# SECTION 08211 - 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 1 Specification Sections, apply to this Section.

### 1.2 SUMMARY

A. Section Includes:

1. Solid-core doors with wood-veneer faces.
2. Shop priming flush wood doors.
3. Factory fitting flush wood doors to frames and factory machining for hardware.

B. Related Sections:
1. Section 08800 "Glazing" for glass view panels in flush wood doors.
2. Section 08110 “Steel Doors and Frames” for hollow metal frames.
3. Section 09912 "Interior Painting" for field finishing doors.

### 1.3 SUBMITTALS

A. Product Data: For each type of door indicated. Include details of core and edge construction and trim for openings.

B. Product Certificates for products and materials required to comply with requirements for regionally manufactured and regionally extracted and manufactured materials.

a. Include statement indicating location of manufacturer and distance to Project for each regionally manufactured material.
b. Include statement indicating location of manufacturer and point of extraction, harvest, or recovery for each raw material used in regionally extracted and manufactured materials. Indicate distance to Project and fraction by weight of each regionally manufactured material that is regionally extracted.

C. Chain-of-custody certificates indicating that flush wood doors comply with forest certification requirements. Include documentation that manufacturer is certified for chain of custody by an FSC-accredited certification body.

D. Product Data for adhesives and composite wood products, documentation indicating that product contains no urea formaldehyde.

E. 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; and other pertinent data.

1. Indicate dimensions and locations of mortises and holes for hardware.
2. Indicate dimensions and locations of cutouts.
3. Indicate fire-protection ratings for fire-rated doors.

F. Samples for Verification:

1. Corner sections of doors, approximately 8 by 10 inches, with door faces and edges representing actual materials to be used.

a. Provide samples for each species of veneer and solid lumber required.

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

G. Warranty: Sample of special warranty.

## 1.4 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 from single manufacturer.

C. Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated."

1. Provide AWI Quality Certification Labels or an AWI letter of licensing for Project indicating that doors comply with requirements of grades specified.

D. Forest Certification: Provide doors made with not less than 70 percent of wood products obtained with from forests certified by an FSC-accredited certification body to comply FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

## 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 or cardboard cartons.

C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

## 1.6 PROJECT 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 between 60 and 90 deg F and humidity conditions between 43 and 70 percent during the remainder of the construction period.

1.7 WARRANTY

A. Special 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

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Algoma Hardwoods, Inc.
2. Eggers Industries.
3. Graham; an Assa Abloy Group company.
4. Mohawk Flush Doors, Inc.; a Masonite company.

2.2 DOOR CONSTRUCTION, GENERAL

A. Regional Materials: Flush wood doors shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

B. Certified Wood: Flush wood doors shall be certified as "FSC Pure" according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and to FSC STD-40-004, "FSC Standard for Chain of Custody Certification."

C. Low-Emitting Materials: Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.

D. Particleboard-Core Doors:

1. Particleboard: ANSI A208.1, Grade LD-1 or Grade LD-2.
2. Blocking: Provide wood blocking in particleboard-core doors as follows:

a. 5-inch top-rail blocking, in doors indicated to have closers.
b. 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.

3. Provide doors with either glued-wood-stave or structural-composite-lumber cores instead of particleboard cores for doors indicated to receive exit devices.

4. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.

E. Mineral-Core Doors:

1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.
2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware.
3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

## 2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Solid-Core Doors:

1. Grade: Premium, with Grade A faces.
2. Species: Select white maple.
3. Cut: Plain sliced (flat sliced).
4. Match between Veneer Leaves: Slip match.
5. Assembly of Veneer Leaves on Door Faces: Center-balance match.
6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Room Match: Match door faces within each separate room or area of building. Corridor-door faces do not need to match where they are separated by 20 feet or more.
8. Exposed Vertical and Top Edges: Same species as faces.
9. Core: Either glued wood stave or structural composite lumber.
10. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering. Faces are bonded to core using a hot press.

11. WDMA I.S.1-A Performance Grade:
    a. Heavy Duty unless otherwise indicated.
    b. Extra Heavy Duty: Classrooms, public toilets, janitor’s closets, assembly spaces and exits
    c. Standard Duty: Closets (not including janitor’s closets) and private toilets.

## 2.4 LIGHT FRAMES AND LOUVERS

A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.

1. Wood Species: Same species as door faces.
2. Profile: Flush rectangular beads.

B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.

## 2.5 SHOP PRIMING

A. Doors for Transparent Finish: Shop prime faces and all four edges with stain (if required), other required pretreatments, and first coat of finish as specified in Section 09931 "Wood Stains and Transparent Finishes." Seal edges of cutouts and mortises with first coat of finish.

## 2.6 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.

1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.

B. Factory finish doors.

C. Factory finish doors that are indicated to receive transparent finish.

D. Factory finish doors where indicated in schedules or on Drawings as factory finished.

E. Use only paints and coatings that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

F. Transparent Finish:

1. Grade: Premium.
2. Finish: AWI's, AWMAC's, and WI's "Architectural Woodwork Standards" System 5, conversion varnish or System 11, catalyzed polyurethane.
3. Staining: None required.
4. Sheen: Satin.

# PART 3 - EXECUTION

## 3.1 EXAMINATION

A. Examine doors and installed door frames 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.

## 3.2 INSTALLATION

A. Hardware: For installation, see Division 8 Section "Door Hardware."

B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the 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.

## 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 08211