

SECTION 064100
ARCHITECTURAL WOODWORK AND CASEWORK (*AD-03)

PART 1 GENERAL

1.01 DEFINITIONS

- A. Exposed: Portions of casework visible when drawers and cabinet doors are closed, including end panels, bottoms of cases more than 42 inches above finished floor, tops of cases less than 72 inches above finished floor and all members visible in open cases or behind glass doors.
- B. Semi-Exposed: Portions of casework and surfaces behind solid doors, tops of cases more than 72 inches above finished floor and bottoms of cabinets more than 30 inches but less than 42 inches above finished floor.
- C. Concealed: Sleepers, web frames, dust panels and other surfaces not generally visible after installation and cabinets less than 30 inches above finished floor.

1.02 REFERENCE STANDARDS

- A. ANSI A208.1 - American National Standard for Particleboard.
- B. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications.
- C. ANSI A208.1 - American National Standard for Particleboard.
- D. ANSI A208.2 - Medium Density Fiberboard (MDF) for Interior Applications.
- E. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- F. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition.
- G. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards.
- H. BHMA A156.9 - Cabinet Hardware.
- I. CAL (CDPH SM) - Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers Version 1.2.
- J. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board.
- K. EPA (TSCA); Title VI - Toxic Substances Control Act, Title VI: Formaldehyde Standards for Composite Wood Products.
- L. ISFA 2-01 - Classification and Standards for Solid Surfacing Material.
- M. NEMA LD 3 - High-Pressure Decorative Laminates.
- N. SCAQMD 1113 - Architectural Coatings.
- O. SCAQMD 1168 - Adhesive and Sealant Applications.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.

1.04 SUBMITTALS

- A. Product Data: Component dimensions, configurations, construction details, joint details, attachments.
 - 1. Include product data for each type of hardware and accessory.

- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
 - 1. Include field measurements, and indicate where field measurements differ from documents.
- C. Selection Samples: Submit manufacturer's color charts indicating full range of available colors, for each product requiring color selection.
- D. Verification Samples: Submit physical samples, manufacturer's standard size, for each specified finish and color of the following materials:
 - 1. For each type of architectural woodwork profile and paneling, minimum 8 inches square or 8 linear inches in length, illustrating proposed shapes, sizes, and finishes of panels, moldings, and other profiles
 - 2. For each solid wood or wood veneered product indicated to receive transparent finish, provide at least three samples illustrating standard range of wood grain, stain color, and sheen, for selected color.
 - 3. Plastic laminate.
 - 4. Simulated stone quartz.
 - 5. PVC edge banding.
- E. Fabricator Qualifications: Include evidence of accreditation with quality control program.
- F. Certificate: Submit labels and certificates required by quality assurance and quality control programs.

1.05 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with experience on Projects of similar size and scope.
 - 1. Single Source Responsibility: Provide and install this work from single fabricator.
 - a. It is acceptable to subcontract portions of the work to a separate specialty subcontractor (for example, pre-fabricated plastic-laminate-faced casework); however, each fabricator shall be independently accredited; submit accreditation for each fabricator. The primary woodwork contractor shall be responsible for ensuring the work of all Division 06 sections is well coordinated and properly fabricated and installed.
- B. Quality Certification: The Work of this section shall be fabricated in accordance with AWI/AWMAC/WI (AWS) requirements for specified grade(s). Third-party inspection and labels through AWI (QCP) will not be required for this Project.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Comply with Section 2 of the Architectural Woodwork Standards: "Care & Storage."
- B. Deliver woodwork after finishes are complete, including painting, and HVAC is operating at occupancy conditions in all spaces where woodwork will be installed.
- C. Store in an environmentally controlled location. Protect units from moisture damage.

