be designed, fabricated and installed to meet the quality standards established in the latest edition of the "Architectural Woodwork Standards" (AWS) Manual, as published by the Woodwork Institute (WI), Architectural Woodwork Institute (AWI), and the Architectural Woodwork Manufacturers Association of Canada (AWMAC).
 - 1. If provisions of the AWS Grade specified herein conflict with or are modified by the Drawings and/ or Specifications, the modifications shall govern.
- E. Manufacturer's Qualifications:
 - 1. Manufacturer of casework shall have an established organization and production facilities including all tools, equipment and special machinery necessary for specializing in the fabrication and installation of the type of equipment specified, with skilled personnel, factory trained workmen and an experienced engineering department. Each shall have the demonstrated knowledge, ability and the proven capability to produce the specified equipment of the required quality and the proven capacity to complete the installation of this size and type within the required

- time limits.
2. If the manufacturer of casework is not a WI licensee, the Contractor shall furnish to the Architect, prior to installation, a Certificate of Re-inspection by the WI indicating that the casework in question meets the requirements of the AWS Grade specified. If the manufacturer of casework is a WI licensee, each unit of casework [except for stainless steel casework] shall bear the WI Certified Compliance Grade Stamp indicating the AWS Grade specified, and by the completion of the job, WI Certified Compliance Certificates shall have been issued certifying that the products furnished fully meet the requirements for the AWS Grade specified.
 - a. The foregoing shall not be construed to limit the power and authority of the Architect to reject any casework which does not in the Architect's opinion meet with any one or more of the Specifications of this Contract.
- F. Field Measurements: Take field measurements prior to the preparation of shop drawings and fabrication where possible; do not delay job progress; allow for trimming and fitting where necessary.

1.04 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 1. Hardware, including hinges, door and drawer pulls, drawer slides, locks, door catches, etc.
 2. Adhesive cements
- C. Samples:
 1. Plastic laminates of each color and type specified, 150 mm (six inch) square.
 2. Hardware, including hinges, door and drawer pulls, drawer slides, locks, door catches, etc.
- D. Shop Drawings (1/2 full size):
 1. All casework, showing plans, elevations, sections and details of construction, including materials, hardware and accessories.
 2. Fastenings and method of installation.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Do not deliver casework until all painting, wet work, grinding, finishing and overhead Work and similar operations which could damage, soil or deteriorate work have been completed.
- B. Protect casework during transit, delivery, storage and handling to prevent damage, soiling and deterioration. Keep covered with polyethylene film or other protective covering.
- C. Store casework in a dry location of the building, out of the way of other construction activities.
- D. Handle casework with care so as not to damage surfaces or subject the cases to stress.

1.06 PROJECT CONDITIONS

- A. Coordinate with plumbing, mechanical, and electrical Work and Government furnished equipment for proper sizing, location, and sequence of construction.

- B. All cutouts and holes for plumbing and electrical Work shall be made at the Project site.
- C. Conditioning: Maintain relative humidity planned for building occupants and an ambient temperature between 65-degree F. and 75-degree F. in spaces to receive custom casework for at least seven (7) days before installation, during installation, and for at least seven (7) days after installation. After post-installation period, maintain relative humidity and ambient temperature planned for building occupants.

1.07 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by basic designation only.
- B. American Society for Testing and Materials (ASTM):
 - A167-99 (R2009).....Stainless and Heat-Resisting chromium-Nickel Steel Plate, Sheet and Strip
 - A1008/A1008M-13Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength Low Alloy
- C. Composite Panel Association (CPA):
 - A208.2-09.....Medium Density Fiberboard
- D. U.S. Department of Commerce Product Standards (Prod. Std):
 - PS1-09Construction and Industrial Plywood
- E. Hardwood, Plywood and Veneer Association (HPVA):
 - HP-1-09Hardwood and Decorative Plywood
- F. Architectural Woodwork Institute (AWI):
 - Architectural Woodwork Quality Standards, Guide Specifications Quality Certification Program – 2009
- G. National Electrical Manufacturers Association (NEMA):
 - LD3-05High Pressure Decorative Laminates
 - LD3.1-05Performance, Application Fabrication and Installations of High-Pressure Decorative Laminates

PART 2 - PRODUCTS

2.01 PLASTIC LAMINATE

- A. Standards: Comply with requirements of NEMA LD3.
- B. Exposed decorative surfaces including countertops, both sides of cabinet doors, and for items having plastic laminate finish. General purpose Type HGL.
- C. Cabinet Interiors Including Shelving: Both of following options to comply with NEMA, LD3.1 as a minimum.
 - 1. Plastic laminate clad plywood.
- D. Backing sheet on bottom of plastic laminate covered wood tops. Backer Type BKL.
- E. Post Forming Fabrication, Decorative Surface: Post forming Type HGP.

