

**SECTION 06 41 00**  
**ARCHITECTURAL WOOD CASEWORK - KITCHENS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Requirements for wood casework, cabinets and shelving as indicated on the Drawings and as specified herein. All casework shall have wood finish except where laminate cladding is indicated on the Drawings.

**1.02 SUSTAINABILITY REQUIREMENTS**

- A. Sustainability requirements included in the Section are as follows:
  - 1. Restrictions on the use of urea-formaldehyde containing materials.
- B. The Contractor shall implement practices and procedures to meet the Project's sustainable requirements. The Contractor shall ensure that the requirements related to these goals, as defined in Specification Section S01352, Sustainability Requirements, and as specified in this Section, are implemented to the fullest extent. Substitutions or other changes to the work shall not be proposed by the Contractor or their sub-contractors if such changes compromise the stated Sustainable Design Performance Criteria.

**1.03 REFERENCE STANDARDS**

- A. References and industry standards listed in this Section are applicable to the Work. Unless more restrictive criteria or differing requirements are explicitly stated in the Specifications, or mandated by governing codes or regulations, the recommendations, suggestions, and requirements described in the referenced standards shall be deemed mandatory and applicable to the Work.
- B. ANSI A135.4 - American National Standard for Basic Hardboard; 2012.
- C. ANSI A208.1 - American National Standard for Particleboard; 2009.
- D. AWI (QCP) - Quality Certification Program; current edition at [www.awiqcp.org](http://www.awiqcp.org).
- E. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.
- F. BHMA A156.9 - American National Standard for Cabinet Hardware; 2010.
- G. HPVA HP-1 - American National Standard for Hardwood and Decorative Plywood; 2009.
- H. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.
- I. PS 1 - Structural Plywood; 2009.
- J. PS 20 - American Softwood Lumber Standard; 2010.

**1.04 SUBMITTALS**

- A. Product Data: Submit manufacturer's product data for each product and process specified as work of this Section and incorporated into items of the casework.
- B. Manufacturer's AWI Certifications: Submit casework manufacturer's (fabricator's) certification, stating that fabricated casework complies with AWI quality grades and other requirements indicated herein.
- C. Wood Treatment Data: Submit chemical treatment manufacturer's instruction for handling, storing, installation, and finish of treated material.
- D. Fire-Retardant Treatment: Certification by treating plant stating treated material complies with AWPAC specified use category UCFA standards and treatment will not bleed through specified finishes.
- E. Hardware (for each type): Name, manufacturer, type, style, size, function, finish, and information about fastenings.
- F. Metal Louver Data

- G. Shop Drawings: Submit Shop Drawings showing location of each item, dimensioned plans and elevations, large scale details and profiles, attachment devices, hardware and other components.
  - 1. Identify casework using same identification system shown on Architectural Drawings.
  - 2. Coordinate details and cut-outs to accommodate accessories and work specified under other Sections.
- H. Samples: Submit the following samples representative of quality to be provided in finished work:
  - 1. Wood trim, 12" length by specified width of each type and finish.
  - 2. Hardwood veneer plywood.
  - 3. Plastic laminate, 8" x 10" for each type, color, pattern and surface finish.
  - 4. Hardware, one of each type and finish of each item to be used.
  - 5. Counter tops and exposed shelving, 12" x 12" with wood edge and/or laminate edge as shown.
  - 6. simulated stone countertop, 6"x6". Sample for each color/pattern selected. Sample shall include a seam if project includes tops more than 10 feet long.
  - 7. Stain Colors for selection
  - 8. One Unit of Cabinet Work Each Shipment (If Requested)
- I. Name of Cabinet Mfr/Fabricator of cabinetwork
- J. Maintenance instructions for simulated stone countertops.
- K. Low Emitting Materials Compliance Submittals
  - 1. Provide documentation for each adhesive to be used on site, indicating that the adhesives comply with low V.O.C. requirements as stated in Specification Section 01600.
- L. Sustainability Submittals
  - 1. Submit manufacturer's documentation that composite wood products, including plywood, that are used are manufactured without the use of any added urea-formaldehyde. This requirement includes binders, and laminating adhesives used in the field or shop. Submit manufacturer's documentation of the resin used in lieu of urea-formaldehyde in binders and laminating adhesives.

