SECTION 123213 - MANUFACTURED WOOD-VENEER-FACED CASEWORK

Revise this Section by deleting and inserting text to meet Project-specific requirements.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes:

Wood-veneer-faced casework.

Casework hardware and accessories.

Refer to sections listed below for cross-reference requirements Contractor might expect to find in this Section but are specified in other Sections. Sections listed below are for spec editor’s and design team coordination and are to remain as Editor’s Notes. Remove referenced specification sections within the body of the specification if not applicable to the project.

[Section 061000 "Rough Carpentry"] [Section 061053 "Miscellaneous Rough Carpentry"] for wood blocking for anchoring casework.

Section 092216 "Non-Structural Metal Framing" for reinforcements in metal-framed partitions for anchoring casework.

Section 096513 "Resilient Base and Accessories" for resilient base applied to wood-veneer-faced casework.

Section 123553.19 "Wood Laboratory Casework."

* + - 1. DEFINITIONS
         1. Definitions in the AWI/AWMAC/WI's "Architectural Woodwork Standards" apply to the Work of this Section.
      2. PREINSTALLATION MEETINGS

Retain "Preinstallation Conference" Paragraph below if Work of this Section is extensive or complex enough to justify a conference.

* + - * 1. Preinstallation Conference: Conduct conference at Project site.

Retain "Keying Conference" Paragraph below if Director’s Representative has special keying requirements for locks.

* + - * 1. Keying Conference: Conduct conference at Project site. Incorporate keying conference decisions into final keying requirements.
      1. COORDINATION

Retain this article if casework is supported by framed construction and details of reinforcements are not indicated on Drawings.

* + - * 1. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that casework can be supported and installed as indicated.
      1. SUBMITTALS
         1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
         2. Manufacturer’s installation instructions shall be provided along with product data.
         3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
         4. Product Data: For each type of product.

Include manufacturer’s installation instructions.

* + - * 1. Sustainable Design Submittals:
        2. Shop Drawings: For wood-veneer-faced casework.

Include plans, elevations, sections, and attachments to other work including blocking and reinforcements required for installation.

Indicate types and sizes of casework.

Indicate manufacturer's catalog numbers for casework.

Show fabrication details, including types and locations of hardware.

Indicate locations of and clearances from adjacent walls, doors, windows, other building components, and equipment.

Retain subparagraph below and applicable option if retaining other requirements for AWI's quality certification programs.

Apply AWI's Quality Certification Program label to Shop Drawings.

* + - * 1. Keying Schedule: Include schematic keying diagram and index each key set to unique designations that are coordinated with the Contract Documents.
        2. Samples for Initial Selection: For casework and hardware finishes.
        3. Samples for Verification: For the following:

Casework Finishes: 8-by-10-inch Samples for each type and color of finish.

Retain "Base Cabinet," "Wall Cabinet," and "Full-Size Samples" subparagraphs below if full-size Samples are required. They might add time and cost to Project and might be unnecessary if manufacturers are restricted to a list of those known to be acceptable.

Base Cabinet: One full-size, [**16-inch**] <**Insert dimension**> wide, finished base cabinet complete with hardware, doors, and drawers but without countertop.

Wall Cabinet: One full-size, [**12-inch**] <**Insert dimension**> wide, finished wall cabinet complete with hardware, doors, and adjustable shelves.

Full-Size Samples: Maintain at Project site during construction in an undisturbed condition as a standard for judging the completed Work. Unless otherwise indicated, approved sample units may become part of the completed Work if in undisturbed condition at time of Substantial Completion. Notify Director’s Representative of their locations.

* + - * 1. Quality Control Submittals:

Qualification Data: For [**casework manufacturer**] [**and**] [**Installer**].

Sample Warranty: For special warranty.

Retain "Field quality-control reports" Paragraph below if AWI field inspections are retained in "Field Quality Control" Article. Typically, AWI does not perform inspections for every "certified" project. If field inspection is required, Director’s Representative and Contractor have the option to request these inspections at any time, at no cost to Director’s Representative.

Field quality-control reports.

* + - * 1. Contract Closeout Submittals:

Retain "Quality Standard Compliance Certificates" Paragraph below only if retaining requirements for AWI's Quality Certification Program or WI's Certified Compliance Program.

Quality Standard Compliance Certificates: [AWI's Quality Certification Program] [WI's Certified Compliance Program] certificates.

