WKS Door Systems January 2022

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**Product Guide Specification**

*This document is intended to provide the architect and specification writer with a 3-part format specification for Architectural Grade Doors based on the AIA and CSI format (2004 edition)*

*The Notes to the Specifier are intended to provide guidance on options available, or pertinent comments relative to a particular part of the specification.*

*WKS Door Systems manufactures a wide variety of wood doors for the architectural, commercial, and door markets. The architect should review the complete line of WKS Door Systems doors to identify before deciding which door model best fits the needs of the project being designed.*

*Visit* [*www.wksdoors.com*](http://www.wksdoors.com) *or locate a territory sales manager in your region. For any assistance in editing this document.*

**SECTION (081416)**

**FLUSH WOOD VENEER DOORS**

*Notes to the specifier: This section covers WKS Door Systems Architectural series interior flush wood veneer doors. Consult WKS Door Systems for assistance in editing this section for the specific application. Visit* [*www.wksdoors.com*](http://www.wksdoors.com) *to locate a Territory Sales Manager in your region.*

**PART 1 GENERAL**

**1.1 SECTION INCLUDES**

A. Interior Flush Wood Veneer Doors:

1. Five-ply flush doors.

2. Flush fire-rated wood doors.

3. Sound-retardant doors.

**1.2 RELATED SECTIONS**

A. Section 06 48 00 – Wood Frames.

B. Section 08 12 00 – Hollow Metal Frames and Doors.

C. Section 08 71 00 – Door Hardware.

D. Section 08 80 00 – Glass and Glazing

E. Section 08 91 26 – Door Louvers.

**1.3 REFERENCES**

1. WDMA I.S. 1A-11 – Architectural Wood Flush Doors.
2. WDMA Finish System TR-6, Catalyzed Polyurethane.
3. AWI/AWMAC/WI Architectural Woodwork Standards, Edition 1, Section 9 – Doors.
4. NFPA 80 – Standard for Fire Doors and Other Opening Protectives.
5. NFPA 252 – Standard Methods of fire tests of door assemblies.
6. UL 10C – Positive Pressure Fire Tests of Door Assemblies/ UL 10 B.
7. ASTM E 413 – Classification for Rating Sound Insulation.
8. ASTM E 90 – Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements
9. ANSI A208.1 – Particleboard.

**1.4 QUALITY ASSURANCE**

1. Identifying Label: Each door shall bear identifying label indicating:
	1. Door manufacturer.
	2. Order number/ Sales order/ PO from customer.
	3. AMN Architectural Marking Number.
	4. Fire rating, if applicable.
2. Quality Standard: Meet or exceed WDMA I.S.1-A Premium Grade, or AWI Version 8
 Custom Grade (*Choose one, do not use both in the same specification*).
3. Fire Ratings Compliance: Fire-rated wood doors to comply with NFPA 80 requirements according to building code standards having local jurisdiction.
4. Neutral Pressure Testing – CAN/ULC S104; UL10B, NFPA252, and ASTM E-152.
5. Positive Pressure Testing – UBC 7-2-97 or UL10C.
6. Label Certification: All doors requiring fire-rating will carry ITS (Warnock Hersey) label. Manufacturer's certification labels may be used for door size variations if approved by AHJ (Authority Having Jurisdiction).

**1.5 SUBMITTALS**

1. Shop Drawings: See DIVISION 1 Requirements.
2. Indicate sizes, species, cut, grade, matching, assembly, core construction, swings, and fire-rated label requirements.
3. Indicate hardware machining information.
4. Indicate dimensions and detail openings for lights and louvers.
5. Indicate any deviation that will void the manufacturer’s warranty and/or fire label requirements.

*Notes to the specifier: It is important to understand each manufacturer’s procedure for fire doors will vary depending on what has been tested and approved by the listing agency.*

1. Product Data:
2. Include manufacturer’s door construction data for each core construction specified.
3. Include manufacturer’s warranty sheet along with delivery and storage procedures.
4. Include data sheets from the door supplier, manufacturer or distributor, stating the doors to be supplied meet all requirements of the specifications. Variances from the specifications must be listed.

*Notes to the specifier: There are many material and construction options which a manufacturer may choose in the manufacturing of their products. The specifications must clearly define exactly what is required to meet the project’s design objectives*

1. Samples:
2. Submit corner samples (if requested) showing face, edge and core construction for each type specified.
3. Submit plywood or veneer samples approximately 8” x 10” representing each species and cut specified. Submit samples with manufacturer’s factory finish or factory prime coat applied if applicable.
4. Extra doors will be required for verification of specification compliance as directed by the architect.

