

Cabinet Specifications: Plywood Core

(Plywood Substrate for plastic laminate casework)
as manufactured by
Mastercraft Woodworking Co., Inc.

These specifications contain certain optional selections which must be made by the specification developer. These selections are identified with an asterisk [*].

1.00 General**1.01 Scope of Work**

- A. Provide all plastic laminate casework and accessory items as specified herein. Refer to the project plans for specific details and requirements.
- B. General Conditions: The General Conditions, Supplementary General Conditions, Special Conditions and General Requirements apply to all work in this Division. Refer to other Sections, Divisions, and Schedules for work connected to this Section.

1.02 Related Work Specified Elsewhere

- A. General millwork and custom cabinetry unless specified herein or so noted on the project plans.
- B. Rubber, vinyl or other material for finishing cabinet toe kicks.
- C. Locks masterkeyed to room doors and other special locks.
- D. Blocking within walls.
- E. Sinks, plumbing fixtures, electrical and mechanical equipment of all types, and the related installation and service connections thereof.

1.03 Submittals

- A. Submit in accordance with the General, Supplementary, and Special Conditions of the Specifications.
- B. Submit Shop Drawings for approval showing materials, dimensions, details, and sink locations.
- C. Submit samples of colors and hardware cuts as requested by the architect/owner.

1.04 Qualifications

- A. Drawings and specifications are based upon casework as manufactured by Mastercraft Woodworking Co., Inc., 681 Mohrsville Road, Shoemakersville, PA. 19555.
- B. Casework of other recognized institutional casework manufacturers may be considered for approval provided a written request is received within ten (10) days prior to the opening of bids. Casework must conform to design, quality of materials, design intent, workmanship, and exact performance function of casework components and details specified and implied by manufacturer's reference, and as shown on plans.
- C. Manufacturers requesting approval shall submit evidence of at least 5 years experience in the manufacturing of institutional casework for similar projects. Manufacturers shall also show evidence of financial stability, adequate plant capacity to meet schedules, and complete design capability in the form of a comprehensive product catalog and specifications. Sample cabinets, catalogs, and specifications shall be submitted with the written request as well as a list detailing those areas in which their product deviates from this specification. Samples may be retained by the architect until completion of the project for verification of compliance with these specifications.
- D. The opinion and decision of the architect/owner shall be final in the evaluation of the manufacturer's request for permission to bid the project.

2.00 Products

2.01 Materials

A. Laminated Plastics/Finishes:

1. High pressure decorative plastic laminate (HPL); vertical grade (.032) for exterior cabinet surfaces shall meet NEMA standards for vertical grade. HPL for countertops shall be general-purpose grade (.050).
2. Color Selections Available:
 - a. Full range of solid colors, patterns, and woodgrains from Formica, WilsonArt, and Nevamar.
 - b. Allow for up to ten (10) different colors per project.
 - c. Woodgrain selections will run grain vertically on cabinet doors, sides, and finished backs and horizontally on drawer fronts, aprons, and top rails.
 - d. Select only one (1) color per cabinet.
3. Plastic laminate balancing sheet for countertops and concealed surfaces shall be heavy gauge phenolic paper type, brown in color.

B. Particleboard Substrate: shall be of 47 lb. density and balanced construction with moisture content not to exceed 8%. Three-ply construction shall exceed the requirements for its type and classification under Commercial Standard CS-236-66, Federal Specifications LLL-B-800A, and ASTM D 1037-78.

C. Hardboard: shall meet or exceed Commercial Standard CS-251 and Federal Specification LLL-B-00810; board shall be 1/4" thick, tempered, and smooth both faces.

D. Plywood Substrate: shall be natural birch veneer core plywood.

E. Edging:

1. Solid, high impact, homogeneous color polyvinyl chloride (PVC), applied by high speed edgebander with hot melt adhesive and automatically trimmed on all edges for consistent, uniform appearance.

***SELECT ONE**

2. Shadow design for cabinet body edges in almond, black, or gray PVC.
2. SelfEdge design for cabinet body edges in HPL or PVC, color to match HPL of exposed cabinet surfaces.

