

**SECTION 08 14 00
INTERIOR WOOD DOORS**

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior flush wood doors PETG finish.
 - a. Fire rated doors.
 - b. Smoke rated doors.
 - c. Acoustical doors.
2. Interior stile and rail wood doors PETG finish.

1.2 RELATED REQUIREMENTS

- A. Paints and Coatings and Composite Wood and Agrifiber VOC Limits:
Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS.
- B. Door Hardware including hardware location (height): Section 08 71 00,
DOOR HARDWARE.
- C. Installation of Doors and Hardware: Section 08 71 00, DOOR HARDWARE.
- D. Door Finish: Section 09 06 00, SCHEDULE FOR FINISHES.

1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. American National Standards Institute/Window and Door Manufacturers
Association (ANSI/WDMA):
 1. I.S. 1A-04 - Architectural Wood Flush Doors.
- C. ASTM International (ASTM):
 1. E90-09 - Laboratory Measurements of Airborne Sound Transmission Loss
of Building Partitions and Elements.
 2. G-21 - Bacteria Resistance.
 3. G-22 - Fungal Resistance.
 4. D-543 - Chemical and Stain Resistance.
 5. E152 - Methods of Fire Tests and Door Assemblies
- D. National Fire Protection Association (NFPA):
 1. 80 - Fire Doors and Other Opening Protectives.
 2. 252 - Fire Tests of Door Assemblies.
 3. 101 - Life Safety Code.
- E. UL LLC (UL):
 1. 10C - Positive Pressure Fire Tests of Door Assemblies.
- F. Window and Door Manufacturers Association (WDMA):
 1. TM 7-14 - Cycle-Slam Test.

2. TM 8-14 - Hinge Loading Test.
3. TM 10-14 - Screw Holding Capacity.

G. ANSI/BHMA

1. A156.115-W-2006 Standard for Hardware Preparation in Wood Doors.

1.4 SUBMITTALS

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
 1. Show size, configuration, and fabrication and installation details.
 2. Include details of glazing.
 3. Indicate project specific requirements not included in Manufacturer's Literature and Data submittal.
- C. Manufacturer's Literature and Data:
 1. Description of each product.
 2. Fire rated doors showing conformance with NFPA 80.
- D. Samples:
 1. Corner section of flush PETG door 300 mm (12 inches) square, showing details of construction, labeled to show grade and type number and conformance to specified standard.
 2. PETG sample 200 mm by 275 mm (8 inch by 11 inch) showing specified finish.
- E. Sustainable Construction Submittals:
 1. Low Pollutant-Emitting Materials:
 - a. Show volatile organic compound types and quantities.
- F. Test Reports: Indicate products comply with specifications.
 1. Screw Holding Capacity Test.
 2. Cycle-Slam Test.
 3. Hinge-Loading Test.
- G. Operation and Maintenance Data:
 1. Care instructions for each exposed finish product.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications:
 1. Regularly and presently manufactures specified products.
 2. Manufactures specified products with satisfactory service on five similar installations for minimum five years.

1.6 DELIVERY

- A. Deliver products in manufacturer's original sealed packaging.

1. Minimum 0.15 mm (6 mil) polyethylene bags or cardboard packaging to remain unbroken during delivery and storage.
- B. Mark packaging, legibly. Indicate manufacturer's name or brand, type, color, and manufacture date.
 1. Identify door opening corresponding to Door Schedule.
- C. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.7 STORAGE AND HANDLING

- A. Store products indoors in dry, weathertight conditioned facility.
 1. Store doors according to ANSI/WDMA I.S. 1A.
- B. Protect products from damage during handling and construction operations.

1.8 FIELD CONDITIONS

- A. Environment:
 1. Product Temperature: Minimum 21 degrees C (70 degrees F) for minimum 48 hours before installation.
 2. Work Area Ambient Temperature Range: 21 to 27 degrees C (70 to 80 degrees F) continuously, beginning 48 hours before installation.
 3. Install products when building is permanently enclosed and when wet construction is completed, dried, and cured.
 - a. Comply with door manufacturer's instructions for relative humidity.

1.9 WARRANTY

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."
- B. Manufacturer's Warranty: Warrant interior factory finished flush with integral stile and rail wood core PETG finished doors against material and manufacturing defects.
 1. Warranty Period: Lifetime on Solid-Core Interior Doors: of original installation.
 2. Lifetime Edge Warranty Period on Edge Covers.

