

**SECTION 08212**  
**FLUSH WOOD VENEER DOORS**

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

- A. *Interior Flush Wood Veneer Doors:*
  - 1. *Five-ply flush bonded doors.*
  - 2. *Flush fire-rated wood doors.*
  - 3. *Lead-lined doors.*
  - 4. *Sound-retardant doors.*

**1.2 RELATED SECTIONS**

- A. *Section 06460 (06 48 00) – Wood Frames.*
- B. *Section 08100 (08 12 00) – Metal Frames.*
- C. *Section 08710 (08 71 00) – Door Hardware.*
- D. *Section 08800 (08 80 00) – Glazing.*
- E. *Section 10225 (08 91 26) – Door Louvers.*

**1.3 REFERENCES**

- A. *ANSI A208.1 – Particleboard.*
- B. *ASTM E 90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.*
- C. *ASTM E 413 – Classification for Rating Sound Insulation.*
- D. *AWI/AWMAC/WI Architectural Woodwork Standards, Section 9 – Doors.*
- E. *NFPA 80 – Standard for Fire Doors and Other Opening Protectives.*
- F. *UBC 7-2-1997/UL 10C – Positive Pressure Fire Tests of Door Assemblies.*
- G. *WDMA Finish System TR-6, Catalyzed Polyurethane.*
- H. *WDMA I.S. 1A – Architectural Wood Flush Doors.*
- I. *WDMA I.S. 10 – Industry Standard for Testing Cellulosic Composite Materials for Use in Fenestration Products.*

## **1.4 SUBMITTALS**

- A. *Comply with Section 01330 (01 33 00) – Submittal Procedures.*
- B. *Product Data: Submit manufacturer's product data, including door construction description and WDMA I.S.1-A and AWS classifications.*
- C. *Schedules: Submit manufacturer's schedules, including door dimensions, cutouts, species, finish, and hardware. Reference individual door numbers as indicated on the Drawings.*
- D. *Samples: Submit manufacturer's door finish samples, showing range of color variation.*
- E. *Test Reports: Submit manufacturer's test results of STC ratings from testing performed by independent testing agency for sound-retardant doors.*
- F. *Manufacturer's Certification: Submit manufacturer's certification that doors comply with specified requirements and are suitable for intended application.*
- H. *Cleaning Instructions: Submit manufacturer's cleaning instructions for doors.*
- I. *Warranty: Submit manufacturer's standard warranty.*

## **1.5 QUALITY ASSURANCE**

- A. *Tolerances for Warp, Telegraphing, Squareness, and Prefitting Dimensions: WDMA I.S.1-A.*
- B. *Identifying Label: Each door shall bear identifying label indicating:*
  - 1. *Door manufacturer.*
  - 2. *Order number.*
  - 3. *Door number.*
  - 4. *Fire rating, if applicable.*
- C. *Fire-Rated Doors: Labeled by Intertek/Warnock Hersey.*
  - 1. *Construction Details and Hardware Application: Approved by labeling agency.*
- D. *Positive Pressure Opening Assemblies: UBC 7-2-1997/UL 10C.*

## **1.6 DELIVERY, STORAGE, AND HANDLING**

### **A. Delivery:**

1. *Deliver doors to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.*
2. *Package doors individually in polybags.*

### **B. Storage:**

1. *Store doors in accordance with manufacturer's instructions.*
2. *Store doors in clean, dry area indoors, protected from damage and direct sunlight.*
3. *Store doors flat on level surface.*
4. *Do not store doors directly on concrete.*
5. *Keep doors completely covered. Use covering which allows air circulation and does not permit light to penetrate.*
6. *Store doors between 50 and 90 degrees F (10 and 32 degrees C) and 30 to 50 percent relative humidity.*

### **C. Handling:**

1. *Handle doors in accordance with manufacturer's instructions.*
2. *Protect doors and finish during handling and installation to prevent damage.*
3. *Handle doors with clean hands or clean gloves.*
4. *Lift and carry doors. Do not drag doors across other doors or surfaces.*

