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# Specification Section 06400 Interior Architectural Woodwork

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**CONSTRUCTION STANDARD SPECIFICATION**

**SECTION 06400**

**INTERIOR ARCHITECTURAL WOODWORK**

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**CONSTRUCTION STANDARD SPECIFICATION**

**SECTION 06400**

**INTERIOR ARCHITECTURAL WOODWORK**

**PART 1 - GENERAL**

**1.01 SUMMARY**

- A. Furnish and install architectural woodwork as shown on contract documents, and as specified herein.
  - 1. Laminate-clad cabinets (plastic-covered casework)
  - 2. Thermoset decorative overlays
  - 3. Plastic-laminate countertops
  - 4. Solid-surfacing-material countertops (shall be used at all wet areas). Install where countertops are provided in conjunction with sinks, lavatorie, or other plumbing fixtures i.e. restrooms, kitchens, break areas, and coffee bars.
  - 5. Hardware
- B. Related Sections: Refer to the following sections for related work.
  - 1. Section 06100, *Rough Carpentry* for the following:
    - a. Furring, blocking, and other carpentry work concealed in the wall.
    - b. Interior carpentry exposed to view.
  - 2. Section 07900, *Joint Sealants* for caulking gap between woodwork and substrates.
  - 3. Section 09900, *Painting* for field painting cabinets.

**1.02 REFERENCES**

- A. American Laminators Association (ALA)
- B. American National Standards Institute (ANSI)
  - A208.1 Particleboard
  - A208.2 Medium Density Fiberboard (MDF) for Interior Applications
- C. American Society of Mechanical Engineers (ASME)

B18.6.1 Wood Screws (Inch Series)

- D. American Society of Testing and Materials (ASTM)
  - D 523 Test Method for Specular Gloss
- E. Architectural Woodwork Institute (AWI)
  - AWI Quality Standards 6th Edition Version 1.1
- F. Builders Hardware Manufacturers Association (BHMA)
  - A156.9 Cabinet Hardware
  - A156.18 Materials and Finishes
- G. Federal Specification (FS)
  - FF-N-105 Nails, Brads, Staples, and Spikes: Wire, Cut and Wrought
- H. Hardwood Plywood and Veneer Association (HPVA)
  - HP 1 Interim Voluntary Standard for Hardwood and Decorative Plywood
- I. National Electrical Manufacturers Association (NEMA<sup>®</sup>)
  - LD 3 High-Pressure Decorative Laminates
- J. South Coast Air Quality Management District (SCAQMD)
  - Rule #1168 Adhesive and Sealant Applications

1.03 SUBMITTALS

- A. General: Submit the following in accordance with conditions of contract and section 01330, *Submittal Procedures*.
- B. Product data for each type of product and process specified and incorporated into items of architectural woodwork during fabrication, finishing, and installation.
- C. Shop drawings showing location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
  - 1. Show details half-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. Samples for initial selection of the following in form of manufacturer's standard color charts consisting of actual units or sections of units showing full range of colors, textures, and patterns available for each type of material indicated.
  - 1. Plastic laminate
  - 2. Sealant color
  - 3. Solid-surfacing material
- E. Product certificates signed by woodwork manufacturer certifying products comply with specified requirements.
- F. Sustainability Data:
  - 1. Submit product data, material safety data sheet (MSDS), or manufacturer's certification letter, for each composite wood and agrifiber product and assembly indicating no added urea-formaldehyde is contained in resins, laminating, or bonding adhesives.
  - 2. Submit product data, MSDS, or manufacturer's certification letter for each adhesive and sealant product applied onsite and inside the building weather barrier indicating compliance with volatile organic compound (VOC) limits of the SCAQMD Rule #1168.
  - 3. Submit product data or manufacturer's certification letter indicating percentages by weight of preconsumer and/or postconsumer recycled content for:
    - a. Composite wood and agrifiber substrate material, including but not limited to particleboard and fiberboard (low, medium, and high-density).
    - b. Solid-surfacing materials

#### 1.04 QUALITY ASSURANCE

- A. Fabricator Qualifications: Firm experience 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 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: Except as otherwise indicated, comply with AWI Quality Standard, *Architectural Woodwork Quality Standards* for grades of interior architectural woodwork, construction, finishes, and other requirements.
- D. Source of Cabinet Accessories: Provide accessories obtained from one single source for each type of hardware and accessories so finishes match.