#### **1.05 QUALITY ASSURANCE**

- A. AWI Quality Standard: Comply with applicable requirements of the AWI "Architectural Woodwork Quality Standards", except where indicated otherwise.
- B. Fabrication and Installation Qualifications: firm which can demonstrate a minimum of 5 years of successful experience in fabricating and installing casework items similar in type and quality to those required for this project.
- C. Submit name of firm to the Authority for approval.
- D. The Authority reserves the right to select at random one unit of cabinetwork in each shipment and to dismantle and examine it for determination of compliance with the Specifications.
  - 1. If, after examination, it is found that the unit does comply, the cost of the replacement unit will be paid for by the Authority. If, after examination, it is found that the unit does not comply, the entire shipment shall be removed from the Project Site and cabinetwork complying with the Specifications shall be provided. Expense of removal and replacement shall be borne by the Contractor.
- E. Obtain each type of hardware from a single manufacturer.
- F. Fire-Retardant Treated Material: Accredited testing agency mark on each piece of wood indicating compliance with the fire hazard classification.
- G. All plywood, composite wood products and laminating adhesives used shall contain no added urea-formaldehyde.

## **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Protect casework during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Do not deliver casework, until operations which could damage, soil or deteriorate casework have been completed in installation areas. If casework must be stored, store only in areas meeting requirements specified for installation areas.

## **1.07 FIELD CONDITIONS**

- A. Casework Manufacturer and Installer shall advise the Authority's Representative of temperature and humidity requirements in writing for casework installation and storage areas. Do not install casework until building is enclosed, wet work and utility roughing-in are complete, and HVAC system is operating and required temperatures and relative humidity have been stabilized.
- B. Maintain temperature and humidity in installation area as required to maintain moisture content of installed woodwork within 1.0 percent of optimum moisture content as follows:
  - 1. Optimum Moisture Content of Wood: 5-10%
  - 2. Relative humidity required to be maintained in installation and storage areas: 25-55%
- C.

## **1.08 COLOR SELECTIONS**

- A. Stain colors and plastic laminate colors, patterns and textures: selected by the Project Architect from manufacturer's standard colors.

# **PART 2 PRODUCTS**

## **2.01 FABRICATION, GENERAL**

- A. Wood Moisture Content: Comply with requirements of referenced quality standard for moisture content of lumber and plywood at time of fabrication and for relative humidity in installation areas.
- B. Fabricate casework to dimensions, profiles, and details indicated with openings and mortises pre-cut, where possible, to receive hardware and other items and work.
- C. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary, provide ample allowances for scribing, trimming, and fitting.
- D. Pre-Cut Openings: Provide casework with pre-cut openings, where possible, for hardware, appliances, plumbing fixtures, electrical work and similar items. Locate openings accurately and use templates or roughing-in diagrams for proper size and shape. Smooth edges of cutouts and, where located in countertops, seal edges of cutouts with a water-resistant coating.
- E. Measurements: Before fabrication of casework to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit.
  - 1. Where field measurements before fabrication would delay the project, fabricate without field measurements and provide ample borders and edges to allow for scribing and trimming of casework.
- F. Cabinet work and paneling construction shall comply with the requirements of AWI Architectural Cabinets and Paneling, Premium Grade, except where indicated herein and on the Drawings for more stringent requirements.
- G. All plywood, composite wood products and laminating adhesives used shall contain no added urea-formaldehyde.

## **2.02 WOOD SPECIES AND GRADES**

- A. Solid Wood and Hardwood Plywood Veneer

1. Where exposed to view, interior finish throughout Building, except as indicated in 2. below, and except as indicated otherwise on the Drawings: Plain Sawn Red Oak, AWI Grade A1.
2. Grain appearance: Running match; grain consistent for each cabinet.
3. Provide same species of veneer on both sides of plywood.
4. Shelving in Cabinets (exposed) and Backs of Open Shelves: Plain Sawn Red Oak, AWI Grade A1 for Oak Units; White Birch, AWI Grade A1 for Birch units. Solid wood shelving edge (Oak or Birch, to match cabinet species).

### **2.03 TYPES OF PANELS**

- A. Particleboard and Fiberboard: medium density grade M-1(40 to 50 pounds per cubic foot) shall not be permitted for shelving.
- B. Particleboard core plywood: medium density particleboard core, with face and back veneers and cross bandings (5-ply). Use only where covered by plastic. Not permitted for shelving.
- C. Veneer Core Plywood: core of odd number of veneer plies, with face and back veneers. Use veneer core plywood for all casework, except that other panel types are permitted for certain components where covered by plastic laminate. Use veneer core plywood, exterior grade, for all cabinet tops with sinks, and including the full sub-top beneath agglomerated quartz countertops.

