

## SECTION 081416 - FLUSH WOOD DOORS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

##### A. Section Includes:

1. Solid-core doors with **[Veneer] [MDO] [HPDL]**
2. Factory fitting flush wood doors to frames and factory machining for hardware.
3. Factory installed glazing

##### B. Related Requirements:

1. Section 081100 Hollow Metal Doors & Frames
2. Section 087100 Door Hardware
3. Section 088000 Factory Glazing for glass view panels in flush wood doors.
4. Section **[099123 Interior Painting] [and] [099300 Staining and Transparent Finishing]** for field finishing doors.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of door. Include details of core and edge construction, vision kits for openings and factory finishing.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:
  1. Use same unit designations used in Contract Documents.
  2. Hardware and [wiring chase] preparation.
  3. Glazed openings
  4. Blocking dimensions and locations
  5. Fire-protection ratings for fire-rated doors.
- C. Samples for Initial Selection: Available standard **[Stain] [Paint] [Plastic laminate]**.
- D. Samples for Verification:
  1. Factory finish applied to actual door face material, approximately 8 x 10 inches, for each material and finish.
  2. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.

3. Plastic Laminate, 5" square, for each color, texture and pattern selected.
4. Frames for light openings, 6 inches long, for each material, type, and finish when required.

#### 1.4 QUALITY ASSURANCE

- A. Quality Standard: WDMA I.S.1-A, latest edition, "Industry Standard for Architectural Wood Flush Doors".
- B. Security Standard: Filti Testing and Development (FTD), "Shooter Attack Test Method (SA)"

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags and wrap bundles of doors in plastic sheeting.
- C. Mark each door on top rail with opening number used on Shop Drawings.

#### 1.6 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during remainder of construction period.

#### 1.7 WARRANTY

- A. Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
  1. Failures include, but are not limited to, the following:
    - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
    - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
  2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
  3. Warranty Period for Solid-Core Interior Doors: Life of installation.

## PART 2 - PRODUCTS

- A. Masonite Architectural, Aspiro Series
  - 1. A component of the Masonite Defendr™ Door System
- B. Source Limitations: Obtain flush wood doors from single manufacturer.

### 2.2 FLUSH WOOD DOORS, GENERAL

- A. Quality Standard: Provide WDMA I.S.1-A
  - 1. Performance Grade: Extra Heavy Duty.
  - 2. Aesthetic Grade: **[Custom (A grade faces)] [Premium (AA grade faces)]**.
- B. Security Standard: FTD-SA
  - 1. Performance Class:
    - a. Class 3
- C. Fire-Rated Wood Doors: Conforming to NFPA 80; listed and labeled for required ratings based on testing at pressure NFPA 252 OR UL 10C by UL or other testing agency acceptable to authorities having jurisdiction.
  - 1. Ratings: **[Category A positive pressure] [Category B positive pressure]**
  - 2. Cores:
    - a. 20-minute rated: **[Extra heavy-duty particle board] [Structural composite lumber]**
    - b. 45-minute fire rated: Fire-resistant wood-based particleboard
  - 3. Vertical Edges:
    - a. Category A Positive Pressure: Integral intumescent seals concealed by outer stile where required.
    - b. Category B Positive Pressure: Intumescent seals applied to door frame per requirements of section 08 71 00 where required.
  - 4. Blocking: Provide blocking with improved screw holding capability approved for use in doors of fire protection ratings indicated as follows:
    - . Blocking is not required in extra heavy duty particle board or structural composite lumber core doors
- D. Smoke and Draft Control Door Assemblies: Listed and labeled for smoke and draft control, based on testing according to UL 1784 for I occupancy projects.

**Specifier Note:** Please Select the paragraph or paragraphs below that pertain to the door requirements on your project.

## 2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH

### A. Interior Solid-Core Doors:

1. Aesthetic Grade: **[Custom, with Grade A faces]** or **[Premium, with Grade AA faces]**
2. Species: **[Veneer]**
3. Cut: **[Rotary cut]** **[Plain sliced (flat sliced)]** [Quarter sliced] [Rift cut]
4. Match between Veneer Leaves: **[Book]** or **[Slip]** match.
5. Assembly of Veneer Leaves on Door Faces: **[Book & Running]** **[Balanced]** **[Center balanced]** match.
6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Vertical Edges: **[Matching / Compatible Hardwood Lumber over structural composite lumber]** **[Matching / Compatible Veneer edge band over structural composite lumber]** **[Compatible high impact edge bonded to structural composite lumber]**
8. Horizontal Edges: Structural Composite Lumber **[Clean edge band bonded to the SCL top rail].**
9. Core: **[Extra Heavy-Duty Particle Board]** **[Structural Composite Lumber]**
10. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering.

