

SPECIFICATIONS: Red Oak Veneer 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 ROV 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 master-keyed 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 materials 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) in vertical grade (.032) as required 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 wood grains from Formica, Wilson Art, Pionite, and Nevamar.
 - b. Allow for up to ten (10) different colors per project.
 3. Plastic laminate balancing sheet for countertops shall be heavy gauge phenolic paper type, brown in color.
 4. Thermally-fused Saturated Melamine Component Panel (MCP)
 - a. Thermoset acid resistant melamine impregnated paper permanently bonded to particleboard substrate.
 - b. Color to be white.
 - c. Applicable standards:

Federal standards.....	FSLP508HK
AST.....	FSL-P508HK
USFDA... ..	D-1300-53
THANSI/NEMA.....	LD3-1991
- B. Oak Veneer
1. Red oak veneer shall be mill-applied to a:
***SELECT ONE**
 - a. medium density particleboard core
 - a. 5-7 ply plywood core
 - a. medium density fiberboard core
 - a. for use on component surfaces as defined herein.
 2. Panels shall be available with ROV on one face and melamine on the opposing face.
 3. Veneer grade shall be A, plain sliced, when opposing face is melamine and A-2, plain sliced, when both faces are ROV. The A face shall be utilized for exposed surfaces and the opposing faces shall be for semi exposed or concealed surfaces as defined herein.
- C. Substrate (Core) Material:
1. 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.
 2. Medium Density Fiberboard substrate shall conform to ANSI A208.2 and shall meet the following minimum standards:

Screw holding, face:	355 lbs.
Screw holding, edge:	300 lbs.
Modulus of rupture:	4,500 psi.
Modulus of elasticity:	500,000 psi.
Internal bonds:	100 psi.
 3. Plywood Substrate shall be of multiple band construction with crossbanding to minimize warpage.
- D. 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.

E. Edging:

1. For cabinet body edges:

***SELECT ONE**

- a. SelfEdge design in 1 mm thick PVC, applied by high-speed edge bander with hot melt adhesive and automatically trimmed all edges for consistent, uniform appearance.
- a. SelfEdge design in prefinished ROV 1 mm edging.

2. For doors, drawer fronts:

***SELECT ONE**

- a. SelfEdge design in 1 mm thick PVC.
- a. SelfEdge design in 3-mm thick PVC; solid, high impact, homogeneous color; applied by high-speed edge bander 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. Minimum of 30 selections.
- a. SelfEdge design in prefinished ROV 1 mm edging.

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 epoxy powder coat, minimum of 12 colors, or plated finish in dull chrome, brass, or antique brass.
- 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:

- a. Wire type on 4" centers. Finish to be epoxy powder coat, minimum of 12 colors, or plated finish in dull chrome, brass, or antique brass.

3. Drawer Slides:

- a. Standard Drawers: white 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: white color, epoxy coated, wrap around full extension type with three-member design. Minimum 100 lb. dynamic load rating.
- c. Heavy Duty Drawers: Alfit 4000 series, 250-lb. load rating. To be utilized in all paper storage drawers and all drawers designated as heavy duty.

4. Catches: magnetic type with dual dowel attachment and adjustable in-out magnet. Provide two catches at each tall cabinet door. Catch not required with concealed hinges.

5. Adjustable Shelf Rest: high-strength plastic rest with anti-tip feature and dual projecting dowels for insertion into drilled holes on cabinet sides. Color to be clear.

6. Wardrobe Rod: chrome plated oval heavy-duty steel tube; supported with chrome plated steel flanges, fully captured type.

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

8. Molded Tote Trays: high impact polyethylene with cardholders, color tan; supported by ribbed polyethylene side rails on 1" centers, color tan.
 9. Locks: disc tumbler with removable core, available keyed alike and Master keyed; chrome finish; from National Lock. [Remove-A-Core Series]
 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.
 11. Removable file holder extrusion for Pentaflex files to be provided on all file drawer sides; color white.
- G. Detailed Construction Requirements
1. Toe kick:
 - *SELECT ONE**
 - a. Base and tall cabinet sides shall extend to floor and be notched to form an integral toe kick space. Toekick board shall be dowelled between cabinet sides and be suitable for application of base molding.
 - a. Base and tall cabinets shall rest on exterior grade plywood feet and shall have an exterior grade plywood toe kick so as to form a plywood footprint, eliminating any contact of particleboard with the floor. Toekick board shall be dowelled between sides.
 2. Cabinet Tops and Bottoms:
 - a. Tall and base cabinet tops and bottoms shall be MCP (see 2.01.A.4), white in color, and 3/4" in thickness.
 - b. Wall cabinet tops shall be MCP, white in color, and 1" in thickness.
 - c. Wall cabinet bottoms shall be white MCP on interior surfaces, ROV on exterior surfaces, and shall be 1" in thickness.
 - d. Solid sub-tops shall be furnished on all base cabinets except sink base units.
 3. Cabinet Sides:
 - a. Interior surfaces of wall, tall, and base cabinet sides shall be MCP, white in color, and 3/4" in thickness.
 - b. Exposed faces of cabinet sides shall be ROV.
 - c. Concealed faces of cabinet sides shall be MCP.
 - *SELECT ONE**
 - d. Exposed cabinet body edges receive SelfEdge design in 1 mm PVC.
 - d. Exposed cabinet body edges receive SelfEdge design in prefinished ROV 1 mm thick.
 4. Fixed and Adjustable Shelves:
 - a. Cabinet shelves behind solid doors and drawer fronts shall be MCP, white in color, and 3/4" in thickness up to 30" wide. Over 30" in width, thickness shall be 1". All open (no doors) cabinets shall receive 1" thick shelves regardless of width.
 - b. Front leading edge shall be edged with PVC, white in color.
 - c. Instrument storage shelves shall be 7/8" thick, consisting of 1/8" thick tempered hardboard applied to the upper surface of 3/4" thick white MCP. Front leading edge shall receive a high impact protective edge attached without the use of mechanical fasteners.
 5. Cabinet Backs:
 - a. Standard cabinet backs behind solid doors and drawer fronts shall be 1/4" thick MCP (see I.3 option). Rear, unexposed face of back 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" in thickness and doweled into cabinet sides.
 - c. Exposed surfaces of finished back panels shall be 3/4" thick MCP with ROV on the exposed face.