* + - * 1. Maintenance Material Submittals:

Furnish complete touchup kit for each casework finish provided. Include fillers, stains, finishes, and other materials necessary to perform permanent repairs to damaged casework finish.

* + - 1. QUALITY ASSURANCE
         1. Installer Qualifications: [**An authorized representative who is trained and approved by manufacturer**] [**and**] [**licensed participate in AWI's Quality Certification Program**].
      2. DELIVERY, STORAGE, AND HANDLING
         1. Protect finished surfaces during handling and installation with protective covering of polyethylene film or other suitable material.
      3. FIELD CONDITIONS

Retain option in "Environmental Limitations" Paragraph below if humidity is controlled during occupancy.

* + - * 1. Environmental Limitations: Do not deliver or install casework 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 remainder of construction period.[**Maintain temperature and relative humidity during remainder of construction period in range recommended for Project location by the AWI/AWMAC/WI's "Architectural Woodwork Standards."**]

For new work, usually retain "Established Dimensions" Paragraph and delete "Field Measurements" Paragraph below; for remodeling work, retain "Field Measurements" Paragraph.

* + - * 1. Established Dimensions: Where casework is indicated to fit to other construction, establish dimensions for areas where casework is to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.
        2. Field Measurements: Where casework is indicated to fit to existing construction, verify dimensions of existing construction by field measurements before fabrication and indicate measurements on Shop Drawings. Provide fillers and scribes to allow for trimming and fitting.
        3. Locate concealed framing, blocking, and reinforcements that support casework by field measurements before enclosing them, and indicate measurements on Shop Drawings.
      1. WARRANTY

When warranties are required, verify with the Director’s counsel that warranties stated in this article are not less than remedies available to the Facility under prevailing local laws.

* + - * 1. Special Warranty: Manufacturer agrees to repair or replace components of casework that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Delamination of components or other failures of glue bond.

Warping of components.

Failure of operating hardware.

Deterioration of finishes.

Verify available warranties and warranty periods for units and components.

Warranty Period: [**Five**] <**Insert number**> years from date of Substantial Completion.

1. PRODUCTS

Before selecting manufacturers and products, verify availability, suitability for intended applications, and compliance with minimum performance requirements.

Product options commonly available from manufacturers are included in square brackets throughout the Section Text. Not every manufacturer listed can provide every option offered; verify availability with manufacturers.

* + - 1. MANUFACTURERS
         1. Source Limitations: Obtain from single source from single manufacturer.
      2. GENERAL REQUIREMENTS FOR CASEWORK
         1. Quality Standard: Unless otherwise indicated, comply with the AWI/AWMAC/WI's "Architectural Woodwork Standards" for grades of casework indicated for construction, finishes, installation, and other requirements.

Grade: Custom.

If retaining subparagraph below, verify applicability of certification for Project's geographic location. AWI has licensed manufacturers throughout the United States. Certification programs of AWI are available to member and nonmember firms. AWI inspects work and provides certification for work that passes inspection if manufacturer is not licensed.

Provide labels and certificates from AWI certification program indicating that casework complies with requirements of grades specified.

Retain one of two subparagraphs below if Project is to be certified under AWI's Quality Certification Program.

This Project has been registered with AWI as AWI's Quality Certification Program Number <**Insert number**>.

Contractor shall register the Work under this Section with the AWI Quality Certification Program at www.awiqcp.org or by calling 855-345-0991.

* + - * 1. Product Designations:

Retain one of two subparagraphs below if applicable.

Drawings indicate configurations of manufactured wood-veneer-faced casework by referencing designations of Casework Design Series numbering system in the Appendix of the AWI/AWMAC/WI's "Architectural Woodwork Standards."

* + - 1. WOOD-VENEER-FACED CASEWORK
         1. Design: [**Face-frame**] [**Frameless**] cabinet construction with the following door and drawer-front style:

Retain one of three subparagraphs below. Flush-overlay doors and drawer fronts require frameless construction. Verify availability with manufacturers.

Lipped overlay with radiused wood edges[**and full-width, recessed finger pulls machined into faces of doors and drawers**].

Reveal overlay[**with recessed finger pulls machined into faces of doors and drawers**].

Flush overlay.

* + - * 1. Wood Species: [**Red oak**] [**White birch**] [**Red birch**] [**Alder**] [**White maple**] [**Hickory**] <**Insert requirements**>.