### **2.04 TEMPERED HARDBOARD**

- A. Manufacturers
  1. Masonite Corp. Towanda, PA 18848
  2. Louisiana-Pacific Corp. Neenah, WI
  3. Forestex Co. Division of Stimson Lumber Forest Grove, OR
- B. Type: solid or perforated (holes spaced evenly at 1" o.c. in both directions, with even borders around edges), as indicated on the Drawings.
- C. Thickness: as indicated on the Drawings.

### **2.05 HIGH-PRESSURE DECORATIVE PLASTIC LAMINATES**

- A. Manufacturers
  1. Formica Corp.
  2. Wilsonart LLC.
  3. Panolam Surface Systems - Nevamar, Pionite decorative surfaces
- B. Adhesives: as recommended by plastic laminate Manufacturer.

### **2.06 GENERAL NOTES**

- A. Provide 24 gage stainless steel channel edging strips for exposed edges for sink top and splash back unless otherwise indicated. See Drawing Details. Provide plastic laminate covered splash backs at sides of sink cabinets where they abut walls, cabinets, and at other abutments. Where sink top is quartz agglomerate provide splash backs of quartz agglomerate.
- B. Certain cabinets shall have stainless steel channel edging. Tops of movable units shall have hardwood edges securely glued to plywood as indicated on the Drawing Details.
- C. Provide continuous neoprene and aluminum weather-stripping at top, bottom and hinge side of door openings and on edge of one door of each metal lined cabinet where indicated on Drawings. Weatherstripping at top, bottom and hinge side of door openings shall be Catalog No. 50M; weather-stripping at edge of door shall be Catalog No. 53M, both as manufactured by Zero Weatherstripping Company, Inc. or equivalent by Reese Enterprises Inc. Weatherstripping on meeting edge shall be let into door as indicated on Details.
- D. Provide the tempered hardboard materials for sliding doors and backs of certain cabinets at locations indicated on the Drawings. Doors and backs of certain cabinets shall be perforated or solid tempered hardboard of thickness indicated.

- E. Provide birch shelf cabinet in Helps' locker rooms. Top shall be covered with plastic laminate as specified herein, finished with stainless steel edging. See Drawing Details.
- F. Provide the steel plates for tapered wood legs at movable storage cabinets. See Drawing Details.
- G. All book cabinets, book and magazine racks and all other cabinets shall be provided under this Section of the Work in accordance with Detail Drawings.
- H. Exposed edge treatment not otherwise specified: Solid wood matching face for species and cut.
- I. Where structural columns occur between cabinets in line, wood paneling or cabinet shall be carried across the face of column same height as adjoining cabinet groups, where so indicated on the Drawings.

## 2.07 ARCHITECTURAL CABINETS - WOOD

- A. Comply with AWI requirements for Section 10 Casework, Premium Grade, for transparent finish, except provide more stringent requirements, where indicated.
  - 1. See Art. 2.02 for wood species and grades.
  - 2. Thickness of Cabinet components (minimum) other than doors:
    - a. Ends, Divisions, Bottoms, Tops: Panel 3/4"
    - b. Rails Lumber or panel 3/4"
    - c. Shelves Lumber 3/4" for spans to 36";  
11/16" for spans to 48"  
Veneer Core Plywood Panel 3/4" for spans to 36"  
Veneer Core Plywood Panel 1" for spans to 48"
    - d. Backs Panel 1/2" nominal
    - e. Drawer Sides, Backs & Subfronts Lumber 1/2"  
Veneer Core Panel 1/2"
    - f. Drawer Bottoms Panel 1/4", 3/8" and 5/8" nominal
    - g. Drawer Fronts Lumber 3/4"  
Panel 3/4"
  - 3. Size and Thickness for Hinged Cabinet Doors:
 

Minimum Thickness of Door	Maximum Size	
	Width	Height
30"	30"	60"
1" to 1 1/4"	36"	72"

- 4. Size and Thickness for Sliding Cabinet Doors:
  - a. Size and Thickness for Sliding Cabinet Doors: For particle board or fiberboard core material:

	<u>Minimum Thickness</u>	<u>Maximum Size</u>	
	<u>of Door</u>	<u>Width</u>	<u>Height</u>
Top Suspension	3/4"	30"	72"
Bottom Track	3/4"	24"	32"
Top Suspension	1" to 1 1/4"	36"	84"
Bottom Track	1" to 1 1/4"	30"	36"

- 5. Size and Thickness for Stile and Rail Doors with Glass or Wood Panels:

<u>Thickness</u>	<u>Minimum Width of</u>	<u>Maximum Size</u>	<u>Maximum Size</u>
	<u>Stiles and Rails</u>	<u>without</u>	<u>with</u>
		<u>Intermediate Rail</u>	<u>Intermediate Rail</u>

- |        |        |                       |                       |
|--------|--------|-----------------------|-----------------------|
| 3/4"   | 2 1/2" | 24" wide,<br>30" high | 24" wide,<br>48" high |
| 1 1/8" | 2 1/2" | 30" wide,<br>48" high | 30" wide,<br>76" high |
| 1 1/4" | 2 1/2" | 30" wide,<br>60" high | 30" wide,<br>76" high |
6. Edge Treatment of Exposed and Semi-exposed Components, including Doors and shelving:
    - a. Comply with the requirements of AWI Section 10 4.4.1.8 and 4.4.4. , Premium Grade, except as follows:
      - 1) Solid edge minimum 3/8" depth, of same species as cabinet veneer. Edge shall be square or radius edge with thick applied band.
  7. Drawer Construction and Assembly:
    - a. Comply with the requirements of AWI Section 10 4.4.5, Premium Grade, except as indicated otherwise, in the following:
      - 1) Exposed Fronts: match adjacent exposed components.
      - 2) Sides, Backs and Semi-exposed Fronts: Hardwood or softwood lumber.
      - 3) Bottoms: Plywood core plywood:
      - 4) For bottoms 12" wide or less: 1/4" thick
      - 5) For bottoms 12" to 30" wide: 3/8" thick
      - 6) For bottoms over 30" wide: 5/8" thick
  8. Joinery and Fastening of Case Body Members:
    - a. Comply with the requirements of AWI Section 10 4.4.1, Premium Grade, except as indicated otherwise herein.
  9. Fitting of Case Doors and Drawers:
    - a. Comply with the requirements of AWI Section 10 4.4.1, Premium Grade.
  10. Joint Tolerances:
    - a. Comply with the requirements of AWI Section 10 6.1.7, Premium Grade.
  11. Flatness of Wood Doors:
    - a. Comply with the requirements of AWI Section 10 7.1, Premium Grade.
  12. Flushness Between Factory-Assembled Joints:
    - a. Comply with the requirements of AWI Section 10 6.1.7.1, Premium Grade.
  13. Smoothness of Surfaces (min. requirements):
    - a. comply with the requirements of AWI Section 10 4.3.1, Premium Grade.
- B. Thickness for Stile and Rail Doors
1. Minimum Width:

<u>Minimum Total Thickness</u>	<u>Minimum Width of Stiles and Rails</u>	<u>Maximum Size without Intermediate Rail</u>	<u>Maximum Size Intermediate with Rail</u>
3/4"	2 1/2"	24" wide, 30" high	24" wide, 48" high
1 1/8"	2 1/2"	30" wide, 48" high	30" wide, 76" high
1 1/4"	2 1/2"	30" wide, 60" high	30" wide, 76" high

## 2.08 ARCHITECTURAL CABINETS - LAMINATE CLAD

- A. Comply with AWI requirements for Section 10 4.2.8 Laminate Clad Cabinets, Premium Grade.
- B. Laminate Cladding: High pressure decorative laminate complying with the requirements of AWI Section 4 4.2c and minimum test procedures and requirements of NEMA LD3:
  1. Colors, Finishes, Patterns: as selected by the Project Architect.
  2. Surfaces, Grades and Thicknesses:

- a. Horizontal surfaces other than tops: HGS, nominal thickness 0.048".
  - b. Tops: HGS, nominal thickness 0.048".
  - c. Post-formed Surfaces: Horizontal HGP, nominal thickness, 0.039".
  - d. Post-formed Surfaces: Vertical VGP, nominal thickness, 0.028"
  - e. Vertical Surfaces: VGS, nominal thickness 0.028".
  - f. Edges: nominal thickness 0.048".
- C. Surface Material of Panels
1. Exposed surfaces (other than edges): Grade II.
  2. Semi-Exposed surfaces (other than edges): Grade III.
  3. Edges: Grade II.
- D. Types of Panels
1. See Art. 2.03.
- E. Wood Laminate Grains
1. Long direction of panel, unless indicated otherwise on the Drawings.
- F. Grades of Semi-exposed Components
1. Comply with AWI Section 10 4.2.8.3 , Premium Grade, unless indicated otherwise on the Drawings.
- G. Materials and Minimum Thickness for Cabinet Components
1. Body members: Panel 3/4"
  2. Rails: Panel or Lumber 3/4"
  3. Shelves: Veneer Core Plywood Panel 3/4"  
for spans to 39"  
1" for spans 39" to 48"
  4. Backs: Panel 1/2"
  5. Drawer Sides, Lumber Veneer 1/2"  
Core Panel  
Particleboard Panel
  6. Drawer Bottoms: Plywood Core  
Plywood:  
For bottoms 12" wide or less: 1/4"  
For bottoms 12" to 30" wide: 3/8"  
For bottoms over 30" wide: 5/8"
  7. Drawer Fronts: Panel 3/4"
- H. Core materials and Thickness for Hinged Cabinet Doors
1. Particleboard: 3/4" 30" width, 60" height  
1" 36" width, 72" height
- I. Core Materials and Thickness for Sliding Cabinet Doors
- Size and Thickness for Sliding Cabinet Doors: For particleboard or fiberboard core material:
- |                | <u>Minimum Thickness<br/>of Door</u> | <u>Maximum Size</u> |               |
|----------------|--------------------------------------|---------------------|---------------|
|                |                                      | <u>Width</u>        | <u>Height</u> |
| Top Suspension | 3/4"                                 | 30"                 | 72"           |
| Bottom Track   | 3/4"                                 | 24"                 | 32"           |
| Top Suspension | 1" to 1 1/4"                         | 36"                 | 84"           |
| Bottom Track   | 1" to 1 1/4"                         | 30"                 | 36"           |
- J. Edge Treatment of Exposed and Semi-exposed Components
1. Body Members and Shelves: Match face laminate
  2. Doors: Match face laminate.
  3. All edges: HDPL, banded; pressure-glued.
- K. Construction: Comply with the following AWI requirements:

1. Drawer Construction: AWI Section 10 4.4.26.2.
2. Joinery and Case Body Member Fastening: Comply with AWI Section 10 4.4 Standards for Premium Grade.

## **2.09 CABINET TOPS**

- A. Comply with the requirements of AWI Section 10 4.4.9, for Premium Grade.
- B. Solid Laminated Wood Tops
  1. The tops of cases and counters, when built up, shall be grooved and splined and glued or other approved method of joining, cleated on underside where so shown, secured in place with concealed screws and washers, hand scraped and left perfectly true and smooth.
  2. Length in one piece: 10'
  3. Thickness of Top: 1 1/8" minimum
- C. High Pressure Decorative Laminate Tops
  1. Width: if exceeds 60", shop assembled.
  2. Length in one Piece: 12'
  3. Thickness of Top: 3/4" minimum.
  4. Balancing Sheet Requirements: Standard 0.02" backup sheet wherever unsupported area exceeds 4 sq. ft. and core is 3/4" thick; 6 sq. ft. and core is 1" thick; 8 sq. ft. and core is 1 1/8" thick or thicker.

## **2.10 FIXED PANELS**

- A. Wood paneling areas adjacent to cabinetwork and paneling at walls in other areas:
  1. Comply with the requirements of AWI Section 6 Premium Grade.
  2. Wood Species: Plain Sawn Red Oak, AWI Grade A1.

## **2.11 FIRE-RETARDANT TREATMENT**

- A. Where lumber is indicated or required to be fire-retardant treated, provide "UCFA" lumber, complying with AWPA Standards for pressure impregnation with fire-retardant chemicals to achieve a flamespread rating of 25 or less, when tested in accordance with UL Test 723, ASTM E84 or NFPA Test 255.
  1. Where treated items are indicated to receive a transparent or paint finish, use a fire-retardant treatment which will not bleed through or adversely affect bond of finish.
  2. Provide UL label or identifying mark on each piece of fire-retardant lumber.
  3. Redry treated items to maximum moisture content of 19 percent after treatment.
- B. Fire-retardant Treated Plywood
- C. Comply with APA requirements.

## **2.12 CASEWORK TYPES**

- A. Kitchen Cabinets
- B. Bathroom vanity cabinets
- C. Restroom Lavatory Countertops
  1. Countertops, where indicated for sinks in restrooms and toilet rooms, shall be quartz agglomerate simulated stone material, 1 1/8" thick minimum, with polished finish. Refer to Drawing details.
    - a. Countertops up to 10 feet long shall be one piece solid slab, without seams. For tops longer than 10 feet, seam locations shall be indicated on Shop Drawings and shall be subject to approval by the Architect. Seam in countertop shall not align with seam in sub-top. Dimensions shall be field verified prior to fabrication. Allow minimal gap at ends for expansion as recommended by manufacturer.
    - b. Polished radius at nosing 11/8". Polished radius at sink cutouts to be 1/8" minimum, and as recommended by countertop manufacturer. Other edges slightly eased. All work shall be done in the shop.



