

## **SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

A. Section includes interior architectural woodwork:

1. Plastic-laminate cabinets.
2. Plastic-laminate countertops.
3. Solid-surfacing material countertops.
4. Quartz-surfacing material countertops.
5. Closet and utility shelving.
6. Interior frames and jambs.
7. Interior standing and running trim.
8. Shop priming of interior woodwork to receive painted finish.
9. Shop finishing of interior woodwork to receive opaque finish.
10. Shop finishing of interior woodwork to receive transparent finish.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for concealed countertop supports.
2. Section 057000 "Decorative Metal" for metal trim.
3. Section 061053 "Miscellaneous Rough Carpentry" for concealed blocking for millwork items.

#### **1.2 ACTION SUBMITTALS**

A. Product Data: Submit product data for each material and product specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.

1. Cabinet hardware and accessories.
2. Handrail brackets.
3. Glass products and glazing materials.
4. Finishing materials and processes.
5. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
6. Include submittal of stone sealer manufacturer's recommended methods for application of impregnator and surface protection coatings based on testing of project specific stone countertop materials.

- B. Shop Drawings: Submit shop drawings showing locations of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components. Elevations shall be drawn at a scale of not less than  $1/2" = 1'-0"$ . Details shall be drawn at a scale of not less than  $3" = 1'-0"$ .
1. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.
  2. Show locations and sizes of cutouts and holes for plumbing, electrical, computer and telephone equipment and other items installed in architectural woodwork.
  3. Show veneer leaves with dimensions, grain direction, exposed face, and identification numbers indicating the flitch and sequence within the flitch for each leaf.
- C. Samples: Submit samples of the following:
1. Five veneer leaves representative of and selected from each flitch to be used for transparent-finished woodwork.
  2. Three 12 inch by 12 inch sample sets containing a minimum of two or more samples of transparent finished wood-veneer and plastic laminate veneered panel products, fabricated from each core product, for each veneer specified and demonstrating the proposed full range of appearance characteristics to be expected in completed work. Include at least one face-veneer seam in each sample.
  3. Lumber and panel products for transparent finish, for each species and cut, finished on one side and one edge. Furnish lumber in 12 inch lengths, furnish panel samples in 12 inch squares.
  4. Lumber and panel products with shop-applied opaque finish, for each finish system and color, with exposed surface finished. Furnish lumber in 12 inch lengths, furnish panel samples in 12 inch squares.
  5. Thermoset decorative-overlay surfaced panel products, for each type, color, pattern, and surface finish.
  6. Solid-surfacing materials, 6 inches square.
  7. Quartz-surfacing materials, 6 inches square.
  8. Cabinet Locks: Three samples of each type.
  9. Metal Trim Shapes: Three samples of each type and finish, 12 inches long.
  10. Submit samples of each type of door specified showing construction and finishes selected. Samples shall be 12 inch by 12 inch corner section.
  11. Submit samples of stainless steel glass rosette cap assemblies in each finish specified.
  12. Glass and Acrylic Panels: 12 inches by 12 inches of each type specified.
  13. Solid Laminate (Trespa) Flat Panels: Submit three 12 inch by 12 inch sample sets containing a minimum of 2 or more samples of solid laminate panel products, for each finish specified and demonstrating the proposed full range of appearance characteristics to be expected in completed work.

14. Solid Laminate (Trespa) Panel Corner Construction Samples: Submit three minimum 18 inches wide by 18 inches deep by 24 inches high, samples demonstrating the outside corner construction of solid laminate panels. Show vertical-edge corner construction, top, and bottom construction. Include fasteners, reveals and trim closures.

### **1.3 CLOSEOUT SUBMITTALS**

- A. Maintenance Instructions: Submit maintenance instructions for all countertop materials. Where countertop materials are recommended to be protected with hot pads, provide manufacturers recommended hot pad product properly sized for the hot equipment designed to be placed thereon.

### **1.4 QUALITY ASSURANCE**

- A. Single-Source Manufacturing and Installation Responsibility: Engage a qualified Manufacturer - acceptable to the Architect - to assume undivided responsibility for woodwork specified in this Section, including fabrication, finishing, and installation. The manufacturer shall have a minimum of 15 years successful experience in the custom fabrication and installation of architectural woodwork comparable to that shown and specified, be a member of the AWI, maintain an organized quality control program, perform its own in-house veneer lay-up work, and who retains facilities with sufficient capacity and quality to produce the required architectural woodwork without causing delay to the Project.
- B. Quality Standard: Fabricate and install all architectural woodwork in accordance with the applicable requirements of Architectural Woodwork Standards, 2nd edition, published jointly by AWI, AWMAC, and WI, unless more stringent requirements are specified or shown.
- C. Fire Performance Characteristics: Provide materials identical to those tested for the following fire performance characteristics per ASTM test methods indicated by UL or other testing and inspecting organizations acceptable to authorities having jurisdiction. Identify treated lumber with classification marking of inspecting and testing organization in the form of separable paper label or, where required by authorities having jurisdiction, of imprint on lumber surfaces that will be concealed from view after installation.
  1. Surface Burning Characteristics for Concealed Blocking, Furring, and Door Subframing: Not exceeding a flame spread of 25, and smoke developed of 50 when tested per ASTM E 84 for 30 minutes.
  2. The fire performance finish requirements for all exposed interior wall and ceiling woodwork (including the paneling but not limited to paneling) substrates in fully sprinklered spaces shall be as follows which has been taken from the IBC 2018, Table 803.9. Footnotes to Table 803.9 that are pertinent to the project are also made a part of this specification.

	Exit Ramps, and Exit Passageways	Enclosures for Exit Access Stairways, and Exit Access Ramps	Spaces
A-1, and A-2	Class B	Class B	Class C
A-3	Class B	Class B	Class C
B, E, M, R-1	Class B	Class C	Class C
S	Class C	Class C	Class C

Class B: Flame spread 26-75, smoke developed 0-450 when tested in accordance with ASTM E 84.

Class C: Flame spread 76-200, smoke developed 0-450 when tested in accordance with ASTM E 84.

## **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration. Do not deliver woodwork until painting, wet work, grinding, and similar operations that could damage, soil, or deteriorate woodwork have been completed in installation areas. If woodwork must be stored in other than installation areas, store only in areas whose environmental conditions meet requirements specified in "Field Conditions" Article.

## **1.6 FIELD CONDITIONS**

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at levels planned for building occupants during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to fit to other construction, verify actual dimensions of other construction by accurate field measurements before fabrication of woodwork; and indicate measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
  - 1. Locate concealed framing, blocking, and reinforcements that support woodwork by field measurements before being enclosed and indicate measurements on shop drawings.
  - 2. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

## **1.7 COORDINATION**

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior architectural woodwork can be supported and installed as indicated.

