

SECTION 08210  
WOOD DOORS

PART 1 - GENERAL

1.01 PROVISIONS INCLUDED

- A. The general provisions of the Contract, including General and Supplementary General Conditions, and Division 1 General Requirements, apply to work specified in this Section.

1.02 SUMMARY:

- A. This Section specifies solid core flush wood doors with wood veneer faces.
- B. Other work included in this section:
  - 1. Factory-finishing.
  - 2. Factory fitting to frames and factory machining for hardware.
- C. Related Work Specified in Other Sections:
  - 1. Door Schedule: On the Drawings.
  - 2. Metal door frames for flush wood doors: Section 08110
  - 3. Finish hardware: Section 08710.
  - 4. Glazing of wood doors: Section 08800.
  - 5. Field painting of fire-rated glazing frames.

1.03 REFERENCED STANDARDS

- A. American National Standards Institute (ANSI): See joint ANSI/DHI and ANSI/HPVA references listed below.
- B. Architectural Woodwork Institute (AWI): "Architectural Woodwork Quality Standards"
  - 1. Flush Doors: Section 1300 "Architectural Flush Doors"
- C. Door and Hardware Institute (DHI):
  - 1. ANSI/DHI A115-W (1988): "Wood Door Preparation Standards."
  - 2. DHI WDHS-3 (1993): "Recommended Hardware Locations for Wood Flush Doors."
- D. Hardwood Plywood Veneer Association (HPVA): ANSI/HPVA HP-1-1994, Standard for Hardwood and Decorative Plywood.
- E. National Wood Window and Door Association (NWWDA): NWWDA I.S.1 "Industry Standard for Wood Flush Doors."
- F. National Fire Protection Association: NFPA 80, "Fire Doors and Fire Windows."

#### 1.04 SUBMITTALS:

- A. Product Data: Manufacturer's technical data for each type of door, including details of core and edge construction, trim for openings and louvers, and factory-finishing specifications.
- B. Shop Drawings: Indicate location, size and hand of each door, elevation of each kind of door, construction details not covered in Product Data, location and extent of hardware blocking, fire ratings, dimensions and locations for mortises and holes for hardware, requirements for veneer matching, factory finishing and other pertinent data.
- C. Samples for Verification: Submit samples, 12 inches (300 mm) square or as indicated, for the following:
  - 1. Corner sections of flush doors, approximately 12 inches (300 mm) square, with door faces and edges representing the typical range of color and grain for each species of veneer and solid lumber. Finish sample with same materials proposed for factory-finish.
  - 2. Frames for light openings, 6 inches (150 mm) long, for each material, type, and finish required.

#### 1.05 QUALITY ASSURANCE

- A. Source Limitations: Obtain all doors of each type from a single manufacturer.
- B. NWWDA Quality Standard: Comply with NWWDA I.S.1-A, "Architectural Wood Flush Doors." Mark or label doors as complying with the applicable NWWDA standard.
- C. Architectural Woodwork Institute (AWI): Comply with "Architectural Woodwork Institute Quality Standards," 7th edition, Section 1300 "Architectural Flush Doors."
- D. Fire-Rated Wood Doors: Provide wood doors that comply with NFPA 80, and that are listed and labeled by UL, Warnock Hersey or other testing and inspection agency acceptable to authorities having jurisdiction, for fire-ratings indicated, based on testing according to NFPA 252 or ASTM E 152.
  - 1. Test Pressure: Test at atmospheric 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. Temperature-Rise Rating: At exit enclosures, provide doors that have a temperature-rise rating of 450 deg F (250 deg C) maximum in 30 minutes of fire exposure.

#### 1.06 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Protect doors during transit, storage and handling to prevent damage, soiling and deterioration. Comply with requirements of referenced standards and manufacturer's written instructions.
  - 1. Individually package doors in plastic bags or cardboard cartons.

- B. Mark each door with individual opening numbers used on Shop Drawings. Use removable tags or concealed markings.

#### 1.07 PROJECT CONDITIONS

- A. Conditioning: 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, or at indoor relative humidity of at least 25% and not more than 55%, during the remainder of the construction period.

#### 1.08 WARRANTY

- A. Door Manufacturer's Warranty: Submit written agreement on door manufacturer's standard form signed by manufacturer, Installer, and Contractor, agreeing to repair or replace defective doors that have warped (bow, cup, or twist) more than 1/4 inch (6.35 mm) in a 42-by-84-inch (1067-by-2134-mm) section or that show telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 75-mm) span, or do not conform to tolerance limitations of referenced quality standards.
  - 1. Warranty shall be in effect during the Life of the Installation.
- B. Contractor's Responsibilities: Replace or refinish doors where Contractor's work contributed to rejection or to voiding of manufacturer's warranty.
- C. Door manufacturer's warranty specified in this Article shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by the Contractor under requirements of the Contract Documents.

### PART 2 - PRODUCTS

#### 2.01 MANUFACTURERS:

- A. Manufacturer: Subject to compliance with requirements, provide products of one of the following:
  - 1. Algoma Hardwoods, Inc.
  - 2. Eggers Industries, Architectural Door Division.
  - 3. Marshfield Door Systems, Inc.
  - 4. VT Industries, Inc.