PART 2 - PRODUCTS

2.1 PRODUCTS - GENERAL

- A. Basis of Design: Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Provide each product from one manufacturer.

C. Sustainable Construction Requirements:

1. Low Pollutant-Emitting Materials: Comply with VOC limits specified in Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS for the following products:
 - a. PETG - PVC-Free
 - b. Composite wood and agrifiber.

2.2 FLUSH WOOD CORE PETG FINISH DOORS

A. General:

1. ANSI/WDMA I.S. 1A, Extra Heavy Duty.
2. Adhesive: Type II.
3. Core: Structural composite lumber, except when mineral core is required for fire rating.
4. Thickness: 44 mm (1-3/4 inches) unless otherwise shown or specified.

B. Faces:

1. ASTM D-4226: Impact Resistance.
2. Source Limitations: One source for high impact resistant Pet-G free of PVC from a single manufacturer.
3. Faces: Solid color impact resistant, PVC-free Pet-G. Color to be integral throughout. Section 09 06 00, SCHEDULE FOR FINISHES.
4. Stiles: Meets or exceeds WDMA TM-9 Hinge-Loading Test and WDMA TM-10 Screw Holding Capacity Test.
5. Edges: Edges to be PVC-Free high impact resistant, PVC-free PETG. Replacement edges to be 3/4" thick.

C. Wood For Stops, Louvers, Muntins and Moldings For Flush Doors Required to Have Transparent Finish:

1. Solid wood of same species as face veneer, except maple is acceptable on birch doors.
2. Glazing:
 - a. On non-fire-rated doors, use applied wood stops nailed tightly on room side and attached on opposite side with flathead, countersunk wood screws, spaced approximately 125 mm (5 inches) on center.

3. Wood Louvers:

- a. Door manufacturer's standard product, fabricated of solid wood sections.
- b. Wood Slats: minimum 5 mm (3/16 inch) thick.
- c. Stiles routed out to receive slats.
- d. Secure louvers in prepared cutouts with wood stops.

D. Stiles and Rails:

1. Composite material having screw withdrawal force greater than minimum performance level value when tested according to WDMA TM 10.
2. Replaceable door stiles: $\frac{3}{4}$ " replaceable stiles shall be field replaceable if ever damaged by impact.
3. Stiles: Meets or exceeds WDMA TM-9 Hinge-Loading Test and WDMA TM-10 Screw Holding Capacity Test.

E. Fire-Rated Wood Doors:

1. Fire Resistance Rating:
 - a. B Label: 1-1/2 hours.
 - b. C Label: 3/4 hour.
2. Labels:
 - a. Comply with NFPA 252, UL 10C, and labeled by qualified testing and inspection agency showing fire resistance rating.
 - b. Metal labels with raised or incised markings.
3. Performance Criteria for Stiles of Doors Utilizing Standard Mortise Leaf Hinges:
 - a. Hinge Loading: WDMA TM 8. Average of 10 test samples for Extra Heavy Duty doors.
 - b. Direct Screw Withdrawal: WDMA TM 10 for Extra Heavy Duty doors. Average of 10 test samples using a steel, fully threaded #12 wood screw.
 - c. Cycle-Slam: 1,000,000 cycles with no loose hinge screws or other visible signs of failure when tested according to WDMA TM 7.
4. Hardware Reinforcement:
 - a. Provide fire rated doors with hardware reinforcement blocking.
 - b. Size of lock blocks as required to secure hardware specified.
 - c. Top, Bottom and Intermediate Rail Blocks: Minimum 125 mm (5 inches) by full core width.
 - d. Reinforcement blocking in compliance with labeling requirements.
 - e. Mineral material similar to core is not acceptable.
5. Other Core Components: Manufacturer's standard as allowed by labeling requirements.
6. Glazed Vision Panel Frame: Steel approved for use in labeled doors.

7. Astragal: Steel type for pairs of doors.

F. Smoke Barrier Doors:

1. Glazed Vision Panel Frame: Steel approved for use in labeled doors.
2. Astragal: Steel type for pairs of doors, including double egress doors.

