

SECTION 08210  
(New 2004 Masterformat number will be 081433)

STILE AND RAIL WOOD DOORS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Furnish stile and rail wood doors as described in door schedule and shown on drawings. General and Supplementary Conditions as described in Division 1 apply to this Section.

1.02 RELATED SECTIONS

- A. Flush Wood Doors, Section 08210
- B. Metal Doors and Frames, Section 08110
- C. Millwork and Trim, Section 06200
- D. Finish Hardware, Section 08710
- E. Glazing, Section 08800
- F. Painting, Section 09900

1.03 REFERENCES

- A. AWI/AWMAC Quality Standards Illustrated (QSI), current edition
- B. ANSI/W.D.M.A Quality Standards current edition
- C. Underwriters Laboratories, Inc. (UL) and Underwriters Laboratories of Canada (ULC):
  - 1. UL 10B Fire Tests of Door Assemblies
  - 2. UL 10C-1998 Positive Pressure Fire Test of Door Assemblies.
- D. National Fire Protection Agency (NFPA)
  - 1. NFPA 80 Fire Doors and Windows
  - 2. NFPA 252 Standard Method of Fire Tests for Door Assemblies.

- E. ASTM International:
  - 1. ASTM E152 Standard Methods of Fire Tests of Door Assemblies.
  - 2. ASTM E2074 Standard Test Method for Fire Tests of Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies.
- F. Warnock-Hersey International-Intertek Testing
  - 1. Directory of Certification Listings for Fire Doors.

#### 1.04 SUBMITTALS

- A. Comply with Division 1 - Section 01300 submit 6 complete schedules including shop drawings for approval.
- B. Indicate plans and elevations, materials, surface grain directions, profiles, assembly methods, joint details, fastening methods, accessories, hardware compliance with specified fire-retardant treatments, preservative treatments, and schedule of finishes.
- C. Submit 3 samples of veneer, minimum of 6 x 6" illustrating expected range of component finish color and/or grain. The sample shall bear identification of the project, architect or designer, general contractor, woodwork manufacturer, items to which the finish applies and the system utilized to attain the finish.

#### 1.05 QUALITY ASSURANCE

- A. Perform work in accordance with AWI Section 1400 [Premium] [Custom] [Economy] Grade quality. **(choose one)**
- B. Work in this section shall comply with the specified Grade(s) of Work and Section (s) of the current edition of the AWI/AWMAC Quality Standards Illustrated or the current edition of W.D.M.A. Quality Standards

#### 1.06 QUALIFICATIONS

- A. Manufacturers who are members in good standing of the Architectural Woodwork Institute (AWI), Architectural Woodwork Manufacturers Association of Canada (AWMAC) and the Window and Door Manufacturers Association (WDMA) and are familiar with these standards.

## 1.07 DELIVERY, STORAGE AND HANDLING

- A. Comply with Division 1- Section 01600.
- B. Store doors on a flat level surface, in a clean, dry, well ventilated area. Keep doors a minimum of 3 ½" off floor.
- C. Doors shall not be exposed to excessive heat, moisture, dryness or direct sunlight.
- D. Break any protective plastic packaging on site to permit ventilation.
- E. Ensure that the top, bottom and any cut-outs on doors are sealed immediately after removal of protective packaging.
- F. Handle doors with clean, dry hands and/or gloves.
- G. Do not drag doors across one another.

## 1.08 WARRANTY

- A. Comply with Division 1 – Section 01780
- B. Provide limited lifetime warranty for interior doors.
- C. Provide three year warranty for exterior doors if factory finished.
- D. Include coverage for defective materials, including tolerances for warp and delamination of materials.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Haring Doors
- B. The Maiman Company
- C. Eggers Industries
- D. Approved equal

