

Montgomery County Public Schools Facilities Guide

DIVISION 12 – FURNISHINGS

SECTION 12345

LABORATORY CASEWORK

PART 1 GENERAL

1.01 GUIDE INCLUDES

- A. Casework for typical laboratory classroom.

1.02 RELATED SECTIONS

- A. Section 06400 "Architectural Woodwork" for millwork.
- B. Section 12340 "Educational Casework" for typical classroom casework.
- C. Section 12350 "Media Center Furnishings" for IMC (Instructional Media Center) casework and book shelving.

1.03 QUALITY ASSURANCE

- A. Only manufacturers listed are acceptable (see below)
- B. Installer shall be specialized in installing casework for a minimum of five years and acceptable to manufacturer.
- C. Verify dimensions of spaces by field check measurements. Verify sizes and shapes of counter tops and fillers required for a finished installation.
- D. Cabinet Standard: AWI Section 1600.
- E. Countertop Standard: AWI Section 400C.

1.04 WARRANTIES:

- A. Warrant components of casework against defects of material and workmanship for at least three years from date of Substantial Completion.

1.05 SUBMITTALS:

- A. Submit shop drawings.
- B. Submit full size sample of typical cabinet (sample may be incorporated into final work if in good condition). Owner has the right to take one cabinet unit (selected at random) off-site for destructive testing. Contractor shall replace this unit at no extra cost to Owner.
- C. Submit manufacturer's certification that composite wood products, agrifiber products and field-applied adhesives and sealants installed in building interior meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.
- D. Submit certification of application of borate treatment to woodwork in contact with slab.
- E. Submit MSDS for applicable products used.
- F. Submit recycled-content data, designating percentages of post-consumer and pre-consumer recycled materials if applicable.
- G. Submit rapidly renewable content data if applicable.
- H. Submit FSC-certification with chain-of-custody for all wood-based materials, if applicable.

PART 2 PRODUCTS

2.01 MANUFACTURERS:

- A. Campbell-Rhea
- B. Kewaunee Scientific
- C. Collegedale
- D. No other manufacturers shall be acceptable unless prior approval is obtained in accordance with Section 01630 - "Substitutions".

2.02 CASEWORK DESIGN:

- A. Cabinets:
 - 1. 3/4 inch thick plywood cabinet end panels.
 - 2. 1 inch x 3/4 inch hardwood facing.
 - 3. Glue end panels to top, bottom and all intermediate frames utilizing blind mortise and tenon joints, and counter sunk screws.
 - 4. 3/16 inch thick cabinet back rabbeted into end panels.
 - 5. 2 1/2 inch x 4 inch high toe space.
 - 6. 1/2 inch thick plywood bottoms.
 - 7. Cupboard, sink and fume hood bottoms; 1/4 inch thick tempered hardboard over 3/4 inch bottom frame, removable to allow access to floor area but designed to protect the interiors from dust or vermin.
- B. Drawers:
 - 1. 7/16 inch thick, 7 ply, plywood drawer sides with a 3/4 inch thick solid wood core, veneer drawer front.
 - 2. 1/8 inch thick tempered hardboard drawer bottom, set and glued into 1/4 inch grooves, four sides.
 - 3. Glue and dove-tailed type joints on all drawers over 3 inches in depth, a mortise and tenon joint for shallow drawers.
- C. Chemical Content; Materials used shall be nontoxic when exposed to heat or flame.
- D. Plywood tape shall not be allowed.
- E. Wall hung units: When mounted on a wall and loaded with 25 psf on horizontal surfaces, wall hung units shall resist lateral force applied at bottom of cabinet parallel to long dimension of cabinet of 300 pounds without failure. Each wall hung unit shall safely support uniform load of 600 pounds.
- F. Shelves: Full-width adjustable shelves, 3/4 inch thick, 7 ply poplar plywood with oak banding on exposed edge. 1 inch thick for shelves greater than 36 inches long.
- G. Sub-Base; Cabinet sub-base shall be separate and continuous, water resistant exterior grade plywood with concealed fastening to cabinets. Ladder type construction of front, back and intermediates.