1.07 FIELD CONDITIONS

- A. During and after installation of woodwork, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
- B. Surface Burning Characteristics: Flame spread index of 25, maximum; smoke developed index of 450, maximum; when tested in accordance with ASTM E84, unless otherwise indicated for specific products.
- C. All countertop surfaces shall be NSF approved for food contact.
- D. Accessibility Requirements: Fabricate and install woodwork and casework in compliance with ICC/ANSI A117.1 and with ADA Standards for Accessible Design.
- E. Low-Emitting Materials:
 - 1. Composite Wood: Any composite wood materials installed inside the weatherproofing system shall meet either EPA (TSCA); Title VI for ultra-low-emitting formaldehyde or no added formaldehyde (ULEF / NAUF).
 - 2. Paints and Coatings: Paints and coatings field-applied inside the weatherproofing system shall be tested and determined compliant in accordance with CAL (CDPH SM) AND shall meet applicable VOC limits of CARB (SCM) or SCAQMD 1113.
 - 3. Adhesives and Sealants: Adhesives and sealants field-applied inside the weatherproofing system shall be tested and determined compliant in accordance with CAL (CDPH SM) AND shall meet the chemical content requirements of SCAQMD 1168.

2.02 CABINETS

- A. Quality Standard: Custom Grade, in accordance with AWI/AWMAC/WI (AWS), unless noted otherwise.
- B. Plastic-Laminate-Clad Cabinets: Custom grade, except as modified below. Solid wood and wood panel construction; each unit self-contained and not dependent on adjacent units or building structure for rigidity; in sizes necessary to avoid field cutting except for scribes and filler panels. Include adjustable levelers for base cabinets.
 - 1. Style: Reveal overlay. Ease doors and drawer fronts slightly at edges.
 - 2. Cabinet Nominal Dimensions: Unless otherwise indicated, provide cabinets of widths and heights indicated on drawings, and with following front-to-back dimensions:
 - a. Base Cabinets: 24 inches.
 - b. Tall Cabinets: 24 inches.
 - c. Wall Cabinets: 12-1/2 inches. (Minimum clear interior depth shall be 11 inches)
 - 3. Drawer Construction: Provide AWI premium grade for drawer box construction.
 - 4. Base Construction: Provide adjustable levelers for all base cabinets to facilitate load transfer to the floor, isolate cabinet ends from the floor, and permit leveling.
 - a. Provide one of the following two types of base construction:
 - 1) Separate Sub-Base: Cabinet sub-base shall be separate and continuous (no cabinet body sides-to-floor), exterior grade plywood with concealed fastening to cabinet bottom. Sub-base shall be ladder-type construction of individual front, back, and intermediates, to form a secure and level platform to which cabinets attach. Recess sub-base at exposed cabinet end panels 1/4 inch from face of finished end, for flush installation of finished base material by other trades.

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- 2) Integral Base: Provide end panels, cabinet bottoms, and horizontal toe kick members integrally joined together for structural strength. Adjustable levelers shall be provided at each corner for each cabinet.
- b. Toe Kick: Toe kick shall be nominal 4 inch height. Reduce as necessary via field modification due to construction tolerances and concrete slab levelness to maintain maximum height dimensions indicated.
5. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline.
 - a. Finish: Matte or suede, gloss rating of 5 to 20.
 - b. Surface Color and Pattern: To be selected by Architect from manufacturer's full range.
 - c. Exposed Interior Surfaces: Thermally fused laminate (melamine) is acceptable only at drawer boxes. Provide HPDL, type VGS or CLS, at semi-exposed interiors of cabinets (cabinets with doors). Provide type VGS for exposed interior horizontal shelving surfaces and interiors of open cabinets (no doors).
 - d. Apply undecorated laminate backing sheet to concealed reverse side of plastic laminate finished surfaces.
 - e. Wood Grain Pattern: If wood grain is indicated or selected for plastic laminate color/pattern, provide sequence matched finish across each elevation. Grain shall run vertically across all doors, drawers, fronts, and false fronts; mismatched grain direction is not allowed.
- C. ADA Sink Cabinets: Fabricate a panel of 3/4-inch moisture resistant core material and veneer/cladding material to match adjacent cabinets. Panel shall be removable for service access to undercounter plumbing. Provide with Z-clip attachment system for concealed fastening and with a steel cable retainer, minimum 4 feet long, so that panel can be set aside for service access. Fasten Z-clips and steel cable retainer to panel and to substrate with tamper-resistant fasteners.
 1. Provide an undercounter vertical "apron" piece at front of ADA sink locations as indicated, flush to fronts of adjacent cabinets and finished to match.
- D. **Pre-Fabricated Metal Lateral Filing Cabinet: Provide 5-drawer steel lateral filing cabinet, counterbalanced to prevent tipping, with central lock at top of unit. (*AD-03)**
 1. **Basis-of-Design: Global Furniture Group; 1900 Plus Series. (1936P-5F12)**
 2. **Dimensions: Nominal 42 inch wide, 19.25 inch deep, 66 inch high.**
 - a. **Drawer Height: 12.25 inch high.**
 3. **Hardware: Manufacturer's standard glides with ball bearing suspension; provide side-to-side hanging bars in each drawer.**
 4. **Finish: Manufacturer's standard powder coat; black color.**
- E. **Pre-Fabricated Metal Flat Filing Cabinet: Provide 5-drawer steel flat filing cabinet, with locking kit. (*AD-03)**
 1. **Basis-of-Design: Hollinger Metal Edge; 5-Drawer Extra-Large Flat File (XLFF5425).**
 2. **Dimensions: Nominal 54 inch wide, 41 inch deep, 17 inch high.**
 - a. **Drawer Height: 3 inch high nominal.**
 3. **Hardware: Manufacturer's standard glides with ball bearing suspension. Provide manufacturer's standard chrome pull handles and label holders on each drawer.**
 4. **Finish: Manufacturer's standard powder coat; black color.**