Wood Stain Colors and Finishes: [**As indicated by manufacturer's designations**] [**Match Director’s Representative's sample**] [**As selected by Director’s Representative from casework manufacturer's full range**] <**Insert requirements**>.

Plain sliced is typical cut for manufactured wood casework.

* + - * 1. Face Veneer Cut: [**Plain sliced**] [**Quarter sliced**] [**Rift cut**] [**Rotary cut**] <**Insert requirements**>.
        2. Veneer Matching:

Retain one of three subparagraphs below. Before specifying, verify availability of various veneer-matching schemes with manufacturers.

None required; select and arrange veneers for compatible grain and color.

Provide veneers for each cabinet from a single flitch, [**book and running**] [**slip and running**] [**book or slip and running**] [**book and balance**] [**slip and balance**] [**book or slip and balance**] matched.

First subparagraph below applies to drawer fronts with horizontal grain.

Provide continuous matching of adjacent drawer fronts within each cabinet.

Provide veneers for each elevation from a single flitch, [**book and running**] [**slip and running**] [**book or slip and running**] [**book and balance**] [**slip and balance**] [**book or slip and balance**] matched.

Subparagraph below applies to drawer fronts with horizontal grain.

Provide continuous matching of adjacent drawer fronts within each cabinet and end matching between drawer fronts of adjacent cabinets.

* + - * 1. Grain Direction:

Doors: Vertical with continuous vertical matching.

Drawer Fronts: [**Vertical with continuous vertical matching**] [**Horizontal**].

Face Frame Members: Lengthwise.

End Panels: Vertical.

Bottoms and Tops of Units: Side to side.

Knee Space Panels: Vertical.

Aprons: Horizontal.

* + - * 1. Exposed Materials:

Plywood: Hardwood plywood with face veneer of species indicated, selected for compatible color and grain. Provide backs of same species as faces.

Solid Wood: Clear hardwood lumber of species indicated and selected for grain and color compatible with exposed plywood.

Edgebanding: [**Solid wood, minimum 1/8 inch thick and of same species as face veneer**] [**Wood veneer of same species as face veneer**] [**PVC**].

Retain "PVC Edgebanding Color" Subparagraph below if retaining third option in "Edgebanding" Subparagraph above.

PVC Edgebanding Color: [**Casework manufacturer's standard**] [**As selected by Director’s Representative from casework manufacturer's full range**] <**Insert requirements**>.

* + - * 1. Semi-exposed Materials:

Wood: Provide solid wood or hardwood plywood for semi-exposed surfaces unless otherwise indicated.

Solid Wood: Sound hardwood lumber, selected to eliminate appearance defects, of [**species similar in color and grain to**] [**same species as**] exposed wood.

Plywood: Hardwood plywood of [**species similar in color and grain to**] [**same species as**] exposed wood. Provide backs of same species as faces.

Retain "Thermally Fused Laminate (TFL) Panels" Subparagraph below if allowed.

Thermally Fused Laminate (TFL) Panels: Provide thermally fused laminate panels for semiexposed surfaces, except provide solid wood or hardwood plywood for interior faces of doors and drawer fronts and other locations where opposite side of component is exposed.

If retaining first option in "Colors and Patterns" Subparagraph below, indicate colors and patterns in a separate schedule.

Colors and Patterns: [**As indicated by manufacturer's designations**] [**As selected by Director’s Representative from manufacturer's full range**] <**Insert requirements**>.

Retain "Hardboard" Subparagraph below if allowed.

Hardboard: Use only for cabinet backs where exterior side of back is not exposed.

Retain "Metal for Steel Drawer Pans" Subparagraph below if using steel drawer pans.

Metal for Steel Drawer Pans: Cold-rolled, carbon-steel sheet complying with ASTM A1008; matte finish; suitable for exposed applications.

* + - * 1. Concealed Materials:

Solid Wood: With no defects affecting strength or utility.

Plywood: Hardwood plywood. Provide backs of same species as faces.

Particleboard.

MDF.

Retain "Hardboard" Subparagraph below if allowed for cabinet backs.

Hardboard.

* + - 1. CASEWORK HARDWARE AND ACCESSORIES

This article includes common hardware items; revise to suit Project.

* + - * 1. Hardware, General: Unless otherwise indicated, provide manufacturer's standard [**satin-finish**] [**mirror polished-finish**] [**powder-coated**], commercial-quality, heavy-duty hardware.

Use threaded metal or plastic inserts with machine screws for fastening to particleboard except where hardware is through-bolted from back side.

