

SECTION 06410 – CABINET WORK

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The General Provisions of the contract, including the General Provisions for Construction Projects (2016), Special Provisions, and General Requirements of the Specifications, apply to the work specified in this Section.

1.02 REFERENCES

The latest publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. Architectural Woodwork Institute (AWI)

1. AWI-QS - Architectural Woodwork Quality Standards, Guide Specifications and Quality Certification Program

B. Builders Hardware Manufacturers Association (BHMA)

1. BHMA A156.9 - Cabinet Hardware
2. BHMA A156.11 - American National Standard for Cabinet Locks

C. National Electric Manufacturers Association (NEMA)

1. NEMA LD 3 - High Pressure Decorative Laminates

D. National Hardwood Lumber Association (NHLA)

1. NHLA RMIHC - Rules for the Measurement and Inspection of Hardwood and Cypress Lumber

E. U. S. Department of Commerce Product Standards (PS)

1. PS 1 - Construction and Industrial Plywood

1.03 SUBMITTALS

A. Submit the following in accordance with Section 01300 – SUBMITTALS.

- B. Shop Drawings: Submit drawings showing prefabricated millwork. Include details and erection data associated with the work of other trades, materials and species,

arrangements, profiles of moldings, thicknesses; sizes of parts, construction, fastenings and clearances.

- C. Certificates: Submit certificates from the grading agency on graded but unmarked lumber or plywood (unmarked for reasons of appearance) attesting that these materials meet the grade requirements specified herein. The acceptance of certificates shall in no case jeopardize the Owner's right to have lumber or plywood graded by an independent inspection agency when deemed necessary to assure compliance.
- D. Samples: Submit following for approval prior to fabrication:
 - 1. Plastic laminate, 4-inch square sample of each type and color.
 - 2. Hardwood trim, 6-inch strip of each type.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Deliver lumber, plywood, trim, and millwork to the job site in an undamaged condition. Stack materials to insure proper ventilation and drainage and protect against dampness before and after delivery. Store materials under cover in a well-ventilated enclosure and protect against extreme changes in temperature and humidity. Do not store products in the building until wet trade materials are dry.

1.05 QUALITY ASSURANCE

- A. Lumber: Identify each piece or each bundle of lumber, millwork and trim by the grade mark of a recognized association or independent inspection agency that is certified by the Board of Review, American Lumber Standards Committee, to grade the species.
- B. Plywood: Each sheet of plywood shall bear the mark of a recognized association or independent inspection agency that maintains continuing control over the quality of the plywood. The mark for softwood plywood shall identify the plywood by species group or identification index, and shall show glue type, grade, and compliance with PS 1.
- C. Treatment Wood Products: Treatment of wood products shall be as specified in Section 06070 – WOOD TREATMENT.

PART 2 – PRODUCTS

2.01 MATERIALS

- A. High Pressure Plastic Laminate: High pressure plastic laminate for vertical surface meeting NEMA LD 3, GP 28 for vertical surfaces and backing sheets, GP 50 or PF 42 for countertops. Texture surface selected from minimum of 25 solid and 8 wood grain patterns.
- B. Hardwood: White or red oak, FAS, kilned dried, graded in accordance with National Hardwood Lumber Association (NHLA).
- C. Plywood: PS-1, Exterior type, A-B medium density overlay, 3/4 inch thick, typical for base cabinets and wall cabinet cores. At Contractor's option moisture resistant hybrid core, manufactured from pre-consumer wood residuals for maximum utilization of timber resources with formaldehyde free synthetic resin binder may be provided; minimum physical characteristics as follows:

Density: (768 kg/m³) 45 pcf

Face Screw Holding - (2.2 MPa) 325 psi.

Edge Screw Holding - (1.9 MPa) 275 psi.

Modulus of Rupture - (38 MPa) 5,600 psi.

- D. Prefinished Hardboard: Factory prefinished tempered hardboard, 1/4 inch thick. Face smooth, uniform, free from defects putty color, to match cabinet interior. Opposite face prefinished with balance coating.
- E. Particle Boards: Particle board, flakeboard, or fiberboard shall not be used for any cabinet components, except for boards with formaldehyde free synthetic resin binder.

2.02 FABRICATION

- A. Workmanship shall be in accordance with AWI "Architectural Woodwork Quality Standards, Guide Specification and Quality Certification Program," Sections 400, 1300 and 1600, Premium Grade, as applicable and as specified herein.
 - 1. Cabinet Front and Drawer Style: Flush overlay.
 - 2. Veneer Type: Plain sliced red oak.
 - 3. Grain Pattern: Vertical matched.
 - 4. Stains: Natural, chemical resistant acrylic urethane.

5. Cabinet Core: Veneer core hardwood plywood.
6. Cabinet Top Frame: Full top frame (front and rear horizontal rails plus side rails).
7. Intermediate Rails: With front for locks.
8. Shelf Depth: Split depth to provide maximum storage flexibility.
9. Shelf Thickness: $\frac{3}{4}$ inch thick, 60 pound rating.
10. Drawer Construction: Multiple dovetailed, or chuck and bore drawer box joinery.
11. Drawer Suspension: Full extension epoxy coated, 90 pound, telescoping ball bearing suspension.
12. Drawer/Door Pulls: Stainless steel wire finger pulls.
13. Door Hinges: Concealed self closing type, 170 degree swing.
14. Locks: BHMA A156.11, national five pin, both ends finished. All lockable cabinets within a room shall be keyed alike.
15. Shelf Clips: Plated pin and socket.
16. Cabinet Hardware: BHMA A156.9, BHMA 630. Provide items not normally manufactured in stainless steel in BHMA 626 finish (satin chromium plated) over brass or bronze.

