

## SECTION 06 41 16

### CABINET WORK AND SHELVING

#### PART 1 GENERAL

##### 1.1 SCOPE:

- A. Furnish labor and materials for fabrication and installation of high-pressure laminate and/or thermally fused laminate (melamine) covered cabinetwork indicated and specified, including cabinet hardware.
- B. Thermoset Solid Polymer (solid surface) (locker restroom shelves)

##### 1.2 RELATED SECTIONS

- A. Section 05 50 00 - Miscellaneous Metals
- B. Section 06 10 00 - Rough-in Carpentry - Blocking
- C. Section 09 65 13 – Rubber Base
- D. Section 10 00 00 - Miscellaneous Specialties

##### 1.3. QUALITY ASSURANCE

- A. All cabinets and millwork to conform to the **Architectural Woodwork Institute (AWI)** quality standards, **Custom Grade** in addition to requirements as specified this section.
- B. Manufactured casework is approved, but must meet requirements as shown on drawings and as specified in this section.
- C. Manufacturers, suppliers and fabricators to have minimum 5 years in the manufacturing and installation of cabinets and millwork.
- D. Subcontractor / supplier providing work under this section will fabricate and install work specified in this section with their company's own installers and fabrication department, employed by the company. **Subcontracting of fabrication and installation will not be allowed unless approved by Architect prior to bid.**
- E. ADA-Americans with Disabilities Act requirements: The special requirements of ADA shall be a requirement of this section and where specifically indicated on drawings in detail or notation. Comply with Federal Register published September 15, 2010, Title II (28 CFR Part 35) and Title III (28 CFR, Part 36), rules and regulations.
- F. Comply with State of Arkansas Adopted ADA Accessible Guidelines in regard to accessible or handicapped features.

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G. Provide balanced construction for all high pressure laminated panels.

#### 1.4 WARRANTY

- A. Provide manufacturer's warranty against defects in materials, fabrication and installation, excluding damages caused by physical or chemical abuse or excessive heat. Warranty shall provide for replacement or repair of material and labor for a period of ten (10) years, beginning at Date of Substantial Completion.
- B. Maintain surfaces in accordance with manufacturer's care and maintenance instructions.
- C. Fabrications shall not have been moved from original place of installation.

#### 1.5 SHOP DRAWINGS

- A. Submit accurately detailed shop drawings to Architect for approval prior to fabrication. Comply with Section 01 33 00 for submittal.
- B. Submit two copies of shop drawings and one reproducible set to Architect.
- C. Samples: Submit thermally fused laminate (melamine), and PVC edging, Wilsonart Coordinated Surfaces for Architect's selection.

#### 1.6 COORDINATION & FIELD VERIFICATION

- A. Cabinet/millwork contractor to be responsible for coordination of installed equipment and fixtures specified in other sections and shown on drawings. Contractor to provide required specifications to cabinet/millwork contractor so he may make provisions for installation and attachment of equipment and fixtures, which are to be installed in cabinets. Contractor is responsible for field verifying accurate field measurements prior to fabrication and placement.

#### 1.7 PRODUCT HANDLING & DELIVERY

- A. No delivery or installation shall be allowed until building is sufficiently dry; and climate controlled to receive such materials without risk or damage to same.

### PART 2 PRODUCTS

#### 2.1 EXPOSED PRE-ASSEMBLED CABINETS: Where indicated on drawings.

- A. Ends and Exposed Partitions: 3/4" thick 47 lb. density particle board with thermally fused laminate (melamine),. Selected TFL may be applied on ends and partitions not exposed to view. Ends are attached to top and bottom by AWI Premium dowelling or with special concealed 1/4" x 3-1/2" knife threaded hex headed screw connectors by Hafele or alternate.