2.02 PLYWOOD, SOFTWOOD

- A. Prod. Std. PS1, five ply construction from 13 mm to 28 mm (1/2 inch to 1-1/8 inch) thickness, and seven ply for 31 mm (1 1/4 inch) thickness.
 - 1. Exterior Type, any species group.
 - 2. Veneer Grade: A-B or B-C.

2.03 MEDIUM DENSITY FIBERBOARD (MDF)

- A. Conforming to ANSI A208.2; 100% free of formaldehyde as a fabrication component, 48-pcf density.

2.04 STAINLESS STEEL

- A. ASTM A167, with No. 4 finish.

2.05 HARDWARE

- A. Where pin tumbler locks are specified, disc tumbler lock "Duo A", with brass working parts and case, as manufactured by the Illinois Lock Company will be an acceptable substitute. Locks for each type casework, shall be keyed differently and shall be master-keyed for each type service, such as Nurses, Psychiatric, and Administration. Provide two keys for each lock. Exposed hardware, except as otherwise specified, shall be satin finished chromium plated brass or nickel plated brass.
- B. Marking of Locks and Keys:
 - 1. The name of the manufacturer, or trademark by which manufacturer can readily be identified, legibly marked on each lock.
 - 2. The key change number marked on the exposed face of lock, and also stamped on each key.
 - 3. Key change numbers shall provide sufficient information for replacement of the key by the manufacturer.
- C. Hinged Doors:
 - 1. Hinges: Concealed adjustable hinges. Design to match specified numbers, self closing.
 - a. Provide 95-degree opening for cabinet door hinges adjacent to partition.
 - b. Provide 175-degree opening for all other cabinet doors hinges.
 - 2. Fasteners: Provide full thread wood screws to fasten hinge leaves to door and cabinet frame. Finish screws to match finish of hinges.
- D. Door Catches:
 - 1. Friction or Magnetic type, fabricated with metal housing.
 - 2. Provide one catch for cabinet doors 1200 mm (48 inches) high and under, and two for doors over 1200 mm (48 inches) high.
- E. Locks:
 - 1. Cylinder type pin tumbler.
 - 2. Equip doors and drawers where shown with locks.
- F. Drawer and Door Pulls: Stainless steel wire pull, 3 1/2-inch long, matte finish.
- G. Drawer Slides:
 - 1. Full extension steel slides with nylon ball-bearing rollers.
 - 2. Slides shall have positive stop.

3. Equip drawers with rubber bumpers.
- H. Shelf Standards (Except For Fixed Shelves): Bright zinc-plated steel for recessed mounting with screws, 16 mm (5/8 inch) wide by 5 mm (3/16 inch) high providing 13 mm (1/2 inch) adjustment, complete with shelf supports.

