

SECTION 12 32 00

MANUFACTURED WOOD CASEWORK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies plastic laminate casework as detailed on the drawings, including related components and accessories required to form integral units. Each like item of casework shall be of the same design and by one manufacturer.
- B. Where shown, provide plastic laminate casework items.
 - 1. Base cabinets as shown in drawings.
 - 2. Cabinets and counters as shown in drawings.
 - 3. Plastic laminate covered countertops for casework as shown in drawings.
 - 4. Removable access panels as shown in drawings.
- C. Where shown, provide wood veneer casework items as follows:
 - 1. Wall cabinets, base cabinets and wardrobes.
 - 2. Sink basin frames and removable access panels.
 - 3. Custom cabinetry.

1.2 RELATED WORK

- A. Color and Finish of Plastic Laminate: Refer to project drawings.
- B. Lavatories and Plumbing in Casework: Section 22 40 00, PLUMBING FIXTURES.

1.3 MANUFACTURER'S QUALIFICATIONS

- A. The fabrication of casework shall be by a manufacturer who produces casework similar to the casework specified and shown.

1.4 SUBMITTALS

- A. Submit in accordance with Section `01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's Literature and Data:
 - Sinks, trim and fittings.
 - Locks for doors and drawers
 - Adhesive cements
- C. Samples:
 - Counter top, plastic laminate, 150 mm (six inch) square
- D. Shop Drawings (1/2 full size):
 - 1. All casework, showing details of construction, including materials, hardware and accessories.

2. Cabinets and counters showing faucets in connection with sink bowls, and electrical fixtures and receptacles which are mounted on cabinets and counters.
3. Fastenings and method of installation.

1.5 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 (R2004).....Stainless and Heat-Resisting chromium-Nickel Steel Plate, Sheet and Strip
 - A1008-07.....Steel, Sheet, Cold-Rolled, Carbon, Structural, High Strength Low Alloy
 - C1036-06.....Flat Glass
- C. Composite Panel Association (CPA):
 - A208.1-99.....Particleboard
- D. U.S. Department of Commerce Product Standards (Prod. Std):
 - PS1-95.....Construction And Industrial Plywood
- E. Hardwood, Plywood and Veneer Association (HPVA):
 - HP.1-04.....Hardwood and Decorative Plywood
- F. Architectural Woodwork Institute (AWI):
 - Architectural Woodwork Quality Standards, Guide Specifications Quality Certification Program - 1999
- G. American Society of Mechanical Engineers (ASME):
 - A112.18.1-05.....Plumbing Fixture Fittings
- H. National Electrical Manufacturers Association (NEMA):
 - LD3-05.....High Pressure Decorative Laminates
 - LD3.1-95.....Performance, Application Fabrication and Installations of High-Pressure Decorative Laminates
- I. Hardwood Plywood and Veneer Association
 - HP-1.....Hardwood and Decorative Plywood

PART 2 - PRODUCTS

2.1 - MATERIALS

- A. General:
 1. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.
 2. Particleboard: ANSI A208.1, Grade M2 Exterior Glue.

3. Medium-Density Fiberboard: ANSI A208.2, Grade MD Exterior Glue.
4. Hardboard: AHA A135.4, Class 1 Tempered.
5. Plastic Laminate: High-pressure decorative laminate complying with NEMA LD 3.
 - a. Fire Test Response Characteristics: Flame spread rating of 75 or less and smoke developed of 450 or less, bonded or unbonded, when tested in accordance with ASTM E 84.
6. Edgebanding for Plastic Laminate: Rigid PVC extrusions, through color with satin finish, 3 mm thick at doors and drawer fronts, 1 mm thick elsewhere.
- B. Exposed Cabinet Materials:
 1. Plastic Laminate: Type VGS.
 - a. Unless otherwise indicated, provide plastic laminate for exposed surfaces.
- C. Provide plastic laminate for doors and drawer fronts and where indicated. Semiexposed Cabinet Materials:
 1. Plastic Laminate: Type VGS.
 - a. Provide plastic laminate for semiexposed surfaces, unless otherwise indicated,.
 - b. Provide plastic laminate for interior faces of doors and drawer fronts and where indicated.
- D. Concealed Cabinet Materials:
 1. Plastic Laminate: Type BKL.