- B. Exposed Edges: Ends, partitions, finished backs, tops, bottoms, sub-tops, shelves, drawer fronts and doors are protected with 3mm P.V.C. banding. Provide custom PVC banding colors to match plastic laminate colors selected on millwork panels or countertops. The bottom edge of the base and tall cabinets finished ends must have 3mm flat PVC banding.
- C. Tops and Bottoms: Minimum 3/4" thick, 47 lb. density particle board with thermally fused laminate (melamine) will be applied when called for on plans. Tops shall be prepped to receive sink clamps. Coordinate with plumbing contractor. Exposed bottoms of wall cabinets to have same material and color as door faces.
- D. Sub-tops: At all base cabinets top frame shall be minimum 3/4" thick solid particle board.
- E. Bases: 3/4" thick x 4" wide exterior Pine or Fir plywood applied separately to the bottom of base and tall storage cabinets. 4" coved Rubber base to be installed. Refer to Section 09 65 00 Resilient Flooring.
- F. Counter Tops: 1 1/8" thick 47 lb. density particle board or plywood with minimum .050 high pressure laminate surface one side and exposed edges, balance laminate applied to bottom side. Matching 3mm PVC banding from manufacturer's standard may be used on exposed edges in lieu of plastic laminate.
- G. Concealed Shelves: Shelves 1" thick, 47 lb. density particleboard thermally fused laminate (melamine).
- H. Concealed Cabinet Interior Finish: unless called for otherwise, provide thermally fused laminate (melamine). Color to match exterior TFL.
- I. Backs:
  - 1. Exposed backs: will be same materials as ends.
  - 2. Unexposed backs: 1/2" thick 47 lb density particleboard with .028 thick high pressure laminate, balanced construction. Back to be fully captured on all four sides and attached with glue. Provide 1/2" nailer strip.
- J. Drawers: (Provide AWI premium grade construction as minimum requirement)
  - 1. Fronts: 3/4" 47 lb. density particleboard with thermally fused laminate (melamine), both sides.
  - 2. Drawer body: Sides, fronts and backs shall be 1/2" thermally fused laminate (melamine), laminate both sides (1/2" hardwood solid core plywood finger jointed or Dovetail jointed on all four corners, glued and cross pinned will be considered equal construction). (Dovetail joint will be considered equal construction). 1/2" plywood drawer bottoms shall be laminated with minimum .028 high pressure plastic laminate.
  - 3. Drawer bottom: Minimum 1/4" plywood or hardboard, grooved in on all four sides, or 1/2" 47 lb. density particle board with thermally fused laminate (melamine). Provide minimum 1/2" 47 lb. density particle board with thermally fused laminate (melamine) for drawers 30 inches or wider.
  - 4. Drawer slides:

- a. Standard: Accuride #7432 (3832EC is a soft close) or approved alternate, min. 75 pound capacity, ball bearing slide. All drawer slides to be full extension.
- 5. Index followers: (file drawers) K.V. #476F.
- 6. Hanging File Rails: Blum Metafile for letter size hanging files to be provided at file size drawers. Refer to drawings for standard or lateral file hanging orientation.
- 7. Additional support to be provided for drawers 30" wide or more.

K. Doors:

- 1. Standards: 3/4" 47 lb. density particleboard with thermally fused laminate (melamine), both sides.

- L. Filler Panels: 3/4" thick 47 lb. density particleboard core with thermally fused laminate (melamine). Fillers to be used as required, in colors to match other vertical laminate surfaces.  
**No filler panels more than 3" wide are to be used unless shown otherwise.**

M. Shelf Supports:

- 1. Adjustable shelves: Provide holes @ 32 mm o.c. vertical, provide minimum 4 polymer twin pin-locking shelf clips per shelf capable of receiving 3/4" or 1" thick shelving. Clips to withstand 500 lb. Static load per shelf.
- 2. Fixed shelves: Dowels and glue, AWI premium grade construction.

N. Hardware:

- 1. Pulls: Stanley Hardware No. 4483-1/2, US26D finish, or equivalent pull.
- 2. Concealed Hinges: Concealed type, 170° Clip Top, Model 71T6580 with 175H7100 Hinge Plate, Manufactured by Blum. No substitutions allowed. Hinges to be self-closing.
- 3. Door Bumpers: Provide clear bumpers similar to 3M Bumpon at every door leaf as req., minimum 2 per leaf.
- 4. Locks: (When called for) If required, locks can be keyed different and master keyed. Otherwise, key each group of locks together. Verify with owner prior to cabinet fabrication.
  - a. Drawers and single leaf doors: CompX National #C8053 series, cylinder type, 5 disk tumbler mechanism.
  - b. Double leaf locking:  
Lock - CompX National #C8053 series, cylinder type, 5 disk tumbler mechanism.  
Latch: CompX Timberline DL series double door latching system with the DL-200 and DL300 activator and catch. Provide black color. Provide 1 latch system (bottom) for doors up to 48" in height and two latch systems (top & bottom) for doors over 48" in height.
  - c. Provide Chain-type doorstop installed on inside of cabinet where unit butts up against sidewall to prevent door from opening into wall or possible other device mounted on wall.

- O. Additional Material: Furnish all fillers, scribes, etc., as shown on the drawings and/or as part of the cabinets but which may not be shown.

