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## Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including *MasterFormat*, *SectionFormat*, and *PageFormat*, as described in *The Project Resource Manual—CSI Manual of Practice*.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all "Specifier Notes" when editing this section.

Section numbers are from *MasterFormat* 1995 Edition, with numbers from *MasterFormat* 2004 Edition in parentheses. Delete version not required.

### SECTION 08212 (08 14 16)

#### FLUSH WOOD VENEER DOORS

Specifier Notes: This section covers VT Industries Heritage Collection interior flush wood veneer doors. Consult VT Industries for assistance in editing this section for the specific application. Visit [www.vtindustries.com/doors/awdSalesReps.aspx](http://www.vtindustries.com/doors/awdSalesReps.aspx) to locate a Territory Sales Manager in your region.

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

A. Interior Flush Wood Veneer Doors:

Specifier Notes: Edit the following list as required.

1. Five-ply flush bonded doors.
2. Flush fire-rated wood doors.
3. Lead-lined doors.

4. Sound-retardant doors.

## 1.2 RELATED SECTIONS

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- 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

Specifier Notes: List standards referenced in this section, complete with designations and titles. Delete standards not used in this section. This article does not require compliance with standards, but is merely a listing of those used.

- 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.

Specifier Notes: Include the following paragraph when specifying sound-retardant doors.

- 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.

Specifier Notes: Include the following paragraph for projects requiring LEED certification.

- G. Environmental Documentation: Submit manufacturer's environmental documentation for the following LEED credits.
  - 1. MR Credit 4: Recycled Content.
  - 2. MR Credit 5: Regional Materials.
  - 3. MR Credit 6: Rapidly Renewable Materials.
  - 4. MR Credit 7: Certified Wood.
  - 5. EQ Credit 4.4: Low-Emitting Materials - Composite Wood and Agrifiber Products.
- 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.

Specifier Notes: Delete the following paragraph if fire-rated doors are not required.

- C. Fire-Rated Doors: Labeled by Intertek/Warnock Hersey.
  - 1. Construction Details and Hardware Application: Approved by labeling agency.

Specifier Notes: Edit the following paragraph as required. Delete if positive pressure opening assemblies are not required.

D. Positive Pressure Opening Assemblies: UBC 7-2-1997/UL 10C.

Specifier Notes: Include the following paragraph for projects requiring LEED or other green building certification.

E. Environmental Responsibility: Provide doors manufactured with the following environmentally responsible components:

Specifier Notes: Include the sentences for each specified component.

1. Core:
  - a. Agrifiber Core:
    - 1) Rapidly renewable materials.
    - 2) Pre-consumer recycled content.
    - 3) No added urea formaldehyde.
  - b. Particleboard Core:
    - 1) Forest Stewardship Council (FSC) certified.
    - 2) Pre-consumer recycled material.
    - 3) No added urea formaldehyde.
  - c. Stave Lumber Core:
    - 1) Forest Stewardship Council (FSC) certified.
    - 2) No added urea formaldehyde.
  - d. Structural Composite Lumber (SCL) Core:
    - 1) Forest Stewardship Council (FSC) certified.
    - 2) No added urea formaldehyde.
2. Composite Crossband:
  - a. High-Density Fiberboard (HDF):
    - 1) Forest Stewardship Council (FSC) certified.
    - 2) Pre-consumer recycled material.
    - 3) No added urea formaldehyde.
3. Stiles and Rails:
  - a. Structural Composite Lumber (SCL):
    - 1) Forest Stewardship Council (FSC) certified.
    - 2) No added urea formaldehyde.
4. GREENGUARD Certification Program.
  - a. GREENGUARD Indoor Air Quality Certified.
  - b. GREENGUARD Children and Schools Certified.

## 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).

### 2.2 GENERAL

Specifier Notes: Glass mouldings can be provided in a variety of wood species and profiles from non-rated to 90-minute rated. Consult VT Industries for more information.
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- A. Glass Mouldings:
  - 1. Non-rated Flush Doors: VT Industries Style VT1.
  - 2. Fire-Rated Doors: VT Industries Style 110, steel vision frame, beige prime finish.
  
- B. Glazing: As specified in Section 08800 (08 80 00).

- C. Door Louvers: As specified in Section 10225 (08 91 26).

### 2.3 FIVE-PLY FLUSH BONDED DOORS

- A. Five-Ply Flush Bonded Doors: Heritage Collection.

Specifier Notes: Specify the Heritage Collection door model. Consult VT Industries for assistance in choosing the door model for the specific application.