- c. In the shop, permanently join backsplash and apron to top with epoxy or other adhesive recommended by the countertop manufacturer, pigmented to match top. Sidesplash may be field assembled.
  - d. Countertop shall be affixed to full sub-top with silicon or other adhesive recommended by countertop manufacturer. Apply bead of silicone sealant recommended by countertop manufacturer at backsplash/countertop joint and at top of backsplash. Exposed fasteners are prohibited.
- 2. Manufacturers
  - a. One Quartz, by Daltile, Dallas, TX.
  - b. Zodiaq, by DuPont, Wilmington, DE.
  - c. Cambria, by Cambria, LeSueur, MN.
- 3. Material properties
  - a. Composed of at least 93% natural quartz mineral; in a resin matrix.
  - b. Water absorption max.: 0.1%, ASTM C97; or 0.12% ASTM C373.
  - c. Abrasion resistance min.: 120, ASTM C501.
- 4. Stain resistance: unaffected ANSI Z124.6.
  - a. Color/Pattern: \_\_\_\_\_.

## 2.13 HARDWARE - GENERAL

- A. Manufacturers
  - 1. Cylinders for Drawers, and Book cabinets
    - a. Sargent
    - b. Corbin Russwin
  - 2. Cabinet Hardware
    - a. Ives
    - b. Stanley
  - 3. Door Pulls
    - a. Ives
    - b. Stanley
  - 4. Drawer Pulls
    - a. Ives
    - b. Stanley
  - 5. Drawer Slides
    - a. Grant
    - b. Knap & Vogt
  - 6. Hinges
    - a. Ives
    - b. Stanley
    - c. Lawrence
    - d. McKinney
  - 7. Shelf Standards and Supports
    - a. Knap & Vogt
    - b. b. Parker
  - 8. Elbow Catch
    - a. Ives
    - b. Knap & Vogt
  - 9. Sheaves for Sliding Cabinet Doors and Sliding Cork Display Boards
    - a. Knap & Vogt
    - b. Grant
  - 10. Bottom Track for Sliding Cabinet Doors and Sliding Cord Display Boards
    - a. Knap & Vogt
    - b. Grant
    - c. Stanley
  - 11. Top Track for Sliding Cabinet Door

- a. Knappe & Vogt
  - b. Grant
  - c. Stanley
- 12. Finger Pull for Sliding Hardboard Door
  - a. Knappe & Vogt
  - b. Ives
- 13. Flush Pull for Sliding Cabinet Door
  - a. Ives
  - b. Rockwood
- 14. Coat, Hat and Umbrella Hooks
  - a. Ives
  - b. Stanley
  - c. Rockwood
- B. Screws
  - 1. Secure hardware with suitable screws and bolts of same material and finish as hardware items unless otherwise specified. Provide Phillips head screws unless otherwise indicated.
  - 2. Manufacturer of each hardware item shall provide the fastenings required for the installation of that item.

C. Hardware Finish

Hardware finishes including the following shall comply with requirements of ANSI/BHMA standards:

1. BHMA Code	Description	Base material	U.S. Standards equivalent
2. 605	Bright Brass	Brass	US3
3. 625	Bright Chromium	Brass or Bronze	US26
4. 626	Satin Chromium	Brass/Bronze base	US26D
5. 629	Bright Stainless Steel	Stainless steel	US32
6. 630	Satin Stainless Steel	Stainless steel	US32D

## 2.14 HARDWARE REQUIREMENTS

- A. Pin Tumbler Cylinder Lock for Drawers in Tables, Book Cabinets, Bookcases, Supply Cabinets, and other locations indicated:
  - 1. Bronze.
- B. Pin Tumbler Cylinder Lock for Doors in Book Cabinets, Bookcases, Supply Cabinets, and other locations indicated.
  - 1. Cast bronze lock, size 2" x 15/8", with 3/16" x 7/8" bolt of not less than 1" throw, Sargent 1655.
  - 2. Lock for Sliding Doors shall be cylinder push lock.
- C. Cylinders
  - 1. Cylinders of locks shall be of proper length to fit doors or drawers for which they are intended. Cylinders shall be solid brass with common standard diameter rotating plug. The keyway shall be paracentric type of single section with seven pins or multiple (four or more) sections with six pins capable of being masterkeyed and grand masterkeyed as specified without duplications or interchanges.
- D. Magnetic Catches
  - 1. For doors over 3'-0" in height: Aluminum Case. Dual triple pole with self-aligning magnets. Conform to ANSI 156.9 B43161. Ives Heavy Duty Magnetic Catch No. 327.
  - 2. For doors 3'-0" and under in height: Aluminum Case. Dual double pole with self-aligning magnets. Conform to ANSI 156.9 B43161. Ives Heavy Duty Magnetic Catch No. 326.
- E. Elbow Catch on Inactive leaf of Doors Under 3'-0" in Height
  - 1. Cast brass elbow catch with spring on plate not less than 2½" x 1", strike plate not less than 1½" x 1/2", six screws. Conform to ANSI 156.9.

