VT Industries, Inc. October 2022

1000 Industrial Park

PO Box 490

Holstein, Iowa 51025

Toll Free (800) 827-1615

Phone (712) 368-4381

Fax (712) 368-4111

Website [www.vtindustries.com](http://www.vtindustries.com/)

E-mail [door\_info@vtindustries.com](mailto:door_info@vtindustries.com)

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 08214 (08 14 23.16)

STILE AND RAIL WOOD DOORS

Specifier Notes: This section covers VT Industries Supa Collection stile and rail wood doors. Consult VT Industries for assistance in editing this section for the specific application. Visit [www.vtindustries.com/doors/contact-us](http://www.vtindustries.com/doors/contact-us) to locate a Territory Sales Manager in your region.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Interior Paint Grade Stile and Rail Wood 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 064800 – Finish Carpentry: Wood Door Frames.

B. Section 081200 – Metal Frames.

C. Section 087100 – Door Hardware.

D. Section 088000 – Glazing.

E. Section 099123 – Field Finishing.

**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.

1. NFPA 80 – Standard for Fire Doors and Other Opening Protectives.
2. Window and Door Manufacturers Association - I.S.6-A-13 – Industry Standards for Architectural Stile and Rail Doors

1.4 SUBMITTALS

1. Product Data: For each type of product
   1. Include detailed specification of construction.
   2. Include factory-finishing specifications.
2. Sustainable Design Submittals:
   1. Chain-of-Custody Certificates: For certified wood products.
   2. Chain-of-Custody Qualification Data: For manufacturer and vendor.
   3. Laboratory Test Reports: For adhesives, indicating compliance with requirements for low-emitting materials.
   4. Laboratory Test Reports: For composite wood products, indicating compliance with requirements for low-emitting materials.
3. Shop Drawings: For stile and rail doors. Indicate size; elevation of each kind of door; location; hand of each door; construction details not covered in Product Data, including those for stiles, rails, panels, sticking, and moldings; and other pertinent data.
   1. Dimensions of doors for after-factory pre-fitting.
   2. Requirements/Templates for door hardware machining.
   3. Doors to be factory finished and finish requirements.
   4. Fire-protection ratings for fire-rated doors.
4. Samples for Initial Selection: For factory-finished doors.
5. Samples for Verification

1. Finish color samples of factory-finished doors, minimum size of 8.5 x 11 inches, for each color.

2. Corner section of doors, minimum size of 12 by 12 inches, with panel, and sticking profile required.

1.4 INFORMATION SUBMITTALS

A. Sample Warranty: For standard warranty.

1.5 QUALITY ASSURANCE

1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum 10 years of documented experience.
2. Qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.

1. Manufacturer Qualifications: Fire-rated doors – listed and labeled by approved agency.

**1.6 REGULATORY REQUIREMENTS**

A. Conform to applicable Building Code for fire rated assemblies

1. Fire rated assembly construction to conform to UL 10C, unless otherwise required by applicable Building Code.

1. Installed Frame and Door Assemblies: Comply with NFPA 80 for fire rated class indicated.
2. Installed Smoke Control Frame and Door Assemblies: Comply with NFPA 105.

1.7 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.

B. Storage: Doors shall be stored and handled in accordance with the manufacturer’s recommendations and the WDMA – Appendix Section – “Care and Installation at Job Site”.

1. Doors shall be stored on a flat and level surface in a well-ventilated dry building. Doors shall not be stored on edge and shall be protected from dirt, water and abuse.
2. Doors shall not be subjected to extreme heat or humidity. HVAC systems should be set to provide a temperature range of 50-90 degrees F and 25-55% relative humidity.
3. Seal top and bottom edges if stored more than one week. Break seal on packaging, if bagged, on the site to permit ventilation.

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.

5. Do not 'walk' a door on its corners.

6. Doors require light sanding before being painted.

1.8 FIELD CONDITIONS

* + - * 1. 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 temperature between 50 and 90 deg F and relative humidity between 25 and 55 percent during remainder of construction period.

1.8 WARRANTY

* + - * 1. Standard Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship, or have warped (bow, cup, or twist) more than 1/4 inch in a 42 by 84-inch door section, within specified warranty period.

1. Warranty shall be in effect during the following period of time from door ship date:
   1. Interior doors: Five Years
   2. Glass Vision Panels: Five Years

PART 2 - PRODUCTS

2.1 MANUFACTURER

1. VT Industries, Inc., Phone (712-368-4381). [www.vtindustries.com](http://www.vtindustries.com). [door\_info@vtindustries.com](mailto:door_info@vtindustries.com).
2. Source Limitations: Obtain interior paint grade doors from single manufacturer offering Stile and Rail doors that meet performance duty level standards identified in either WDMA or AWI industry standards. All doors must be sourced from one single manufacturer with at least 10 years’ experience constructing stile and rail doors. Routed doors are not acceptable.