6. Door and Drawer Fronts:
 - a. Door and drawer fronts shall be fabricated from a particleboard core with ROV on both faces and shall be 3/4" thick veneered on both faces with ROV. 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. SelfEdge design for cabinet doors/drawer fronts in 1 mm thick PVC.
 - b. SelfEdge design in 3 mm thick PVC; solid, high impact, homogeneous color; applied by high-speed edge bander 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. Minimum of 30 selections.
 - b. SelfEdge design for cabinet doors/drawer fronts in prefinished ROV 1 mm edging.
 - c. Framed glass doors shall be 3/4 " thick, veneered both sides with ROV. Glass shall be safety glass and shall be retained in openings 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 safety 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 5/8" thick MCP on MDF core, white in color. Drawer box shall be joined with wood dowels. Drawer box edges shall be edged with white PVC.
 - c. Drawer bottom shall be 1/4" thick and shall be housed (fully-captured) into front, back, and sides. A continuous hot melt glue bead shall be run around perimeter on drawer underside. Stiffeners shall be applied at a minimum of 9" on center.
 - d. Heavy duty drawer boxes shall utilize 3/4" MDF core for sides, front, and back. MDF to be laminated with white vertical grade HPL; edges shall be edged with white PVC. Drawer bottom shall be 1/2" plywood laminated with white HPL and shall be fastened to drawer box so as to accommodate Alfit 4000 Series slides.
 - e. Paper drawers shall be fitted with a hood at the rear.
 - f. Drawers shall be fitted with slides as per Section 2.01.F.3c.
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 white MCP, faced two sides, and shall be secured in cabinet with either clear plastic clips or wood dowels. Leading edge shall be edged with white PVC.
9. Cabinet Body Rails
 - a. Rails shall be 3/4" x 6" x full width white MCP horizontal members behind all door/drawer and multi-drawer reveals so as to close off all reveals. Leading edge shall match cabinet body edge.
 - b. Rails shall be dowelled into cabinet body sides.

H. Countertops

1. Countertops shall be 1 1/4" thick solid particleboard core with general purpose HPL bonded to top surface and heavy gauge phenolic balancing sheet bonded to underside. Exposed edges shall be HPL to match top surface HPL. 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" thick particleboard with general purpose HPL 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 body parts shall be selected core material with surfaces finished as described in section F herein.
2. Wall cabinet bottoms shall be finished per Section G.2.d.
3. Interior surfaces of open cabinets (no doors) such as shelving units, lockers, and vertical divider units shall be:
***SELECT ONE**
 - a. White MCP. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
 - a. ROV. 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. White MCP. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
 - a. ROV. Interior surfaces shall include those on tops, bottoms, sides, fixed partitions, shelves and backs.
5. Concealed cabinet sides shall be white MCP. No raw core exposure shall be permitted other than concealed edges.
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" thick hang rails shall be doweled into cabinet sides.
9. Rear of cabinet back shall receive a continuous bead of hot melt 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 veneered with ROV. All other mobile cabinets shall receive a factory-applied top as per Section H.2.
4. All mobile cabinets shall be veneered with ROV on all faces including front, sides, and back.

K. Library Stack Cabinets

1. All library stack units shall be full cabinets with two sides, a top, a bottom, a back, and shelves as required by the cabinet type.
2. All visible surfaces shall display ROV.
3. Edging shall be as selected per 2.01.E.
4. All sides and shelves shall be 1" in thickness.
5. Backs shall be a minimum of 1/4" in thickness.
6. Adjustable shelf rest holes shall be continuously bored on 32 mm centers from 6" above bottom to 6" below top.

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.