2.2 DESIGN, COLOR, AND FINISH

- A. Design: Provide institutional casework of the following design:
 2. Flush overlay with wire pulls.
- B. Plastic-Laminate Colors, Patterns, and Finishes: As selected by Architect from plastic-laminate manufacturer's full range of available colors.
- C. Plastic-Laminate-Faced Cabinet Construction:
 1. Bottoms and Ends of Cabinets, Shelves, and Tops of Wall Cabinets and Tall Cabinets: (19-mm) 3/4-inch particleboard, plastic-laminate faced on all exposed and semi-exposed surfaces.
 2. Backs of Cabinets: (12.7-mm) 1/2-inch particleboard, plastic-laminate faced on exposed surfaces, melamine faced on semiexposed surfaces.
 3. Drawer Fronts: (19-mm) 3/4-inch particleboard, plastic-laminate faced on both sides.
 4. Drawer Sides and Backs: (12.7-mm) 1/2-inch solid wood or plywood, with glued dovetail or multiple-dowel joints.
 5. Drawer Bottoms: (6.4-mm) 1/4-inch plywood glued and dadoed into front, back, and sides of drawers. Use 1/2-inch (12.7-mm) material for drawers more than (600 mm) 24 inches wide.
 6. Doors: (19-mm) 3/4-inch particleboard or medium-density fiberboard, plastic-laminate faced on both sides.

- D. Base Molding: ASTM F 1861, Rubber - (100 mm) 4 inches high. Provide on fronts and exposed sides of floor-mounted casework. Refer to project drawings for schedule of finishes and color selection.
 - 1. Style: B, cove with top-set toe.
- E. Filler Strips: Provide as needed to close spaces between cabinets and walls, ceilings, and indicated equipment. Fabricate from same material and with same finish as cabinets.

2.4 CASEWORK HARDWARE

- A. Hardware, General: Provide manufacturer's standard satin-finish, commercial-quality, heavy-duty hardware complying with requirements indicated.
 - 1. Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.
- B. Butt Hinges: Chrome-plated, semi-concealed, 5-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide 2 hinges for doors less than (1220 mm) 48 inches high and 3 hinges for doors more than (1220 mm) 48 inches high.
- C. Pulls: Solid aluminum wire pulls, fastened from back with two screws. Provide 2 pulls for drawers more than (600 mm) 24 inches wide.
- D. Door Catches: Zinc-plated, nylon-roller spring catch or dual, self-aligning, permanent magnet catch. Provide 2 catches on doors more than (1220 mm) 48 inches high.
- E. Drawer Slides: Zinc-plated, metal-channel, self-closing drawer slides, designed to prevent rebound when drawers are closed, with nylon-tired, ball-bearing rollers, and complying with BHMA A156.9, Type B05091, and rated for the following loads:
 - 1. Box Drawer Slides: (440 N) 100 lbf.
 - 2. File Drawer Slides: (890 N) 200 lbf.
 - 3. Pencil Drawer Slides: (200 N) 45 lbf.
 - 4. Keyboard Slide: (330 N) 75 lbf.
 - 5. Trash Bin Slides: (440 N) 100 lbf.
- F. Drawer and Cupboard Locks: Cylindrical (cam) type, 5-pin tumbler, brass with chrome-plated finish, complying with BHMA A156.11, Grade 1.
 - 1. Provide a minimum of two keys per lock and six master keys
 - 2. Provide locks on all doors and drawers.
 - 3. All doors and drawers to be keyed alike with one classroom.
- G. Adjustable Shelf Supports: Mortise-type, zinc-plated steel standards and shelf rests complying with BHMA A156.9, Types B04071 and B04091.
- H. Chain Stops: Manufacturer's standard stainless steel. Adjust length to prevent touching adjacent wall or cabinets.
 - 1. Chain Stops to be installed in new and existing casework.

2. No Chain Stops to be placed on wardrobe cabinets that are not adjacent to a wall, cabinets, or any obstructions that could damage the doors of the cabinet.
3. Chain Stops will be installed on wardrobe cabinets that are adjacent to walls, additional wardrobes, or adjacent upper and lower cabinets.
4. Chain Stops will be installed on upper and lower cabinets that are installed adjacent to wardrobe cabinets or a wall. No other Chain Stops to be installed on the upper and lower cabinets unless directed by the Program Provider.

2.5 COUNTERTOPS

- A. Countertops, General: Provide smooth, clean exposed tops and edges in uniform plane free of defects. Provide front and end overhang of (25 mm) 1 inch over base cabinets.
- B. Plastic-Laminate Tops: Plastic-laminate sheet, shop bonded with waterproof glue to both sides of (29-mm) 1-1/8-inch plywood or particleboard. Sand surfaces to which plastic laminate is to be bonded.
 1. Plastic-Laminate Type for Flat Tops: HGS.
 2. Plastic-Laminate Type for Formed Tops: HGP.
 3. Plastic-Laminate Type for Backing: BKL.
 4. Provide 3-mm PVC edging on front edge of top, on top edges of backsplashes and end splashes, and on ends of tops and splashes.
 5. Construct top and backsplash from one piece of plastic laminate with rolled edges and coved intersection. Where indicated, provide separate end splashes fitted to top.