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 anything other than installation areas, store only in areas whose environmental conditions meet requirements specified in Article 1.06, *Project Conditions*.

1.06 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet-work is completed, and the heating, ventilating, and air conditioning (HVAC) system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Field Measurements: Where woodwork is indicated to be fitted to other construction, check the 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 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 work, guarantee dimensions for accurate fit and proceed with fabricating woodwork without field measurements. Provide allowance for trimming at the 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 interior architectural woodwork can be supported and installed as indicated.

1.08 DEFINITIONS

Beneficial Occupancy: The point at which the Project Team determines the facility or area can be occupied from both a regulatory and work function standpoint.

Construction Complete: The point at which the Project Team determines the requirements of the Construction Phase, including the construction contract is fulfilled. This includes the resolution of any open items.

Project Complete: The point at which the Project Team determines all project activities are completed, closed, and/or approved for normal operations.



PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide materials that comply with requirements of AWI quality standard for each type of woodwork and quality grade indicated and where the following products are part of interior woodwork, with requirements of referenced product standards that apply to the product characteristics indicated.

1. Medium-Density Fiberboard: ANSI A208.2

2. Particleboard: ANSI A208.1, Grade M-2

B. Sustainability Requirements:

1. Formaldehyde:

a. Composite wood and agrifiber products and assemblies shall contain no added urea-formaldehyde resins.

b. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins.

2. VOC Content: Adhesives and sealants applied on-site and inside the building weather barrier shall comply with VOC limits of the SCAQMD Rule #1168.

3. Recycled Content:

a. Composite wood and agrifiber substrate material, including particleboard and fiberboard (low, medium, and high-density) shall contain a minimum 55 percent pre and/or postconsumer recycled content.

b. Solid-surfacing material shall contain a minimum of 10 percent pre and/or postconsumer recycled content.

C. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated, or if not indicated, as required by the woodwork quality standard.

1. Available Manufacturers: Subject to compliance with requirements, provide high pressure laminates by one of the following:

Formica<sup>®</sup> Corp.

Nevamar<sup>®</sup> Decorative Surfaces; Division of Panolam Industries<sup>®</sup> International  
Pionite<sup>®</sup> Decorative Surfaces; Division of Panolam Industries International,  
Inc.

Wilsonart<sup>®</sup> International, Inc.; Division of Illinois Tool Works, Inc.

D. Adhesive for Bonding Plastic Laminate: Waterbase contact cement

- E. Thermoset Decorative Overlay: Decorative surface of thermally fused polyester or melamine-impregnated web, bonded to specified substrate, and complying with ALA 1992.
- F. Solid-Surfacing Material: Homogenous solid sheets of filled plastic resin complying with ISSFA-2.
  - 1. Available Manufacturers: Subject to compliance with requirements, provide solid-surfacing material by one of the following:
    - a. Avonite<sup>®</sup>, Inc
    - b. E.I. du Pont de Nemours & Company
    - c. Formica Corporation
    - d. Nevamar Company, LLC; Decorative Products Division
    - e. Wilsonart International, Inc.; Division of Illinois Tool Works, Inc

## 2.02 CABINET HARDWARE AND ACCESSORY MATERIALS

- A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets.
- B. Cabinet Hardware Schedule: Refer to contract drawings for schedule of required cabinet hardware for architectural cabinets.
- C. Hardware Standard: BHMA A156.9
- D. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for type of finish.
- E. For concealed hardware provide manufacturer's standard finish that complies with product class requirements of BHMA A156.9.

## 2.03 INSTALLATION MATERIALS

- A. Screws: Select material, type, size, and finish required for each use. Comply with ASME B18.6.1 for applicable requirements.
- 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.

2.04 FABRICATION, GENERAL

- A. Interior Woodwork Grade: Provide interior woodwork complying with referenced quality standard and of the following grade.

Grade: Custom

- 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. Fabricate woodwork to dimensions, profiles, and details indicated. Ease edges to radius indicated for the following:  
Corners of cabinets:  $\frac{1}{16}$ -inch (1.59-mm)
- D. 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.
- E. Shopcut 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 water-resistant coating.
- F. Furnish and deliver all hardware items not shop installed, complete with templates, keys, screws, and hardware manufacturer's installation directions to the building.