G. Sound Rated Doors:

1. Fabricated as specified for flush wood doors with additional construction requirements to comply with specified sound transmission class (STC).
2. STC Rating of door assembly in place when tested according to ASTM E90 by independent acoustical testing laboratory minimum 35.
3. Accessories:
 - a. Frame Gaskets and Automatic Door Bottom Seal: As specified in Section 08 71 00, DOOR HARDWARE.

H. Dutch Doors:

1. Consist of two sections, each fabricated as specified for flush doors.
2. Construct shelf as detailed, from clear hardwood stock of same species as face veneer of door.
3. Place shelf on top of lower section of door and support as shown with a pair of wood or wrought steel brackets.
4. Prime steel brackets for finish painting.

2.3 STILE AND RAIL WOOD DOORS

A. Doors: ANSI/WDMA I.S. 6A; Grade Premium, size and design shown on drawings.

B. Species: Ponderosa pine.

C. Door Panels:

1. Grain of face of panels parallel with longest dimensions of panel.
2. Flat panels: Veneered composite core, minimum 16 mm (5/8 inch) thick.
3. Raised panels: Unless otherwise shown, thickness of raised panels minimum the following:
 - a. For 35 mm (1-3/8 inch) and 44 mm (1-3/4 inch) thick doors: 28 mm (1-1/8 inch) thick.
4. Where armor plate is required for paneled doors, provide panels with plywood fillers, glued in place, and finished.

D. Stops and Molds:

1. Solid sticking both sides, same material as stiles and rails, coped joints.

2. Glazed Vision Panel Frame: Applied wood stops nailed on interior side of door.

E. Louvers: Size as shown.

2.4 FABRICATION

A. Factory machine interior wood doors to receive hardware, bevels, undercuts, cutouts, accessories and fitting for frame.

1. Factory fit fire rated doors according to NFPA 80.

B. Rout doors for hardware using templates and location heights specified in Section 08 71 00, DOOR HARDWARE.

C. Factory fit doors to frame, bevel lock edge of doors 3 mm (1/8 inch) for each 50 mm (2 inches) of door thickness.

D. Clearances between Doors and Frames and Floors:

1. Fire Rated Doors: Comply with NFPA 80.

a. Doors with Automatic Bottom Seal: Maximum clearance 10 mm (3/8 inch) at threshold.

b. Other Door Bottoms: Maximum 3 mm (1/8 inch) clearance at the jambs, heads, and meeting stiles, and a 19 mm (3/4 inch) clearance at bottom, except as otherwise specified.

2. Door Jambs, Heads, and Meeting Stiles: Maximum 3 mm (1/8 inch).

E. Provide cutouts for openings.

F. Finish surfaces, including both faces, top and bottom and edges of the doors smooth to touch.

G. Identify each door on top edge.

1. Mark with stamp, brand or other indelible mark, giving manufacturer's name, door's trade name, construction of door, date of manufacture and quality.

2. Mark door or provide separate certification including name of inspection organization.

3. Identify door manufacturing standard, including glue type.

4. Identify veneer and quality certification.

5. Identification of preservative treatment for stile and rail doors.

2.5 FINISHES

A. Field Finished Doors: Seal top and bottom edges of doors with two coats of catalyzed polyurethane or water resistant sealer.

B. Factory Transparent Finish:

1. Factory finish flush wood doors.
 - a. ANSI/WDMA I.S. 1A Section F-3 Finish System Descriptions for System 5, Conversion Varnish or System 7, Catalyzed Vinyl.
 - b. Use stain when required to produce finish specified in Section 09 06 00, SCHEDULE FOR FINISHES.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Examine and verify substrate suitability for product installation.
 1. Verify door frames are properly anchored.
 2. Verify door frames are plumb, square, in plane, and within tolerances for door installation.
- B. Protect existing construction and completed work from damage.
- C. Install astragal on active leaf of pair of smoke doors and one leaf of double egress smoke doors.

3.2 INSTALLATION

- A. Install products according to manufacturer's instructions and approved submittal drawings.
 1. Install fire rated doors according to NFPA 80.
 2. When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative consideration.

3.3 PROTECTION

- A. After installation, place shipping container over door and tape in place.
 1. Do not apply tape to door faces and edges.
- B. Provide protective covering over exposed hardware in addition to covering door.
- C. Maintain covering in good condition until removal is directed by Contracting Officer's Representative.

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