

SECTION 08211 - WOOD DOORS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. This Section includes the following:
 - 1. Solid-core doors with wood-veneer faces.
 - 2. Interior stile and rail doors.
 - 3. Factory finishing wood doors.
 - 4. Factory fitting wood doors to frames and factory machining for hardware.
- B. Related Sections include the following:
 - 1. Division 8 Section "Glazing" for glass view panels in non-rated wood doors.

1.03 SUBMITTALS

- A. General: Submit in accordance with Section 01330.
 - 1. Submittals for Sections 08110, 08211, and 08710 shall be made concurrently.
- B. Product Data: For each type of door. Include details of core and edge construction and trim for openings. Include factory-finishing specifications. Include door manufacturer's storage, handling, finish, installation, and maintenance instructions.
- C. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; face veneer, construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.
 - 1. Indicate dimensions and locations of mortises and holes for hardware.
 - 2. Indicate dimensions and locations of cutouts.
 - 3. Indicate requirements for veneer matching.
 - 4. Indicate doors to be factory finished and finish requirements.
 - 5. Indicate fire ratings for fire doors.
 - 6. Indicate doors to be factory glazed.
- D. Door Schedule: Submit schedule of doors using same reference numbers for details and openings as those on Contract Drawings.
 - 1. Indicate coordination of glazing frames and stops with glass and glazing requirements.
- E. Samples: Submit the following:
 - 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches, for each material and finish. For each wood species and transparent finish, provide set of three samples showing typical range of color and grain to be expected in the finished work.
 - 2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edgings representing typical range of color and grain for each species of veneer and solid lumber required. Finish sample with same materials proposed for factory-finished doors.

3. Frames for light openings, 6 inches long, for each material, type, and finish required.

1.04 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. **Source Limitations:** Obtain flush wood doors through one source from a single manufacturer.
- C. **Quality Standard:** Comply with NWWDA I.S.1-A, "Architectural Wood Flush Doors" or AWI's "Architectural Woodwork Quality Standards Illustrated."
- D. **Fire-Rated Wood Doors:** Doors complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252 or UL 10C.
 1. **Test Pressure:** After 5 minutes into the test, the neutral pressure level in furnace shall be established at 40 inches or less above the sill.
 2. **Acceptable Fire-Rating Label:** Underwriters' Laboratories, Inc. (U.L.) or Warnock Hersey.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. **Protect wood doors during transit, storage, and handling to prevent damage, soiling and deterioration. Comply with requirements of referenced standard, manufacturer's instructions, and recommendations of NWWDA I.S. 1, Appendix, "How to Store, Handle, Finish, Install and Maintain Wood Doors."**
 1. Package doors at factory prior to shipping.
 2. Protect doors from extremes of heat and cold. Relative humidity shall not be less than 30 percent nor more than 60 percent.
 3. Compare pre-finished doors to approved finish sample upon delivery. Notify Architect if sample does not match.
- B. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.06 PROJECT CONDITIONS

- A. **Environmental Limitations:** Do not deliver or install doors until building is enclosed, wet work is complete, and HVAC system is operating and will maintain temperature and relative humidity at occupancy levels during the remainder of the construction period.

1.07 WARRANTY

- A. **General:** Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by Contractor under requirements of the Contract Documents.
- B. **Special Warranty:** Manufacturer's standard form, signed by manufacturer, Installer, and Contractor, in which manufacturer agrees to repair or replace doors that are defective in materials or workmanship, have warped (bow, cup, or twist), show telegraphing of core

construction in face veneers, and which do not conform to tolerance limitations of specified quality standards.

1. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
2. Warranty shall be in effect during the following period of time from date of Substantial Completion:
 - a. Solid-Core Interior Doors: Life of installation.
 - b. Interior Stile and Rail Doors: Life of installation.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Wood Doors:
 - a. Algoma Hardwoods Inc.
 - b. Eggers Industries; Architectural Door Division.
 - c. Marshfield Door Systems, (Weyerhaeuser).
 - d. VT Industries Inc.

2.02 DOOR CONSTRUCTION, GENERAL

- A. Doors for Transparent Finish:
 1. Grade: Premium, with Grade A faces.
 2. Species and Cut: Natural birch, rotary cut.
 3. Match between Veneer Leaves: Book match.
 4. Assembly of Veneer Leaves on Door Faces: Running match.
 5. Room Match: Provide door faces of compatible color and grain for doors hung in same opening or separated only by mullions.
 6. Stiles: Same species as faces or a compatible species.

2.03 SOLID-CORE DOORS

- A. Particleboard Cores: Comply with the following requirements:
 1. Particleboard: ANSI A208.1, Grade LD-2, except as otherwise indicated.
 - a. Provide structural composite lumber core for multi-lite (stile and rail) doors.
 2. Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
- B. Interior Veneer-Faced Doors:
 1. Core: Particleboard for flush wood doors; structural composite lumber core for multi-lite (stile and rail) doors.
 2. Construction: Five or sevenplies, hot pressed, with stiles and rails bonded to core, then entire unit abrasive planed before veneering; Type I or II adhesive for core construction and veneer plies. No substitution.

- C. Fire-Rated Doors:
 - 1. Construction: Construction and core specified above for type of face indicated or manufacturer's standard mineral-core construction as needed to provide fire rating indicated.
 - 2. Blocking: For mineral-core doors, provide composite blocking with improved screw-holding capability approved for use in doors of fire ratings indicated as needed to eliminate through-bolting hardware.
 - 3. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile matching face veneer, and laminated backing at hinge stiles for improved screw-holding capability and split resistance.

2.04 LIGHT FRAMES

- A. Wood Beads for Light Openings in Wood Doors:
 - 1. Wood Species: Same species as door faces.
 - 2. Profile: Same shape as beads for light openings in fire-rated doors.
- B. Wood-Veneered Beads for Light Openings in Fire Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire rating indicated. Include concealed metal glazing clips where required for opening size and fire rating indicated.
 - 1. Glazing beads for rated and non-rated doors shall have the same profile.

2.05 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:
 - 1. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements in NFPA 80 for fire-rated doors.
 - 2. Coordinate sizing of pairs of doors to provide maximum 3/16-inch gap between leaves to permit proper functioning of dead latching feature.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
 - 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- C. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.

2.06 FACTORY FINISHING

- A. General: Comply with AWI's "Architectural Woodwork Quality Standards Illustrated," Section 1500 for factory finishing.
- B. Finish doors at factory.

- C. Transparent Finish:
 - 1. Grade: Custom.
 - 2. Finish: AWI System, TR-6 catalyzed polyurethane.
 - 3. Sheen: Satin.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Hardware: For installation, see Division 8 Section "Door Hardware."
 - 1. Hinges shall be shimmed with metal shims at each door to provide equal clearance at each jamb.
 - 2. Locks, exit devices, door closers and other hardware shall be installed in accordance with the manufacturer's instructions. Pilot holes of recommended size, for wood screws required to fasten the hardware, shall be drilled by the installing Contractor before screws are fastened to the wood doors.
- B. Manufacturer's Written Instructions: Install doors to comply with manufacturer's written instructions, referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Factory-Fitted Doors: Align in frames for uniform clearance at each edge. Coordinate pairs of doors to provide maximum 3/16-inch gap between leafs and accurate alignment of strike to permit proper functioning of dead latching feature.
- D. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.03 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 08211