## **1.8 PREINSTALLATION COORDINATION MEETING**

- A. Meet at the Project site, prior to installation of architectural woodwork, to review the substrate preparation, installation and coordination with other trades, special details and conditions, and other topics related to the architectural woodwork. The preinstallation meeting shall include the Architect, the Contractor, architectural woodworker, and any subcontractors affected by the architectural woodwork installation.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. General: Provide materials that comply with requirements of the AWS quality standard for each type of woodwork and quality grade specified.
- B. Lumber Standards: Comply with applicable provisions for grading and workmanship of AWS Architectural Woodwork Standards, Section 3, and the requirements shown and specified; where standards conflict the more stringent shall apply. Provide lumber surfaced 4 sides (S4S) and fabricated to profiles shown. All lumber shall be kiln dried to the moisture content indicated in AWS, Section 2.
  - 1. Furring, Blocking, Shims: No. 1 Common; Southern Pine.
  - 2. Door Subframes: No. 1 Common Southern Pine, fire retardant treated to reduce combustibility.
  - 3. Solid Hardwood for Opaque Finish (WD##): Plain sawn Yellow Poplar, free from checks, splits, sound knots.
  - 4. Solid Hardwood for Transparent Finish (WD##): Matching each of the Architect's veneer samples; refer to Finish Schedule on the Drawings for each specie.
- C. Wood Veneers:
  - 1. Species, Matching, and Cut for Transparent Finish: Complying with AWS, Section 4, and the following:

- a. (WD##) Specie and figuring as indicated on the Finish Schedule, book matched unless otherwise indicated, minimum 5 inch width leaves, complying with HPVA HP-1, Grade AA, matching Architect's sample.

D. Wood Panel Products:

1. Medium-Density Fiberboard (non-moisture resistant): A medium density fiberboard (MDF) panel manufactured from wood fiber complying with ANSI A208.2, Grade 155, having a minimum 47 pcf density except that minimum for screw holding capacity on face and edge shall be 275 pounds and 225 pounds respectively; an ASTM E 84 minimum Class C flame spread rating, minimum 3/4 inches (19 mm) thick, edged and faced as specified, fabricated with binder containing no added formaldehyde.
  - a. Roseburg Forest Products; FSC Certified Medite II.
  - b. Arauco North America; Trupan Standard MDF.
  - c. Uniboard, Canada; Uniboard NU Green MR 50 NAF MDF.
2. Medium-Density Fiberboard (moisture resistant): A moisture-resistant, medium density fiberboard (MDF) panel manufactured from wood fiber complying with ANSI A208.2, Grade 155, having a minimum 48 pcf density except that minimum for screw holding capacity on face and edge shall be 275 pounds and 225 pounds respectively; an ASTM E 84 Class C flame spread rating, minimum 3/4 inches thick, edged and faced as specified, fabricated with binder containing no added formaldehyde.
  - a. Roseburg Forest Products; FSC Certified Medex.
  - b. Arauco North America; Moisture Resistant Trupan.
  - c. Uniboard, Canada; Uniboard NU Green MR50 MDF.
3. Medium-Density Fiberboard (fire rated): A fire rated, medium density fiberboard (MDF) panel manufactured from wood fiber complying with ANSI A208.2, Grade 130, having a minimum 50 pcf density except that minimum for screw holding capacity on face and edge shall be 250 pounds and 200 pounds respectively; an ASTM E 84 Class A flame spread rating and a smoke developed index of not more than 200, minimum 3/4 inches thick, edged and faced as specified, fabricated with binder containing no added formaldehyde.
  - a. Roseburg Forest Products; FSC Certified Medite FR.
  - b. Arauco North America; Trupan Fire Rated MDF.
  - c. Uniboard, Canada; Uniboard NU Green FR MDF Fire Resistant.

4. Medium Density Particleboard: A medium density particleboard (MDP) panel manufactured from wood residuals complying with ANSI A208.1, Grade M-2 with a minimum 45 pcf density except that minimum for screw holding capacity on face and edge shall be 250 pounds and 180 pounds respectively, an ASTM E 84 minimum Class C flame spread rating; minimum 3/4 inches thick, edged and faced as specified and manufactured with binder containing no added formaldehyde.
    - a. Roseburg Forest Products; Skyblend.
    - b. Arauco North America; Duraflake Standard.
    - c. Uniboard, Canada; Uniboard NU Green 2.
  5. Hardboard: ANSI A135.4.
  6. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no formaldehyde. Available Products:
    - a. Roseburg Forest Products; SkyPly.
    - b. Columbia Forest Products; Classic Core.
- E. Thermoset Decorative Overlay (Melamine): Particleboard or medium-density fiberboard with surface of thermally fused, melamine-impregnated decorative paper complying with the recommendations of the Composite Panel Association's Technical Bulletin "Laminating Composite Panels."
1. Face Colors: As indicated in the Finish Schedule on the Drawings.
  2. Manufacturers and Products:
    - a. Roseburg Forest Products; Duramine.
- F. Glass: Clear tempered float glass, complying with ASTM C 1036, Type I, Class 1, Quality q3, and ASTM C 1048 Kind FT, thickness as indicated.
1. Prior to tempering, cut glass to required sizes and profiles as determined by accurate measurement of supporting standoff hole locations.
  2. Hole Cutting: Unless otherwise recommended by the glass manufacturer, comply with the requirements of ASTM C 1048, Article 7.8 for hole placement, minimum hole diameter, and dimensional tolerances of holes and this specification. Unless otherwise recommended by the glass manufacturer, locate holes not less than 4 inches from glass edges, hole diameter shall be at least 1/8 inch larger than the shank of the screw fastener and screw sleeve spacers used for the rosette assemblies. Chips and flakes at hole edges shall not be permitted, and the inner surfaces of holes shall be smooth polished to match glass panel edges.
  3. Edge Treatment: All glass edges shall have an arrised edge profile (small bevel of width not exceeding 1/16 inch at an angle of approximately 45 degrees to the surface of the glass) with a polished (surface is reflective in appearance similar to the major surface of glass) surface.

