

SECTION 064000
ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. This section includes the following:
1. Laminate-clad cabinets (plastic-covered casework).
 2. Plastic-laminate countertops.
 3. Solid surface countertops.
 4. Shop finishing of woodwork.
 5. Clear Finished Maple window sills.

1.02 RELATED SECTIONS

- A. Division 6 Section - Rough Carpentry: Exposed framing and furring, blocking, shims, and hanging strips for installing woodwork.
- B. Division 8 Section - Door Hardware.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01330, product data for each type of product and process specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.
- B. Submit fire-retardant-treatment data for material treated to reduce combustibility. Include certification by treating plant that treated materials comply with requirements.
- C. Submit shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
1. Show details full size.
 2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcing specified in other Sections.
 3. Show locations and sizes of cutouts and holes for plumbing fixtures, faucets, soap dispensers, and other items installed in architectural woodwork.
- D. Submit samples for initial selection of the following in the form of manufacturer's color charts consisting of actual units or sections of units showing the full range of colors, textures, and patterns available for each type of material indicated.
1. Plastic laminates.
 2. Thermoset decorative overlays.
 3. Solid Surface countertop materials.
- E. Samples for verification of the following:
1. Laminate-clad panel products, 8 by 10 inches (. by 250 mm), for each type, color, pattern, and surface finish, with separate samples of unfaced panel product used for core.
 2. Thermoset decorative-overlay surfaced panel products, 8 by 10 inches (200 by 250 mm), for ea type, color, pattern, and surface finish, with separate samples of unfaced panel product used core.
 3. Solid Surface Countertop, 6 inches (150 mm) square.
 4. Corner pieces as follows:
 - a. Cabinet front frame joints between stiles rail, as well as exposed end pieces, 18 inches (450 mm) high by 18 inches (450 mm) wide by inches (150 mm) deep.
 5. Exposed cabinet hardware, one unit for each type and finish.

6. Clear Finished Maple window sill, 6 inches (150mm) square.

F. Product certificates signed by woodwork fabricator certifying that products comply with specified requirements.

G. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Firm experienced in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units without delaying the Work.

B. Single-Source Responsibility for Fabrication and Installation: Engage a qualified woodworking firm to assume undivided responsibility for fabricating, finishing, and installing woodwork specified in this Section.

C. Quality Standard: Comply with current edition of "Architectural Woodwork Institute Quality Standards for specified grades of woodwork, construction, finishes, and other requirements.

D. Make wood paneling veneer lay-up available for examination by Architect for appearance characteristics before fabricating panels.

E. Fire-Test-Response Characteristics: Provide materials with the following fire-test-response characteristics as determined by testing identical products per ASTM test method indicated below by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify fire-retardant-treated material with appropriate markings of applicable testing and inspecting agency in the form of separable paper label or, where required by authorities having jurisdiction, imprint on surfaces of materials that will be concealed from view after installation.

1. Surface-Burning Characteristics: Not exceeding values indicated below, tested per ASTM E84 for 3 minutes with no evidence of significant combustion. In addition, the flame front shall not progress more than 10-1/2 feet (3.2 m) beyond the center line of the burner at any time during the test.

- a. Flame Spread: 25.
- b. Smoke Developed: 25.

F. Mockup: Prior to fabricating or installing interior architectural woodwork, construct mockup to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mockup of the size indicated, using materials indicated for final unit of work, and complying with the following requirements.

1. Locate mockup on site in the location indicated or, if not indicated, as directed by Architect.
2. Notify Architect one week in advance of the date and time when fabrication of mockup will begin.
3. Notify Architect one week in advance of the date and time when mockup will be installed.
4. Demonstrate the proposed range of aesthetic effects and workmanship.
5. Obtain Architect's acceptance of mockup before start of final unit of Work.
6. Retain and maintain mockup during construction in an undisturbed condition as a standard for judging the completed Work.
 - a. When directed, demolish and remove mockup from Project site.

