C/S Acrovyn® Doors

Section 08210 (08 14 23)
Impact Resistant Wood Doors (Barrier Resistant)

PART 1– GENERAL

1.1 SCOPE

A. All labor, material, equipment, and related services necessary to furnish and install all impact resistant Barrier Resistant Acrovyn® Door Systems doors as shown on the drawings or specified herein.

1.2 RELATED SECTIONS

A. Related Sections include the following:
   1. Division 6 Section 06100 (06 10 00) Rough Carpentry
   2. Division 6 Section 06400 (06 40 00) Architectural Woodwork
   3. Division 8 Section 08110 (08 11 13) Metal Doors and Frames
   4. Division 8 Section 08710 (08 71 00) Finish Hardware
   5. Division 8 Section 08800 (08 06 80) Glazing for glass view panels in flush wood doors [Delete when factory glazing is specified].
   6. Division 10 Section 10200 (08 91 26) Louvers in flush wood doors

1.3 REFERENCE STANDARDS

A. ASTM G-21 and ASTM G-22 (Bacteria and Fungal resistance): Provide doors that do not support fungal and bacterial growth when tested in accordance with applicable provisions of ASTM G-21 and ASTM G-22.
B. ASTM D-543 (Chemical and Stain Resistance): Provide doors that show chemical and stain resistance when tested in accordance with applicable provisions of ASTM D-543.
C. ASTM E152 – Methods of Fire Tests and Door Assemblies
D. NFPA 252 Standard methods of fire tests of door assemblies
E. UL-10C Positive Pressure fire tests of door assemblies
F. NFPA 80 Fire Doors and Windows
G. NFPA 101 Life Safety Code
H. MBDC “C2C”, McDonough Braungart Design Chemistry - Cradle to Cradle
I. CARB Emission Standards Section 93120.2 (a), California Air Resources Board
J. GGHC Title EP 4.1 PBT Elimination: Dioxins, Green Guide for Health Care v 2.2 ‘07
K. WDMA Industry Quality Test Standards I.S.1A-04:
   1. WDMA TM-7 Test method to determine the physical endurance of wood doors & associated hardware connections under accelerated operating conditions, Window and Door Manufacturers Association
   2. WDMA TM-8 Test methods to determine hinge loading resistance of wood door stiles, Window and Door Manufacturers Association
   3. WDMA TM-10 - Test method to determine the screw holding capacity of wood door stiles, Window and Door Manufacturers Association

L. ANSI/BHMA A156.115-W-2006 American National Standard for Hardware Preparation in Wood Doors with Wood or Steel Frames
M. FSC – Forestry Stewardship Council

1.4 SUBMITTALS

A. Submit in accordance with Section 01300 (01 30 00)
B. Product Data: For each type of door, submit manufacturer's data sheets including details of core and edge construction.
C. Shop Drawings: Submit complete schedule indicating location, size, hardware sets, swing of each door; elevation of each type of door, and construction details not covered in product data and other pertinent information. Indicate dimensions and locations of mortises and holes for hardware, fire ratings, and location of cutouts for glass.
D. Samples for verification of edge wrapping and edge replaceability. Banded edges will not be approved.
E. Certification: Submit certification that doors and frames comply with UL10c, Positive Pressure Fire Door Test Method.
F. Manufacturer's lifetime warranty.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain high impact resistant Acrovyn Door Systems Barrier-Proof Doors through one source from a single manufacturer.
B. Quality Standard: Comply with WDMA Industry Standard (I.S. 1A-04 "Architectural Wood Flush Doors").
    1. Doors shall meet performance attributes for the following performance duty level: Extra Heavy Duty.
    2. Tolerances for warp, telegraphing, square ness and pre fitting dimensions as per the latest edition of WDMA I.S.1A-04.
C. Doors or trial doors of the type specified herein should be installed in an existing facility for over 6 months to verify quality and durability performance of product.

1.6 DELIVERY, STORAGE, HANDLING AND SITE CONDITIONS

A. Deliver, store, protect and handle products under guidelines of WDMA and manufacturer's care and handling instructions.
B. Package doors individually using foam interleaf and stack on pallet, not exceeding 15 doors per pallet.
C. Mark each door with opening number used on shop drawings.
D. Accept doors on site in manufacturer's standard packaging. Inspect for damage.
E. Do not store doors 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% or greater than 55%.
F. Do not subject doors to extreme conditions or changes in heat, dryness or humidity in accordance with the latest edition of WDMA I.S.1A-04.
G. Protect doors from exposure to natural and artificial light after delivery.
H. Doors should be lifted and carried when being moved, not dragged across one another.

1.7 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver store, or install doors until building is enclosed, wet work is complete, and HVAC system is operating and will maintain

temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. HVAC systems should be operating and balanced prior to arrival of doors. Acceptable humidity shall be no less than 25% or greater than 55%. Note: Any claim for warp, bow, twist, or telegraphing may be denied if required humidity requirements are not maintained.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that are defective in materials or workmanship. Conditions are subject to the terms set forth in the manufacturer's warranty.
   1. Solid-Core Interior Doors: provide manufacturer's limited lifetime written warranty guarantee against warp, de-lamination and defects in materials and workmanship.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. Subject to compliance with all requirements, provide one of the following:
   1. To establish a standard of quality, design and function required, drawings and specifications are based on Construction Specialties, Inc. Acrovyn® Door Systems (800) 972-7214 – no substitutions.