***SELECT ONE**

3. Shadow design for cabinet doors/drawer fronts in almond, black, or gray PVC.
3. SelfEdge design for cabinet doors/drawer fronts in HPL or PVC, color to match HPL of cabinet doors/drawer fronts.
3. Accent design in 3-mm thick PVC; solid, high impact, homogeneous color; applied by high-speed edgebander with hot melt adhesive and automatically trimmed all edges. Additionally, all edges, including vertical corner edge, receive uniform radius equal to thickness of the edging. Color as selected from manufacturer's standard choices.
3. Continuous, extruded, homogeneous color polyethylene T-edging with barbed leg pneumatically driven into machined groove on door and drawer front edges; door and drawer front corners receive radii to allow tight wrapping of edging with single piece of T-edging. Color of edging is almond, black, or gray.

F. Hardware:

1. Hinges:

***SELECT ONE**

- a. Heavy duty, 5-knuckle institutional hinge; mill ground, hospital tip; fixed pin with all edges eased. Steel is .095" thick; full wrap around design with minimum of nine screw attachment holes. One pair per door to 48" height, one and one half pairs over 48" height. Hinge to accommodate 3/4" thick door and allow 270 degree swing opening. Finish to be gray or black epoxy powder coat finish or brushed chrome-plated finish.
- a. Fully concealed, heavy gauge metal hinge featuring 170 degree swing opening, full 6-way adjustment, demountable for ease of door removal from separate base plates. Hinge to be self-latching to eliminate need for separate catch.

2. Pulls:

***SELECT ONE**

- a. Wire type on 4" centers in black or gray epoxy powder coat finish or brushed chrome-plated finish.
- a. Semi-recessed ABS plastic in almond, black, or gray finish.

3. Drawer Slides:

- a. Standard Drawers: almond color, epoxy coated, wrap around type with positive in-stop, out-stop, and stay-open features. Minimum 100 lb. dynamic load rating.
- b. File Drawers: almond color, epoxy coated, wrap around full extension type with three-member design. Minimum 100 lb. dynamic load rating.
- c. Heavy Duty Drawers: three member, progressive opening side-mount slide; minimum 100 lb. dynamic load rating with zinc plated finish.

4. Catches: magnetic type with dual dowel attachment and adjustable in-out magnet. Provide catch at both top and bottom of each tall cabinet door. Catch not required with concealed hinges.

5. Adjustable Shelf Rest: clear plastic rest with anti-tip tab and projecting dowel for insertion into drilled holes on cabinet sides.

6. Wardrobe Rod: chrome plated 1" diameter steel tube with 1/8" wall thickness; supported with chrome plated steel flanges, fully captured type.

7. Coat Hooks: aluminum wall or undershelf types, in single or double hook styles as required by cabinet design.

8. Molded Tote Trays: high impact polyethylene with card holders, color tan; supported by ribbed polyethylene side rails on 1" centers, color tan.

9. Locks: disc tumbler available keyed alike and masterkeyed; chrome finish; from National Lock.

10. Wheel Casters: swivel casters for mobile cabinets are plate type with ball bearing swivel plate; 5" wheel diameter; minimum 135 lb. load rating per caster.

G. Detailed Construction Requirements

1. Toekick: base and tall cabinet sides shall extend to floor and be notched to form an integral toekick space.

2. Cabinet Tops and Bottoms:

- a. Tall and base cabinet tops and bottoms shall be 3/4" plywood with almond vertical grade HPL on the cabinet interior face and heavy gauge phenolic backer on the concealed face.
- b. Wall cabinet tops and library stack bottoms shall be 1" plywood with almond vertical grade HPL on the cabinet interior face and heavy gauge phenolic backer on the concealed face.
- c. Library stack tops shall be 1" plywood with almond vertical grade HPL on both faces.
- d. Wall cabinet bottoms shall be 1" plywood with almond vertical grade HPL on the cabinet interior face.

***SELECT ONE**

- e. Exterior exposed wall cabinet bottoms shall be almond vertical grade HPL.
- e. Exterior exposed wall cabinet bottoms shall be laminated with HPL, color to match HPL of exposed vertical cabinet surfaces.
- f. Solid subtops shall be furnished on all base cabinets except sink base units.

3. Cabinet Sides:

- a. Wall, tall, and base cabinet sides shall be 3/4" plywood with almond vertical grade HPL on the cabinet interior face and heavy gauge phenolic backer on the concealed face.
- b. Library stack sides shall be 1" plywood with almond vertical grade HPL on the cabinet interior face and heavy gauge phenolic backer on the concealed face.
- c. Exposed faces of cabinet sides shall be laminated with vertical grade HPL.

***SELECT ONE**

- d. Exposed cabinet body edges receive Shadow design in almond, black, or gray PVC.