2.03 WOOD-BASED COMPONENTS

- A. Low-Emitting Materials: Provide composite wood products that meet the requirements of EPA (TSCA); Title VI for formaldehyde emissions.
- B. Core Material for Cabinets: ANSI A208.1, Grade M-2 particleboard.
 - 1. At Contractor's option, cabinet backs may be fabricated of ANSI A208.2, Grade MD fiberboard.
- C. Core Material for Countertops: Manufacturer's standard ANSI A208.1, Grade M-2 particleboard, or ANSI A208.2, Grade MD fiberboard.
 - 1. At countertops containing sinks, provide core material meeting ANSI MR10 for moisture resistance. Available Products:
 - a. Arauco North America; Duraflake VESTA Moisture Resistant ULEF.
 - b. Collins Pine; FreeForm.
 - c. Georgia-Pacific; Ultrastock MR MDF.
 - d. Roseburg Forest Products; SkyBlend MR-10.

2.04 PANEL CORE MATERIALS

- A. Particleboard: Composite panel composed of cellulosic particles, additives, and bonding system; comply with ANSI A208.1.
- B. Medium Density Fiberboard (MDF): Composite panel composed of cellulosic fibers, additives, and bonding system; cured under heat and pressure; comply with ANSI A208.2.

2.05 THERMALLY FUSED LAMINATE PANELS

- A. Thermally Fused Laminate (TFL): Melamine- or polyester-resin-saturated decorative papers; for fusion to composite wood substrates under heat and pressure.
 - 1. Test in accordance with NEMA LD 3 Section 3.
 - 2. Panel Core Substrate: Particleboard.
 - 3. Color: White.

2.06 LAMINATE MATERIALS

- A. Manufacturers:
 - 1. Formica Corporation; High Pressure Laminate.
 - 2. Panolam Industries International, Inc; Nevamar Standard HPL.
 - 3. Panolam Industries International, Inc; Pionite Standard HPL.
 - 4. Wilsonart LLC; HD Laminate.
- B. Manufacturers ("Thru-Color" Products):
 - 1. Formica Group; ColorCore2.
 - 2. Panolam Industries International, Inc; Nevamar ThruColor.
 - 3. Panolam Industries International, Inc; Pionite ThruColor.
 - 4. Wilsonart LLC; Solicor.
- C. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
- D. Color and Pattern: To be selected by Architect from Manufacturer's full range to match basis-of-design colors (standard and premium colors) in standard textured finish (textured gloss, fine textured, or suede finish). Basis-of-design textures and colors as follows:
 - 1. PLAM-1: Wilsonart Solicor; "Designer White D354"; Glossy texture.