## **1.7 ENVIRONMENTAL REQUIREMENTS**

- A. *Do not subject doors to extreme conditions or changes in temperature or relative humidity in accordance with WDMA I.S. 1-A.*

## **1.8 WARRANTY**

- A. *Warrant solid core, interior doors for life of installation against warpage, delamination, and defects in materials and workmanship.*
- B. *Defects noted during warranty period shall be corrected at no cost to Owner. Corrective work shall include labor and material for repair, replacement, refinishing, and rehanging as required.*

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

- A. *VT Industries, Inc., 1000 Industrial Park, PO Box 490, Holstein, Iowa 51025. Toll Free (800) 827-1615. Phone (712) 368-4381. Fax (712) 368-4111. [www.vtindustries.com](http://www.vtindustries.com). [door\\_info@vtindustries.com](mailto:door_info@vtindustries.com).*
- B. *Eggers Industries, Neenah Division, 164 North Lake Street, Neenah, WI54956  
Phone: 920.722.6444, Fax: 920.722.0357*
- C. *Algoma Hardwoods, 1001 Perry St, Algoma, WI 54201, United States  
Phone:+1 920-487-5221*

## 2.2 GENERAL

- A. *Glazing: As specified in Section 08800 (08 80 00).*
- B. *Door Louvers: As specified in Section 10225 (08 91 26).*

## 2.3 FIVE-PLY FLUSH BONDED DOORS

- A. *Five-Ply Flush Bonded Doors:*
  - 1. *Type:*
    - a. *Particleboard core, non-rated and 20-minute rated, positive pressure.*
  - 2. *Compliance: WDMA I.S.1-A.*
    - a. *Aesthetic Grade: Premium grade.*
    - b. *Duty Level: Extra heavy duty.*
    - c. *Type: PC-5*
  - 3. *Seven-Ply and Non-Bonded Core Construction: Not acceptable.*
  - 4. *Door Thickness: 1-3/4 inches.*
  - 5. *Stiles:*
    - a. *Inner Stiles: 1-3/8 inches wide, before prefitting.*
    - b. *Structural Composite Lumber (SCL) With Outer Stile: Same species as face veneer.*
    - c. *Outer Stile: Apply after beveling and before face application.*
  - 6. *Rails:*
    - a. *Structural composite lumber (SCL).*
    - b. *Minimum Width Before Prefitting: 1-3/8 inches.*
  - 7. *Core:*
    - a. *Material: [Particleboard]*
    - b. *Particleboard Compliance: ANSI A208.1, Grade 1-LD-2.*
  - 8. *Door Assembly:*
    - a. *Stiles and Rails: Bonded to core.*
    - b. *Sand entire assembly flat as a unit to ensure minimal telegraphing of core components through face veneers.*
  - 9. *Composite Crossbands:*
    - a. *Apply to core in hot press using Type I, exterior, water-resistant adhesive, before application of hardwood edges.*
    - b. *Exposed Crossbanding: Not allowed along stile edges.*
  - 10. *Veneers:*
    - a. *Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.*
    - b. *Type: Choose: [Red oak], [Select white maple], [Cherry], [African mahogany]*
    - c. *Cut: [Plain sliced]*
    - d. *Match: [Book]*
    - e. *Assembly: [Running]*

- f. *Minimum Thickness Before Sanding: 1/42 inch.*
11. *Positive Pressure:*
    - a. *Where UBC 7-2-1997/UL 10C standards for positive pressure apply, doors shall be constructed in accordance with Category A guidelines as published by Intertek/Warnock Hersey.*
    - b. *Smoke Gasketing: Apply smoke gasketing around frame perimeter and between door and pairs to meet Smoke (S) rating.*
    - c. *Intertek/Warnock Hersey Category A Guidelines: Edge sealing systems not allowed on frames.*
  12. *Electronic Barcode: "VTsmartdoor" barcode technology.*
    - a. *Location: Fire label, hinge stile of doors.*
    - b. *Provide fire-rated door assembly information required for Owner's annual fire-door inspection in accordance with NFPA 80, Paragraph 5.2.1.*