2.6 WALL SHELVING

- A. Plastic-Laminate Shelving: Plastic-laminate sheet, Type HGL or HGP, shop bonded with waterproof glue to both sides of (19-mm) 3/4-inch plywood. Sand surfaces to which plastic laminate is to be bonded.
 1. Shelf Thickness: (19 mm) 3/4 inch or as indicated.
 2. Edge Treatment: Finish both edges with rigid PVC T-molding, through color with satin finish rigid PVC extrusions, through color with satin finish, 3 mm thick.
- B. Adjustable Shelf Supports: Zinc-plated steel standards and shelf brackets, complying with BHMA A156.9, Types B04102 and B04112, mortise type.

2.7 FABRICATION

- A. Casework shall be of the flush overlay design and, except as otherwise specified, be of premium grade construction and of component thickness in conformance with AWI Quality Standards.
- B. Fabricate casework of plastic laminated covered plywood or particleboard as follows:

1. Where shown, doors, drawers, shelves, all semi-concealed surfaces shall be plastic laminated.
2. Horizontal and vertical reveals between doors and drawer for reveal overlay design shall be 19 mm (3/4 inch) unless otherwise shown.
- C. Electrical fixtures, receptacles, wiring and junction boxes required for fixtures and receptacles:
 1. For electric receptacles and lighting fixtures installed below or adjacent to wall cabinets or above counter tops, see electrical sections or specifications.
- D. Base:
 1. Provide rubber base with close, flush joints; set with adhesive.
 2. Remove adhesive from exposed surfaces.
 3. Install base at floor line after casework has been accurately leveled.
 4. Rub base to glossy finish.
- E. Countertops:
 1. Countertops, splashbacks, and reagent type shelves shall be plastic laminate factory glued to particleboard (CPA A208.1) core.
 2. Countertops shall be 3/4 inch thick.
 3. Splashbacks and reagent type shelves shall be finished (3/4 inch) thick and be secured to countertops with concealed metal fastenings and with contact surfaces set in waterproof adhesive.
 4. Cover exposed edges of countertops, splashbacks, and reagent type shelves with plastic.

PART 3 - EXECUTION

3.1 INSTALLATION

1.2 CASEWORK INSTALLATION

- A. Install plumb, level, and true; shim as required, using concealed shims. Where institutional casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.
- B. Base Cabinets: Set cabinets straight, level, and plumb. Adjust subtops within (1.5 mm) 1/16 inch of a single plane. Fasten cabinets to partition framing, wood blocking, or reinforcements in partitions with fasteners spaced (600 mm) 24 inches o.c. Bolt adjacent cabinets together with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of (1.5 mm) 1/16 inch.
 1. Where base cabinets are not installed adjacent to walls, fasten to floor at toe space with fasteners spaced (600 mm) 24 inches o.c.

Secure sides of cabinets to floor, where they do not adjoin other cabinets, with not less than two fasteners.

- C. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within (1.5 mm) 1/16 inch of a single plane. Fasten to hanging strips, masonry, partition framing, blocking, or reinforcements in partitions. Align similar adjoining doors to a tolerance of (1.5 mm) 1/16 inch.
 - 1. Fasten through back, near top and bottom, at ends, and not more than (400 mm) 16 inches o.c. with No. 10 wafer-head stainless steel screws and washers through metal backing or metal framing behind wall finish.
- D. Install hardware uniformly and precisely. Set hinges snug and flat in mortises, unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
- E. Adjust casework and hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

1.3 INSTALLATION OF TOPS

- A. Field Jointing: Where possible make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.
 - 1. Secure field joints in plastic-laminate countertops with concealed clamping devices located within (150 mm) 6 inches of front and back edges and at intervals not exceeding (600 mm) 24 inches. Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.
- B. Secure tops to cabinets with Z-type fasteners or equivalent, using two or more fasteners at each front, end, and back.
- C. Abut top and edge surfaces in one true plane, with internal supports placed to prevent deflection.
- D. Secure backsplashes to tops with concealed metal brackets at (400 mm) 16 inches o.c. and walls with adhesive.
- E. Seal junctures of top, splash, and walls with mildew-resistant silicone sealant or another permanently elastic sealing compound recommended by countertop material manufacturer.

1.4 INSTALLATION OF SHELVING

- A. Securely fasten adjustable shelving supports to partition framing, wood blocking, or reinforcements in partitions.

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- B. Install shelf standards plumb and at heights to align shelf brackets for level shelves. Install shelving level and straight, closely fitted to other work where indicated.

1.5 CLEANING AND PROTECTING

- A. Repair or remove and replace defective work as directed on completion of installation.
- B. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Architect.
- C. Protection: Provide (0.15-mm) 6-mil plastic or other suitable water-resistant covering over countertop surfaces. Tape to underside of countertop at a minimum of (1220 mm) 48 inches o.c. Remove protection at Substantial Completion.

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