G. Preinstallation Conference: Conduct conference at Project site to comply with requirements of Section 01200.

1.05 DELIVERY, STORAGE AND HANDLING

A. Protect woodwork during transit, delivery, storage, and handling to prevent damage, soilage, and deterioration.

- B. Do not deliver woodwork until painting 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 "Project Conditions."

1.06 PROJECT CONDITIONS

- A. Environmental Limitations: Obtain and comply with woodwork fabricator's and Installer's coordinated advice for optimum temperature and humidity conditions for woodwork during its storage and installation. Do not install woodwork until these conditions have been attained and stabilized so that woodwork will be within plus or minus 1.0 percent of optimum moisture content from date of installation through remainder of construction period.
- B. Field Measurements: Where woodwork is indicated to be fitted to other construction, check actual dimensions of other construction by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 1. Verify locations of concealed framing, blocking, reinforcements, and furring that support woodwork by accurate field measurements before being enclosed. Record measurements on final shop drawings.
 2. Where field measurements cannot be made without delaying the Work, guarantee 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 guaranteed dimensions.

1.07 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.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide materials that comply with requirements of the AWI quality standard for each type of woodwork and quality grade indicated and, where the following products are part of woodwork, with requirements of the referenced product standards that apply to product characteristics indicated:
 1. Hardboard: AHA A135.4.
 2. Fiberboard: ANSI A208.2, formaldehyde-free, medium-density fiberboard.
 - a. Product: Medite II by Medite Corporation.
 3. Particleboard: ANSI A208.1, Type 2-M-2 made with phenol-formaldehyde resins.
 4. Softwood Plywood: PS 1, exterior grade.
 5. Hardwood Plywood and Face Veneers: HPVA HP-1 made with phenol-formaldehyde resins.
- B. High Pressure Decorative Laminate (HPDL): NEMA LD 3, grades as indicated. Plastic laminate colors and patterns shall be selected by the Architect from the full line of standard and premium color and finish options including metals offered by one or more of the following:
 1. Formica Corporation.
 2. Nevamar Corporation.
 3. Pionite Corporation
- C. Adhesive for Bonding Plastic Laminate: Contact cement.
- D. Thermoset Decorative Overlay: Decorative surface of thermally fused polyester or melamine-impregnated web, bonded to specified substrate and complying with ALA 1992.
 1. Substrate: Medium-density fiberboard.

E. Solid Countertop Material: Cast, nonporous, filled polymer, not coated, laminated or of composite construction with through body colors meeting ANSI Z124.3 or ANSI Z124.6, having minimum physical and performance properties specified. Superficial damage to a depth of 0.010 inch (.25 mm) shall be repairable by sanding and/or polishing

1. Products: Subject to compliance with requirements, provide product from the following manufacturers:
 - a. Corian, by Dupont.
 - b. Thickness: countertops: 1 ½"; splash: 5/8"

2.02 FIRE-RETARDANT-TREATED MATERIALS

- A. 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.
- B. Fire-Retardant Chemicals: Use chemical formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.
- C. Fire-Retardant-Treated Lumber: Comply with the following:
 1. Low-Hygroscopic Formulation: Interior Type A per AWWA C20.
 2. Mill lumber after treatment, within limits set for wood removal that does not affect listed fire- test-response characteristics, using a woodworking plant certified by testing and inspecting agency.
 3. Kiln-dry material before and after treatment to levels required for untreated material.
 4. Discard treated material that does not comply with requirements of referenced woodworking standard. Do not use twisted, warped, bowed, discolored, or otherwise damaged or defective material.
 5. Products: Subject to compliance with requirements, provide one of the following:
 - a. Low-Hygroscopic Formulation (Type A): Dricon; Hickson Corp.
- D. Fire-Retardant Fiberboard: Medium-density fiberboard panels complying with ANSI A208.2, made from softwood fibers, synthetic resins, and fire-retardant chemicals mixed together at time of panel manufacture to achieve products identical to those tested for flame spread of 25 or less and for smoke developed of 200 or less per ASTM E84 by UL, Warnock Hersey, or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify products with appropriate markings of applicable testing and inspecting agency.
 1. Product: Subject to compliance with requirements, provide Medite FR by Medite Corp.