*Notes to the specifier: In order to verify the products supplied do meet the specs, the architect should require one or two extra doors for those door types of large quantity. The actual doors selected for verification should be pulled from the doors supplied by random selection.*

1. Environmental Documentation: Submit manufacturer’s environmental documentation for the following LEED V3 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.

1. Warranty: Submit manufacturer’s standard warranty.

**1.6 DELIVERY, STORAGE, AND HANDLING**

1. Deliver, store, protect and handle products under provisions of WDMA, AWI, AWMAC and manufacturer’s care and handling instructions.
2. Accept doors on site in manufacturer’s standard packaging. Inspect for damage.
3. Do not store in damp or wet areas. HVAC systems should be operating and balanced prior to arrival of doors. Acceptable humidity shall be no less than 25% nor greater than 55% (Any claim for warp, bow, twist or telegraphing may be denied if required humidity requirements are not maintained).
4. 08-14-16 Wood Doors - US Version 2012
5. Certain wood species such as Cherry, Walnut and Mahogany are light sensitive. Protect all doors from exposure to natural and artificial light after delivery.

**1.7 WARRANTY**

A. Coverage interior solid core doors for life of installation against warpage, delamination, and defects in materials and workmanship beyond warranty tolerances.

**PART 2 PRODUCTS**

* 1. **MANUFACTURER**

A. WKS Door Systems 1701 Jacaman Road, Ste Rb5 Office, Laredo, Texas, 78045.
Phone (956) 693 9432. [www.wksdoors.com](http://www.wksdoors.com). sales@wksdoors.com

B. Substitutions allowed only if approved by the architect prior to the bid date.

**2.2 FIVE-PLY FLUSH DOORS**

A. Five-Ply Flush Non-Rated/ Rated Doors.

*Notes to the specifier: Specify the door model that best matches the application. Consult WKS Door Systems ISR for assistance.*

1. Model:

1. [WDNR\_PBC, WDFR\_20N\_PBC], particleboard core, non-rated and 20-minute rated, neutral pressure.

2. [WDFR\_20B\_PBC, WDFR\_20A\_PBC], particleboard core, 20-minute rated positive pressure.

3. [WDNR\_TUB, WDNR\_20N-TUB], tubular core non-rated, 20-minute rated neutral pressure.

4. [WDNR\_EDH, WDFR\_20N\_EDH], extra heavy duty particleboard core, non-rated and 20-minute rated, neutral pressure.

5. [WDNR\_20A\_EDH, WDFR\_20B\_EDH], extra heavy duty particleboard core, 20-minute rated, positive pressure.

6. [WDNR\_SCL], structural composite lumber, non-rated

7. [WDFR\_20N\_SCL, WDFR\_20B\_SCL, WDFR\_20A\_SCL], structural composite lumber, 20-minute rated, neutral and positive pressure.

8. [WDNR\_AML, WDFR\_20N\_AML], acoustic core non-rated, 20-minute rated, neutral pressure.

9. [WDFR\_20B\_AML, WDFR\_20A\_AML], acoustic core non-rated, 20-minute rated, positive pressure.

10. [WDNR\_AGR, WDNFR\_20N-AGR], agrifiber core non-rated, 20-minute rated neutral pressure.

11. [WDNR\_20A\_AGR, WDNFR\_20B-AGR], agrifiber core, 20-minute rated positive pressure.

2. STC Rating:

* + 1. Tubular core [STC 31]
		2. Particleboard [STC 32]
		3. Extra heavy duty [STC 34]
		4. Structural composite lumber [STC 34]
		5. Acoustic multi-layer core: [STC 42] [STC 45]
		6. Agrifiber: [STC 32]

3. Door Thickness: 1-3/4 inches.

4. Compliance: WDMA I.S.1-A.

a. Duty Level: [Extra heavy duty.] [Heavy Duty]

5. Core:

*Notes to the specifier: Specify the core material.*

a. Material: [Particleboard] [Agrifiber] [Structural composite lumber]

b. Particleboard and Agrifiber Compliance: ANSI A208.1, Grade 1-LD-2.

6. Stiles:

a. Structural Composite Lumber With Wood Edge: Compatible species as face veneer.

7. Rails:

a. Structural composite lumber. Factory Sealed.

8. Door Assembly:

a. Stiles and Rails: SCL

b. Sand the 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 II, exterior, water-resistant adhesive, before application of edges.

10. Veneers:

a. Apply to crossbanded core in hot press using Type Il, exterior, water-resistant adhesive.