- F. Hinges for laminate clad doors with particleboard cores
  - 1. Provide Blum Modul Series hinges as manufactured by Julius Blum Inc. or equivalent by Sugatsune America Inc. Provide quantity of hinges for door size and weight as recommended by the hinge manufacturer, as a minimum. Provide at least 3 hinges for doors less than 5'-0" and at least 4 hinges for doors between 5'-0" and 6'-0".
- G. Door to Bookcases and Supply Closets
  - 1. Solid standard pattern cast-bronze pull with clear finger space 3½" x 7/8". weight not less than 3½ ounces, secured with 4 screws.
- H. Drawer Pulls
  - 1. Approved cast-bronze, secured by two concealed screws. Clear finger space not less than 11/16" x 25/8", and 41/8" over all. Weight not less than 2 ounces. Unless otherwise specified, provide two pulls for drawers 20" wide or over and one pull for drawer less than 20" wide.
- I. Slides: Powder coated metal slides, 100 lb. rating, bottom mount with self-closing action. All drawers to open to three-fourths of the drawer length.
- J. Cabinet Shelf Rests
  - 1. Rests shall be of gray-plate metal supported by gray plate metal standards. Four (4) rests for each shelf. Provide rests for adjustable wood and metal shelves in cases and cabinets indicated on Drawings.
- K. For Glass SS Shelves and Free Standing Adjustable Shelving to conform to ANSI/BHMA A156.9
  - 1. Knappe & Vogt 186-187 Heavy-Duty Brackets, Type 304 stainless steel.
  - 2. Knappe & Vogt 87 Heavy-Duty Standards, Type 304 stainless steel installed in accordance with manufacturer's installation instructions.
  - 3. Adjustable shelving on pegboard shall be as part of work of Section 06200.
- L. Screw Hooks for Umbrellas
  - 1. Ives No. 581 MB Satin Chromium for umbrella hooks in closets or wardrobes.
- M. Hardware for Doors in Tables, Cases, Cabinets
  - 1. Hardware for doors to display cases and display cabinets in corridors indicated on Drawings are provided with cases or cabinets. See Section 10415.
  - 2. Butts for cabinet doors: Wrought Bronze, 3" x 3" fast pin for 1¼" doors, 3" x 2½" fast pin for 1 1/8" doors, 2½" x 2½" butts for small doors under counter shelves in cupboards, and 2" x 2" butts for 13/16" doors.
  - 3. Hinges for laminate clad doors with particle board cores shall be Blum Modul Series by Julius Blum Inc. or equivalent product by Sugatsune America Inc. Provide number of hinges for door size as recommended by hinge manufacturer, as a minimum. Provide at least 3 hinges for doors less than 5'-0" and at least 4 hinges for doors between 5'-0" and 6'-0".
- N. Doors for Cabinets Over 3'-0" in Height
  - 1. Fast Pin Wrought Bronze Butts shall be 3" x 2½" and 3" x 3", 0.092 gage. Each hinge shall have 6 screws. Provide 4 butts for doors 5'-0" to 6'-0" in height, 1¼" thick or less.
  - 2. Pin tumbler cylinder lock for bookcases, book cabs, and supply cabinets: Cast bronze lock, size 2" x 15/8", with 3/16" x 7/8" bolt of not less than 1" throw, Sargent 1655.
  - 3. Pulls shall be solid standard pattern cast-bronze pull with clear finger space 3½" x 7/8", weight not less than 3½ ounces, secured with 4 screws.
  - 4. Surface bolts shall be Ives No. 054, 4" long at top and bottom of inactive leaf of double doors. Approved magnetic catch at top or bottom of doors.
- O. Small Cupboard Doors, Doors under Counter Shelves, Counters including Storage Cabinets at Science Room and Prep Room Windows