## **2.4 FLUSH FIRE-RATED WOOD DOORS**

- A. *Flush Fire-Rated Wood Doors:*
  1. *Type:*
    - a. *Mineral core, 45-, 60- and 90-minute rated, positive pressure.*
  2. *Compliance: WDMA I.S.1-A.*
    - a. *Quality Grade: Premium.*
    - b. *Type: FD-5.*
  3. *Door Thickness: 1-3/4 inches.*
  4. *STC Rating:*
    - a. *Mineral: [STC 33] [STC 35].*
  5. *Outer Edges: Same species as face veneer.*
  6. *Inner Stiles: Choose : [Structural composite lumber (SCL)] [Noncombustible material].*
  7. *Rails:*
    - a. *[Structural composite lumber (SCL)] [Noncombustible material for fire doors].*
    - b. *Width: Manufacturer's standard width.*
  8. *Core:*
    - a. *Fire-Retardant Mineral Core: Does not contain asbestos or added urea formaldehyde.*
    - b. *Structural Composite Lumber Core: WDMA I.S. 10.*
  9. *Composite Crossbands:*
    - a. *Apply to core in hot press using Type I, exterior, water-resistant adhesive before application of hardwood edges.*
    - b. *Exposed Crossbanding: Not allowed along stile edges.*
  10. *Veneers:*
    - a. *Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.*
    - b. *Type: Choose: [Red oak], [Select white maple], [Cherry], [African mahogany]*

11. *Positive Pressure:*
  - a. *Where UBC 7-2-1997/UL 10C standards for positive pressure apply, doors shall be constructed in accordance with Category A guidelines as published by Intertek/Warnock Hersey.*
  - b. *Smoke Gasketing: Apply smoke gasketing around frame perimeter and between door and pairs to meet Smoke (S) rating.*
  - c. *Intertek/Warnock Hersey Category A Guidelines: Edge sealing systems not allowed on frames.*
12. *Electronic Barcode: "VTsmartdoor" barcode technology.*
  - a. *Location: Fire label, hinge stile of doors.*
  - b. *Provide fire-rated door assembly information required for Owner's annual fire-door inspection in accordance with NFPA 80, Paragraph 5.2.1.*

## **2.5 LEAD-LINED DOORS**

- A. *Lead-Lined Doors:*
  1. *Model:*
    - a. *Non-rated and 20-minute, positive pressure.*
  2. *Compliance: WDMA I.S.1-A.*
    - a. *Quality Grade: Premium.*
  3. *Non-Rated and 20-Minute-Rated Fire Doors With Lead Sheet on Both Sides of Core:*
    - a. *Door Thickness: 1-3/4 inches.*
    - b. *Maximum Combined Lead Thickness: 1/4 inch.*
  4. *Core:*
    - a. *Particleboard.*
    - b. *Grade: 1-LD-2, for lead-each-side construction.*
  5. *Composite Crossbands:*
    - a. *Apply to core before application of matching hardware stiles.*
    - b. *Exposed Crossbanding: Not allowed along stile edges.*
  6. *Stiles:*
    - a. *Inner Stiles: 1-3/8 inches wide, before prefitting.*
    - b. *Structural Composite Lumber (SCL) with matching edge.*
  7. *Rails:*
    - a. *Structural composite lumber (SCL).*
    - b. *Width: 1-3/8 inches.*
  8. *Lead-Lined Steel Lite Frames on 20-Minute Doors:*
    - a. *Maximum Lite Opening Size: 256 square inches.*
    - b. *Maximum Width and Height: 16 inches.*
  9. *Lead Lining:*
    - a. *Thickness: Conform to shielding study provided by Owner.*
  10. *Veneers:*
    - a. *Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.*
    - b. *Type: Choose: [Red oak], [Select white maple], [Cherry], [African mahogany]*
    - c. *Cut: [Plain sliced] [ \_\_\_\_\_ ].*
    - d. *Match: [Book] [Slip].*
    - e. *Assembly: [Running] [Balanced] [Center balanced].*
    - f. *Minimum Thickness Before Sanding: 1/42 inch.*