2.03 CABINET HARDWARE AND ACCESSORY MATERIALS

- A. Provide cabinet hardware and accessory materials associated with architectural cabinets. Provide the following hardware or equal:
 1. Shelf Supports, Plug-In Type: Hafele No. 282.11.761, nickel-plated, or equal.
 2. Vertical Slotted Shelf Standards and Brackets: Knap & Vogt No. 80/180 or equal. Place standards at 24 inches on center maximum.
 3. Extra Heavy Duty Shelf Standards and Brackets: Knap & Vogt No. 87/187 or equal. Place standards at 24 inches on center maximum.
 4. Drawer Slides (for pencil drawers and other shallow drawers at knee hole desks): Accuride No. C2006.
 5. Variable Height Keyboard Slides: Accuride No. 2009.
 6. Drawer Slides (for desk and credenza box drawers, file drawers and heavy duty drawers): Accuride No. C3037.
 7. Drawer Slides (for heavy duty lateral file drawers, extra heavy load or wide drawers) Accuride No. C4032 for drawers up to 40 inches wide and 150 pounds loading.
 8. Door Hinges: 5 knuckle, hospital tipped non removable knurled pin; Rockford Process Control, Inc., Rockford, IL, or equal.
 9. Door and Drawer Pulls: EPCO MC-402-4, stainless steel.
 10. Drawer Rim Locks: Hafele No. 232.04.6xx, nickel. plated, or equal.
 11. Door Rim Locks: Hafele No. 235.06.6xx, nickel-plated, or equal.
 12. Elbow Catches: Ives No. 2 or equal.

13. Wardrobe Hook: HEWI 520.70.1, or equal, color selected by Architect.
 14. Desk Grommets: Brushed chrome finish by Douglas Mockett Company or equal.
 15. Extruded aluminum convactor grilles shall be Tuttle and Bailey 4000 Series "AO" Architectural Style. Provide AA-M12C22A42/A44 anodic color coating as selected by Architect.
- B. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA code number indicated.
1. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
 2. Satin Stainless Steel, Stainless-Steel Base: BHMA 630.
- C. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of BHMA A156.9.

2.04 INSTALLATION MATERIALS

- A. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.
1. For metal framing supports, provide screws as recommended by metal framing manufacturer.
- B. Nails: Select material, type, size, and finish required for each use. Comply with FS FF-N-105 for applicable requirements.
- C. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors.
- D. Hand Rail Brackets: Adjustable, two piece extruded aluminum type; "Rakks" hand rail brackets by Rangine Corporation, 114 Union Street, Millis, MA or equal

2.05 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Provide woodwork complying with the referenced quality standard and of the following grade:
1. Grade: Premium.
- B. Wood Moisture Content: Comply with requirements of referenced quality standard for wood moisture content in relation to relative humidity conditions existing during time of fabrication and in installation areas.
- C. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- D. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:
1. Corners of cabinets and edges of solid wood (lumber) members and rails: 1/16 inch (1.5 mm).
- E. Complete fabrication, including assembly, finishing, and hardware application, before shipment to Project site to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
1. Trial fit assemblies at the fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements indicated on approved shop drawings before disassembling for shipment.
- F. 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. Smooth edges of cutouts and, where located in countertops and similar exposures, seal edges with a water-resistant coating.

- G. Wood Species for Semi-Exposed Surfaces: Match species and cut indicated for exposed surfaces.
 - 1. Surfaces Other than Drawer Bodies: Match species and cut indicated for exposed surfaces.
 - 2. Drawer Sides and Backs: Solid hardwood lumber, same species indicated for exposed surfaces, shop finished.
 - 3. Drawer Bottoms: Hardwood plywood, same species indicated for exposed surfaces, shop finished.
- H. Provide AWI Grade AA lumber and panel products, with the additional requirement of compatibility of grain and color between veneer products and lumber products.
- I. Provide dust panels of 1/4 inch (6.4 mm) plywood or tempered hardboard above compartments and drawers except where located directly under tops.
- J. Substrate for Panel Products: Medium density fiberboard, conforming to ANSI A208.2.
 - 1. Provide 5 mm "Systems" screws for attachment of hardware to case body and nylon inserts for attachment of hardware to doors.