- G. High-Pressure Decorative Laminate (PL##): Complying with NEMA LD 3 for Horizontal General Purpose Grade (HGS) typically and Vertical General Purpose Grade (VGS) where specified. Nominal thickness for HGS and VGS laminates to be 0.048 inches +/-0.005 inches and 0.028 inches +/- 0.004 inches, respectively. Where high pressure decorative laminate is indicated to be faced with aluminum, provide aluminum sheet goods specifically made for laminating to vertical MDF and particleboard substrates in sheet thickness of 0.025 inches +/- 0.002 inches.
1. Types: As indicated in the Finish Schedule on the Drawings.
    - a. Provide factory applied protective peel coat to prevent surface damage during fabrication and handling of aluminum faced decorative laminates. Remove protective peel coat after installation in accordance with the manufacturer's recommendations. If the film is left in place after installation, exposure to direct sunlight for a prolonged period may cause a paste residue and create other problems.
  2. Backing Sheets: Non-decorative, high pressure laminate, NEMA LD3, Grade, types and thickness to match face sheets and equalize pull.
- H. Countertop Sealer:
1. Impregnator: Low viscosity, UV resistant, water vapor permeable, impregnator specifically formulated to penetrate stone and grout pore structures without changing the color or sheen of the stone to which it is applied and that provides an invisible barrier of protection from water, dirt, oil, grease, lipstick, wine, and hand cream lotion infiltration.
    - a. Basis of Design Product: S234 Impregnator for factory sealing of stone countertop units, if field finishing stone countertops use S232 Impregnator. Contact HMK Stone Care System, Hallandale, FL. (800) 424-2HMK, (415) 643-5603.
    - b. Lithofin, Lithofin MM Stainstop Impregnator for factory sealing.
    - c. Miracle Adhesives: Miracle 511 Pourous Plus for factory sealing.
  2. Surface Protection Coating: No-rinse type, 100 percent natural vegetable soap cleanser, that is pH neutral (pH 7), vapor permeable and compatible with impregnator, and that emulsifies dirt and debris on the stone surface while repelling liquids. Will not change the color or sheen of the stone to which it is applied.
    - a. Basis of Design Product: HMK P324 Liquid Stone Soap No Rinse.
    - b. Lithofin, Surface protection coating complying with the above requirements and recommended by the impregnator manufacturer.
    - c. Miracle Adhesives: Surface protection coating complying with the above requirements and recommended by the impregnator manufacturer.

3. Prepare countertop surfaces to receive sealer in accordance with the countertop sealer manufacturer's recommendations. Apply sealers and surface protection coatings in accordance with the countertop sealer manufacturer's instructions.
- I. Fabric Wrapped Panels and Tackboards (FW##): Overall 3/4 inch thick, fabric wrapped assembly composed of 1/4 inch thick hardboard backing that can be either laminated, or fastened, to a mineral fiber tackboard fabricated from industrial board having a minimum 23 pcf density similar to US Gypsum Company, Micore.
    1. Fabric: Types as indicated on the Drawings.
    2. Assembly: Form backing and tack board fill materials to sizes shown with edges eased to a 1/16 inch radius. Fabrics shall be shop cut, stitched together (where required), squared and trimmed to appropriate sizes. All sewing (where required) shall be perfectly straight, seams pressed flat and glued into an open position. Provide an appropriate lining on fabrics as required for applications shown. Prestretch designated fabric at room temperature for at least 4 days, immediately prior to installation. Stretch fabric around all four edges of panel board with uncut corners and unfrayed edges, taking care not to distort the weave, and creating a smooth surface free of sags and wrinkles. Fasten fabric to the panel back by securing with staples, or other suitable fasteners, 3 inch maximum on center without rolling board panel edges.
  - J. Solid-Surfacing Material (SO##): Provide material that meets or exceeds ISFA-2-01 performance standards, consisting of reacted monomers and resins, mineral fillers and pigments and manufactured in sheets of specific thicknesses. Solid surfacing material shall be solid, non-porous, homogeneous, hygienic, renewable, and, when applicable, may feature inconspicuous hygienic seams. Solid surfacing material shall be free from conspicuous internal strengthening fibers.
    1. Types: As indicated in the Finish Schedule on the Drawings.
  - K. Quartz-Surfacing Material (SC##): Provide material that meets or exceeds National Sanitation Foundation 51 Food Zone Compliance standards, consisting of quartz crystals and proprietary binders and manufactured in sheets of specific thicknesses. Quartz surfacing material shall be solid, non-porous, homogeneous, hygienic, renewable, and, when applicable, may feature inconspicuous hygienic seams. Quartz surfacing material shall be free from conspicuous internal strengthening fibers.
    1. Products: Subject to compliance with requirements, provide products scheduled on Drawings.
  - L. Adhesives, General: Use only low emitting VOC adhesives that leave no glue lines on finished surfaces of architectural woodwork. Do not use adhesives that contain urea formaldehyde.

- M. Solid Laminate: Solid composite panels fabricated of material specifically designed for casework. All panel surfaces shall be electron beam cured to prevent damage from cleansing agents such as graffiti removers. Surfaces shall offer protection against 10 percent hydrochloric acid, 10 percent phosphoric acid, 30 percent hydrogen peroxide, 25 percent caustic soda, 100 percent paint thinner and 100 percent methyl ethyl ketone without functional or aesthetic damage to the surface. All surfaces and edges shall be non-porous.
1. Core: Solid black.
  2. Physical Properties:
    - a. Modulus of elasticity: 1,500,000-psi minimum.
    - b. Shear strength: 2000-psi minimum.
    - c. Compressive strength: 24,000-psi minimum.
    - d. Weight: 93 lbs. per cubic foot maximum.
    - e. Tensile strength: 13,000-psi minimum.
    - f. Flexural strength: 16,000-psi minimum.
    - g. Surface Impact Resistance: 9 lb.
    - h. Scratch Resistance: 0.8 lb.
    - i. Specific Gravity: 87 lbs. per cubic foot, minimum.
    - j. Dimensional Stability: 0.03 in/ft, maximum.
    - k. Water Absorption: 3 percent by weight, maximum.
  3. Thickness, Products and Manufacturer: Trespa North America, Inc. subsidiary of Trespa International BV, Netherlands; Trespa Virtuon, thickness, colors and surface texture as indicated in the Finish Schedule on the Drawings.

## **2.2 FIRE-RETARDANT-TREATED MATERIALS**

- A. General: Where indicated, use materials impregnated with fire-retardant chemical formulations indicated by a pressure process or other means acceptable to authorities having jurisdiction to produce products with fire-test-response characteristics specified.
1. Do not use treated material that does not comply with requirements of referenced woodworking standard. Do not use twisted, warped, bowed, discolored, or otherwise damaged or defective lumber or panel products.
  2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.
  3. Treat only door subframing, blocking and furring items.
- B. Fire-Retardant-Treated Lumber: Materials impregnated with fire-retardant chemical formulations to comply with AWPA U1, Use Category UCFA. Kiln-dry material after treatment to levels required for untreated woodwork.

- C. Fire-Retardant Particleboard: Panels made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture and complying with fire-test-response characteristics specified.
- D. Fire-Retardant Fiberboard: ANSI A208.2 medium-density fiberboard panels made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture and complying with fire-test-response characteristics specified.