2.2 MATERIALS

1. General: Use only materials that comply with referenced standards and other requirements specified.
2. Assemble interior doors, including components, with Type II adhesive.
3. Certified Wood: Paint grade doors shall be certified as “FSC Percentage or Mix Credit” according to FSC STD-01-001 and FSC STD-40-004.
4. Composite Wood Products: Products shall be made using ultra-low-emitting formaldehyde resins as defined in the California Air Resources Board's "Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products" or shall be made with no added formaldehyde.
5. Panel Products:

Medium-density fiberboard (MDF), complying with ANSI A208.2, Grade 155.

1. Safety Glass: Provide products complying with testing requirements in 16 CFR 1201, for Category II materials, unless those of Category I are expressly indicated and permitted.
2. Glass types per 088000.

2.3 INTERIOR NON-RATED STILE AND RAIL DOORS

* + - * 1. Paint grade stile and rail doors complying with [**WDMA I.S.6A-13**][**AWS latest edition**] industry standard for wood stile and rail doors and with other requirements specified. All Fire doors must match non-rated doors.

Panel Designs: [**Raised**] [**Flat**] [**Indicated on Drawings**]. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

Grade: Custom

Finish: Opaque.

Material: Align with industry standards and specified Performance Duty Levels

Door Construction for Opaque Finish: Constructed to meet or exceed Performance Duty Levels outlined in industry standards

Stile and Rail Widths: [As indicated]. [Manufacturer's standard, but not less than the following:]

1-3/4” Door

Stiles: [6 inches] <Insert dimension>.

Top Rail: [6 inches] <Insert dimension>.

Intermediate Rails and Mullions: [**6 inches**] <**Insert dimension**>.

Lock Rails: [6 inches] <Insert dimension>.

Bottom Rails: [10 inches] <Insert dimension>.

1-3/8” Door

Stiles: [5 inches] <Insert dimension>.

Top Rail: [5 inches] <Insert dimension>.

Intermediate Rails and Mullions: [**5 inches**] <**Insert dimension**>.

Lock Rails: [5 inches] <Insert dimension>.

Bottom Rails: [8 inches] <Insert dimension>.

Raised-Panel Thickness:

1-3/4-Inch Doors: Not less than 1-1/8 inches.

1-3/8-Inch Doors: Not less than 3/4 inch.

Flat-Panel Thickness:

1-3/4-Inch Doors: Not less than 5/8 inch.

1-3/8-Inch Doors: Not less than 1/4 inch.

Sticking Profile: [**Manufacturer's standard**] **[As selected by Architect from manufacturer's full range] [Custom as shown on drawings.]**

Pocket/Sliding/Barn Doors: 1-3/8”, 1-3/4” and 2-1/4” thick, paint grade construction, sizes as noted on Door Schedule with panel/molding design as selected by Interior Designer/Owner.

Louver Doors: Manufacturers Standard Stile and Rail louvers (1-3/8", 1-3/4" and 2-1/4” thick doors).

False Louver Doors: Manufacturers Standard Stile and Rail louvers with false louver slats (1-3/8", 1-3/4" and 2-1/4” thick doors).

Glass: [Manufacturer's standard] [Uncoated, clear, fully tempered float glass, 1/4 inch (6.25 mm) thick] <Insert type>, complying with Section 088000 "Glazing."

2.4 INTERIOR FIRE-RATED, STILE AND RAIL PAINT GRADE DOORS

* + - * 1. Interior Fire-Rated Paint Grade Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at the following.
        2. Interior Fire-Rated Paint Grade Stile and Rail Doors: Interior fire-rated (20/45/60/90-minute) doors complying with [**WDMA****I.S.6**][**AWS's latest edition**] industry standard for stile and rail doorsand with other requirements specified.

Panel Designs: [**Raised**] [**Flat]** [**Indicated on Drawings**]. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

Finish: Opaque.

Door Construction for Opaque Finish to meet performance duty levels outlined in industry standards

Edge Construction: At outer vertical stile edges, provide solid-wood edge construction. Wood-veneer edges not acceptable. Comply with specified requirements for exposed edges.

Positive pressure Category A edge construction with intumescent seals concealed by outer stile solid-wood edge cap. Wood-veneer edges not acceptable.

Stile and Rail Widths: [**As indicated.**] [**Manufacturer's standard, but not less than the following:**]

Stiles: [**4.5 inches**] <**Insert dimension**>.

Top Rail: [**4.5 inches**] <**Insert dimension**>.

Intermediate Rails and Mullions: [**3.5 inches**] <**Insert dimension**>.

