

SECTION 06100
CARPENTRY

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PART 1 - GENERAL

1.1 REFERENCES

- A. American Plywood Association (APA)
 - 1. Design/Construction Guide: Residential and Commercial.
- B. American Society for Testing and Materials (ASTM)
 - 1. A153 - Specification for Zinc Coating (Hot -Dip) on Iron and Steel Hardware.
 - 2. C220 - Specification for Flat Asbestos -Cement Sheets.
 - 3. E84 - Test Method for Surface Burning Characteristics of Building Materials.
- C. American Wood-Preservers' Association (AWPA)
 - 1. C2 - Lumber, Timbers, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes.
 - 2. C9 - Plywood - Preservative Treatment by Pressure Processes.
 - 3. M4 - Care of Preservative -Treated Wood Products.
- D. Federal Specifications (Fed. Spec.)
 - 1. TT-P-38D - Paint, Aluminum, Ready -Mixed.
 - 2. TT-V-121H - Varnish, Spar, Water-Resisting.
- E. National Forest Products Association (NFPA)
 - 1. National Design Specification for Wood Construction.
- F. Southern Pine Inspection Bureau (SPIB)
 - 1. Grading Rules.
- G. U.S. Department of Commerce, National Institute of Standards and Technology
 - 1. PS 1 - Construction and Industrial Plywood
- H. West Coast Lumber Inspection Bureau (WCLB)

1. Standard Grading Rules.

1.2 SUBMITTALS

A. Warranty

1. Submit a statement of compliance for wood preservative treatment.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Storage and Protection

1. Protect lumber and plywood and keep under cover both in transit and at the job site.
2. Lumber, plywood, and other wood materials shall not be stored in the building or other storage area unless it is sufficiently dry so that the wood materials will not be damaged by excessive changes in moisture content.
3. Store plywood flat with provision for good circulation of air.

1.4 PROJECT CONDITIONS

A. Environmental Requirements

1. Install plywood paneling and other finished woodwork only when normal temperature and humidity conditions approximate the interior conditions that will exist when the building is occupied.

B. Field Measurements

1. Take field measurements to verify and supplement dimensions indicated. Be responsible for accurate fit of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Grading Rules

1. Provide wood which conforms to and is graded in accordance with the current grading rules of the lumber association or inspection bureau having jurisdiction for the wood species specified, as listed by the national lumber manufacturers association "Grade Mark". Apply a "Trade Mark" and "Mill Identification Mark" of the association or inspection bureau having jurisdiction on each piece of lumber and plywood delivered to the Project. Grade, trade and mill marks will not be required if shipments are accompanied by a certificate of inspection (grading) issued by the lumber association or inspection bureau having jurisdiction.

B. Moisture Content

1. For dimension lumber: conform to the rules of the lumber association or inspection bureau under which it is graded.
2. For finish lumber, and boards used as grounds for architectural wood paneling: kiln dried to provide, at time of delivery to the Project site, a maximum of 15 percent for material one inch thick. For board lumber used for other nailers and blocking: kiln dried or air dried to provide a maximum of 19 percent.
3. For wood specified to receive preservative treatment: as specified after the treatment.