### **2.3 CABINET HARDWARE AND ACCESSORIES**

- A. General: Provide cabinet hardware and accessory materials for a complete installation of architectural woodwork, except for items specified in Section 087100 "Door Hardware."
- B. Hardware Standard: Comply with BHMA A156.9 for items indicated by referencing BHMA numbers or items referenced to this standard.
- C. Frameless Concealed Hinges for Cabinet Doors (European Type): Concealed all-metal furniture hinges adaptable or engineered for 35 mm hinge cup boring pattern, with minimum 155 degree opening angle, three-dimensional hinge having adjustments located in the steel hinge arm, steel or die-cast zinc hinge cups, mounting plates, and plastic insertion dowels to receive hinge screws. Automatic soft closing shall engage only in the last 10 degrees of swing. All hinge pins and linkages shall be hardened. Complying with BHMA A156.9, B01602. Bright nickel finish (US15).
  - 1. Hinge Quantity: Provide hinge quantity as recommended by hinge manufacturer based on cabinet door width, weight, thickness, door material, and hinge cup selection.
  - 2. Metal Furniture Hinge Products and Manufacturers: One of the following:
    - a. Basis of Design: Grass Tiomos Series; Grass America, Inc.; Kernersville, NC.
    - b. Blumotion Series; Blum USA; Stanley, NC.
    - c. Salice; Silencia Series 200.
- D. Hidden Gate Hinges: Full mortised, invisible hinges and specifically manufactured for door thickness indicated and fabricated from high strength plated brass or steel, heavy duty zinc alloy or brass castings, and non-removable riveted hinge pins. Each hinge shall be engineered for smooth performance with laminated link construction supplemented by anti-friction materials that reduce friction for smooth, free hinge operation. Complying with BHMA A156.9, B01501.
  - 1. Hinge Quantity: Provide hinge quantity as recommended by hinge manufacturer based on cabinet door width, weight, thickness, door material, and hinge cup selection.
  - 2. Metal Furniture Hinge Products and Manufacturers: One of the following:

- a. Basis of Design: "Soss" Hinges; Universal Industrial Products Company, Pioneer, OH.
  - b. Vici Hinges 341.25.xxx; Hafele America; Archdale, NC.
  - c. Soss Hinge 341.07.xxx; Hafele America Co.; Archdale, NC.
- E. Piano Hinges: Continuous type, satin finished stainless steel and complying with BHMA A156.9, B51491.
- F. Wire Pulls: Back mounted, 4 inches long, 3/8 inches in diameter fabricated from satin finished stainless steel (US32D), complying with BHMA A156.9, B52011, unless otherwise indicated.
- G. Knob Pulls: 7/8 inch by 7/8 inch . Traditional knob machined from brass with undercut finger grip; satin finished chrome (US26D).
1. DP2; Doug Mockett and Co., Inc.
- H. Round Top Bar Pulls: Back mounted, 6-11/16 inches long, 13/32 inches in diameter, finish as indicated below, complying with BHMA A156.9, B52011, unless otherwise indicated.
1. DP128; Doug Mockett and Co., Inc.
    - a. Finish - As Selected by Architect. .
- I. Edge Pulls: Full mortised, solid, bronze or brass door edge pull, with 1/2 inch finger clearance, 1/4 inch diameter roll diameter, having nominal overall roll length dimension of 3 inches long, with backbend drilled and countersunk to receive 2 screw fasteners; form for full mortise application; satin finished chrome (US26D); one of the following:
1. SRO Style Edge Pull; Tydix Products, Inc.
  2. DP3A Tab Drawer Pull; Doug Mockett and Co., Inc.
- J. Angled Pulls: Full mortised, solid, stainless steel angled pull, with nominal 3/4 inch finger clearance, having nominal overall length of 4-3/4 inches long, with backbend drilled and countersunk to receive 2 screw fasteners; form for full mortise application; satin finished stainless steel (US32D); provide the following:
1. DP157-SSS Angled Pull; Doug Mockett and Co., Inc.
- K. Catches: Magnetic, complying with BHMA A156.9, B03141 for single doors and B03161 for double doors.
1. For Single Doors: One of the following:
    - a. CD41 Single Magnetic Cabinet Catch; Stanley Commercial Hardware.
    - b. 900; Rockwood Manufacturing Company, Rockwood, PA.

- c. 246.94.701 housing x 246.94.702 counterpiece; Hafele America Co. Archdale, NC.
- 2. For Double Doors: One of the following:
  - a. 901; Rockwood Manufacturing Company.
  - b. CD45 Double Magnetic Cabinet Catch; Stanley Commercial Hardware.
- L. Cabinet Shelf Rests: Nickel plated brass or steel, or stainless steel, minimum 6 mm diameter shelf support pegs in sockets, complying with BHMA A156.9, B04013. One of the following:
  - 1. Hafele 282.01.701 x 282.50.704; Hafele America, Co.
  - 2. K-10S with K-2 Sleeve; Brusso, Inc.
  - 3. 331 Series Flat Top Shelf Support Pin with 325 Series Insert Grommet; Knappe and Vogt.
- M. Closet Rods and Flanges: 1-1/2 inch diameter, satin finished chrome plated steel or satin finished stainless steel with matching end flanges.
- N. Adjustable Shelf Standards and Brackets for Wall-Hung Open-Shelving:
  - 1. Standards: Model No. 87 ANO Extra Heavy Duty 87-187 Series; lengths as indicated, by Knappe and Vogt.
  - 2. Brackets: Model No. 186 LL ANO for 8- and 10-inch Model No. 187 LL ANO for 12- to 24-inch deep shelves by Knappe and Vogt.
  - 3. Shelf Rests: Model No. 210 ANO End Rest and Model No. 211 ANO Center Rest with Model No. 129 RUB Rubber Cushions.
- O. Drawer Slides:
  - 1. Pencil Drawer Slides: Similar to Accuride 2006 having 3/4 extension carburized steel ball bearing, side mounting, 45 pound capacity medium duty load rating, cold rolled steel slide members and ball retainers, bright electro zinc plate finish.
  - 2. Drawers less than 4 inches deep: Similar to Accuride 7432 having full extension carburized steel ball bearing, side mounting, 100 pound capacity medium duty load rating, cold rolled steel slide members and ball retainers, cushioned in and outstops, detent-in, progressive action, positive stop, bright electro zinc plate finish.
  - 3. Drawers greater than 4 inches but less than 8 inches deep: Similar to Accuride 7432 having full extension carburized steel ball bearing, side mounting, 100 pound capacity medium duty load rating, cold rolled steel slide members and ball retainers, cushioned in and outstops, detent-in, progressive action, positive stop, bright electro zinc plate finish.
  - 4. Drawers greater than 8 inches deep: Similar to Accuride 4032 having full extension carburized steel ball bearing, rail mounting, 150 pound capacity heavy duty load rating, cold rolled steel slide members and ball retainers, cushioned in and outstops, detent-in, progressive action, positive stop, bright electro zinc plate finish.