2.06 LAMINATE-CLAD CABINETS (PLASTIC-COVERED CASEWORK)

- A. Quality Standard: Comply with AWI Section 400 and its Division 400B Laminate Clad Cabinets.
 - 1. Grade: Premium.
- B. Type of Cabinet Construction: Flush overlay.
- C. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:
 - 1. Horizontal Surfaces Other than Tops: GP-50, 0.050 inch (1.270 mm) nominal thickness.
 - 2. Vertical Surfaces: GP-50, 0.050 inch (1270 mm) nominal thickness.
 - 3. Edges: GP-50, 0.050 inch (1270 mm) nominal thickness.
 - 4. Door and Draw Edges: 3 mm (0.118 inches nominal thickness) rigid PVC hot-melt applied.
 - a. Provide matching color to HPDL face.
- D. Materials for Semi-exposed Surfaces: Provide surface materials indicated below:
 - 1. Surfaces Other than Drawer Bodies: High-pressure decorative laminate, Grade GP-28.
 - 2. Drawer Sides and Backs: Solid hardwood lumber, shop finished.
 - 3. Drawer Bottoms: Hardwood plywood, shop finished.
 - 4. Loose (adjustable) Shelves: High pressure decorative laminate, Grade GP-50, on both faces and front and rear edges.
- E. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of expose laminate surfaces complying with the following requirements:
 - 1. Provide Architect's selections from laminate manufacturer's full range of colors and finishes in the following categories:
 - a. Solid colors.
 - b. Solid colors, with core same color as surface.
 - c. Patterns.
- F. Provide dust panels of 1/4 inch (6.4 mm) plywood or tempered hardboard above compartments and drawers except where located directly under tops.
- G. Substrate: Medium density fiberboard, conforming to ANSI A208.2.
 - 1. Provide 5 mm "Systems" screws for attachment of hardware to case body and nylon inserts for attachment of hardware to doors.

2.7 COUNTERTOPS

- A. Quality Standard: Comply with AWI Section 400 and its Division 400C.

- B. Type of Top: High pressure decorative laminate (HPDL) complying with the following:
 - 1. AWI Quality Grade: Premium
 - 2. Laminate Cladding for Horizontal Surface: High pressure decorative laminate.
 - a. Provide colors and patterns selected by Architect.
 - b. Grade: GP-50 (0.050 inch nominal thickness).
 - 3. Core Material: Phenolic resin, medium-density fiberboard:
 - a. Thickness: 1 inch, except where indicated otherwise.
 - b. Density: 45 lbs./cubic foot minimum.
 - 4. Edge Treatment: Select White Maple

C. Type of Top: Solid Surface Material Complying with the following:

I. Performance characteristics:

Property	Typical Result	Test
Tensile Strength	6,000 psi	ASTM D 638
Tensile Modulus	1.5 x 10 ⁶ psi	ASTM D 638
Tensile Elongation	0.4% min.	ASTM D 638
Flexural Strength	10,000 psi	ASTM D 790
Flexural Modulus	1.2 x 10 ⁶ psi	ASTM D 790
Hardness	>85	Rockwell "M" Scale
	56	ASTM D 785
		Barcol Impressor
		ASTM D 2583
Thermal Expansion	3.02 x 10 ⁻⁵ in./in./°C (1.80 x 10 ⁻⁵ in./in./°F)	ASTM D 696
Gloss (60° Gardner)	5-75 (matte—highly polished)	ANSI Z124
Light Resistance	(Xenon Arc) No effect	NEMA LD 3-2000 Method 3.3
Wear and Cleanability	Passes	ANSI Z124.3 & Z124.6
Stain Resistance: Sheets	Passes	ANSI Z124.3 & Z124.6
High Temperature Resistance	No change	NEMA LD 3-2000 Method 3.6
Flammability	66 (patterned colors) All colors (Class I and Class A)	Test ("LC50" Test) ASTM E 84, NFPA 255 & UL 723
Flame Spread Index	<25	
Smoke Developed Index	<25	