- C. Common Lumber
 - 1. Boards and dimension lumber: Standard grade Douglas Fir or Spruce or No. 2 grade Southern Pine, surfaced 4 sides.
- D. Structural Lumber
 - 1. Stress graded WCLB structural light framing or SPIB dense structural, of nominal size and having design values as indicated.
- E. Finish Lumber
 - 1. D Select grade Ponderosa Pine or Quality grade Idaho Pine or Norway Pine.
- F. Plywood
 - 1. Douglas Fir plywood complying with PS 1, B-D or C-D plugged grade, unless otherwise specified. 32/16 is minimum 15/32 inch thick.
 - 2. For subflooring: APA rated sheathing, 3/4", exterior, tongue-and-groove. (Non Comb)
 - 3. Plywood specified to receive preservative or fire-retardant treatment: exterior type or interior type with exterior adhesive.
- G. Rough Hardware
 - 1. General
 - a. Provide all items of rough hardware, such as spikes, nails, bolts, toggle bolts, anchor bolts, wood screws, straps, and clips necessary for the installation of the Work and of suitable type and size.
 - b. Rough hardware for exterior use and for attachment of fire-retardant - treated wood: galvanized in accordance with ASTM A153.
 - 2. Anchor bolts
 - a. For wood blocking to concrete and masonry: steel, 13 mm (1/2 inch) diameter, 200 mm (8 inches) long for concrete and 400 mm (16 inches) long for masonry, unless otherwise indicated, and provided with washer and nut both ends.
 - b. For wood blocking to steel members: steel, 10 mm (3/8 inch) diameter and provided with washer and nut.
 - 3. Fasteners for Wood Nailers and Blocking
 - a. To solid masonry and concrete: one of the following:
 - 1) 8-mm (5/16-inch) or 10-mm (3/8-inch) steel bolts and medium duty or heavy duty Ackerman Johnson Fasteners.
 - 2) 8-mm (5/16-inch) flat -head drop-in expansion bolts, such as ANKR-TITE Fastening Systems "Wej-It" or ITW Ramset/Redhead "Dynabolt".
 - 3) Powder-actuated fasteners, 6-mm (1/4-inch) head diameter, 75-mm (3-inch) drive pin high velocity for concrete, and 63-mm (2-1/2-inch) drive pin low velocity for masonry.
 - b. To cells of hollow masonry: 8-mm (5/16-inch) toggle bolts or toggle screw anchors.
 - c. To metal deck and metal studs: No. 12 self-drilling self-tapping screws.
 - d. To rolled or formed steel members: powder-actuated fasteners, 6-mm (1/4-inch_ head diameter, 63-mm (2-1/2-inch) drive pin.

- H. Nails
 - 1. For plywood: 8d common.
- I. Wood Primer
 - 1. Aluminum linseed oil paint conforming to Fed. Spec. TT-P-38D or water-resisting spar varnish conforming to Fed. Spec. TT-V-121H.
 - 2. Finish for aluminum molding: clear anodic as specified in Section 05700.
 - 3. Maximum fire hazard classification, when tested in accordance with ASTM E84: 25 for flame spread and 50 for smoke developed.

2.2 PRESERVATIVE-TREATED WOOD

- A. Treatment
 - 1. Treat wood framing, nailers and blocking for flashings and other locations where the wood is either exposed to the weather or built into masonry, concrete or roofing by impregnating in a closed vessel in accordance with AWPA C2 for lumber and C9 for plywood, to a minimum retention of 0.25 lb/cu. ft. (4.0 kg/cu. m).
- B. Identification Marks
 - 1. Deliver each piece of preservative -treated wood to the project site bearing the American Lumber Standards Committee quality mark.
- C. Field Cut Pieces
 - 1. Where it is necessary to cut preservative -treated wood on the job, brush two heavy coats of wood preservative complying with AWPA M4, such as Green EMB Brush, on the cut surfaces.

2.3 FIRE-RETARDANT-TREATED WOOD

- A. Refer to Section 06070.

PART 3 - EXECUTION

3.1 INTERFACE WITH OTHER PRODUCTS

- A. Furnish necessary templates for anchor bolts and other items specified to be built into concrete, masonry, and other Work.
- B. Be responsible for the accurate location of built-in anchorage devices and other items as required.

3.2 ROUGH CARPENTRY

- A. General
 - 1. Execute rough carpentry in accordance with best trade practices.
 - 2. Provide common lumber for rough carpentry.
- B. Wood Nailers and Blocking for Flashings
 - 1. Provide continuous wood nailers and blocking, cut with square edges, and in as long lengths as practicable. Cut wood nailers where they cross a building control joint. Provide wood blocking over nailers where indicated, securely nailed in place. Countersink heads of bolts flush with the top surface of the nailer.

2. Secure nailers to concrete and masonry with fasteners located at uniform spacing of 750 mm (30 inches) maximum and at 150 (6 inches) maximum from each end of nailer. Embed anchor bolts in grout at top of masonry wall.
3. Anchor nailers to steel and metal deck where indicated. Locate anchors at uniform spacing of 600 mm (24 inches) maximum and at 150 mm (6 inches) maximum from each end of nailer.

C. Miscellaneous Wood Blocking

1. Coordinate wood blocking embedded in concrete or with anchors embedded in masonry with concrete and masonry Work respectively.
2. Provide wood blocking to receive tracks suspended from overhead building construction (such as cubicle tracks), including all inserts, anchor bolts, fasteners, hangers, bracing and other components necessary for a rigid installation.