Heavy-duty butt hinges are stronger than frameless concealed hinges (European type).

* + - * 1. Butt Hinges: [**Stainless steel**] [**Chrome-plated**] [**Powder-coated**], semiconcealed, five-knuckle hinges complying with ANSI/BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide two hinges for doors less than 48 inches high, and provide three hinges for doors more than 48 inches high.
        2. Frameless Concealed Hinges (European Type): ANSI/BHMA A156.9, Type B01602[**, self-closing**]. Provide two hinges for doors less than 48 inches high, and provide three hinges for doors more than 48 inches high.

Degrees of Opening: [**100**] [**135**] [**170**] degrees.

* + - * 1. Wire Pulls: Solid [**nylon**] [**aluminum**] [**stainless steel**] [**or**] [**chrome-plated brass**] wire pulls, fastened from back with two screws.

For sliding doors, provide recessed [**stainless steel**] [**or**] [**chrome-plated**] flush pulls.

Provide two pulls for drawers more than 24 inches wide.

* + - * 1. Semirecessed Pulls: Plastic. For sliding doors, provide recessed plastic flush-pulls. Provide two pulls for drawers more than 24 inches wide.

"Door Catches" Paragraph below can be deleted if using self-closing hinges. Magnetic catches are less expensive than roller spring catches but are not as effective.

* + - * 1. Door Catches: [**Zinc-plated**] [**Powder-coated**], [**nylon-roller spring catch**] [**or**] [**dual, self-aligning, permanent magnet catch**]. Provide two catches on doors more than 48 inches high.
        2. Door and Drawer Bumpers: Self-adhering, clear silicone rubber.

Doors: Provide one bumper at top and bottom of closing edge of each swinging door.

Drawers: Provide one bumper on back side of drawer front at each corner.

* + - * 1. Drawer Slides: ANSI/BHMA A156.9.

Retain first subparagraph below for manufacturer's standard drawer slides.

Manufacturer's standard.

Revise subparagraphs below if retaining a standard manufacturer option, or if Project requires drawer slides specified by features and load capacity.

Standard Duty (Grade 1): [**Side mount**] [**Undermount**].

Heavy Duty (Grade 1HD-100): [**Side mount**] [**Undermount**].

Type: [**Full**] [**Full overtravel**] [**Partial**] extension.

Material: [**Epoxy-coated polymer**] [**Zinc-plated ball bearing**] slides.

"Soft close dampener" is only available with epoxy-coated polymer slides; "self-closing mechanism" is only offered with ball bearing drawer slides.

Motion Feature: [**Soft close dampener**] [**Self-closing mechanism**].

Below subparagraphs are stock casework drawer types and their associated minimum load capacity. Revise as necessary.

General-purpose drawers; provide [**100 lb**] <**Insert weight**> load capacity.

File drawers; provide [**150 lb**] <**Insert weight**> load capacity.

* + - * 1. Label Holders: [**Stainless steel**] [**or**] [**chrome plated**], sized to receive standard label cards approximately 1 by 2 inches, and attached with screws or brads.

Provide label holders [**where indicated**] [**on drawers**].

Retain “Drawer and Hinged-Door Locks” if locks and keying system is separate from Section 087100 “Door Hardware” requirements. Coordinate with Design team. Revise as required.

* + - * 1. Drawer and Hinged-Door Locks: [**Cylindrical (cam)**] [**Mortise**] type, five-pin tumbler, brass with chrome-plated finish, and complying with ANSI/BHMA A156.11, Grade 1.

Provide a minimum of two keys per lock and six master keys.

Provide locks [**where indicated**] [**on every door and drawer**].

Master key for up to [**500**] <**Insert number**> key changes.

* + - * 1. Sliding-Door Hardware Sets: Manufacturer's standard, to suit type and size of sliding-door unit.
        2. Adjustable Shelf Supports:

Retain one of two subparagraphs below. Products in first subparagraph are standard with many manufacturers; products in second are stronger.

Pin-type, [**two-pin-locking plastic shelf rests complying with ANSI/BHMA A156.9, Type B04013**] [**single-pin metal shelf rests complying with ANSI/BHMA A156.9, Type B04013**].

Mortise-type, [**zinc-plated**] [**powder-coated**] steel standards and shelf rests complying with ANSI/BHMA A156.9, Type B04071 and Type B04091.