1. Model:
  - a. [5502H, PC-5, PC-20-5, and PC-20PP-5, particleboard core, non-rated and 20-minute rated, positive pressure.]
  - b. [5P02H, PC-20PP-5, particleboard core, 20-minute rated, positive pressure.]
  - c. [5509H, WSPC-5, WSPC-20-5, and WSPC-20PP-5, agrifiber core, non-rated and 20-minute rated, positive pressure.]
  - d. [5P09H, WSPC-20PP-5, agrifiber core, 20-minute rated, positive pressure.]
  - e. [5508H, SCLC-5, SCLC-20-5, and SCLC-20PP-5, structural composite lumber, non-rated and 20-minute rated, positive pressure.]
  - f. [5P08H, SCLC-20PP-5, structural composite lumber, 20-minute rated, positive pressure.]
  - g. [5507H, SLC-5, SLC-20-5 and SLC-20PP-5, stave lumber core, non-rated and 20-minute rated, positive pressure.]
  - h. [5P07H, SLC-20PP-5, stave lumber core, 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, WSPC-5, SCLC-5, SLC-5.
3. Seven-Ply and Non-Bonded Core Construction: Not acceptable.
4. Door Thickness: 1-3/4 inches.
5. STC Rating:
  - a. Model 5502H/5P02H: STC 30, STC 31, STC 32 with lite 100 to 256 square inches.
  - b. Model 5509H/5P09H: STC 30, non-rated and 20-minute rated.
  - c. Model 5508H/5P08H: STC 33.
  - d. Model 5507H/5P07H: STC 32.
6. 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.
7. Rails:
  - a. Structural composite lumber (SCL).
  - b. Minimum Width Before Prefitting: 1-3/8 inches.
8. Core:

Specifier Notes: Specify the core material.

- a. Material: [Particleboard] [Agrifiber] [Structural composite lumber (SCL)] [Stave lumber].

- b. Particleboard and Agrifiber Compliance: ANSI A208.1, Grade 1-LD-2.
- c. Stave Lumber Core Compliance: Blocks and strips not more than 2-1/2 inches wide, one species of wood.
- d. Structural Composite Lumber Core Compliance: WDMA I.S. 10.
- 9. 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.
- 10. 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.
- 11. Veneers:
  - a. Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.

Specifier Notes: Specify the veneer species, cut, match, and assembly.

- b. Species: \_\_\_\_\_ .
- c. Cut: [Rotary] [Plain sliced] [Quarter] [ \_\_\_\_\_ ].
- d. Match: [Book] [Slip].
- e. Assembly: [Running] [Balanced] [Center balanced].
- f. Minimum Thickness Before Sanding: 1/42 inch.
- 12. 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.

Specifier Notes: The 2007 edition of NFPA 80 requires an annual inspection by the building owner of all fire-rated door assemblies classified as swinging doors with builders' hardware. VT Industries, Inc. "VTsmartdoor™" barcode technology will make the Owner's fire-rated door assembly inspections easier. Consult VT Industries, Inc. for more information.

- 13. 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: Heritage Collection.

Specifier Notes: Specify the Heritage Collection door model. Consult VT Industries for assistance in choosing the door model for the specific application.

1. Model:
  - a. [5545H, FD-45-5, mineral core, 45-minute rated]
  - b. [5P45H, FD-45PP-5 and FD-60PP-5, mineral core, 45- and 60-minute rated, positive pressure.]
  - c. [5511H, FD-45-5, FD-60-5, and FD-90-5, mineral core, 45-, 60-, and 90-minute rated.]
  - d. [5P11H, FD-45PP-5, FD-60PP-5 and FD-90PP-5, mineral core, 45-, 60- and 90-minute rated, positive pressure.]
  - e. [5P08H, FD-45PP-5, structural composite lumber core, 45-minute rated, positive pressure.]
  - f. [5P09H, FD-45PP-5, agrifiber core, 45-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].
  - b. Agrifiber Core: STC 30.
  - c. Structural Composite Lumber Core: STC 33.
5. Outer Edges: Same species as face veneer.

Specifier Notes: Specify required inner stiles.

6. Inner Stiles: [Structural composite lumber (SCL)] [Noncombustible material].

Specifier Notes: Specify required rails.

7. Rails:
  - a. [Structural composite lumber (SCL)] [Noncombustible material].
  - b. Width: Manufacturer's standard width.
8. Core:
  - a. Fire-Retardant Mineral Core: Does not contain asbestos or added urea formaldehyde.
  - b. Agrifiber Core Door: ANSI A208.1, Grade 1-LD-2.
  - c. 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.

Specifier Notes: Specify the veneers species, cut, match, and assembly.

