

## SECTION 08 14 16

### FLUSH WOOD DOORS

#### PART I – GENERAL

##### 1.1 SUMMARY

###### A. SECTION INCLUDES

1. Work under this section comprises of furnishing solid core doors (wood veneer faces and hardboard/MDF) light frames, factory fitting and machining and factory finishing for fire labeled and non labeled wood doors.

###### B. RELATED DOCUMENTS

1. Related documents, drawings and general provisions of contract, including General and Supplementary Conditions and Division 1 specification sections apply to this section.

###### C. RELATED SECTIONS

1. 06 20 00 – Finish Carpentry
2. 08 11 13 – Hollow Metal Doors and Frames
3. 08 71 00 – Door Hardware
4. 08 80 00 – Glass and Glazing
5. 09 91 23 – Painting and Finishing
6. 28 13 00 – Access Control

##### 1.2 REFERENCES

###### A. STANDARDS

1. NFPA-80 – Fire Doors and Windows
2. NFPA-105 – Recommend Practice for Installation of Smoke Controlled Door Assemblies
3. WDMA I.S. 1A – Wood Door Manufacturer's Association, Flush Wood Door Performance Standards
4. UL10C - Standard for Positive Pressure Fire Tests of Door Assemblies

###### B. CODES

1. NFPA-101 – Life Safety Code
2. NYSBC 2007 – New York State Building Code
3. ANSI-A117.1 – Accessible and Usable Building and Facilities
4. ADA – Americans with Disabilities Act
5. Local Authority Having Jurisdiction

### 1.3 SUBMITTALS

#### A. GENERAL REQUIREMENTS

1. Submit copies of the hollow metal door and frame shop drawings in accordance with Division 1, General Requirements.

#### B. PRODUCT DATA

1. Submit shop drawings showing fabrication and installation of wood doors. Include details of door elevations, details of construction, location and installation requirements of door hardware.

#### C. SHOP DRAWINGS

1. Provide a schedule of doors and frames using same reference numbers for details and door openings as those on the contract documents. Shop drawings should include the following information:
  - a. Door core material.
  - b. Mortises and reinforcements.
  - c. Glazed and louvered openings and material.
  - d. Mounting locations of standard hardware.
  - e. Elevation drawings.

#### D. SAMPLES

1. Upon request submit the following samples:
  - a. Corner sections of doors approximately 8" x 10" with door faces and edgings representing the typical range of color and grain for each species of veneer and solid lumber required.
  - b. Factory finishes applied to actual door face materials, approximately 8" x 10" inches, for each material and finish. For each wood species and transparent finish, provide set of three samples showing typical range of color and grain to be expected in the finished work.
  - c. Frames for light openings, 6" long, for each material, type, and finish required.
  - d. Louver blade and frame sections, 6 inches long, for each material and finish specified.

## 1.4 QUALITY ASSURANCE

### A. SUBSTITUTIONS

1. All substitution requests must be submitted within the procedures and time frame as outlined in Division 1, General Requirements. Approval of products is at the discretion of the architect and his consultant.

### B. MANUFACTURER QUALIFICATIONS

1. Manufacturer shall be a member in good standing of the Wood Door Manufacturer's Association (WDMA).
2. Wherever possible obtain wood doors from a single manufacturer to ensure uniformity in quality of appearance and construction. All material supplied for this project to conform to WDMA I.S. 1A-97 for premium grade wood doors.

### C. FIRE RATED DOORS

1. Project requires door assemblies and components that are compliant with positive pressure and S-label requirements. Specifications must be cross-referenced and coordinated with hardware and other door manufacturers to ensure that total opening engineering is compatible with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and UBC 7-2, Fire Tests of Door Assemblies.
  - a. Certification(s) of compliance shall be made available upon request by the Authority Having Jurisdiction.
  - b. For units exceeding sizes of tested assemblies provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
2. A physical label to be permanently affixed to the fire door at an authorized facility. Furthermore, all 45, 60, and 90 minute label fire doors are to have manufacturer's standard laminated stiles for improved screw holding and split resistance capability.
  - a. At stairwell enclosures and where otherwise indicated, provide doors that have a maximum transmitted temperature end point of not more than 250 deg F above ambient after 30 minutes of standard fire-test exposure

## 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect doors during transit, storage, and handling to prevent damage, soiling, and deterioration. Doors are to be shipped from manufacturer in individual polybags, and shall be inspected immediately upon arrival at jobsite for any damage or defects.
- B. Identify each door with individual opening numbers that correlate with designation system used on shop drawings and contract drawings for door, frames and hardware. Use only temporary, removable, or concealed markings.

- C. Do not deliver or install doors until building is enclosed and weather tight, wet-work is complete and dry, and HVAC system is operating and maintaining ambient temperature and relative humidity at occupancy level in storage and installation areas.

## 1.6 WARRANTY

- A. Warranties shall be in addition to, and not a limitation of other rights the owner may have under the contract documents.
- B. Submit written warranty on manufacturer's standard form signed by the manufacturer agreeing to replace or repair defective doors which have:
  - 1. Delamination in any degree.
  - 2. Warp or twist of 1/4" or more in any 3' x 6" x 7' plane of door face.
  - 3. Telegraphing of stile, rail or core through face to cause surface variation in excess of 1/100" in any 3" spans.
- C. Contractor shall replace or refinish doors where contractor's work contributed to rejection or voiding of manufacturer's warranty.
- D. Solid core interior doors shall be warranted for the life of their installation.