2.03 MATERIALS

- A. Wood Materials, General:
 - 1. Give preference to rapidly renewable and/ or recycled content materials.
 - 2. Composite wood and agrifiber products shall meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.
 - 3. At minimum, products need to comply with VOC limits specified in LEED-for Schools if alternatives tested to CA protocol are not available.
 - 4. Alternate: Wood components shall be FSC-certified as originating from a sustainably harvested forestry operation.
- B. Exposed surfaces - Solid Oak or Oak Veneer
- C. Unexposed surfaces - Solid poplar or Poplar Veneer
- D. Solid Hardwood:
 - 1. Moisture content of 4 1/2 percent
 - 2. Clear, color and graining in conformance with normally accepted standards required by Scientific Laboratory Equipment Industry.
- E. Plywood:

1. Core thickness as required above with crossbands of 1/20 inch poplar.
 2. Exposed surfaces - exterior face of 1/32 inch thick plain sliced Select Grade 1 hardwood and back face of 1/32 inch thick sound hardwood.
 3. Unexposed surfaces - clear hardwood Grade A veneer face with Grade B back.
 4. Plywood shall have high grade clear veneers and assembled with poly-vinyl emulsion glue.
- F. Hardboard:
1. Meet or exceed CPA/ANSI 135.4.
 2. Tempered hardboard 1/4 inch thick minimum - smooth both sides.
- G. Hardware:
1. Hinges; shall be heavy duty, five knuckle 2-1/2 inch institutional type hinge. Mill ground, hospital tip, tight pin feature with edges eased. Hinge to be full wrap around type of tempered steel 0.093 inch thick. Each hinge to have minimum seven screws #8, 5/8 inch F.H.S.M. to ensure positive door action and alignment. One pair per door to 48 inch height. One and on-half pair over 48 inches in height. Hinge to accommodate 3/4 inch thick laminated door, and allow 270 degree swing. Finish to be Satin Chrome.
 2. Pulls; shall be satin chrome wire pull 3-1/2 inch rectangular shaped. Use of plastic pulls (molded or extruded), or design not ADA compliant will not be acceptable.
 3. Flush Pulls; shall be satin finish chrome with recessed finger grip for sliding drawers. Finger holes or slots machined into doors will not be acceptable.
 4. Drawer side glides; Grant #345 or equal by Blum (no center guides). Load capacity of 150 lbs. per pair. File drawer glides to be full extension steel glides with ball bearing nylon rollers.
 5. Catches:
 - a. LH-340 steel magnetic catch for base and wall cabinets. Minimum 6 lb. pull.
 - b. LH-341 steel magnetic catch for tall cabinets. Two per door. Minimum 14 lb. pull per catch.
 6. Adjustable shelf clips; shall be LH-354 heavy duty shelf support clips with positive locking pin for back two supports on all adjustable shelves. Molded of natural nylon. Alternative method of adjustable shelf locking is to rout out bottom of shelf to exact shape and depth of each shelf support so that shelf fits down over supports.
 7. Locks; shall be disc tumbler lock keyed and master keyed as indicated. Dull chrome finish.
 8. Casters; shall be 5 inch heavy duty steel rubber tired casters with brakes at all corners of designated units. If unit width exceeds 3'-0", provide additional casters at 3'-0" o.c. maximum. Install weld pans at underside of units for caster reinforcement.
- H. Adhesives and sealants and termite treatment:
1. Field-applied adhesives and sealants shall meet testing and product requirements of California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.
 - a. At minimum, products need to comply with VOC limits specified in LEED-for Schools if alternatives tested to the CA protocol are not available.

2.04 FABRICATION

- A. Fabricate casework to ensure durable and rigid unit and to permit plumb and level site installation.
- B. Align adjoining units for site assembly modules, to achieve tight, hairline joints.
- C. Prepare units with anchor devices to permit ease of site assembly.
- D. Prepare countertops with tight joints to ensure hairline site joints.
- E. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Seal contact surfaces of cut edges.
- F. Finish exposed ends of laminate units with high-pressure plastic laminate.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Set and secure casework in place rigid, plumb and level.
- B. Use fixture attachments for wall mounted components as recommended by casework manufacturer.
- C. Use threaded steel concealed joint fasteners to align and secure adjoining cabinet units and counter tops.
- D. Permanently secure cabinet and counter bases to floor using appropriate angles and anchorages.
- E. Carefully scribe casework which abuts other building materials, leaving gaps of 1/32 inch maximum. Do not use additional overlay trim for this purpose.
- F. Coordinate casework installation with plumbing and electrical work to be installed within and adjacent casework units.
- G. Coordinate with Division 1 Indoor Air Quality Management requirements.

3.02 STANDARD DETAILS

SEE PROJECT MANAGER FOR STANDARD DETAILS TO COMPLY WITH.

END OF SECTION