5. Refuse Cabinets: Similar to Accuride 3600-201 having full extension carburized steel ball bearing, bottom mounting, 175 pound capacity heavy duty load rating, cold rolled steel slide members and ball retainers, cushioned in and outstops, progressive action, positive stop, bright electro zinc plate finish.
  6. Accuride International, S.A. de C.V., Mexicali, B.C., C.P. 21395 Mexico.
- P. Flipper Door Slides: For vertically mounted retracting cabinet doors up to 75 pounds and 72 inches tall, Model No. 1432, black color, with hinge carrier strip by Accuride, Inc.
- Q. Silencers: Provide rubber silencers on jamb and/or head and sill strike areas of all cabinet doors and drawers, 2 for paired doors, and 3 for single doors. Silencers shall be approximately 1/4-inch diameter, color compatible with adjacent finish.
- R. Aluminum Slides for Sliding Glass Doors: Heavy duty track assembly consisting of upper guide, shoe-H bar, lower track and rollers; clear anodized finish:
1. No. D123A by C. R. Laurence Company, Inc.
- S. Door and Drawer Locks: All cabinet doors and drawers shall be furnished with locks. Finish exposed portions of locks to match cabinet pull finish. Furnish 2 keys with each lock and key all locks inside one room alike and provide masterkey for all locks in Project.
1. Drawers: Provide one of the following lock assemblies:
    - a. Cam lock similar to Hafele 235.10.261, 1-3/16 inch cylinder length, chrome plated, with straight and offset cams; Hafele America, Co., Archdale, NC.
    - b. Cam lock similar to CompX Type 170 Thick Panel Lock x LP-700 lock plug, satin nickel finish, with surface-mounted strike plate SP-100; CompX Timberline, Neenah, WI.
  2. Single Doors: Provide one of the following lock assemblies:
    - a. Latch lock similar to Olympus 998/999 Series x 999-Strike, chrome plated, sized to fit opening; Olympus Lock, Inc., Lynnwood, WA.
    - b. Deadbolt similar to CompX CB-281 cylinder body x LP-700 lock plug, satin nickel finish, with surface-mounted strike plate SP-100; CompX Timberline, Neenah, WI.
  3. Pairs of Doors: Provide the following:
    - a. At inactive leaf, Furniture bolt similar to Hafele 252.02.644, polished chrome, with strike 251.60.703; Hafele America, Co.
    - b. At active leaf, provide Single Door lock assembly.
- T. Grommets for Cable Passage through Countertops: 2-1/2-inch OD, Color TBD, , molded-plastic grommets and matching plastic caps with slot for wire passage.

1. Product: Subject to compliance with requirements, provide "EDP Flip-Top 2-1/2" hole series" by Doug Mockett and Co., Inc.
- U. Exposed Hardware Finishes: Unless otherwise specified above, or on the Drawings, all exposed portions of the woodwork hardware shall comply with BHMA A156.18 for BHMA finish number indicated.
1. Dark, Oxidized, Satin Bronze, Oil Rubbed: BHMA 613 for bronze base; BHMA 640 for steel base.
  2. Bright Brass, Clear Coated: BHMA 605 for brass base; BHMA 632 for steel base.
  3. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
  4. Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.
  5. Satin Stainless Steel: BHMA 630.
  6. Bright Stainless Steel: BHMA 629.
- V. Stainless Steel Trim: Custom fabricate stainless steel trim shapes to the sizes, shapes and profiles shown from the following materials. Provide in standard commercial tempers and hardness, as required for fabrication, strength and durability from Type 304 alloy. Form exposed work true to line and level, with flush surfaces and accurate angles. Ease exposed edges to a radius of approximately 1/32 inch radius, unless otherwise shown. Miter exposed corner joints and machine fit to a hairline joint. All sheet goods shall be provided finished one side only. Finish designation shown on the Drawings are NAAMM nomenclature.
1. Sheet and Plate: ASTM A 666.
  2. Bar Stock: ASTM A 276.
  3. Pipe: ASTM A 312, Grade TP 304.
  4. Tubing: ASTM A 554, Grade MT 304.
  5. Rosettes for Capping Brushed Stainless Steel Standoffs at Glass Tops: Custom fabricate rosettes from satin finished stainless steel materials. All fasteners shall be concealed. Fastener for joining rosette assemblies shall be of a type, design, and size as recommended by the glazier for the application shown and specified. Isolate glass from stainless steel using clear plastic cushions sized to fit under the rosettes.
    - a. Gyford Standoff Systems.
    - b. Forms & Surfaces.
- W. Stainless Steel Trim Finish: Provide the following mechanical finish to the exposed surfaces of the fabricated work to the extent indicated (NAAMM nomenclature), with texture and reflectivity as required to match the Architect's sample.
1. No. 4 (bright directional polish).
- X. Steel Reinforcing: Carbon steel shapes, tubes and plates complying with ASTM A 36 (shapes and plates), and ASTM A 500 or A 501 (for tubes).

1. Shop Primer for Concealed Steel Reinforcing: Provide fast curing, lead and chromate free, universal modified alkyd primer complying with performance requirements in FS TT-P-664.
  2. Electrodes for Concealed Steel Reinforcing: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded.
- Y.** Resilient Base: Refer to Section 096513 "Resilient Wall Base and Accessories."
- Z.** Light Fixtures: Approximately 1-1/4 inch high surface mounted continuous undercabinet LED task light, with adjustable rotation of plus or minus 30 degrees. Task lighting shall have end butted, fixture to fixture, ganging with concealed wiring. Provide each ganged section of light fixtures with a single dimmer switch that, when activated, will switch the entire ganged section of light fixtures to either "on" or "off," and also offers dimming from full capacity to 5 percent capacity.
1. Basis-of-Design Manufacturer and Fixture: Workrite Ergonomics Inc.; Verano Series undercabinet lighting, (800) 959-9675. Other manufacturers will be considered subject to Architect's acceptance.
  2. All light fixture components shall be UL Approved and Listed for the applications indicated. Housings shall be constructed of recycled aluminum with water based enamel finish; with transformer to connect to 120 VAC electrical voltage. Provide NEC acceptable wiring, and conduits if required, from light fixtures complete with 3 prong connector for plugging into outlet strips or power receptacles.
  3. Lamp Type and Wattage: Each fixture shall include evenly spaced 1W LED lamps with a color temperature of 3500 degrees Kelvin and a CRI of 92; length as required to suit applications shown; other manufacturers will be considered subject to Architect's acceptance.
- AA.** Light Fixtures: Approximately 1-1/2 inch high surface mounted continuous undercabinet fluorescent task light with solid front and non-yellowing acrylic prismatic lens. Task lighting shall have end butted, fixture to fixture, ganging with concealed wiring. Provide each ganged section of light fixtures with a single rocker switch that, when activated, will switch the entire ganged section of light fixtures to either "on" or "off."
1. All light fixture components shall be UL Approved and Listed for the applications indicated. Housings shall be constructed of minimum 22 ga. cold rolled steel with bonderized white baked enamel finish; 120 VAC electrical voltage. Provide NEC acceptable wiring, and conduits if required, from light fixtures complete with 3 prong connector for plugging into outlet strips or power receptacles.
  2. Provide each fixture with high efficiency, electronic ballast, completely contained within light fixture housing sized for specified lamps.
  3. Lamp Type and Wattage: (1)F17T8/F25T8/F32T8/F40T8/SPX35; General Electric, length as required to suit applications shown; other manufacturers will be considered subject to Architect's acceptance.