## 2.4 PLASTIC-LAMINATE-FACED DOORS

### A. Interior Solid-Core Doors:

1. Aesthetic Grade: Premium
2. Plastic-Laminate Faces: High-pressure decorative laminates complying with NEMA LD 3, Grade HGS.
3. Colors, Patterns, and Finishes: **[As indicated]** **[As selected by Architect from manufacturer's standard products].**
4. Vertical Edges: **[Matching HPDL edge band over structural composite lumber]** **[Matching high impact edge bonded to structural composite lumber]** **[Hardwood for staining or painting]** **[Compatible high impact edge bonded to structural composite lumber]**
5. Horizontal Edges: Structural Composite Lumber **[Clean edge band bonded to the SCL top rail].**
6. Core: **[Extra Heavy-Duty Particle Board]** **[Structural Composite Lumber]**
7. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before crossbands and laminate faces are applied.

## 2.5 MDO FACED DOORS FOR OPAQUE FINISH-PAINT

### A. Interior Solid-Core Doors:

1. Aesthetic Grade: Premium
2. Faces: MDO, apply to high-density hardboard crossbands.
3. Vertical Edges: **[Matching / Compatible Hardwood Lumber over structural composite lumber] [Matching / Compatible Veneer edge band over structural composite lumber] [Compatible high impact edge bonded to structural composite lumber]**
4. Horizontal Edges: Structural Composite Lumber **[Clean edge band bonded to the SCL top rail].**
5. Core: **[Extra Heavy-Duty Particle Board] [Structural Composite Lumber].**
6. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before crossbands and MDO faces are applied.

## 2.6 LIGHT FRAMES

- A. Metal Vision Frames for Light Openings:
  1. 18 gauge cold-rolled steel
  2. Finish: **[Factory baked-enamel] [Powder-coated] [Veneer wrapped, factory finish to match door faces]** finish; and approved for use in doors of fire-protection rating indicated.
- B. MVF Manufacturer's: Subject to compliance, meeting Filti Testing and Development (FTD), "Shooter Attack Test Method (SA)".
  1. All Metal Stamping-110 (non-rated)
  2. All Metal Stamping 110-D2 (fire-rated)

## 2.7 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
  1. Comply with NFPA 80 requirements for fire-rated doors.
- 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, BHMA-156.115-W, and hardware templates.
  1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- C. Openings:
  1. Light Openings: Factory cut and install with vision kits indicated above.
  2. Glass: Factory install glass in doors per manufacturer's instructions.
    - a. Non-rated glass to be Armoured One AOTSG516
    - b. 20-minute glass to be Dual Glazed:
      - 1) Armoured One AOTSG516
      - 2) Pyroswiss 20 1/4"

- c. 45-minute glass to be Dual Glazed:
  - 1) Armoured One AOTSG516
    - a) 45-min: Keralite FR-F 3/16" or Firelite NT 3/16"
    - b) 45-min: Keralite FR-L 5/16" or Firelite Plus 5/16"

## 2.8 FACTORY FINISHING

A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.

B. Transparent Finish:

- 1. Grade: Premium
- 2. Finish: WDMA TR-8 UV Cured Acrylated Polyester/Urethane.
- 3. Staining: **[Match Architect's sample] [As selected by Architect from manufacturer's full range].**
- 4. Sheen: Satin

C. Factory Painted:

- 1. Grade: Premium
- 2. Finish: WDMA I.S. 1-A System OP-8
- 3. Color: **[Matching Architect's paint sample] [As selected by Architect from manufacturers full range].**
- 4. Sheen: **Satin**

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Examine doors and installed door frames, with Installer present, before hanging doors.

- 1. Verify that installed 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.

### 3.2 INSTALLATION

A. Hardware: For installation, see Section 087100 Door Hardware.

B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

1. Install fire-rated doors according to NFPA 80.
  2. Install smoke- and draft-control doors according to NFPA 105.
- C. Job-Fitted Doors: 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 for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
1. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
    - a. Comply with NFPA 80 for fire-rated doors.
    - b. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.
  2. Bevel fire-rated doors 1/8 inch in 2 inches at lock edge; trim stiles and rails only to extent permitted by labeling agency.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

### 3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that 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 081416