*Notes to the specifier: Specify the veneer species, cut, match, and assembly.*

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

c. Cut: [Rotary] [Plain sliced] [Quarter][Random] [ \_\_\_\_\_\_\_\_\_\_ ].

d. Match: [Book] [Slip].

e. Assembly: [Running] [Balanced] [Center balanced].

f. Minimum Thickness After Sanding: 1/42 inch.

11. Positive Pressure:

a. Where UL 10C standards for positive pressure apply, doors shall be constructed in accordance with Intertek/Warnock Hersey guidelines.

b. Smoke Gasketing: Apply smoke gasketing around frame perimeter and between door and pairs to meet Smoke (S) rating.

**2.3 FIVE-PLY FLUSH FIRE-RATED WOOD DOORS**

A. Five-Ply Flush Fire-Rated Wood Doors: Architectural Series

*Notes to the specifier: Specify the Architectural series door model. Consult WKS Door Systems for assistance in choosing the door model for the specific application.*

1. Model:

1. [WDFR\_45N\_MIN], fire composite core, 45-minute rated]

2. [WDFR\_45A\_MIN,WDFR\_45B\_MIN], fire composite core, 45-minute rated neutral and positive pressure.

3. [WDFR\_60N\_MIN, WDFR\_90N\_MIN], fire composite core, 60-, and 90-minute rated neutral pressure.

4. [WDFR\_60A\_MIN, WDFR\_60B\_MIN, WDFR\_90A\_MIN, WDFR\_90B\_MIN] fire composite core, 60 and 90-minute rated positive pressure

5. [WDFR\_45N\_AGR, WDFR\_60N\_AGR, WDFR\_45B\_AGR, WDFR\_60B\_AGR,

WDFR\_45A\_AGR, WDFR\_60A\_AGR], agrifiber core, 45- and 60-minute rated, neutral and positive pressure.

2. STC Rating:

a. Fire Composite: [STC 36].

b. Agrifiber Core: [STC 30].

3. Door Thickness: 1-3/4 inches.

4. Compliance: WDMA I.S.1-A.

a. Aesthetic Grade: [Custom.] [Premium]

5. 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

6. Inner Stiles: [Tectonite].

*Notes to the specifier: Specify required rails.*

7. Rails:

a. [Noncombustible material].

b. Width: Manufacturer’s standard width per fire testing approvals

8. Composite Crossbands:

a. Apply to core in hot press using Type Il, exterior, water-resistant adhesive before application of hardwood edges.

9. Veneers:

a. Apply to crossbanded core in hot press using Type I, exterior, water-resistant adhesive.

*Notes to the specifier: Specify the veneer species, cut, match, and assembly.*

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

c. Cut: [Rotary] [Plain sliced] [Quarter] [Random] [ \_\_\_\_\_\_\_\_\_\_ ].

d. Match: [Book] [Slip].

e. Assembly: [Running] [Balanced] [Center balanced].

f. Minimum Thickness After Sanding: 1/42 inch.

10. Positive Pressure:

a. Where UL 10C standards for positive pressure apply, doors shall be constructed in accordance with Intertek/Warnock Hersey.

b. Smoke Gasketing: Apply smoke gasketing around frame perimeter and between door and pairs to meet Smoke (S) rating.

* 1. **SOUND-RETARDANT FLUSH WOOD DOORS**

A. Sound-Retardant Flush Wood Doors: Architectural Series.

*Notes to the specifier: Specify the Architectural Series door model. Consult WKS Door Systems for assistance in choosing the door model for the specific application.*

1. Model:

a. [Acoustic core, non-rated and 20-minute rated, stained stiles.]

2. STC Rating: [35] [36] [39] [40] [41] [42].

3. Door Thickness: 1-3/4 inches.

4. Compliance: WDMA I.S.1-A.

a. Quality Grade: [Custom] [Premium].

5. Core: Sound retardant material assembled with stiles, rails, crossbands, and face veneers.

6. Testing Methods: ASTM E 90 and E 413.

*Notes to the specifier: Specify the STC rating. Consult WKS Door Systems for assistance in choosing the STC rating for the specific application.*

7. Perimeter Gasketing and Drop Seals: As required by the manufacturer to achieve STC ratings.

8. Face Veneers and Vertical Stile Edges: Matching.

9. Veneers:

a. Apply to crossbanded core in hot press using Type lI, exterior, water-resistant adhesive.

*Notes to the specifier: Specify the veneer species, cut, match, and assembly.*

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

c. Cut: [Rotary] [Plain sliced] [Quarter] [Random] [ \_\_\_\_\_\_\_\_\_\_ ].

d. Match: [Book] [Slip].

e. Assembly: [Running] [Balanced] [Center balanced].

f. Minimum Thickness Before Sanding: 1/42 inch.