D. Wood Grounds

1. Provide wood grounds for wood paneling, dressed, 38 mm (1-1/2 inches) wide and of thickness indicated. Set grounds rigidly secure to metal studs, straight and true, with horizontal members level and vertical members plumb, and at minimum spacing as indicated.

E. Plywood Sheathing

1. Provide preservative-treated plywood sheathing for parapet, thickness indicated, anchored to masonry with fasteners located at uniform spacing of 38 mm (24 inches) maximum and at 150 mm (6 inches) maximum from each edge.

F. Structural Framing

1. For structural framing, including trusses, beams and joists, and framing for support of soffits, provide structural lumber, fire-retardant treated.
2. Determine type and number of wood fastenings in accordance with the NFPA National Design Specification.

3.3 FINISH CARPENTRY

A. General

1. Carefully erect interior finish carpentry flat, plumb and true, with tight joints, coped where possible. Secure Work with finishing nails or screws and glue. On surfaces exposed to view, set nail heads and countersink screw heads. Sand interior woodwork to remove machine marks and irregularities. Provide finish carpentry items which are free from defects and blemishes.

B. Plywood Panels in Communication Closets

1. Provide 19-mm-thick (3/4-inch-thick) and fire-retardant treated plywood panels for all walls of communication closets, extending from floor to minimum of 2 meters (7 feet) above floor.
2. Before installing plywood panels, paint back surfaces with one coat of wood primer.
3. Apply plywood panels with Grade B face exposed to view. Secure plywood panels with no. 10 screws, countersunk, and expansion shields or toggle bolts. Space screws not more than 400 mm (16 inches) on center horizontally and 600 mm (24 inches) on center vertically and not more than 100 mm (4 inches) from edges.

C. Wood Shelving

1. For wood shelves for janitor closets, provide finish lumber, 25 mm (1 inch) by 300 mm (12 inches) nominal size, unless otherwise indicated, and length as indicated.
2. Support shelves on wood cleats, continuous at back and sides.

D. Hook Strips

1. For hook strips, provide finish lumber, 25 mm (1 inch) by 75 mm (3 inches) nominal size, and length as indicated. Furnish and install on each hook strip spring type mop and broom holders of approved design of the number indicated.

3.4 PROTECTION

- A. Protect the Work, including Work furnished under other Sections and installed under this Section, and adjacent construction against damage until completion.

END OF SECTION

SECTION 06400
ARCHITECTURAL WOODWORK

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PART 1 - GENERAL

1.1 REFERENCES

- A. American National Standards Institute, Inc. (ANSI)
 - 1. A208.1 - Particleboard.
- B. American Society for Testing and Materials (ASTM)
 - 1. E84 - Test Method for Surface Burning Characteristics of Building Materials.
- C. Architectural Woodwork Institute (AWI)
 - 1. Architectural Woodwork Quality Standards.
- D. Federal Specifications (Fed. Spec.)
 - 1. TT-P-38D - Paint, Aluminum, Ready -Mixed.
 - 2. TT-V-121H - Varnish, Spar, Water-Resisting.
- E. National Electrical Manufacturers Association (NEMA)
 - 1. LD 3 - High-Pressure Decorative Laminates.
- F. Underwriters Laboratories Inc. (UL)
 - 1. Building Materials Directory.
 - 2. 10B - Fire Tests of Door Assemblies.
- G. U.S. Department of Commerce, National Institute of Standards and Technology
 - 1. PS 1 - Construction and Industrial Plywood.