- d. Exposed cabinet body edges receive SelfEdge design in HPL or PVC, color to match HPL of exposed cabinet surface.
- 4. Fixed and Adjustable Shelves
 - a. Cabinet shelves shall be plywood faced both sides with almond vertical grade HPL; plywood thickness shall be 3/4" for shelves up to 36" in width and 1" for widths greater than 36".
 - b. Library stack shelves shall be 1" plywood faced both sides with almond vertical grade HPL.
 - c. Front leading edge shall be edged with PVC, almond in color.
 - d. Instrument storage shelves shall be 7/8" thick, consisting of 1/8" thick hardboard applied to the upper surface of 3/4" thick plywood. Bottom surface of shelf shall be faced with almond vertical grade HPL. Front leading edge shall receive a metal protective edge.
- 5. Cabinet Backs:
 - a. Standard cabinet backs shall be 1/4" thick plywood faced with almond vertical grade HPL on the cabinet interior face and shall be left raw on the concealed face. The concealed face shall receive a continuous bead of hot melt adhesive at intersection of back with sides and hang rails.
 - b. Hang rails shall be 3/4" plywood and shall be dowelled into cabinet sides.
 - c. Exposed exterior backs shall be 3/4" plywood faced with almond vertical grade HPL on the cabinet interior face and selected color vertical grade HPL on the exposed face.
- 6. Door and Drawer Fronts:
 - a. Door and drawer fronts shall be fabricated from an 11/16" particleboard core laminated on both faces with high pressure laminate. Exposed face color as selected and semi-exposed face almond in color. Doors and drawer fronts shall overlay the cabinet body and establish a 1/8" reveal between pairs of doors, doors and drawer fronts, and multiple drawer fronts on the same cabinet.

***SELECT ONE**

 - b. Shadow design for cabinet doors/drawer fronts in almond, black or gray PVC.
 - b. SelfEdge design for cabinet doors/drawer fronts in HPL or PVC, color to match HPL of exposed cabinet surfaces.
 - b. Accent design in 3 mm thick PVC; solid, high impact, homogeneous color; applied by high speed edgebander with hot melt adhesive and automatically trimmed all edges. Additionally, all edges, including vertical corner edge, receive uniform radius equal to thickness of the edging. Color as selected from manufacturer's standard choices.
 - b. Continuous, extruded, homogeneous color polyethylene T-edging with barbed leg pneumatically driven into machined groove on door and drawer front edges; door and drawer front corners receive radii to allow tight wrapping of edging with single piece of T-edging. Color of edging is almond, black, or gray.
 - c. Framed glass doors shall be 3/4" thick, laminated both sides with high pressure laminate. Glass shall be double strength float and shall be retained in lights with removable glazing. Doors shall be available for both sliding and hinged designs.
 - d. Frameless glass doors for sliding designs shall be 1/4" thick float glass with seamed edges and machined finger pulls.
- 7. Drawers:
 - a. Drawer fronts shall be applied to the front component of a separate drawer box.
 - b. Sides, front, and back of drawer box shall be 3/4" thick solid poplar, joined at the four corners using multiple dovetail joints. Upper drawer side edges shall be bullnosed with the bullnosing stopping approximately 1.1/2" from the joints front and rear.
 - c. Drawer bottom shall be 1/4" plywood and shall be fully captured in the drawer box sides, front, and back in a full dado.