- 2. Countertop Thickness: 1 1/2" inch.
- 3. Backsplash and Endsplash Thickness: 5/8" inch.
- 4. Color: To be selected by architect from all available standard and premium color sets

2.8 WINDOW SILLS

- A. Quality Standard: Comply with AWI Section 600.
 - 1. Grade: Premium.
- B. Lumber Species: Select white Maple.
 - 1. Match species and cut indicated for other types of transparent finished architectural woodwork located in same area of building.

2.9 FACTORY FINISHING

- A. Transparent Finish: Comply with referenced AWI quality standard including Section 1500 "Factory Finishing." prefinish architectural woodwork items indicated at factory or at woodworker's shop.
 - 1. Items:
 - a. Wood cabinets.
 - b. Standing and running trim.
 - c. Wood trim on plastic laminate clad cabinets and tops.
 - 2. Transparent Finishing: Comply with requirements indicated for finish system, grade, stain, sheen, and effect.
 - a. AWI Factory Finish: TR-6, catalyzed polyurethane.
 - b. AWI Quality Grade: premium.
 - c. Color: Natural, no stain required.
 - d. Degree of Sheen: 40 Gloss Units, using 60 degree gloss meter (ASTM D523)
 - e. Fill (effect) : None.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Condition woodwork to average prevailing humidity conditions in installation areas prior to installing.
- B. Pre-Installation Meeting: Meet at project site prior to delivery of woodwork and review coordination and environmental controls required for proper installation and ambient conditioning in areas to receive work. Include in meeting the Contractor, Architect and other Owner Representatives (if any); Installers of woodwork, wet work such as plastering, other finishes, painting, mechanical work and electrical work; and firms or persons responsible for continued operation (whether temporary or permanent) of HVAC system as required to maintain temperature and humidity conditions. proceed with woodwork installation only when everyone concerned agrees that required ambient conditions can be maintained.
- C. Before installing architectural woodwork, examine shop fabricated work for completion and complete work as required, including back priming and removal of packing.

3.02 INSTALLATION

- A. Quality Standard: Install woodwork to comply with AWI Section 1700 for same grade specified in Part 2 of this section for type of woodwork involved.
- B. Install architectural woodwork items plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8 inch in 8 foot for plumb and level (including tops); and with no variations in flushness of adjoining surfaces.
- C. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- D. Anchor casework to anchors or blocking built-in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required for a complete installation. Except where prefinishing matching fastener heads are required, use fine finishing nail~ for exposed nailing, countersunk and filled flush with woodwork, and matching final finish where transparent finish is indicated.
- E. Cabinets: 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.
- F. Tops: Anchor securely to base units and other support systems.

- G. Standing and Running Trim and Rails: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to the greatest extent possible. Stagger joints in adjacent and related members. Cope at returns and miter at corners.
- H. Paneling: Anchor paneling to supporting substrate with concealed panel hanger clips and by blind nailer on backup strips, splined-connection strips, and similar associated trim and framing. Do not face nail unless otherwise indicated. Wood Storage Shelving: Complete the assembly of units and install in the areas indicated, including hardware and accessories as indicated. Complete the finishing work specified in this section to whatever extent not completed at shop or before installation of woodwork.

3.03 ADJUSTMENT, CLEANING, FINISHING AND PROTECTION

- A. Repair damaged and defective woodwork where possible to eliminate defects functionally and visually; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean, lubricate and adjust hardware.
- C. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop-applied finishes to restore damaged or soiled areas.

3.04 PROTECTION

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

END OF SECTION