- BB. Door Hardware: At full sized doors, provide door hardware as scheduled under Section 087100 "Door Hardware."
- CC. Hanging (Zee Clip) Strips: Extruded aluminum zee type interlocking clips; type, size and quantity for the condition of use.
- DD. Brushed Aluminum Trim Shapes: Custom fabricate aluminum trim shapes to the sizes, shapes and profiles shown from the following materials. Provide in standard commercial tempers and hardness, as required for fabrication, strength and durability. Form exposed work true to line and level, with flush surfaces and accurate angles. Miter exposed corner joints and machine fit to a hairline joint. Finish designations are NAAMM nomenclature.
1. Plate: Alloy 5005 and ASTM B 209.
  2. Bar Stock: ASTM B 211.
  3. Extrusions: Alloy 6063 and ASTM B 221.
  4. Aluminum Trim Finishes: Provide the following finishes to the exposed surfaces of the fabricated work to the extent indicated (NAAMM nomenclature), with texture and reflectivity as required to match the Architect's sample.
    - a. Class II, Clear Anodic Finish: Complying with AA-M10M32A31 for an Architectural Class II, medium satin, clear natural anodized finish.
- EE. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1.
- FF. Nails, Wire, Brads, and Staples: Select material, type, size, and finish required for each use.
1. ASTM F 1667 for driven fasteners such as nails, spikes and staples.
  2. ASTM F 547 for nails used with wood and wood based products.
- GG. Anchors: Select material, type, size, and finish required by each substrate for secure anchorage. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors.
- HH. Blind Splines: Specialty devices, as required for tight butt joining, types and size as recommended by woodwork fabricator.
- II. Covercaps: Where mortises of fastener heads, or draw downs are exposed (blind holes) in finished work, provide black plastic covercaps.

## **2.4 FABRICATION, GENERAL**

- A. General: Complete fabrication, including assembly, finishing, and hardware application, before shipment to Project site to the maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting. The width of scribe and filler panels shall not exceed 1/2 inch, or 1/2 inch clear dimension from adjacent wall to outside face of cabinet door in a 90 degree position, whichever is greater.
  - 1. Interior Woodwork Grade: Custom complying with the referenced quality standard.
- B. Fabricate woodwork to dimensions, profiles, and details indicated.
  - 1. Reinforcing shown is minimum. Provide additional steel and lumber reinforcing as required to sustain imposed loads and to ensure a rigid assembly.
  - 2. Exposed surfaces shall be free from dents, tool marks, warpage, buckle, glue and open joints, or other defects affecting serviceability or appearance. Accurately fit all joints, corners and miters. Conceal all fasteners. Make threaded connections up tight so that threads are entirely concealed.
- C. Shop cut openings to maximum extent possible, to receive hardware, appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
  - 1. Seal edges of openings in countertops with a coat of varnish.
  - 2. Install glass to comply with applicable requirements in Section 088000 "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.

## **2.5 WOOD CABINETS FOR TRANSPARENT FINISH**

- A. AWS Type of Cabinet Construction: Flush overlay.
- B. Wood Veneered Surfaces:
  - 1. Wood Veneered Species and Matching:
    - a. Wood Veneer Species: As indicated on the Drawings and in the Finish Schedule.
    - b. Matching:
      - 1) Grain Matching: Run and match grain vertically for drawer fronts, doors, and fixed panels unless otherwise indicated on the Drawings.

- 2) Matching of Veneer Leaves: Book match unless otherwise indicated.
  - 3) Veneer Matching within Panel Face: Center match unless otherwise indicated.
  - 4) Veneer Matching within Room: Provide cabinet veneers in each room and space from a single flitch with doors, drawer fronts, and other surfaces matched in a sequenced set with continuous match where veneers are interrupted perpendicular to the grain.
- C. Semiexposed Surfaces Other Than Drawer Bodies: Compatible species to that indicated for exposed surfaces, stained to match.
1. Drawer Sides and Backs: Solid-hardwood lumber, stained to match species indicated for exposed surfaces.
  2. Drawer Bottoms: Hardwood plywood.
- D. Provide dust panels of 1/4-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.
- E. Cabinet Locks: Provide door and drawer locks.
- F. Fabric Wrapped Panels: Refer to Paragraph "Fabric Wrapped Panels and Tackboards."

## **2.6 WOOD CABINETS FOR OPAQUE FINISH**

- A. AWS Type of Cabinet Construction: Flush overlay.
- B. Substrate: Medium density fiberboard.
- C. Materials for Semiexposed Surfaces Other Than Drawer Bodies: Medium density fiberboard.
1. Drawer Sides and Backs: Solid-hardwood lumber.
  2. Drawer Bottoms: Hardwood plywood.
- D. Provide dust panels of 1/4-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.
- E. Cabinet Locks: Provide door and drawer locks.

## **2.7 WOOD CABINETS FOR PLASTIC LAMINATE FINISH**

- A. AWS Type of Cabinet Construction: Flush overlay.
- B. Laminate Cladding for Exposed Surfaces: High-pressure decorative of grade indicated.

1. Horizontal Surfaces Other Than Tops: HGS.
  2. Postformed Surfaces: HGP.
  3. Vertical Surfaces: VGS.
  4. Edges: HGS unless otherwise indicated.
  5. Colors, Patterns, and Finishes: As indicated on the Drawings and in the Finish Schedule.
- C. Materials for Semiexposed Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, Grade VGS.
1. Drawer Sides and Backs: Solid-hardwood lumber.
  2. Drawer Bottoms: Hardwood plywood.
- D. Provide dust panels of 1/4-inch plywood or tempered hardboard above compartments and drawers, unless located directly under tops.
- E. Cabinet Locks: Provide door and drawer locks.

## **2.8 PLASTIC LAMINATE COUNTERTOPS**

- A. General: Comply with AWS Section 11 and as follows.
- B. High-Pressure Decorative Laminate Grade: HGS.
- C. Colors, Patterns, and Finishes: As indicated on the Drawings and in the Finish Schedule.
- D. Edge Treatment: Same as laminate cladding on horizontal surfaces unless otherwise indicated.
- E. Core Material at Sinks: Particleboard or exterior-grade plywood.