2.06 FABRICATION

- A. General:
 1. Fabricate casework in accordance with the specified AWS Grade standards, and as shown on Drawings and accepted Shop Drawings.
 2. All units shall have easily cleanable flush interiors.
 3. Shop-fabricate casework in whole units or in partial units as most practical for handling and transportation. Assemble partial units in place in such manner that each piece of casework becomes a unified whole visually and structurally. Fabricate fillers and scribe strips of same materials and finishes as cabinets with which they are associated.
 4. Fabricate all casework with plywood core and NO SUBSTITUTION, except otherwise specified. Use of particle board for casework shall be rejected.
 5. 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 casework. Notify Architect of discrepancies.
 6. Make cuts for hardware and equipment neat and true. Install hardware and fit securely.
 7. Adjust drawers, doors, and movable shelves to operate easily and smoothly without binding.
- B. Base, Wall Hung and Full Height Cabinets:
 1. All cabinets shall be Style A (frameless), consisting of multiple self-supporting units fastened together to form a larger unit, in accordance with AWS Standards, Premium Grade, unless otherwise shown.
 2. Removable Backs: Provide removable back for all knee spaces and base cabinets which with adjustable shelves for all cabinets.
 - a. All exposed and semi-exposed surfaces shall have plastic laminate finish, unless otherwise shown on Drawings and specified herein.
 - b. Exposed Interior Surfaces: Interiors of open cabinets and cabinets with glass doors shall match the exposed laminate. Interior faces of cabinet doors and drawer fronts shall match exposed faces.
 - c. Pattern and color of plastic laminate finish for all semi-exposed surfaces shall be selected by the Architect from manufacturer's standard colors, unless otherwise noted.
 3. Doors and Drawers:
 - a. Solid Swinging Doors: AWS Cabinet Door Type "A." 3/4-inch thick, medium density fiberboard core with plastic laminate edge banding on all four (4) sides. Use of PVC edge banding will not be acceptable.
 - i. Edge Banding shall be the same pattern and color of plastic laminate as the exposed face of the door.
 - ii. Interior face of door shall be faced with the same pattern and color of plastic laminate as the exposed face.
 - iii. Each door shall close against two rubber bumpers.
 - b. Hinges: As per manufacturer's recommendation, minimum two (2) hinges for doors under 40-inch in height; three (3) hinges for doors 40-inch to 60-inch in height; four (4) hinges for full height doors.
 - c. Door Latches: As per manufacturer's recommendation, minimum one (1) latch per door.

- d. Drawer Fronts: Same construction as solid swinging doors.
- e. Drawer Boxes: Sides and ends to be solid hardwood or seven (7) or nine (9) ply hardwood plywood with no internal voids. Doweled construction. Drawer bottoms to be hardwood plywood. Factory finish drawer boxes with one coat of sealer and one top coat.
- 4. Adjustable Shelves: Plastic laminate finish over 1-inch thick plywood core. Apply plastic laminate to all surfaces.
 - a. Screw all shelves to shelf supports. Locations of adjustable shelves to be directed by Stanford University.
- 5. Keying: Provide two keys for each lock.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Make all field measurements, and verify all dimensions prior to installation. Accurately fit all casework and components.
- B. Verify that surfaces and spaces to receive casework are satisfactory for installation. If unsatisfactory conditions exist, do not commence installation until such conditions have been corrected.
- C. Prior to installation of casework, examine shop fabricated work for completion, and complete work as required, including back priming and removal of packing.

3.02 INSTALLATION

- A. Install casework under direct supervision of the casework manufacturer.
- B. Install casework straight, plumb, level and true with no distortions. Shim as required using concealed shims. Where casework abuts other finished work, scribe and apply filler strips for accurate fit with all fasteners concealed where practicable.
- C. Secure base cabinets to floor at toe space with fasteners spaces 16-inch on center; bolt contiguous cabinets together. Secure individual cabinet with not less than two fasteners into floor where they do not adjoin other cabinets.
 - 1. Where required, assemble units into one integral unit with joint flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16-inch.
 - 2. Base cabinets shall be installed so that any one cabinet within a row can be removed or installed without disturbing adjoining cabinet.
 - 3. Provide holes and cutouts for mechanical and electrical work as shown or as directed by trades involved.
- D. Secure all wall hung cabinets to backing plates as shown and scheduled. Anchor, adjust, and align wall hung cabinets as specified for base cabinets.
- E. Secure all full height cabinets to floor at toe space and to backing plates as shown and scheduled.
- F. Provide fillers and scribe strips so that cabinet fronts, and sides present finished and unbroken surface to adjacent cabinet units or partitions. Cut scribe strips so that no gap greater than 1/16-inch exists where casework is fitted against flat or irregular surfaces.

- G. Sealant Application:
 - 1. Seal countertops at wall with sealant as specified in Section 07 92 00, Joint Sealant.
 - 2. Casework installer supervisor shall field check each sealant application for total seal.

3.03 ADJUSTMENT, CLEANING, AND PROTECTION

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

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