## 2.02 DOOR CONSTRUCTION

### A. Interior non-rated Doors

1. Stiles and rails shall be constructed of LSL core material laminated with a minimum  $\frac{3}{4}$ " solid hardwood edge and a minimum  $\frac{1}{16}$ " "A" grade veneer.
2. Cope and stick joinery of stiles and rails using  $\frac{1}{2}$ " x 4" dowels. Joints to have a minimum of 1 dowel.
3. Muntin bars shall have  $\frac{1}{4}$ " x 2  $\frac{1}{2}$ " dowels at every joint.
4. Pressure fit joints using type 2 water resistant glue.
5. Panels shall be manufactured using a 5 ply construction with  $\frac{1}{32}$ " cross banded face veneer.
6. Flat panels shall have a minimum thickness of  $\frac{5}{8}$ "
7. Raised panels shall have a minimum thickness of 1  $\frac{1}{8}$ "
8. Panel raise shall be constructed of solid lumber (matching face veneer) and rim banded with mitered corners
9. Louvers shall be  $\frac{3}{8}$ " x 2  $\frac{1}{4}$ " solid lumber or solid MDF for paint grade. Louver slats shall be mortised into stiles and assembled individually.

### B. Exterior Doors

1. Stiles shall be constructed of LSL core material laminated with a minimum  $\frac{1}{16}$ " "A" grade veneer
2. Rails shall be solid lumber construction
3. Cope and stick joinery of stiles and rails using  $\frac{1}{2}$ " x 4" dowels. Joints to have a minimum of 1 dowel
4. Muntin bars shall have  $\frac{1}{4}$ " x 2  $\frac{1}{2}$ " dowels at every joint.
5. Pressure fit joints using type 1 waterproof glue and silicone caulk to prevent moisture penetration.
6. Flat Panels shall be constructed of an exterior grade core with a minimum overall thickness of  $\frac{5}{8}$ ".
7. Raised panels shall be constructed of an exterior grade core with a minimum overall thickness of 1  $\frac{5}{8}$ "
8. Panel raise shall be constructed of solid lumber (matching face veneer) and rim banded with mitered corners

### C. Labeled Fire Doors-Specify 20, 45, 60 or 90 minute. Label doors shall conform to one of the following applicable local codes: **(choose one)**

1. **Negative Pressure:** Tested to UL10-B, UBC 1994 or ASTM E152
2. **Positive Pressure:** Tested to UL10-C, UBC 1997 or ASTM E2074

If positive pressure is required, choose the category of compliance desired **(choose one)**

**Category A:**

Doors are manufactured with concealed intumescent to eliminate the need for formed metal edges and astragals.

**Category B:**

Doors are required to have surface applied intumescent to either the frame or the edge of the door.

## 2.03 FABRICATION

- A. Fabricate to AWI Section 1400 [Premium] [Custom] [Economy] Quality Standards. **(choose one)**
- B. Hardware cutouts are to be pre-machined by the manufacturer. Hinge screw pilot holes in mineral core fire doors shall be bored by door manufacturer.
- C. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Reseal or refinish any machining alterations required at jobsite prior to installation

## 2.04 FINISHING MATERIALS AND APPEARANCE

- A. Doors shall be finished at the factory using the manufacturer's standard finishing system in conformance with AWI Quality Standards Section 1500.
- B. Raised panel tongues are to be stained prior to assembly when color is required.

## PART 3 EXECUTION

### 3.01 INSTALLATION

- A. Install work in accordance with AWI Quality Standards Section 1700 and NFPA 80 Fire Doors and Windows.
- B. Doors and frames must be installed plumb, square and level.
- C. Clearance between door edges and door frame shall be a minimum of 1/16" on hinge edge and 1/8" on the latch edge and top rail.

- D. Contractors and their personnel engaged in the work shall be able to demonstrate successful experience with work of comparable extent, complexity and quality to that shown and specified.

### 3.02 ADJUSTING

- A. Adjust work under provisions of AWI Quality Standards Section 1700.
- B. Ensure that doors swing freely and do not bind in their frame. Adjust the finish hardware for proper alignment, smooth operation and proper latching without necessary force or excessive clearance.

End of Section