## **2.9 SOLID SURFACING COUNTERTOPS**

- A. General: Comply with AWS Section 11 and as follows.
- B. Solid-Surfacing-Material Thickness: 1/2 inch.
- C. Colors, Patterns, and Finishes: As indicated on the Drawings and in the Finish Schedule.
- D. Factory fabricate components to achieve required shapes, sizes, and profiles shown, without cracks, spalling, pits, surface porosity, chipped areas, or blisters.

1. Form all tops in one piece lengths. Provide adhesively bonded backsplashes and aprons in heights indicated. Form edges to profiles shown. If required, use 2 sheets of countertop sheet material laminated together using manufacturer's standard adhesive to form edges. Laminated sections shall be in close contact throughout. Adhesive stains will not be permitted.
  2. Provide separate 6 inch high end splashes.
  3. Countertops shall be factory cored for plumbing fittings provided under Division 22 Plumbing or as indicated on the Drawings.
- E. Radius corners and edges. Provide 1/16 inch radius.
- F. Finish exposed surfaces by trimming and grinding smooth.

## **2.10 QUARTZ SURFACING MATERIAL COUNTERTOPS**

- A. General: Comply with AWS Section 11 and as follows.
- B. Surfacing-Material Thickness: 3/4 inch.
- C. Radius corners and edges. Provide 1/8 inch radius.
- D. Colors, Patterns, and Finishes: As indicated by manufacturer's designations in Finish Schedule.
- E. Fabricate tops in one piece, unless otherwise indicated. Comply with quartz-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.

## **2.11 FLUSH WOOD PANELING**

- A. Core Material:
1. Opaque Finished Paneling: Medium density fiberboard.
  2. Transparent Finished Paneling: Medium density particleboard or medium density fiberboard.
- B. Veneered Surfaces:
1. Veneer Types:
    - a. Opaque Finished Paneling: Exposed MDF.
    - b. Transparent Finished Paneling: As indicated on the Drawings and in the Finish Schedule.
  2. Transparent Finished Panel Matching:

- a. Matching of Adjacent Veneer Leaves: Book matched, unless otherwise indicated.
- b. Veneer Matching With Panel Face: Center balance match, unless otherwise indicated.
- c. Panel Matching Method: Match panels to one another within each separate area by the following method:

- 1) Blueprint sequenced matched panels and components.

- C. Edge Detail: Edge veneer banded with continuous hardwood strips matching face veneer. Panel joints to be flush type unless otherwise shown.

## **2.12 WOOD DOOR FRAMES FOR OPAQUE FINISH**

- A. Frames shall be constructed in accordance with AWS requirements for interior standards, grade as indicated, provided in sizes as shown. In addition, comply with the following:
  - 1. Construct in accordance with AWS Sections 3, 6, and 12.
  - 2. Provide frames in single piece lengths of solid stock hardwood lumber. Form frames with dadoes or rabbeted joints, plant assembled for paint finish.
  - 3. Fabricate subframing from solid lumber stock as hereinbefore specified; fire retardant treated.

## **2.13 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE AND TRANSPARENT FINISHES**

- A. General: Complying with AWS Sections 3 and 6, fabricated from solid hardwood with scarfed joints, profiles as indicated, finishes as indicated.
- B. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- C. Wood Species: Poplar for opaque finishes; solid hardwood plank finished with transparent finished wood veneer in veneer cut as indicated on the Drawings to match adjacent transparent finished veneered items.

## **2.14 CLOSET AND UTILITY SHELVING**

- A. General: Comply with AWS Section 10 and as follows.
- B. Shelf Material: Medium density fiberboard where indicated to be painted; medium density particle board where indicated for plastic laminate or melamine veneer.

- C. Cleats: 3/4-inch solid lumber or thermoset decorative panel.
- D. Finishes: As shown and scheduled on the Drawings.

## **2.15 FLUSH WOOD DOORS FOR TRANSPARENT FINISH**

- A. Construction complying with AWI Woodwork Quality Standards: PC-5 ME particleboard core doors with minimum 1/16 inch thick, properly dried low density hardwood or high density hardboard crossbanding and transparent finished wood face veneers of the specie and cut indicated.
  - 1. Vertical Edges: Same species as face, lumber or veneer, sanded eased edges, without visible joints in lock or hinge edges and free of knife and saw marks.
  - 2. Core: Single thickness slab of particleboard complying with ANSI A208.1, 1-LD-2, hot pressed with synthetic resin glue.
  - 3. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering. Glue lines between the stiles and rails shall be minimum Type II complying with the performance requirements of WDMA TM-6.
  - 4. Crossbanding materials shall extend full width of door with grain running horizontally, tapeless spliced without voids or show through (telegraphing), and directly glued to core and blocking. Sand crossbanding before application of face veneer. Face veneer shall extend full height of door with grain running vertically, tapeless spliced without voids or show through (telegraphing), and directly glued to crossband. Glue lines between the face veneer, crossbanding and blocking shall be of a type to comply with specified warranty using the hot plate process.
- B. Prefitting: Fit wood doors to suit frame opening sizes indicated. Comply with the following:
  - 1. Jamb and Head Clearance: 1/8 inch.
  - 2. Paired Door Openings Meeting Edge: 3/16 inch less than nominal door size for each leaf.
  - 3. Sill Clearance: 1/4 inch from finished floor.
- C. Machining: Machine wood doors, paneling and frames, for hardware. Comply with final hardware schedules, shop drawings, and hardware templates.
  - 1. Hardware Location: +/- 1/32 inch.
  - 2. Pulls and Pivots: +1/32 inch, - 0 inches.
- D. Door Thickness: 1-3/4 inch.

## **2.16 FLUSH WOOD DOORS FOR OPAQUE FINISH**

- A. Construction complying with AWI Woodwork Quality Standards: PC-5 CE particleboard core doors with minimum 1/16 inch thick, properly dried low density hardwood or high density hardboard crossbanding and medium density overlay (MDO) or high density fiberboard (HDF) face veneers.
1. Vertical Edges: Same as veneer, sanded eased edges, without visible joints in lock or hinge edges and free of knife and saw marks.
  2. Core: Single thickness slab of particleboard complying with ANSI A208.1, 1-LD-2, hot pressed with synthetic resin glue.
  3. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering. Glue lines between the stiles and rails shall be minimum Type II complying with the performance requirements of WDMA TM-6.
  4. Crossbanding materials shall extend full width of door with grain running horizontally, tapeless spliced without voids or show through (telegraphing), and directly glued to core and blocking. Sand crossbanding before application of face veneer. Face veneer shall extend full height of door with grain running vertically, and directly glued to crossband. Glue lines between the face veneer, crossbanding and blocking shall be of a type to comply with specified warranty using the hot plate process.
- B. Prefitting: Fit wood doors to suit frame opening sizes indicated. Comply with the following:
1. Jamb and Head Clearance: 1/8 inch.
  2. Paired Door Openings Meeting Edge: 3/16 inch less than nominal door size for each leaf.
  3. Sill Clearance: 1/4 inch from finished floor.
- C. Machining: Machine wood doors, paneling and frames, for hardware. Comply with final hardware schedules, shop drawings, and hardware templates.
1. Hardware Location: +/- 1/32 inch.
  2. Pulls and Pivots: +1/32 inch, - 0 inches.
- D. Door Thickness: 1-3/4 inch.