B. Component Construction, Base Units

1. End Panels: $\frac{3}{4}$ inch plywood (7-ply veneer core) with plastic laminate edge banding.
2. Front Top Rail: 1" x 3" hardwood.
3. Vertical Back Top Rail: $\frac{3}{4}$ " x 3-3/4" plywood.
4. Side Rail: $\frac{3}{4}$ " x 1-1/2" plywood.
5. Intermediate Rail: $\frac{3}{4}$ " x 1-1/2" plywood.
6. Toe Space Rail: $\frac{3}{4}$ " x 3-3/4" plywood.

7. Base Unit Bottom: 3/4" plywood with plastic laminate edge banding.
8. Base Unit Cupboard Backs: Removable 1/4" hardboard.
9. Vertical Dividers: 1-1/2" plywood with plastic laminate edge banding.
10. Shelves: 3/4" plywood with plastic laminate edge banding.
11. Doors: Flush overlay, 3/4" thick 3-ply solid core plywood with plastic laminate finish.
12. Drawer: Four sided drawer box with 1/2" thick plywood sides and 1/4" thick drawer bottom with plastic laminate finish.

C. Component Construction, Wall Cabinets

1. Case End Panels: 3/4" plywood with plastic laminate edge banding.
2. Case Top Panels: 3/4" plywood with plastic laminate edge banding.
3. Case Bottom Panels: 3/4" 7-ply veneer core plywood with plastic laminate edge banding.
4. Case Back Panels: 1/4" plywood.
5. Doors: Flush overlay, 3/4" thick 3-ply solid core plywood with plastic laminate finish.

D. Cabinet Hardware

1. Doors: BHMA A156.9, B01602. Provide two concealed self-closing hinges, 95 degrees opening, self closing; and 3/8" diameter wire type pull, 3-1/2" wide, projects 1-1/4" for each door.
2. Drawers: BHMA A156.9, B85052. Provide two side-mounted metal drawer slides; and 3/8" diameter wire type pull, 3-1/2" wide, projects 101/4" for each drawer.
3. Shelves: BHMA A156.9, standards, B84072, and supports, B84082.
4. Finish for Cabinet Hardware: BHMA 630, satin stainless steel for exposed surfaces.

- E. Desks: Fabricate to details as indicated. Plastic laminate on ¾ inch plywood, top and edges, 2x ledger, mounted on metal studs, 5/8 inch gypsum board, wood base as indicated. Paint finish as indicated.
- F. Counters: Fabricate to details as indicated. Plastic laminate on ¾ inch plywood, top and edges, 2x ledger, mounted on ¾ inch thick plywood with plastic laminate finish, wood base as indicated.

2.03 FINISHES

- A. Transparent Finish: AWI factory finish System #5 (catalyzed polyurethane), premium grade, medium stain or light stain, medium rubbed sheen, open effect. The desired final appearance of the finished wood shall determine the stain and filler and their methods of application. Sets of samples shall be submitted for approval. If the wood species or finish method selected indicates that color variations may be inevitable, the Contractor shall submit samples in sets of two or more, illustrating the possible range of these variations. The finished sample or sample sets selected by the Engineer shall then become the final criteria for evaluating color and finish appearance conformity.
- B. High Pressure Laminate Finish: Self-edges shall be applied before top sheets, trimmed flush with core on bottom, beveled and filed smooth on top. All exposed edges shall be finished to match the top surface. Edges of plastic surface shall be beveled at an approximate 60 degree angle to eliminate sharp corners. Bond plastic laminate under pressure to plywood with contact adhesive. Provide sections in the longest lengths practicable; keep joints to a minimum. Where joints are necessary, provide tight hairline joints. Plastic laminate shall be free of glue, paint, handling and tool marks.

PART 3 – EXECUTION

3.01 INSTALLATION

- A. Arrange and locate components as indicated. Install all items, including connections to utilities as required for proper operation. Secure components in place in true alignment, level, and plumb, and install so that the work of other trades will not be damaged during installation. Secure units to cleats anchored to building structure with toggle or expansion bolts. Countertops, vanity tops and shelving shall be properly supported to prevent sagging. Install wall-hung cabinets in such manner as to firmly and rigidly support the weight of the cabinets plus the normally expected weight of the contents of the cabinets. Set floor-mounted cabinets on a common base or integral base, in assemblies up to 1800 mm in length where located in rooms having concrete or resilient flooring. Join together adjoining cabinets in an assembly at top and bottom of front and back with bolts placed inconspicuously inside

cabinets. Seal openings in the work between casework and wall surfaces due to irregularity of surfaces flush with sealants as specified in Section 07900 – SEALANTS. Install standing-height countertops and vanity tops so that working surface will be 34 inches above finished floor, unless otherwise indicated. Where required, provide toe space at front of cabinets by installing front face of cabinets 3 inches in front of face of base. Where toe space is not required, face of base and cabinets shall be flush.

3.02 CLEAN UP

- A. Finished surfaces shall be left free from grease, dirt, or other foreign materials. Upon completion of the installation, remove surplus materials, rubbish and debris resulting from installation work.

PART 4 – MEASUREMENT AND PAYMENT

4.01 BASIS OF MEASUREMENT AND PAYMENT

- A. Work under this section will not be measured nor paid for separately, but shall be considered incidental to and included in the price bid for the various items of work in this project.

END OF SECTION