- b. Species: \_\_\_\_\_ .
  - c. Cut: [Rotary] [Plain sliced] [Quarter] [ \_\_\_\_\_ ].
  - d. Match: [Book] [Slip].
  - e. Assembly: [Running] [Balanced] [Center balanced].
  - 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.

Specifier Notes: The 2007 edition of NFPA 80 requires an annual inspection by the building owner of all fire-rated door assemblies classified as swinging doors with builders' hardware. VT Industries, Inc. "VTsmartdoor™" barcode technology will make the Owner's fire-rated door assembly inspections easier. Consult VT Industries, Inc. for more information.

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: Heritage Collection.

Specifier Notes: Specify the Heritage Collection door model. Consult VT Industries for assistance in choosing the door model for the specific application.

- 1. Model:
  - a. [5515-2, particleboard core, LL-7, LL-20-7, and LL-20PP-7, non-rated and 20-minute, positive pressure.]
  - b. [5P15-2, particleboard core, LL-20PP-7, 20-minute rated, 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:

Specifier Notes: Edit the following sentence if a shielding study is not provided by the Owner.

- 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.

Specifier Notes: Specify the veneers species, cut, match, and assembly.

- b. Species: \_\_\_\_\_ .
- c. Cut: [Rotary] [Plain sliced] [Quarter] [ \_\_\_\_\_ ].
- d. Match: [Book] [Slip].
- e. Assembly: [Running] [Balanced] [Center balanced].
- f. Minimum Thickness Before Sanding: 1/42 inch.

## 2.6 SOUND-RETARDANT DOORS

### A. Sound-Retardant Doors: Heritage Collection.

Specifier Notes: Specify the Heritage Collection door model. Consult VT Industries for assistance in choosing the door model for the specific application.

- 1. Model:
  - a. [5540H, composite sound core, SR-5 and SR-20-5, non-rated and 20-minute rated, stained stiles.]
  - b. [5550H, sound attenuation core, SR-5 and SR-20-5, non-rated and 20-minute rated, stained stiles.]
  - c. [5P50H, sound attenuation core, SR-20PP-5, stained stiles, positive pressure.]
  - d. [5050H, sound attenuation core, SR-5 and SR-20-5, non-rated and 20-minute rated, stained stiles.]
  - e. [5P40H, composite sound core, SR-20PP-5, stained stiles, positive pressure.]
- 2. Compliance: WDMA I.S.1-A.
  - a. Quality Grade: Premium.
- 3. Testing Methods: ASTM E 90 and E 413.
- 4. Door Thickness: 1-3/4 inches.

Specifier Notes: Specify the STC rating. Consult VT Industries for assistance in choosing the STC rating for the specific application.

5. STC Rating: [39] [45] [48] [49] [50] [51] [52].
6. Core: Sound absorbent material encapsulated by stiles, rails, crossbands, and face veneers.
7. Perimeter Gasketing and Drop Seals: To achieve STC ratings.
8. STC Frames: Required for STC 48 and above.
9. Face Veneers and Vertical Stile Edges: Matching.

Specifier Notes: Delete the acoustical lite kit if a lite is not required in the door. Using the Model 105 acoustical lite kit, STC 39 doors can maintain the full acoustical rating. The maximum lite size to meet these requirements is 216 square inches or a maximum of 6 inches wide by 36 inches long.

10. Acoustical Lite Kit: Model 105 for STC 39.
11. Veneers:
  - a. Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.

Specifier Notes: Specify the veneers species, cut, match, and assembly.

- b. Species: \_\_\_\_\_.
- 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.

Specifier Notes: Specify the factory finishing.

- B. Factory Finishing: [WDMA System TR-6, catalyzed polyurethane, premium grade] [Powder coat].

Specifier Notes: Omit the stain coat if a clear finish is desired.

1. Stain coat.
2. Sealer: 3 coats.
3. Sanding: Sand.
4. Topcoat: 2 coats.

Specifier Notes: Specify the stain color. Consult VT Industries for custom stain and paint colors and for minimum size of physical sample required for custom color matching.

- C. Stain Color: [Clear] [Alpine] [Grassland] [Oasis] [Ravine] [Savanna] [Timber] [Wheat]  
[ \_\_\_\_\_ ].

Specifier Notes: Include the following sentence if powder-coat factory finish is specified. Specify the powder coat color. Consult VT Industries for minimum size of physical sample required for custom color matching.

- D. 1. Powder Coat Color: [Black] [Dover White] [Lapis Blue] [Stop Red] [White Sand]  
[ \_\_\_\_\_ ].  
2. Powder Coat Finish: Microtex

- E. Top and Bottom Rails: Factory sealed.

## **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.

Specifier Notes: Edit the following sentence as required.

- 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**