P. Miscellaneous Hardware Items:

1. Cord Grommets: 2" diameter plastic grommets in countertops, Doug Mockett, Model SG-2, color as selected by Architect.
2. Countertop Support Brackets: Chevron countertop bracket by Federal Brace, #40219, 20" x 20", stainless steel.

2.2 PLASTIC LAMINATED WINDOW SILLS (at DEN trainers office)

- A. Provide .050 thick plastic laminate over  $\frac{3}{4}$ " plywood for sill. Front apron portion of sill to be  $\frac{3}{4}$ " x 2" plywood or 1" x solid wood, covered with plastic laminate on all exposed sides. Extend apron past each jamb 1 inch.
- B. Secure to framing using concealed fasteners or construction adhesive approved by Architect.
- C. Provide sealant about entire perimeter of sill and apron, including area below apron.

2.3 LAMINATED PLASTICS

- A. Furnish laminated plastic as detailed in plans on countertops and cabinetry in strict accordance with manufacturer's recommendations. Joints shall not be located in random fashion and entire, one piece application shall be used wherever possible. Provide plastic edges where shown. Laminated plastic. Color, pattern and finish shall be as listed on drawings and verified by Architect.
- B. Provide solid color plastic laminate and chemical resistant laminate where called for on drawings.
- C. Thermally Fused Laminate Melamine Board: Furnish thermally fused laminate as detailed in plans on cabinetry in strict accordance with manufacturer's recommendations. Color, pattern and finish shall be as listed on drawings and verified by Architect.
  1. When wood-grain designs of plastic laminate are selected, Direction of wood grain to be vertical on door, end panels, fascia panels, and exposed backs, horizontal on drawer faces, aprons, and top rails unless noted otherwise.
  2. As an alternate product to the particle board and plywood specified, "Woodstalk" Fiberboard MR, manufactured by Dow may be used upon approval by Architect in thicknesses as called for in this specification.

2.4 THERMOSET SOLID POLYMER (SOLID SURFACE)

- A. Furnish thermoset solid polymer (solid surface) as detailed in plans in strict accordance with manufacturer's recommendations. Color, pattern, and finish shall be as listed on drawings and verified by the Architect.

- B. Material shall be cast, filled, acrylic; not coated, laminated or of composite construction, meeting ANSI Z124 1980, type 6, and FS WW-P541E/GEN dated August 1, 1980. Superficial damage to a depth of 1/32 inch shall be repairable by sanding or polishing. Thickness of material shall be minimum ½” for countertops and horizontal surfaces. Provide ¼” thickness for vertical surfaces with exception of backsplashes, which shall be ½” thickness. Total thickness of countertop including plywood sub top and solid polymer top is not to be less than 1 ½” thick. Exposed edges of countertops shall be solid polymer material full thickness of edges. Finish shall be matte.
- C. Installation:
1. All components shall fit tight, level and smooth. Deliver no components to site until ready for immediate installation. Store all material indoors in clinic controlled environment.
  6. All perimeters of surfaces are to be sealed to adjacent surface.
- D. Warranty:
1. Provide manufacturer’s warranty against defects in materials, fabrication and installation, excluding damages caused by physical or chemical abuse or excessive heat. Warranty shall provide for replacement or repair of material and labor for a period of one (1) year, beginning at Date of Substantial Completion.
  2. Maintain surfaces in accordance with manufacturer’s care and maintenance instructions.
  3. Fabrications shall not have been moved from original place of installation.
  4. Warranty shall be transferable to subsequent owner.

## 2.5 SEALANTS

- A. Sealant Applications
1. Solid surface to solid surface (i.e. countertop to backsplash)
    - a. Color Matched Acrylic Latex (Match countertop color)
  2. Case work to walls
    - a. Acrylic Latex, clear, tinted with paint provided by the painters to create a color match sealant to match wall color.

## 2.6 CONSTRUCTION

- A. As a minimum requirement, conform to construction standards of AWI, premium grade and as specified this section.
- B. Millwork fabricator/supplier is responsible for proper construction of each item of millwork, including support of each unit and countertops. If fabricator/supplier finds conditions on millwork drawings that might affect proper operation or require additional support from that shown, notify Architect and provide recommendation so that proper operation or support is provided.