2. PLAM-2: Wilsonart HD Laminate; "Valley Forge Elm 8231K-79"; Ridgewood Texture Finish. PLAM-2 shall have manufacturer's enhanced scuff resistance (Wilsonart "AEON")
- E. Provide specific types as follows:
1. Horizontal Countertop Surfaces: HGS, 0.048 inch (1.2 mm) nominal thickness.
 2. Vertical Surfaces and Non-Countertop Horizontal Surfaces: VGS, 0.028 inch (0.7 mm) nominal thickness.
 3. Cabinet Liner: CLS, 0.020 inch (0.5 mm) nominal thickness.
 4. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

2.07 QUARTZ SURFACING MATERIAL

- A. Quartz Surfacing (Agglomerate Stone): Engineered stone material consisting of approximately 93% quartz aggregate blended with 7% resins, additives, and environmentally safe non-fade pigments.
1. Products:
 - a. Cambria.
 - b. Cosentino; Silestone.
 - c. E. I. du Pont de Nemours and Company; Zodiaq.
 - d. Hanwha L&C; HanStone.
 - e. LG Hausys America; Viatera.
 - f. CaesarStone.
 - g. Technistone.
 2. Thickness: 20 mm (3/4-inch).
 3. Color and Pattern: As selected by Architect from manufacturer's full line to match basis-of-design colors indicated.
 - a. Type SSM-1: Hanwha HanStone; Coast MV514.
 - b. Type SSM-2: Hanwha HanStone; Royale Blanc BA205.

2.08 COUNTERTOPS

- A. Fabricate in accordance with AWI/AWMAC/WI (AWS), Section 11 - Countertops, Custom Grade and with manufacturer's requirements.
- B. Plastic Laminate Countertops: High-pressure decorative laminate (HPDL) sheet bonded to substrate.
1. Laminate Sheet: NEMA LD 3, Grade HGS, 0.048 inch nominal thickness.
 2. Core: Particleboard or fiberboard as specified, except provide moisture resistant type at sink locations.
 3. Exposed Edge Treatment: Square, substrate built up to 1-1/2 inch thick unless otherwise indicated; covered with 3 mm edge banding with eased ends.
 4. Back and End Splashes: 3/4-inch thick core material with Grade HGS face and 0.5 mm edge banding/tape at edges.
- C. Solid Surfacing/Quartz Countertops: Simulated quartz sheet or plastic resin casting over structural substrate/core material.
1. Solid Surfacing/Quartz Fabrication: Complying with ISFA 2-01 and NEMA LD 3; acrylic or polyester resin, mineral filler, and pigments; homogenous, non-porous and capable of being worked and repaired using standard woodworking tools; no surface coating; color and pattern consistent throughout thickness.

2. Core: Fabricate countertop core of manufacturer's recommended moisture-resistant MDF. Provide continuous structural substrate at unsupported/overhang conditions; ladder construction acceptable over cabinets. Build up core material for total countertop thickness indicated.
3. Fabricate in accordance with manufacturer's standard requirements, and in one piece to the greatest extent possible.
 - a. Shop-fabricate cutouts and holes in countertops for plumbing fixtures, deck-mounted soap dispensers, and other items indicated on Drawings.
4. Provide manufacturer's standard configuration for exposed edges, back and end splashes, and per the requirements below:
 - a. Edge and Corner Profiles: Eased.
 - b. Provide built up edges to standard thickness indicated (1-1/2 inches unless otherwise indicated).
 - c. Provide 4 inch high back and end splashes, unless otherwise indicated.

2.09 ACCESSORIES & ACCESSORY MATERIALS

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Plastic Edge Banding: Extruded PVC, flat shaped; smooth finish; of width to match component thickness.
 1. Provide 3 mm edge banding at all door and drawer front edges and laminate countertop edges.
 2. Provide 0.5 mm edge banding (tape) at cabinet body edges, shelf edges, and other semi-exposed/exposed interior edges.
 3. Color: To be selected by Architect from Manufacturer's full range.
- C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.
- D. Concealed Joint Fasteners: Threaded steel.
- E. Grommets: Standard plastic grommets for cut-outs, in black color unless otherwise indicated.
 1. Grommet Size: To fit 2-1/2 inch diameter cut-out, nominal, unless otherwise indicated.
 2. Grommets shall have removable caps and slot for wire passage.
- F. Undercounter Wire Management: Provide the following, as indicated:
 1. Vinyl J-shaped channel wire manager for undercounter mounting, continuous for full length of countertop.