* + - 1. MATERIALS
         1. Maximum Moisture Content for Lumber: 7 percent for hardwood and 12 percent for softwood.
         2. Hardwood Plywood: HPVA HP-1, particleboard core except where veneer core is indicated.
         3. Softwood Plywood: DOC PS 1.
         4. Particleboard: ANSI A208.1, Grade M-2.
         5. MDF: Medium-density fiberboard, ANSI A208.2, [**Grade 130**] <**Insert grade**>.

Retain "Hardboard" Paragraph below if allowed for cabinet backs.

* + - * 1. Hardboard: ANSI A135.4, Class 1 tempered.

Retain "PVC Edgebanding for Wood" Paragraph below unless wood edgebanding is required.

* + - * 1. PVC Edgebanding for Wood: Rigid PVC extrusions, through color with satin finish, 3.0 mm thick at doors and drawer fronts, 1.0 mm thick elsewhere.
        2. Thermally Fused Laminate (TFL) Panels: Particleboard or MDF finished with thermally fused, melamine-impregnated decorative paper and complying with requirements of NEMA LD 3, Grade VGL, for Test Methods 3.3, 3.4, 3.6, 3.8, and 3.10.

Edgebanding for Thermally Fused Laminate (TFL) Panels: PVC or polyester edgebanding matching thermally fused laminate panels.

* + - * 1. Glass for Glazed Doors:

Clear float glass complying with ASTM C1036, Type I, Class 1, Quality-Q3; not less than [**3.0 mm**] [**4.0 mm**] [**5.0 mm**] [**6.0 mm**] thick.

Clear tempered glass complying with ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality-Q3; not less than 5.0 mm thick.

Clear laminated annealed glass complying with ASTM C1172, Kind LA, Condition A, Type I, Class I, Quality-Q3; with two plies not less than 3.0 mm thick and with clear, polyvinyl butyral interlayer.

* + - * 1. Frameless Glass Doors: Clear tempered glass complying with ASTM C1048, Kind FT, Condition A, Type I, Class 1, Quality-Q3; not less than [**5.0 mm**] [**6.0 mm**] thick; with exposed edges seamed before tempering.
      1. FABRICATION

Coordinate requirements retained in this article with "Quality Standard" Paragraph in "Casework, General" Article. Alternatively, delete this article and rely on the referenced quality standard to establish minimum requirements.

* + - * 1. Wood-Veneer-Faced Cabinet Construction: As required by referenced quality standard, but not less than the following:

Bottoms of Cabinets and Tops of Wall Cabinets: 3/4-inch thick, [**veneer-core**]hardwood plywood.

Ends of Cabinets: 3/4-inch thick, hardwood plywood.

Shelves: 3/4-inch thick, veneer-core hardwood plywood or 1-inch thick, particleboard-core hardwood plywood.

Retain one or more of "Base Cabinet Top Frames," "Base Cabinet Stretchers," and "Base Cabinet Subtops" subparagraphs below. Some base cabinets have top frames, but others have either flat stretchers or subtops, which generally do not provide as much sturdiness as top frames provide.

Base Cabinet Top Frames: 3/4-by-2-inch solid wood with mortise and tenon or doweled connections, glued and pinned or screwed.

Base Cabinet Stretchers: 3/4-by-4-1/2-inch plywood, particleboard, or MDF strips or solid-wood boards at front and back of cabinet, glued and pinned or screwed.[**May be provided as an option to base cabinet top frames.**]

Base Cabinet Subtops: 3/4-inch thick panel product, glued and pinned or screwed.[**May be provided as an option to base cabinet top frames.**]

Backs of Cabinets: 3/4-inch thick, particleboard-core hardwood plywood where exposed, [**1/4-inch thick hardboard**] [**1/4-inch thick, veneer-core hardwood plywood**] [**1/2-inch thick hardwood plywood**], dadoed into sides, bottoms, and tops where not exposed.

Drawer Fronts: 3/4-inch thick, particleboard-core hardwood plywood or solid hardwood.

Retain "Drawer Sides and Backs" and "Drawer Bottoms" subparagraphs, or retain "Drawer Bodies" Subparagraph below.

Drawer Sides and Backs: 1/2-inch thick, solid-wood or [**veneer-core**]hardwood plywood, with glued dovetail or multiple-dowel joints.