- C. ADA- Americans with Disabilities Act Requirements: The following special requirements shall be met, where specifically indicated on architectural plans as “ADA”, or by General Note. To be in compliance with Federal Register Volume 56, No. 144, Rules and Regulations:
1. Countertop height: with or without cabinet below, not exceed a height of 34 inches A.F.F., (Above Finished Floor), at a surface depth of 25 inches unless noted otherwise.
  2. Knee space clearance: to be minimum 27 inches A.F.F., and 30 inches clear span width.
  3. 12 inch deep shelving, adjustable or fixed: not to exceed a range from 9 inches A.F.F. to 54 inches A.F.F. unless noted otherwise.
- D. Countertops
1. Underside to be properly balanced with backing sheet. Furnish counter tops with edge treatment and profile as shown on the shop drawings. Whenever possible, provide continuous lengths. Provide field joints as required using adhesive and tite-joint fasteners. No joints within 24” of a sink cut-out.
  2. Provide proper support for all types of countertops at no more than 3’-0” on center unless noted otherwise.
- E. Workmanship
1. Laminate surface/balancing liner to core under controlled conditions, by approved and regulated lamination. Natural-setting hybrid P.V.A. Type III water resistant adhesives that cure through chemical reaction, containing no health or environmentally hazardous ingredients, are required. Methods requiring heat are not allowed.
  2. Cabinet parts shall be accurately machined and bored for premium grade quality joinery construction utilizing automatic machinery to insure consistent sizing of modular components. End panels shall be doweled to receive bottom and top.
  3. Back panels shall be fully housed into, and recessed 7/8 inch from the back of cabinet sides, top, and bottom to insure rigidity and a fully closed cabinet. Cabinet back shall be shimmed from rear of body for tight interior fit.
  4. ¾ inch thick hang rails shall be mechanically fastened to end panels of wall, base, and tall cabinets for extra rigidity and to facilitate installation.
  5. All cases shall be square, plumb, and true.
  6. Provide removable back panels and closure panels for plumbing access where shown on drawings and required by code. Coordinate with plumbing, mechanical, and electrical trades.
  7. Cutouts for plumbing piping in concealed rear, sides or bottom cabinet panels shall be no larger than ¼” larger than the pipe diameter. Install sealant around all penetrations.

## PART 3 EXECUTION

### 3.1 COORDINATION

- A. Coordinate work of this section with related work of other sections and drawings as necessary to obtain proper installation of all items.
- B. Field verify site dimensions of cabinet locations in building prior to fabrication.

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- C. Coordinate all owner furnished items, which are to be installed in or adjacent to millwork.
- D. Coordinate locations of wood grounds and blocking concealed in walls with cabinet anchoring requirements prior to installation of wall covering.

### 3.2 INSTALLATION

- A. Storage and Protection: Cabinets and millwork shall be protected in transit. Store under cover in a ventilated building not exposed to extreme temperature and humidity changes. Do not store or install cabinets in building until concrete, masonry, and drywall/plaster work and painting is dry and building temperature and humidity are stabilized. Exterior doors, windows and glass shall be installed prior to millwork storage and installation in building. If project calls for polished concrete floors, final polishing of floor shall be complete in areas where millwork is being installed.
- B. Workmen: Install under the supervision of manufacturer's or supplier's representative if manufactured casework is provided, factory-trained mechanics certified by manufacturer will be required.
- C. Workmanship:
  - 1. Erect cabinets and millwork straight, level and plumb and securely anchor in place. Scribe and closely fit adjacent work. Cut and fit work around pipes, ducts, etc.
  - 2. Install all items complete and adjust all moving parts to operate properly.
  - 3. Leave surface clean and free from defects at time of final acceptance.
- D. Maximum width of any filler to be 3" inches wide. Filler width dimension to be balanced on each side of cabinet length.
- E. Coordinate equipment and plumbing fixture locations, scheduled to be installed in cabinets.
- F. Install sealant between countertop and backsplash, and between backsplash and wall, and other locations where cabinet butts to walls or ceilings.
- G. Install grommets in countertops where shown on drawings and for each desk station as shown on drawings. Coordinate and provide access to electrical receptacles below tops and in panels below countertops.
- H. Anchors for cabinets to be countersunk and plugged with vinyl inserts to match back panel colors. STICKERS ARE **NOT** ALLOWED. Arrange anchors in uniform manner, anchoring to wood ground and/or masonry wall.

### 3.3 CABINET FINISH

- A. Provide finishes as selected on Finish Legend on drawings.



### 3.4 CLEANUP

- A. Remove all cartons, debris, sawdust, scrapes, etc. Leave cabinet surfaces and spaces clean, ready for owner's use.

END OF SECTION

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