2.10 HARDWARE

- A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.
- B. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated shelf rests, polished chrome finish, for nominal 1 inch spacing adjustments.
- C. Workstation Brackets: Fixed, L-shaped, corner reinforced, face-of-stud mounting. Provide at all countertop/worksurface that is unsupported by cabinetry at 16 inches o.c., unless otherwise indicated.
 1. Materials: Formed steel shapes.
 - a. Finish: Manufacturer's standard, factory-applied, textured powder coat.
 - b. Color: To be selected by Architect from manufacturer's full range.

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2. Load Capacity: 1000 lbs minimum per pair of brackets, tested at 16 inches o.c. spacing.
3. Size: Provide nominal sizes below. Provide additional sizes as required for other countertop/workstation applications indicated on Drawings.
 - a. Provide 21 inches high by 28 inches deep for standard 30 inch deep countertops.
 - b. Provide 21 inches high by 21 inches deep for standard 25 inch deep countertops.
4. Products:
 - a. A&M Hardware, Inc; Standard Brackets.
 - b. Best Brackets; ADA Workstation Support Standard Steel Bracket.
 - c. FastCap; SpeedBrace.
 - d. Lyman Associates; Counter Top Supports.
 - e. Substitutions: See Section 016000 - Product Requirements.
- D. Drawer and Door Pulls: BHMA A156.9, B02011, back-mounted "U" shaped wire pull, steel with chrome finish, 4 inch centers.
- E. Cabinet and Drawer Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish. Provide on all cabinet doors and drawers unless otherwise indicated.
- F. Drawer Slides:
 1. Type: Full extension.
 2. Static Load Capacity: Heavy Duty grade.
 - a. For standard box drawers under 30 inches wide, provide BHMA Grade 1HD-100 with minimum load capacity of 100 lbf.
 - b. For file drawers and drawers 30 inches wide or larger, provide BHMA Grade 2HD-200 with minimum load capacity of 200 lbf.
 - c. For pencil drawer slides, provide 3/4 extension with minimum load capacity of 45 lbf.
 3. Mounting: Side mounted.
 4. Stops: Integral type.
 5. Features: Provide soft close type.
 6. Manufacturers:
 - a. Accuride International, Inc.
 - b. Fulterer USA.
 - c. Grass America Inc.
 - d. Knape & Vogt Manufacturing Company.
- G. Hinges: Butt type, BHMA A156.9, Grade 1, 2-3/4 inch, 5-knuckle steel with nickel-plated finish. Provide with antifriction bearings and rounded hospital tips.
 1. Provide two hinges for doors less than 48 inches high, and three hinges for doors more than 48 inches high.