#### 2.02 INTERIOR FLUSH WOOD DOORS

- A. General: Fabricate flush wood doors to comply with NWWDA I.S. 1 and AWI Section 1300, and as specified in this article.

- B. Doors for Transparent Finish: Comply with the following requirements:
1. Faces: Select White Maple, plain sliced; HPVA Grade A, face veneer at least 1/50 inch (0.51 mm) thick to preclude sandthrough. Center match and book match veneer slices.
    - a. Pairs of Doors: Furnish pairs of doors matched for appearance of color and grain; match grain across the pair on both sides of the door.
  2. NWWDA Grade: Premium.
  3. Construction: 5 plies, faces bonded to core by hot-press glue method.
  4. Core: 1-LD-2 particleboard core, except for doors rated for fire-exposure above 20 minutes, furnish doors with manufacturer's standard fire-rated mineral core, as specified below.
  5. Bonding: Stiles and rails bonded to core, then entire unit abrasive planed before veneering.
  6. Stops and Moldings: Same wood species as face veneer; profile indicated.

C. Fire-Rated Doors:

1. Provide faces and grade to match non-rated doors in same area of building.
2. Construction: Manufacturer's standard mineral core as required to provide fire-resistance rating indicated.
3. Blocking: Provide composite blocking designed to maintain fire-resistance of door but with improved screw-holding capability so that through-fasteners are not required for surface-mounted hardware. Provide blocking of same thickness as core; provide minimum 5-inch blocking at top- and bottom-rails.
4. Edge Construction: Provide manufacturer's standard laminated edge construction for improved screw-holding capability and split resistance as compared to edges composed of a single layer of treated lumber.

## 2.03 FABRICATION OF FLUSH WOOD DOORS

- A. Except where new doors are being installed into existing frames, factory fit wood doors to fit frame opening sizes, with the following clearances and bevels:
1. Non-Rated Doors: Comply with referenced AWI Sections.
  2. Fire-Rated Doors: Comply with NFPA 80.
- B. Where new doors are indicated to be installed into existing frames, fabricate doors in sizes indicated for job-site fitting.

- C. Factory machine doors for mortised hardware; perform fitting and machining for surface mounted hardware at the job site. 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 proceeding with factory machining.
- D. Openings: Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of doors required.
  - 1. Vision Glass Openings: Trim openings with moldings of material and profile indicated. Ship stops loose for glazing in the field.

## 2.04 FACTORY FINISHING

- A. General: Comply with referenced AWI quality standard, including Section 1500 "Factory Finishing".
- B. Finish wood doors at factory. Finish both faces and all four edges of door.
  - 1. Exception: Top and bottom edges may be left unfinished if manufacturer confirms in writing that (1) sealed top and bottom edges are no longer available from the manufacturer, even as an option, and (2) lifetime warranty does not require top and bottom edges to be sealed.
- C. Transparent Finish: Comply with requirements indicated for grade, finish system, staining effect and sheen.
  - 1. AWI Grade: Premium.
  - 2. Finish: AWI System TR-6 catalyzed polyurethane.
  - 3. Staining: Match existing wood doors in the same building for color.
  - 4. Effect: Open grain finish.
  - 5. Sheen: Satin.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Examine installed door frames prior to hanging door: Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with jambs plumb and heads level. Do not proceed with installation until unsatisfactory conditions have been corrected.
- B. Inspect doors prior to hanging. Reject doors with defects.

### 3.02 INSTALLATION

- A. Hardware: For installation see Division-8 "Finish Hardware" section of these specifications.

- B. Manufacturer's Instructions: Install wood doors to comply with manufacturer's instructions, referenced AWI standards, and as indicated.
  - 1. Install fire-rated doors in corresponding fire-rated frames in accordance with requirements of NFPA No. 80.
- C. Factory Fitted Doors: Align in frames for uniform clearance at each edge.
- D. Job-fitting of doors will be acceptable only where new doors are indicated to be installed into existing frames. Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.
  - 1. Clearances for Non-Rated Doors: Provide 1/8" (3.2 mm) at jambs and heads; 1/16" (1.6 mm) per leaf at meeting stiles for pairs of doors; and 1/8" (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4" (6.4 mm) clearance from bottom of door to top of threshold.
  - 2. Clearances for Fire-Rated Doors: Comply with NFPA 80.
  - 3. Bevel non-rated doors 1/8" in 2" at lock and hinge edges.
  - 4. Bevel fire-rated doors 1/8" in 2" (3-1/2 degrees) at lock edge; trim stiles and rails only to extent permitted by labeling agency.
- E. Factory-Finished Doors: Restore finish before installation, if fitting or machining is required at the job site.

### 3.03 ADJUSTING AND PROTECTION

- A. Operation: Rehang or replace doors which do not swing or operate freely.
- B. Refinish or replace doors where finish was damaged during installation.
- C. Protect doors from damage until time of Substantial Completion.
- D. Just prior to the inspection at the time of Substantial Completion, check and readjust operating hardware. Remove and replace doors that are warped, bowed, or otherwise unacceptable. Rehang or replace doors which do not swing or operate freely.

END OF SECTION 08210