## **2.17 SHOP FINISHING**

- A. Production finish architectural woodwork at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.
- B. Priming of interior architectural woodwork with field applied opaque finish required to be performed at fabrication shop are specified in this Section. Refer to Section 099123 "Interior Painting" for finishing opaque finished architectural woodwork.

- C. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing architectural woodwork, as applicable to each unit of work.
1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling and to end grain surfaces. Concealed surfaces of plastic-laminate-clad woodwork do not require backpriming when surfaced with plastic laminate, backing paper, or thermoset decorative overlay.
  2. Gluing of face veneers shall, where possible, be by the hot plate method; glued surfaces shall be in close contact throughout. Glue stains will not be permitted.
  3. Grain of all transparent finished wood shall run in the direction shown, or if not shown, as accepted on the shop drawings.
- D. Exposed Surfaces:
1. Opaque Finish[ (OF##)]:
    - a. Grade: Custom.
    - b. AWS System 5: Conversion Varnish.
    - c. Color and Sheen: Match Architect's paint samples.
  2. Plastic Laminate Finish: Gluing of plastic laminate surfacing materials shall be by the hot plate method, glued surfaces shall be in close contact throughout. Glue stains shall not be permitted.
  3. Solid Surfacing Finish: As scheduled.
  4. Quartz Surfacing Finish: As scheduled.
- E. Unexposed Wood Finish: Shop-applied alkyd type primer-sealer.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Condition woodwork to average prevailing humidity conditions in installation areas.
- B. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming before installation.

### **3.2 INSTALLATION**

- A. **Quality Standard:** Install woodwork to comply with requirements of the AWS for the same grade specified in this Section for type of woodwork involved.
1. Install woodwork level, plumb, true, with no distortions, and with no variations in flushness of adjoining surfaces. Shim as required with concealed shims.
  2. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces and repair damaged finish at cuts.
- B. Anchor woodwork to blocking built in or directly attached to substrates. Secure to blocking with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- C. **Standing and Running Trim:** Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 96 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.
1. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base, if finished.
- D. **Cabinets:** Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
1. Install cabinets without sag, bow, or other variation from a straight line.
  2. Maintain veneer sequence matching of cabinets with transparent finish.
  3. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches on center with No. 10 wafer-head screws sized for 1-inch penetration into wood blocking, or hanging strips or with No. 10 wafer-head sheet metal screws through metal backing or metal framing behind wall finish.
- E. **Countertops:** Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
1. Calk space between backsplash and wall with silicone sanitary sealant specified in Section 079200 "Joint Sealants."
  2. Align adjacent solid-surfacing-material countertops and form seams to comply with manufacturer's written recommendations using adhesive in color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.
  3. Secure backsplashes to tops with concealed metal brackets at 16 inches on center and to walls with adhesive.

4. Natural Stone Tops: Refer to Section 097500 "Stone Facing."
  5. Man-Made Stone Tops: Dry fit the fire slate. A minimum of 10 percent of the area to be covered should be in direct contact with the fireslate with particular emphasis of eliminating gaps on the contact perimeter greater than 0.25 inches in span and depth. Adjustment of the fire slate material shall be in accordance with the written instructions of the fireslate manufacturer. Field apply sealer to the fire slate in accordance with the sealer manufacturer's instructions.
- F. Paneling: Anchor paneling to supporting substrate with concealed panel-hanger clips, by blind nailing on backup strips, splined connection strips, and associated trim and framing. Do not use face fastening, unless otherwise indicated. Space panels so that reveals are parallel and of widths indicated.
- G. Built-In Desks and Credenzas: Install without distortion so that doors, and drawers, fit openings properly and are accurately aligned. Adjust hardware to center doors, and drawers, in openings and to provide unencumbered operation. Complete the installation of hardware and accessory items as indicated.
1. Anchor glass tops securely to supporting framing as indicated on the shop drawings.
- H. Doors:
1. Coordinate installation with the work of other trades to ensure exact fit and perfect alignment. Verify dimensions before proceeding and obtain measurements at job site for work required to be accurately fitted to other construction.
  2. Do not install wood doors until interior wet work, such as tile, terrazzo, and wallboard work are complete and dried in the areas to receive the wood doors.
  3. Do not subject wood doors to abnormal humidity, dryness or heat. Do not expose doors to sudden changes in temperature such as forced heat.
  4. Hang wood doors within frames. Align in frames for uniform clearance at each edge matching clearances specified for factory prefitting.
  5. Field cutting, fitting or trimming, if required, shall be executed in a workmanlike manner. Cuts made at the job site shall be sealed immediately after cutting, using a clear varnish or sealer. Restore finish before installation, if fitting or machining is required at the job site for factory finished doors.
  6. Hardware Installation: Install hardware in accordance with the instructions of the door hardware manufacturer; refer to Section 087100 "Door Hardware."
- I. Stainless Steel Cased Openings at Elevator Door Jambs: Install stainless steel cased opening work in locations shown, plumb, level and in alignment with previously completed work. Provide concealed fastening as accepted on the shop drawings, and as necessary for a rigid, secure, and permanent installation. Form tight joints with exposed connections accurately and uniformly fitted together. Do not cut or abrade finishes that cannot be completely restored in the field.

- J. Complete the finishing work specified in this Section to extent not completed at shop or before installation of woodwork.

### **3.3 ADJUSTING AND CLEANING**

- A. Repair damaged and defective woodwork to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean woodwork on exposed and semiexposed surfaces. Touchup shop-applied finishes to restore damaged or soiled areas.
  - 1. Anodized aluminum surfaces shall be cleaned with warm water and mild soaps such as those used for hands or dishes. Do NOT use cleaners that contain abrasives, acids or alkalis, as they will mar the surface. Do NOT clean metal face with solvents, paint thinner or adhesive remover. After washing, always wipe the surface completely dry with a soft, clean cloth. Stubborn stains may be removed with a thin, clean oil and dry cloth.
  - 2. Man-made stone top surfaces shall be cleaned with soap and water followed with a clean water rinse.

### **3.4 PROTECTION**

- A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer, that ensures that woodwork will be without damage or deterioration at time of Substantial Completion.

### **END OF SECTION**