

Montgomery County Public Schools Facilities Guide

DIVISION 12 – FURNISHINGS

SECTION 12340

EDUCATIONAL CASEWORK

**PART 1 GENERAL**

1.01 GUIDE INCLUDES

GIVE PREFERENCE TO RAPIDLY RENEWABLE AGRIFIBER AND/ OR RECYCLED CONTENT MATERIALS FOR CASEWORK FOR TYPICAL CLASSROOM USE AS DESCRIBED BELOW.

1.02 RELATED SECTIONS

- A. Section 06400 "Architectural Woodwork" for millwork.
- B. Section 12345 "Laboratory Casework" for science room 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 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 finished installation.
- D. Cabinet Standard: AWI Section 1600.
- E. Countertop Standard: AWI Section 400C.

1.04 WARRANTIES

- A. Warrant components of casework system 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 right to take one cabinet unit (selected at random) off-site for destructive testing. Contractor is to replace this unit at no extra cost to the 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 MSDS for any applicable products used.
- E. Submit recycled-content data, designating percentages of post-consumer and pre-consumer recycled materials, if applicable.
- F. Submit rapidly renewable content data, if applicable.
- G. Submit FSC-certification with chain-of-custody for all wood-based materials, if applicable.

**PART 2 PRODUCTS****2.01 MANUFACTURERS (Subject to strict compliance with design requirements)**

- A. LSI Corporation of America, Inc. - L44 Design; Minneapolis, MN.
- B. Case Systems Inc, Midland MI
- C. Southside Manufacturing Corp.; Danville, VA
- D. Greensteel Institutional Series
- E. Calmar Manufacturing Company
- F. Hamilton Scientific, Inc.; Stevens
- G. Taylor, Div. of American Desk Mfg. Co.; Taylor, TX
- H. No other manufacturers shall be acceptable unless prior approval is obtained in accordance with Section 01350 - "Substitutions".

**2.02 CASEWORK DESIGN**

- A. Cabinet Construction: High-pressure plastic laminate surface finish. Flush Overlay type door/drawer style.
- B. Chemical Content: Materials used shall be nontoxic when exposed to heat or flame.
- C. Wall hung units: When mounted on 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.
- D. Doors and Drawer Fronts: Not less than 1/2 inch thick subfront, back and sides with 3/4 inch thick front.
- E. High-pressure plastic laminate face surface of doors and drawers with 3mm PVC edging.
- F. Shelves: 3/4 inch plywood with high-pressure plastic laminate surfaces top, bottom and edges. 1 inch plywood for shelves greater than 36 inches in length.
- 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. No sides or back can contact floor.
- H. Interior surfaces of open units to match color and material of exterior surfaces.

**2.03 MATERIALS**

- A. High Pressure Plastic Laminate:
  - 1. Vertical Surface; High pressure plastic laminate for exterior cabinet surfaces shall meet NEMA LD-3; CP28 for vertical grade, GP-50 for horizontal grade. Liner - 0.020 inch thick.
  - 2. Counter Top; High pressure plastic laminate, satin or textured finish minimum 0.050 thickness.
  - 3. Balancing Sheet; Heavy gauge high pressure plastic laminate backing sheet shall be textured surface and meet NEMA standards.
  - 4. Color Selection; Select from standard manufacturer's color selections, matte finish.
- B. High Performance Particle Board Core:
  - 1. Engineered board meeting ANSI-A208.1, M-3 Industrial Grade
  - 2. Give preference to rapidly renewable agrifiber and/ or recycled content materials.
  - 3. Alternate: Wood components, shall be FSC-certified as originating from a sustainably harvested forestry operation.
  - 4.
  - 5. ANSI 208.2-2002 Grade 130-MR50 MDF moisture resistance standards.
  - 6. TVOC emission factors that are non-detectable after 48 hours per ASTM D 5116-97.
  - 7. Meet following performance requirements:
    - a. Screw holding, face 225 lbs.
    - b. Screw holding, edge 200 lbs.
    - c. Modulus of Rupture 2,400 psi
    - d. Modulus of Elasticity 450,00 psi
    - e. Internal Bond 60 psi
    - f. Surface Hardness 900 psi
  - 8. 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.

- a. At minimum, products need to comply with VOC limits specified in LEED-for Schools\_if alternatives tested to CA protocol are not available.
- C. Edging Material:
1. Exposed exterior cabinet members shall be edged with a high impact rigid PVC or ABS extrusion, satin finish with a UV cured top coat for additional durability. Edging shall be color and pattern matched to cabinet exterior. Color shall be extruded through entire thickness of material.
  2. Door and drawer fronts shall be edged with PVC 3mm thick.
- D. Hardware:
1. Hinges; shall be heavy duty, five knuckle 2-1/2 inch institutional type hinge. Mill ground, hospital tip, tight pin feature with all 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 assure 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.
  3. 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.
  4. 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.
  5. Adjustable shelf clips; shall be LH-354 heavy duty shelf support clips with positive locking pin for back two supports on 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.
  6. Locks; shall be disc tumbler lock keyed and master keyed as indicated. Dull chrome finish.
  7. Casters; shall be 5 inch heavy duty steel rubber tired casters with brakes at 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.
- E. Countertops:
1. Countertops shall be fabricated from 1-1/8 inch particle board with 3/4 inch, 4 inch high backsplash, above counter. Provide backer sheet on bottom surfaces.
  2. Countertop and backsplash to be finished in high-pressure laminate.
  3. Countertop and backsplash shall be assembled after placement of base cabinets. Backsplash shall be secured to top face of countertop with waterproof sealant.
  4. Exposed surfaces shall be finished with high-pressure plastic laminate, colors as selected by Architect. Provide backer sheet on all unexposed particle board.
  5. Joints in continuous tops shall be minimized as much as possible. Where splice joints are required, they shall be joined with a combination of dowels for alignment and tight joint fasteners to provide a uniform and gapless joint.
  6. Provide pricing alternate for Richlite or Paperstone solid surface countertops.
- F. Adhesives and sealants:
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.

## 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: AWI, SECTION 1700**

- 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 (attach detail sheet)**

SEE PROJECT MANAGER FOR STANDARD DETAILS TO COMPLY WITH.

**END OF SECTION**