## PART II - PRODUCTS

### 2.01 MANUFACTURERS

- A. Subject to compliance with requirements, provide wood doors by one of the manufacturers as listed. Mohawk Doors; 980 Point Township Drive Northumberland, PA 17857.

### 2.02 FIRE RATED DOORS

- 1. All fire rated doors shall be supplied to meet UL10C positive pressure standards for category "A" doors. All required intumescent seals shall be concealed into the edge of the door; frame applied intumescent seals are not acceptable.

### 2.03 DOORS

#### A. FACES FOR TRANSPARENT FINISH

- 1. Doors shall have premium grade A faces with manufacturer's standard five (5) ply construction; minimum 1/8" thick with stiles and rails bonded to the core.
- 2. Faces shall be minimum 1/50" at 12% moisture content thick after finish sanding.
  - a. Veneer Cut: To match existing
  - b. Face Assembly: To Match existing
  - c. Veneer Species: To match existing

3. Exposed vertical edges shall be of the same species as the face material.
4. Doors shall have minimum 1" stiles on the hinge stile and 13/16" minimum on the lock stile; both stiles faces shall match the door veneer. Top and bottom rails shall be a minimum 13/16"; rails shall be mill option hardwood or structural composite lumber (SCL).

#### B. NON RATED AND 20 MINUTE DOORS

1. Supply particleboard core complying with WDMA I.S. 1A and ANSI-A208.1, Grade 1-LD, bonded to the door faces, stiles and rails using a Type I adhesive. Components are to be assembled to meet or exceed 20 minute fire door specifications for UL10C fire test requirements.
  - a. Mohawk
  - b. Graham:
  - c. Marshfield
  - d. VT Industries

#### C. FIRE RATED DOORS OVER 20 MINUTES

1. Supply fire resistive composite mineral core construction to provide the fire rating indicated, boned to door faces, stiles and rails using a Type I adhesive. Components are to be assembled to meet or exceed fire door specifications for UL10C fire test requirements.
  - a. Mohawk
  - b. Graham:
  - c. Marshfield
  - d. VT Industries
2. For mineral-core doors, provide composite blocking with improved screw holding capability approved for use in doors of fire ratings indicated as necessary to eliminate need for through-bolting hardware and as follows:
  - a. Provide 5" top-rail blocking.
  - b. Provide 4 1/2" x 10" lock blocks.
  - c. Provide 5" mid-rail blocking, at doors indicated to have exit devices.
3. At hinge stiles, provide manufacturer's standard laminated-edge construction with improved screw-holding capability and split resistance and with outer stile matching face veneer.

#### 2.04 FACTORY FINISHING

- A. Finish all doors to receive a transparent finish at the factory as indicated below; field finish doors indicated to receive an opaque finish in accordance with Division 9, Finishes.
  1. Grade: Premium
  2. Finish: WDMA TR-6 catalyzed polyurethane.
  3. Stain: Clear-coat only.
  4. Effect: Semi-filled finish, produced by applying an additional finish coat to partially fill the wood pores.

- B. 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.
- C. Finish doors using three (3) coats of water-clear 100% solids, modified acrylic urethane, cured immediately with ultra-violet light.
- D. Factory seal transparent finish doors on all six (6) sides using manufacturer's standard meeting these applications.

## 2.05 LIGHT FRAMES

- A. Provide wood beads for light openings in doors up to and including 20-minute rating; at 20-minute rated doors provide wood beads and metal glazing clips approved for such use.
  - 1. Wood Species: Same species as door faces.
  - 2. Profile: Flush rectangular beads
- B. For fire-rated doors over 20-minute rated provide manufacturer's standard metal light frame formed of 0.048 inch thick cold-rolled steel sheet with baked-enamel or powder-coated finish approved for use in doors of fire rating indicated.

## 2.06 LOUVERS

- A. Provide manufacturer's standard solid wood louvers unless otherwise indicated; species shall be the same as door faces.
- B. Provide metal louvers with vision-proof inverted V or inverted Y blades constructed of galvanized 0.040 inch thick steel factory primed for paint finish with baked-enamel or powder-coated finish.
- C. Provide metal louvers for fire-rated doors with fusible link and closing device listed and labeled for use in doors with fire-protection rating of 1 1/2 hours or less. Subject to compliance with rating requirements, louver construction and material shall be the same as non-rated versions.

## 2.07 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels, unless otherwise indicated:
  - 1. Comply with clearance requirements of referenced quality standard for fitting. Comply with requirements of NFPA 80 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, DHI A115-W series standards, and hardware templates.
  - 1. Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
  - 2. Premachine metal astragals and formed-steel edges for hardware for pairs of fire-rated doors.

- C. Cut and trim openings through doors to comply with applicable requirements of referenced standards for kind(s) of door(s) required.

- 1. Trim openings with moldings of material and profile indicated.

### PART III - EXECUTION

#### 3.01 EXAMINATION

- A. Examine 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 plumb jambs and level heads.
  - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.02 INSTALLATION

- A. For hardware installation, see Division 8 Section "Door Hardware."
- B. Install wood doors to comply with manufacturer's written instructions, referenced quality standard and as indicated.
  - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Align factory fitted doors in frames for uniform clearance at each edge.

#### 3.03 ADJUSTING AND PROTECTING

- A. Rehang or replace doors that do not swing or operate freely.
- B. Refinish or replace doors damaged during installation.
- C. Protect doors as recommended by door manufacturer to ensure that wood doors are without damage or deterioration at the time of Substantial Completion.

END OF SECTION 08 14 16