## 2.6 SOUND-RETARDANT DOORS

- A. *Sound-Retardant Doors: Heritage Collection.*
1. *Model:*
    - a. *Non-rated and 20-minute rated, stained stiles.*
  2. *Compliance: WDMA I.S.1-A.*
    - a. *Quality Grade: Premium.*
  2. *Testing Methods: ASTM E 90 and E 413.*
  4. *Door Thickness: 1-3/4 inches.*
  5. *STC Rating: Choose: [33], [35], [39], [45]*
  6. *Core: Sound absorbent material encapsulated by stiles, rails, crossbands, and face veneers.*
  7. *Perimeter Gasketing and Drop Seals: To achieve STC ratings.*
  8. *Face Veneers and Vertical Stile Edges: Matching.*
  9. *Acoustical Lite Kit: Model 105 for STC 39.*
  10. *Veneers:*
    - a. *Apply to cross banded core in hot press using Type I, exterior, water-resistant adhesive.*
    - b. *Types Choose : [Red oak], [Select white maple], [Cherry], [African mahogany]*
    - c. *Cut: [Rotary] [Plain sliced] [Quarter] [ \_\_\_\_\_ ].*
    - d. *Match: [Book] [Slip].*
    - e. *Assembly: [Running] [Balanced] [Center balanced].*
    - f. *Minimum Thickness Before Sanding: 1/42 inch.*

## 2.7 FABRICATION

- A. *Prefit Doors:*
1. *Prefit and bevel doors at factory to fit openings.*
  2. *Prefit Tolerances: WDMA I.S.1-A and AWS Section 9.*
- B. *Factory-machine doors for mortised hardware, including pilot holes for hinge screws and lock fronts required.*

## 2.8 FINISHES

- A. *Doors shall receive factory finishing.*
- B. *Factory Finishing: [WDMA System TR-6, catalyzed polyurethane, premium grade]*
1. *Stain coat.*
  2. *Sealer: 3 coats.*
  3. *Sanding: Sand.*
  4. *Topcoat: 2 coats.*
- C. *Stain Color: [Clear] [Alpine] [Grassland] [Oasis] [Ravine] [Savanna] [Timber] [Wheat] [ \_\_\_\_\_ ].*

## **PART 3 EXECUTION**

### **3.1 EXAMINATION**

- A. *Examine locations to receive doors. Notify Architect of conditions that would adversely affect installation or subsequent use. Do not begin installation until unacceptable conditions are corrected.*
- B. *Ensure frames are solidly anchored, allowing no deflection when doors are installed.*
- C. *Ensure frames are plumb, level, square, and within tolerance.*

### **3.2 PREPARATION**

- A. *Allow doors to become acclimated to building temperature and relative humidity for a minimum of 24 hours before installation.*

### **3.3 INSTALLATION**

- A. *Install doors in accordance with manufacturer's instructions.*
- B. *Install doors at locations indicated on the [Door Schedule] [Drawings].*
- C. *Install doors plumb, level, and square.*
- D. *Install door hardware as specified in Section 08710 (08 71 00).*

### **3.4 ADJUSTING**

- A. *Adjust doors to swing freely, without binding in frame.*
- B. *Adjust hardware to operate properly.*
- C. *Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.*
- D. *Remove and replace damaged doors that cannot be successfully repaired, as determined by Architect.*

### **3.5 CLEANING**

- A. *Clean doors promptly after installation in accordance with manufacturer's instructions.*
- B. *Do not use harsh cleaning materials or methods that could damage finish.*

### **3.6 PROTECTION**

- A. *Protect installed doors from damage during construction.*

**END OF SECTION**



*For LEED requirements, please add the following section to article 1.5:*

- E. Environmental Responsibility: Provide doors manufactured with the following environmentally responsible components:*
  - 1. Particleboard Core:*
    - Forest Stewardship Council (FSC) certified.*
    - Pre-consumer recycled material.*
    - No added urea formaldehyde.*
  - 2. Composite Crossband:*
    - a. High-Density Fiberboard (HDF):*
      - Forest Stewardship Council (FSC) certified.*
  - 3. Stiles and Rails:*
    - a. Structural Composite Lumber (SCL):*
      - Forest Stewardship Council (FSC) certified.*