Drawer Bottoms: 1/4-inch thick, veneer-core hardwood plywood, glued and dadoed into front, back, and sides of drawers.[**Use 1/2-inch thick material for drawers more than 24 inches wide.**]

Drawer Bodies: Steel drawer pans formed from 0.036-inch thick metal, metallic phosphate treated, and finished with manufacturer's standard two-coat, baked-enamel finish consisting of prime coat and thermosetting topcoat with a minimum dry film thickness of 1 mil for topcoat and 2 mils for system.

Doors [**48 Inches or Less in Height**]: 3/4 inch thick, with particleboard or MDF cores, and hardwood face veneers and crossbands.

Provide solid-hardwood stiles and rails**.**

Doors more than 48 inches high are also available in 3/4-inch thickness, which provides a consistent look and costs less.

Doors More Than 48 Inches in Height: [**1-1/16 inches thick, with solid hardwood stiles and rails, honeycomb cores,**] [**1-1/8 inches thick, with particleboard cores**] and hardwood face veneers and crossbands.

* + - * 1. Filler Strips: Provide as needed to close spaces between casework and walls, ceilings, and equipment. Fabricate from same material and with same finish as casework.
      1. FINISH
         1. Preparation: Sand lumber and plywood before assembling. Sand edges of doors and drawer fronts and molded shapes with profile-edge sander. Sand casework after assembling for uniform smoothness at least equivalent to that produced by 220-grit sanding and without machine marks, cross sanding, or other surface blemishes.
         2. Staining: Remove fibers and dust and apply wash-coat sealer and stain to exposed and semiexposed surfaces as required to provide uniform color and to match approved Samples.

Closed-grain woods include birch and maple; open-grain woods include ash and oak.

* + - * 1. Finishing Closed-Grain Woods: Apply manufacturer's standard two-coat, baked, clear finish consisting of a thermosetting catalyzed sealer and a thermosetting catalyzed conversion varnish. Sand and wipe clean between applications of sealer and topcoat. Topcoat may be omitted on concealed surfaces.
        2. Finishing Open-Grain Woods: Apply manufacturer's standard three-coat, baked, clear finish consisting of a thermosetting catalyzed sealer and two coats of a thermosetting catalyzed conversion varnish. Sand and wipe clean between applications of sealer and topcoat and between topcoats. Topcoats may be omitted on concealed surfaces.

1. EXECUTION
   * + 1. EXAMINATION
          1. Examine areas, with Installer present, for compliance with requirements for installation tolerances, location of framing and reinforcements, and other conditions affecting performance of the Work.
          2. Proceed with installation only after unsatisfactory conditions have been corrected.
       2. INSTALLATION
          1. Grade: Install casework to comply with same quality standard grade as item to be installed.
          2. Install casework level, plumb, and true in line; shim as required using concealed shims. Where casework abuts other finished work, apply filler strips and scribe for accurate fit, with fasteners concealed where practical.
          3. Base Cabinets: Set cabinets straight, level, and plumb. Adjust subtops within 1/16 inch of a single plane. Align similar adjoining doors and drawers to a tolerance of 1/16 inch. Bolt adjacent cabinets together with joints flush, tight, and uniform.
          4. Wall Cabinets: Hang cabinets straight, level, and plumb. Adjust fronts and bottoms within 1/16 inch of a single plane. Fasten cabinets to hanging strips, masonry, framing, wood blocking, or reinforcements in walls and partitions. Align similar adjoining doors to a tolerance of 1/16 inch.
          5. Fasten casework to adjacent units and to masonry, framing, wood blocking, or reinforcements in walls and partitions to comply with the AWI/AWMAC/WI's "Architectural Woodwork Standards."
          6. Install hardware uniformly and precisely. Set hinges snug and flat in mortises unless otherwise indicated. Adjust and align hardware so moving parts operate freely and contact points meet accurately. Allow for final adjustment after installation.
          7. Adjust operating hardware so doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.
       3. FIELD QUALITY CONTROL

Retain "Inspections" Paragraph below to require inspection of installed Work by AWI. Under AWI a quality programs, Director’s Representative has the right to request an inspection at any time during Project.

* + - * 1. Inspections: Provide inspection of installed Work through [**AWI's Quality Certification Program**] certifying that woodwork, including installation, complies with requirements of the Architectural Woodwork Standards for the specified grade.

Inspection entity shall prepare and submit report of inspection.

* + - 1. CLEANING
         1. Repair or remove and replace defective work as directed on completion of installation.
         2. Clean finished surfaces, touch up as required, and remove or refinish damaged or soiled areas to match original factory finish, as approved by Director’s Representative.

END OF SECTION 123213