1. Fast Pin Wrought Bronze Butts, 3" x 2½" and 3" x 3", 0.092 gage. Each hinge shall have 6 screws. Lock: Cast bronze locker lock, size 2" x 1 15/8", with 3/16" x 7/8" bolt of not less than 1" throw, Sargent 1655. Lock for Sliding Doors shall be cylinder push lock.
  2. Ives Elbow Catch No. 2 MB-Satin Chromium finish at top or bottom of inactive leaf of double doors, approved knob pulls, approved magnetic catch at top or bottom of active doors.
- P. Sliding Cabinet Doors in Wood Frames
1. Two (2) 400A Knappe & Vogt sheaves, top track, Knappe & Vogt 467 bottom track for each pair doors, Ives No. 22 flush pulls.
- Q. Hinged Doors for Wall Cabinets over Sinks
1. Fast Pin Wrought Bronze Butts, 3" x 2½" and 3" x 3", 0.092 gage. Each hinge shall have 6 screws. Magnetic catch, no knobs or locks required.

## **2.15 LOUVERED PANELS FOR CABINET DOORS**

- A. Provide steel louvers for doors where indicated on Drawings, constructed as indicated on the Drawing Details and as specified herein. Cold rolled steel with baked enamel factory primer finish. Mitered and welded corners. Spanner head security fasteners, countersunk.
- B. Fixed Blade Design - Anemostat Door Products model AFDL; modified to have 16 ga. frame and 16 ga. vision-proof louver blades.

## **2.16 INSTALLATION MATERIALS**

- A. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage.

## **2.17 FACTORY FINISHING**

- A. Finish for Wood Cabinetwork: Comply with AWI Section 5- Factory Finishing System #11 Catalyzed Polyurethanes, Satin-medium rubbed sheen, as follows for Premium grade:
  1. Oak: Filler, washcoat, stain, sealer, sand (220 grit steared paper), topcoat.
  2. Birch and Maple (and other closed grain woods): washcoat, stain, sealer, sand (220 grit steared paper) topcoat.

# **PART 3 EXECUTION**

## **3.01 PREPARATION**

- A. Examine all areas to receive Work of this Section and correct conditions as required to accommodate the Work.
- B. Do not deliver and install Work of this Section until wet work such as plastering, painting and other finishes is completed; the HVAC system shall be operating and maintaining proper temperature and humidity conditions.
- C. Condition cabinetwork and paneling to the average ambient humidity conditions prior to installation.
- D. Verify the location and condition of concrete inserts, and other built-in anchoring devices.

## **3.02 INSTALLATION**

- A. Install work in accordance with AWI/AWMAC/WI (AWS) requirements for grade indicated.
- B. Install cabinetwork and paneling plumb, true, level and without distortion. Shim as needed with concealed wood or hard plastic shims.
  1. Tolerances: 1/8" in 8'-0" for plumb and level (including tops); allow no variation in flushness of adjoining surfaces.
- C. Scribe and cut cabinets, paneling, and tops to fit adjoining Work. Refinish cut surfaces to match adjacent surfaces; repair damaged finishes.
- D. Provide filler strips; trim strips to irregularities of adjacent surfaces.
- E. Secure and anchor fixed cabinetwork to substrates with concealed devices and fasteners of sufficient sizes and strengths to support fully-loaded cabinets.

- F. Anchor tops to cabinets and supports with concealed fasteners.
- G. Full sub-tops for quartz agglomerate sink counters shall be flat, level, and completely supported.
- H. Secure paneling to substrates or supports with concealed fasteners, where possible; where nails are required, use countersunk finishing nails.
- I. Adhesives used in field assembly shall comply with requirements of Section G01600 for V.O.C. requirements.

### **3.03 HARDWARE INSTALLATION**

- A. Secure hardware with screws, bolts and fasteners of the proper sizes, with finish to match hardware.
- B. Secure hardware to metal with suitable tap screws.
- C. Shop install hardware.

### **3.04 ADJUSTING**

- A. Adjust cabinetwork units as required for proper and uniform appearance.

### **3.05 CLEANING**

- A. Adjust cabinetwork units as required for proper and uniform appearance.
- B. Clean woodwork and glasswork on both exterior and interior surfaces.
- C. Clean hardware items thoroughly and adjust for proper operation.
- D. Touch-up shop-applied finishes where damaged or soiled, to obtain a finished appearance to match that of adjacent surfaces. If not possible to obtain a suitable finish, provide a new surface or component.

### **3.06 KEY OPERATION AND INSPECTION**

- A. Upon completion of the building and after locks have been secured in proper positions, keys belonging thereto shall be fitted and made to work freely in respective locks in the presence of the Authority's Representative.

**END OF SECTION**