Lock Rails: [**4.5 inches**] **<Insert dimension>**.

Bottom Rails: [**8 inches**] <**Insert dimension**>.

Raised-Panel Thickness:

1-3/4-Inch Doors: Not less than 1-1/4 inches.

Flat-Panel Thickness:

1-3/4-Inch Doors: Not less than 5/8 inch.

Sticking Profile: [**Manufacturer's standard**] [**As selected by Architect from manufacturer's full range**].

Glass: [**Manufacturer's standard**] [**FireLite NT Standard, 3/16-inch-thick**] <**Insert type**>, complying with Section 088000 "Glazing."

**2.5 JAMBS**

* + - * 1. Wood Jambs: Wood jambs if required may be sourced from the same manufacturer as the doors to ensure accurate machining and coordination. Jambs can be **[solid poplar] or [finger joint pine]** and must be primed to match the doors.
        2. FIRE RATED WOOD JAMBS: 20-minute fire rated jambs are to be paint grade solid poplar with flat stops. 45, 60, and 90-minute jambs are to be constructed per approved fire testing.

**2.6 STILE AND RAIL WOOD DOOR FABRICATION**

* + - * 1. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels unless otherwise indicated:

Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide [**7/8 inch**] from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide not more than [¾” inch] from bottom of door to top of threshold.

Comply with NFPA 80 for fire-rated doors.

Non-Fire-Rated Swing Doors: Bevel 3 degrees at lock and hinge edges.

Non-Fire-Rated Sliding Doors to have square edges.

Fire-Rated Doors: Bevel 3 degrees at lock and hinge edges; trim stiles and rails only to extent permitted by labeling agency.

Fire-rated doors must be factory pre-fit and beveled.

No site modifications permitted without prior written authorization by manufacturer or labeling agency.

Smoke and Draft Control Doors: In addition to required fire rating, provide stile and rail door assemblies in compliance with WDMA I.S.6A requirements for "S" label; if necessary, provide additional gasketing or edge sealing.

* + - * 1. 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.

Coordinate measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.

Fire-rated doors must be factory machined for door hardware.

No site modifications permitted without prior written authorization by manufacturer or labeling agency.

* + - * 1. Glazed Openings: Trim openings indicated for glazing moldings, with one side removable. Mitered moldings at corner joints.
        2. Glazed Openings: Factory install glazing in doors, complying with Section 088000 "Glazing." Install glass using manufacturer's standard elastomeric glazing sealant complying with ASTM C 920. Secure glass in place with removable moldings. Miter moldings at corner joints.
        3. Transom and Side Panels: Fabricate panels to match adjoining doors in materials, finish, and quality of construction.

**2.7 FACTORY FINISHING**

* + - * 1. Doors for Factory Finish of Interior Doors for Opaque Finish: Per WDMA I.S.6A, and with other requirements specified.

Finish faces and all four edges of doors. Fillers may be omitted edges of cutouts, and mortises.

Finish: WDMA approved finishing system

Paint: [**Match Architect's sample**] [**As selected by Architect]** [**None required**].

Sheen: [**Satin**] [**Semigloss**].

* + - * 1. Factory finish doors in accordance with approved sample.
  1. **SHOP PRIMED AND FIELD FINISHING**

Shop-Primed Doors for Field Finishing with **Opaque** Finish: As specified in [**Section 099123** **"Interior Painting."**]. Priming should be with a low VOC water-based material. Seal top and bottom edges if stored more than one week.

Doors require light sanding before being painted.

**Paint** faces, all four edges, edges of cutouts, and mortises.

**PART 3 - EXECUTION**

* 1. **EXAMINATION**
     + - 1. Examine doors and installed door frames, with Installer present, before hanging doors.

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.

Reject doors with defects.

* + - * 1. Proceed with installation only after unsatisfactory conditions have been corrected.
  1. INSTALLATION

1. Hardware: For installation, see [Section 087100 "Door Hardware."] [Section 087111 "Door Hardware (Descriptive Specification)."]
2. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

Install fire-rated doors in accordance with NFPA 80, Intertek/Warnock Hersey (WHI), and UL requirements as applicable.

Install smoke and draft control doors in accordance with NFPA 105 requirements.

* + - * 1. Factory-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 with fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.

Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide [**7/8 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 (6 mm)**] [ **¾” inch (10 mm)**] from bottom of door to top of threshold unless otherwise indicated.

Comply with NFPA 80 for fire-rated doors.

No site modifications permitted without prior written authorization by manufacturer or labeling agency; undercutting doors and machining for surface hardware is acceptable but limited.

* + - * 1. [**Factory**] [**Shop**]-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

* + - * 1. Operation: Rehang or replace doors that do not swing or operate freely.
        2. Finished Doors: Replace doors that are damaged or 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