**2.5 FABRICATION**

a. Door and Transom Panel Core Construction

*Notes to the specifier: Specify per project requirements. Choose one construction and one pressure option, if applicable, from items 1-3.*

1. Non-rated: ANSI A208

LD-1 or LD-2 Particleboard, PB.

Structural Composite Lumber, SCL.

FSPC, FSC certified LD-2 Particleboard with no added UF contributes toward LEED® MRc 4.1, 4.2, 7 and EQc 4.4.

FSLC, FSC certified Stave Lumber Core contributes toward LEED® MRc 7, EQc 4.4.

2. 20-minute fire-rating: ANSI A208

* 1. Neutral Pressure.
	2. Positive Pressure:
	+ Category A (Concealed intumescent) [or],
	+ Category B (Frame mounted intumescent).
	1. LD1 or LD-2 Particleboard, PB.
	2. Structural Composite Lumber, SCL-20.
	3. FSPC, FSC certified LD-2 Particleboard with no added UF contributes toward LEED® MRc 4.1, 4.2, and EQc 4.4.
	4. FSLC, FSC certified Stave Lumber Core contributes toward LEED® MRc 7, EQc 4.4.

3. 45, 60 or 90-minute fire-rated

* 1. Neutral Pressure.
	2. Positive Pressure:
	+ Category A (Concealed intumescent) [or]
	+ Category B (Frame mounted intumescent).
	1. Fire-Rated 45-60-90 minutes

*Notes to the specifier: Modify or omit this listing to meet your project requirements. Specify STC rating required.*

4. Acoustical

The Sound Transmission Class (STC) specified shall be certified by the manufacturer to be based on tests conducted at an independent testing agency in accordance with ASTM E90-02 and E413-87. Earlier tests were not acceptable. Door may be fire labeled if specified but restriction may apply.

**2.6 FINISHES**

*Notes to the specifier: Specify the factory finishing.*

* 1. Factory Finishing: WDMA System TR-8, UV cured urethane, premium grade.

*Notes to the specifier: Omit the stain coat if a clear finish is desired.*

* 1. Custom factory finish doors in accordance with approved samples.
	2. Submit approved samples for all factory finishing.
	3. Factory finished doors to be installed just prior to substantial completion.
	4. Opaque Finish (Paint) Meet AWI specifications in section 1500.

*Notes to the specifier: Specify the stain color. Consult WKS Door Systems and your region ISR for custom stain and paint colors and for minimum size of physical sample required for custom color matching.*

**PART 3 EXECUTION**

**3.1. MACHINING AND FITTING**

Refer to W.D.M.A. I.S.1.A and to SECTION 08700. All wood doors shall be factory machined by manufacturer or qualified distributor for cut outs, hinges, locks, mortise lock function holes and all hardware requiring routing and/or mortising.

1. Clearances as follows unless otherwise recommended by the frame manufacturer:

Hinge Stile: 1/8”

Lock Stile: 1/8”

Top Rail: 1/8”

Bottom Rail: ¼” above floor or threshold as required to comply with fire-label classification, unless otherwise specified.

Meeting Stiles on pairs of doors: 1/8”

1. Bevels: 1/8” in 2” stile on doors; (exception) strike stile on inactive leaf of pairs of doors shall have square edge.

*Notes to the specifier: Where the wood doors are to be pre fit and pre-machined by the door manufacturer, the architect should require the general contractor to verify that all frames are set plumb and square, prior to advising the door manufacturer to proceed with the machining and finishing of the wood doors.*

**3.2. INSTALLATION**

Refer to SECTION 06200. Do not proceed with installation unless suitable MATERIALS and CONDITIONS exist. Installer should be familiar with referenced standards and codes. Doors, frames & hardware to be installed in accordance with the Door & Hardware Institute Publication, “Installation Guide for Doors & Hardware.”

* 1. Acclimatization: Allow doors to become acclimated prior to hanging.
	2. Fitting: Fit doors to tolerances specified. Frames must be plumb and square.
	3. Hardware:

Install doors using scheduled hardware. Install using threaded-to-the-head wood screws as supplied by the hardware manufacturer or as required for fire-label classification.

Drill proper size pilot holes for all screws.

Mortise or drill any additional hardware preparations which must be completed in the field for proper installation.

* 1. Fire-Rated Doors: Installation of fire doors shall be in accordance with labeling agency, NFPA #80, NFPA #101, NFPA #105 and the AUTHORITY HAVING JURISDICTION. Labels must not be removed for any reason.

*Notes to the specifier: The manufacturer strongly recommends the doors be installed in accordance with Door and Hardware Institute’s “Installation Guide for Doors, Frames and Hardware.”*

**END OF SECTION**