1.2 SUBMITTALS

- A. Qualification Data

1. Submit qualification data for firms and persons specified in "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.
- B. Warranty
 1. Submit statement of compliance for following:
 - a. Particleboard.
 - b. Materials specified to have a maximum fire hazard classification.
 2. Submit in triplicate a notarized certificate, addressed to the State Fire Marshal or other authority having jurisdiction over the Project, stating that only materials specified to have a maximum fire hazard classification have been used in the construction of specified items and listing the items so constructed, with exceptions.
- C. Shop Drawings
 1. Submit Shop Drawings indicating dimensions, method of fastening to backing and layout, wood cabinet erection details, and other pertinent details.
- D. Samples
 1. Submit Samples of the following:
 - a. Plastic laminate.
 - b. Sealant color.
- E. Maintenance Instructions
 1. Furnish maintenance instructions for plastic facing and hardware.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications
 1. A 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.
- B. Quality Standard
 1. Unless otherwise indicated, comply with AWI "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork, construction, finishes, and other requirements. Provide AWI Quality Certification Program certificate indicating that woodwork complies with requirements of grades specified.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Packing and Shipping
 1. Protect the Work by means of suitable cartons or paper bags during transportation to the project site. Damaged items, as determined by the Architect, shall be replaced.
- B. Storage and Protection
 1. Do not store architectural woodwork items in the building or other storage area unless it is sufficiently dry so that the wood materials will not be damaged by excessive changes in moisture content.
 2. Store architectural wood paneling flat with provision for good circulation of air.

1.5 PROJECT CONDITIONS

- A. Environmental Requirements
 - 1. Install the Work only when normal temperature and humidity conditions approximate the interior conditions that will exist when the building is occupied, not cold and damp, nor hot and dry.
- B. Field Measurements
 - 1. Take field measurements to verify or supplement dimensions indicated. Be responsible for accurate fit of the Work.

1.6 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

2.1 WOOD MATERIALS

- A. Plywood for Paint Finish
 - 1. Softwood plywood complying with PS 1, interior type, A-B grade or faced with medium density overlay.
- B. Plastic Laminate
 - 1. NEMA publication LD3 for general purpose type.
 - 2. Plastic laminate face sheet: 1.3 mm (0.050 inch) thick with low-gloss finish; Formica Corp. "Formica"; Nevamar Div. of International Paper Co. "Nevamar"; International Paper Co. "Micarta"; Wilsonart International "Wilsonart"; or as approved; in color as indicated in the Finish Schedule.
 - 3. Balancing sheet: backing sheet grade of same thickness as face sheet.
 - 4. Backer sheet required on all interior lam. window sills.
- E. Particleboard
 - 1. Smooth surface corestock complying with ANSI A208.1 and having a minimum density of 720 kg per cubic meter (45 lbs. per cubic foot).

2.2 OPEN SHELF UNITS TO BE PAINTED

- A. Plywood for paint finish with exposed ends of sides, dividers, shelves, and top having solid hardwood noses rabbeted to the plywood.

2.3 COUNTER AND APRON UNITS

- A. Counter and apron units, including backsplashes: plastic laminate construction with exposed edges finished with plastic laminate face sheets.
- B. Cut openings in countertop in accordance with sink manufacturer's template.

2.4 VANITY UNIT

- A. Vanity unit, including countertop and backsplashes where indicated: plastic laminate construction including the following:

1. Countertop with sink opening as indicated.

2.5 ADJUSTABLE SHELVES - WALL MOUNTED

- A. Adjustable Plastic Laminate Shelves
 1. 19-mm-thick (3/4-inch-thick) particleboard or lauan plywood core with plastic laminate face sheet applied under pressure to both surfaces and edges with waterproof adhesive.
- B. Metal Standards and Brackets
 1. Knape & Vogt Mfg. Co. No. 80 slotted standards, with matching screws, and No. 180 boltless bracket. Finish: [Satin Anochrome] [Satin Brass] [Ebony Black] [Statuary Bronze].

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General
 1. Comply with AWI Quality Standards, Section 1700, or WIC manual of Millwork applicable Product and Installation Standard, Premium Grade.
- B. Back Priming
 1. Before installing architectural woodwork items, paint surfaces abutting building construction with one coat of wood primer.
- C. Counters
 1. Install counters in accordance with approved Shop Drawings. Coordinate installation of countertop sinks with mechanical trade.
- D. Sealant
 1. Seal the following joints with sealant:
 - a. Joints between architectural woodwork components and vertical surfaces, including partitions and column enclosures.
 - b. Joints in field-applied backsplash and between backsplash and countertop.
 - c. Joints in countertop.
- H. Adjustable Shelves
 1. Anchor metal standards to wall, plumb and with slots for brackets level.

3.2 PROTECTION

- A. Protect factory finished architectural woodwork in accordance with manufacturer's directions.

3.3 CLEANING

- A. Clean finished surfaces of architectural woodwork items in accordance with manufacturer's instructions.

END OF SECTION