2.05 LAMINATE CLAD CABINETS (PLASTIC-COVERED CASEWORK)

- A. Quality Standard: Comply with AWI Section 400.

1. AWI Type of Cabinet Construction: Flush overlay

Reveal Dimension: As indicated on contract documents

2. Colors, Patterns, and Finishes: As selected at time of submittals from manufacturer's standard color samples, unless noted elsewhere in contract documents.

- B. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate complying with the following requirements:

1. Horizontal Surfaces Other Than Tops: GP-28, 0.028-inch- (0.071-mm) nominal thickness
2. Postformed Surfaces: PF 42, 0.042-inch- (1.07-mm) nominal thickness
3. Vertical Surfaces: GP-28, 0.028-inch- (0.071-mm) nominal thickness

4. Edges: GP-28, 0.028-inch (0.071-mm) nominal thickness
- C. Materials for Semi-Exposed Surfaces: Provide surface materials indicated below:
1. Surfaces Other than Drawer Bodies: High-pressure decorative laminate, Grade GP-28, 0.028-inch (0.071-mm) nominal thickness
  2. Drawer Sides and Backs: Thermoset decorative overlay
  3. Drawer Bottoms: Thermoset decorative overlay

## 2.06 COUNTERTOPS

- A. Quality Standard: Comply with AWI Section 400
- B. Type of Top: High-pressure decorative laminate complying with the following:
1. Grade: GP-50, 0.050-inch (1.27-mm) nominal thickness
  2. Colors, Patterns, and Finishes: As selected at time of submittals from manufacturer's standard color samples, unless noted elsewhere in contract documents.
  3. Edge Treatment: As indicated on contract documents
  4. Core Material: Medium-density particleboard

## 2.07 SOLID-SURFACING-MATERIAL COUNTERTOPS

- A. Grade: **Custom**
- B. Solid-Surfacing-Material Thickness:  $\frac{1}{2}$  inch (12.7mm)
- C. Colors, Patterns, and Finishes: Provide materials and products that result in colors of solid-surfacing material complying with the following requirements:
1. As selected from manufacturer's full range.
- D. Fabricate tops in one piece unless otherwise indicated. Comply with solid-surfacing-material manufacturer's written recommendations for adhesives, sealers, fabrication, and finishing.
1. Fabricate tops with shop-applied edges of materials and configuration indicated on the contract documents.
  2. Fabricate tops with backsplashes for field application.
- E. Install integral sink bowls in countertops in the shop.
- F. Drill holes in countertops for plumbing fittings and soap dispensers in the shop.

## PART 3 - EXECUTION

### 3.01 PREPARATION

- A. Condition woodwork to average prevailing humidity conditions in installation areas before installing.
- B. 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.
- B. Install woodwork plumb, level, true, and straight, with no distortions. Shim as required with concealed shims. Install to tolerance of  $\frac{1}{8}$ -inch in 96-inches (3.18-mm in 2438-mm) for plumb and level (including tops).
- C. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces, or repair damaged finish at cuts.
- D. Anchor woodwork 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 complete installation.
- E. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.
  - Install cabinets with no more than  $\frac{1}{8}$ -inch in 96-inch (3.18-mm in 2438-mm) sag, bow, or other variation from a straight line.
- F. Tops: Anchor securely to base units and other support systems as indicated. Caulk space between backsplash and wall with specified sealant.
  - 1. Install countertops with no more than  $\frac{1}{8}$  inch in 96-inch (3.18-mm in 2438-mm) sag, bow, or other variation from a straight line.
  - 2. Secure backsplashes to tops with concealed metal brackets at 16-inches (406.4-mm) o. c.
  - 3. Align adjacent solid-surfacing material countertops and form seams to comply with manufacturer's written recommendations using adhesive in a color to match countertop. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

### 3.03 COORDINATION

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.

### 3.04 ADJUSTING AND CLEANING

- A. Repair damaged and defective woodwork where possible to eliminate functional and visual defects; 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.

### 3.05 PROTECTION

Provide final protection and maintain conditions in a manner acceptable to a Sandia Delegated Representative that ensures woodwork is without damage or deterioration at time of substantial completion.

END OF SECTION