2.11 FABRICATION

- A. Assembly: Shop assemble casework items for delivery to site in units easily handled and to permit passage through building openings.
 - B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
 - C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
 1. Fittings and Fixture Locations: Cut and drill components for fittings and fixtures.
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2. Scribes and Fillers: Panels of matching construction and finish, for locations where cabinets do not fit tight to adjacent construction.
3. Seal or prime paint concealed cut edges of wood and laminate casework.
- D. Hardware Application: Factory-machine casework members for hardware that is not surface applied.
- E. Apron Frames: Construction similar to other cabinets, with modifications.
 1. Frames fabricated from panels standard with the manufacturer. Include front and back panels, with drawer suspension framing mechanically fastened to support channels spanning between them.
- F. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel exposed edges.
- G. Solid Surfacing/Quartz: Fabricate in one piece to greatest extent possible; join pieces with adhesive sealant and finish joints smooth in accordance with manufacturer's recommendations and instructions.
 1. Fabricate with butt-jointed / square edge at all corners. Mitered solid surface corners are not acceptable.
- H. Countertop Fabrication: Fabricate tops and splashes in the largest sections practicable, with top surface of joints flush.
 1. Fabricate to overhang fronts and ends of cabinets 1 inch except where top butts against cabinet or wall, or as indicated.
 2. Prepare all cutouts accurately to size; replace tops having improperly dimensioned or unnecessary cutouts or fixture holes.
- I. Provide back/end splash wherever counter edge abuts vertical surface unless otherwise indicated.
 1. Height: 4 inches, unless otherwise indicated.
 2. Mechanically fasten back and end splashes to countertops with steel brackets at 16 inches on center.
- J. Wall-Mounted Counters (not mounted over cabinets): Provide ADA compliant knee space with brackets, skirts, or aprons, as indicated on Drawings.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Site Verification of Environmental Conditions:
 1. Do not deliver woodwork or casework until the following conditions have been met:
 - a. Building has been enclosed (windows and doors sealed and weather-tight).
 - b. An operational HVAC system that maintains temperature and humidity at occupancy levels has been put in place.
 - c. Ceiling, overhead ductwork, piping, and lighting have been installed.
 - d. Installation areas do not require further "wet work" construction.
- B. For Base Cabinets Installation: Examine floor levelness and flatness of installation space. Do not proceed with installation if encountered floor conditions required more than 1/2 inch leveling adjustment. When installation conditions are acceptable, for each space, establish the high point of the floor. Set and make level and plumb first cabinet in relation to this high point, and provide field modifications as required to not exceed maximum height dimensions.

1. Construction tolerances shall not apply to casework maximum height dimensions; maximum indicated dimension shall be maintained at any point along the length of casework, regardless of floor levelness.
 2. Field modifications shall be made to the toe kick to account for leveling due to floor levelness.
- C. For Wall Cabinets Installation: Examine wall surfaces in installation space. Do not proceed with installation if the following conditions are encountered:
1. Maximum variation from plane of masonry wall exceeds 1/4 inch in 10 ft and 1/2 inch in 20 ft or more, and/or maximum variation from plumb exceeds 1/4 inch per story.
 2. Maximum Variation of finished gypsum board surface from true flatness: 1/8 inch in 10 feet in any direction.
- D. Verify adequacy of backing and support framing.
- E. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

- A. Install work in accordance with AWI/AWMAC/WI (AWS) requirements for grade(s) indicated and in accordance with manufacturer's instructions.
- B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
- C. Use fixture attachments in concealed locations for wall mounted components.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- E. Secure cabinets to floor using appropriate angles and anchorages.
- F. Fasten together cabinets in continuous runs, with joints flush, uniform and tight. Misalignment of adjacent units not to exceed 1/16 inch. In addition, do not exceed the following tolerances:
1. Variation of Tops of Base Cabinets from Level: 1/16 inch in 10 feet.
 2. Variation of Bottoms of Wall Cabinets from Level: 1/8 inch in 10 feet.
 3. Variation of Faces of Cabinets from a True Plane: 1/8 inch in 10 feet.
 4. Variation of Adjacent Surfaces from a True Plane (Lippage): 1/32 inch.
 5. Variation in Alignment of Adjacent Door and Drawer Edges: 1/16 inch.
- G. Secure wall cabinets at top and bottom, at each end and no more than 16 inches on center. Secure directly into metal wall framing, or into FRT wood or metal channel blocking with No. 10 wafer head screws. Wall mounted hanger strips are not acceptable.
- H. Countertops: Install countertops intended and furnished for field installation in one true plane, with ends abutting at hairline joints, and no raised edges.
- I. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.03 ADJUSTING

- A. Test installed work for rigidity and ability to support loads.
- B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

3.05 PROTECTION

- A. Do not permit finished casework to be exposed to continued construction activity.
- B. Protect casework and countertops from ongoing construction activities. Prevent workmen from standing on, or storing tools and materials on casework or countertops.
- C. Repair damage, including to finishes, that occurs prior to Date of Substantial Completion, using methods prescribed by manufacturer; replace units that cannot be repaired to like-new condition.

END OF SECTION 064100