- d. All drawer box joints shall be glued; a continuous glue bead shall be applied in the bottom dado; a minimum of four glue blocks shall be applied to secure the bottom.
 - e. Drawer boxes shall receive a clear protective catalyzed finish.
 - f. Heavy-duty drawer boxes for paper storage or as specified shall receive a 1/2" thick plywood bottom instead of the standard 1/4" thick bottom. All paper drawers shall be fitted with a hood at the rear.
 - g. Drawers shall be fitted with slides as per Section 2.01.F.3.
 - 8. Vertical and Horizontal Dividers:
 - a. As dictated by design, 1/4" dividers shall be tempered hardboard, smooth both faces, eased on leading edge, and shall be secured in cabinet with clear molded plastic clips.
 - b. As dictated by design, 3/4" dividers shall be 3/4" plywood faced both sides with almond vertical grade HPL, and shall be secured in cabinet with either clear plastic clips or wood dowels. Leading edge shall be edged with almond PVC.
 - 9. Cabinet Body Rails:
 - a. Rails shall be 3/4" x 6" full width plywood members faced both sides with heavy gauge phenolic backer. These shall be located behind all door/drawer and multi-drawer reveals so as to close off all reveals. Color of leading edge shall match color of cabinet body edge.
- H. Countertops:
- 1. Countertops shall be 1 1/4" thick solid particleboard core with general purpose HPL (.050) bonded to top surface and heavy gauge phenolic balancing sheet bonded to underside. Exposed edges shall be HPL to match top surface HPL and shall be edged prior to laminating the deck laminate to the core. Splashes shall be butted against edge of countertop, sealed with continuous bead of caulking applied to countertop edge so as to produce a squeeze-out of caulking, and then screwed from concealed side into countertop deck edge. Splashes shall have heavy gauge phenolic balancing sheet on concealed side.
 - 2. Factory applied tops on mobile cabinets and other specialty cabinets shall be 3/4" particleboard with general purpose HPL (.050) bonded to top surface and heavy gauge phenolic balancing sheet bonded to underside. Exposed edges shall be edged to match top surface HPL.
- I. General Construction:
- 1. All cabinet doors, drawer fronts, and exposed sides shall be laminated with vertical grade HPL.
 - 2. Wall cabinet bottoms shall be finished per Section 2.01.G.2.d.
 - 3. Interior surfaces of open cabinets (no doors) such as shelving units, lockers, vertical divider units, and library stacks shall be:
 - *SELECT ONE**
 - a. almond vertical grade HPL. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
 - a. vertical grade HPL to match exposed surfaces. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
 - 4. Interior surfaces of cabinets with solid or framed glass doors shall be:
 - *SELECT ONE**
 - a. almond vertical grade HPL. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
 - a. vertical grade HPL to match exposed surfaces. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
 - 5. Concealed cabinet sides shall be faced with heavy gauge phenolic backer. No raw plywood shall be permitted on cabinet side faces.
 - 6. All cabinet parts shall be accurately machined for quality joints utilizing automatic machinery.
 - 7. Cabinet sides shall be bored to receive dowels for mating with cabinet tops and bottoms. 1/4" back panel shall be housed into cabinet sides, top, and bottom.

8. 3/4" plywood hang rails shall be glued to rear of back and dowelled into cabinet sides.
9. Rear of cabinet back shall receive a continuous bead of hotmelt adhesive to increase overall cabinet integrity and form a moisture and vermin seal.
10. Sink cabinets shall have removable backs to facilitate installation around plumbing rough-ins.

J. Mobile Cabinets:

1. All mobile cabinets shall be designed with a separate angular steel frame base with casters welded at the four corners. The cabinet shall sit upon and be attached to this base so that the base acts as a dolly for moving the cabinet.
2. Tall mobile cabinets (66" high) shall have a steel framing system attached to the steel base so as to prevent racking of the cabinet and provide stability when fully loaded.
3. Tall mobile cabinets (66" high) shall have top surface laminated with vertical grade HPL (.032). All other mobile cabinets shall receive a factory applied top as per Section G.2.
4. All mobile cabinets shall be laminated with HPL on all faces including front, sides, and back.

2.02 Casework Sizing

- A. General-use wall, base, and tall cabinets shall be available in width, height, and depth increments of 1/16" so as to maximize the utilization of available space and accommodate special equipment requirements.
- B. Fillers and scribes at wall terminations shall be no greater in width than 1" unless field conditions necessitate the use of larger sizes.

3.00 Execution

3.01 Coordination

- A. Coordinate work of this section with related work of other sections as necessary to obtain proper installation of all items.
- B. Verify site dimensions of cabinet locations at jobsite prior to fabrication.

3.02 Installation

- A. Storage and Protection: protect casework in transit. Store at jobsite in ventilated area not exposed to extreme temperature and humidity changes. Do not store or install casework in building until all wet work is complete.
- B. Installers: install all casework using experienced installers as authorized by the manufacturer.
- C. Installation Workmanship:
 1. Erect casework straight, level, and plumb. Scribe and closely fit to adjacent work, cutting and fitting around all obstructions.
 2. Install all items complete and adjust all moving parts to operate freely.
 3. Leave all exposed surfaces clean and free of defects at time of final acceptance.
- D. Guarantee: all materials shall be guaranteed for a period of 2 years from defects in material and manufacturing workmanship.
- E. Site Cleanup: remove all debris associated with casework installation including cartons, packing, scraps, sawdust, and packaging materials.