2.2 MATERIALS

A. Door Construction
   1. Non Fire Rated and 20 Minute Fire-Rated Barrier Resistant doors conforming to WDMA I.S.1A-04 and the following:
      a. Thickness: 1-3/4" (+/- 1/16")
      b. Core: Solid, bonded core of structural composite lumber (SCL)
      c. Cross-banding: FSC certified .125" tempered hardboard
      d. Replaceable Vertical Door Stiles: ¾" replaceable custom SCL stiles shall be removable in the field in order to allow for easy field replacement if ever damaged.
      e. Replaceable Vertical Edges: Fully wrapped door edge covers shall be replaceable, exclusive of fasteners to improve appearance.
      f. Horizontal Edges: Hardwood rails bonded to core.
      g. Door-within-a-door wicket type
      h. WDMA I.S.1A-04 Performance Duty Level: Extra Heavy Duty
      i. Durability Performance: Cycle Slam WDMA TM-7, 1990 Extra Heavy Duty - 2,000,000 cycles to insure durability of entire door construction.

B. Door Faces
   1. Door faces to be high impact resistant Acrovyn 4000 finish: _____ [Insert finish # and finish name]
   2. Acrovyn 4000 base color must be integral throughout to eliminate discoloration caused by scratching.

3. [Delete if solid color is chosen] Acrovyn 4000 Chameleon Wood grain pattern to give appearance of one entire wood veneer to avoid inconsistencies in appearance – book matching or slip matching appearance not acceptable.
4. Face Veneer Wear Index - Abrasion Resistance Testing - ASTM D4060-90: 28,000 cycles to prove out resistant to scuffing and scratching.
5. Face Veneer Impact Resistance - ASTM D-4226: 86 in/lb. to confirm impact resistance of face finish.

C. Door stiles to meet or exceed the following performance testing to ensure hardware fastener holding strength:
   1. WDMA TM-8 "Hinge Loading Resistance" Extra Heavy Duty
   2. WDMA TM-10 Screw Holding Capacity" Extra Heavy Duty

D. Door Edges:
   1. Finish [Specify Edge finish]
      a. Same as door faces [or]
      b. Edges of door to be Acrovyn 4000 _____ [Insert Finish No. and Name] [or]
      c. 20 ga. Stainless Steel, No. 4 finish.
   2. Edges are to fully wrap the door vertical stiles to eliminate banded edges thus improving durability and impact resistance.
   3. Door edges shall be exclusive of fasteners to improve appearance.
   4. Edges must be flush with face of door thus eliminating raised edges that could be torn off.
   5. Edges to include ¼" radius edges to improve impact deflection. Square edges shall not be permitted.
   6. Edges to be provided as part of the construction of the door from single source manufacturer.

E. Adhesives
   1. Cross-banding to core adhesives shall be urea formaldehyde free Type II to improve structural integrity of door.
   2. Door faces are to be applied to the cross-banded core using Type I urea formaldehyde free adhesives to eliminate de-lamination.

F. Cores (available in SCL ONLY)
   1. Non rated and 20 Minute rated doors
      a. Structural Composite Lumber, 38 lb/ft^3 density - no added urea formaldehyde content

2.3 FABRICATION, GENERAL

A. Doors shall be pre-fit and beveled at the factory to fit the openings to reduce handling an onsite labor costs. Pre-fit tolerances shall be in accordance with the requirements of WDMA I.S.1A-04, latest edition.
B. Coordinate measurements of hardware mortises in metal frames. Contractor or door distributor to verify dimensions and alignment before factory machining.

C. Factory machine doors for hardware that is not surface applied. Comply with final hardware schedules, door frame shop drawings, and hardware templates.
D. Light openings must be cut by the manufacturer or by a certified machining distributor.
E. To ensure proper fit of the doors bevel on both strike and hinge edges to be 1/16" in 2".
F. Top and bottom rails shall be factory sealed with an approved wood sealer to eliminate moisture from entering into core thus eliminating warp.
G. Blocking: provide blocking approved for use in doors of fire ratings indicated as needed to eliminate through-bolting for surface applied hardware.

2.4 ACCESSORIES

A. Louvers
   1. Metal Door Louvers: Specified in Section 10200 (08 91 26).
B. Glazing Stops
   1. Non Rated
      a. Wood beads [or]
      b. Metal vision frames [or]
      c. Veneer wrapped metal finished frames stained or painted to match the door faces AMS 110 [or]
      d. Acrovyn Vision Panels
   2. Glass: Refer to Section 08810 (08 06 80) for glass types. [If glass and glazing is to be supplied by the door manufacturer at factory list out glass size, type, pattern and thickness for factory glazed doors.]

PART 3 - INSTALLATION

3.1 EXAMINATION

A. Inspect all doors prior to hanging. Repair noticeable marks or defects that may have occurred from improper storage or handling. Field repairs and touchups are the responsibility of the installing contractor upon completion of the initial installation. Field touchup shall include repair of job inflicted mars and final cleaning of finished doors.
B. Examine door frames and verify that they comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
C. Adjust frames to plumb condition before door installation. Tolerances for warp, square ness and pre-fitting dimensions shall be as per latest edition of WDMA I.S.1A-04.
D. Do not install doors in frame openings that are not plumb or are out of tolerance for size or alignment.
E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Handle doors in accordance with recommendations of WDMA I.S.1A-04 "Care and Installation at Job Site."
B. Condition doors to average temperature and humidity in area of installation for not less than 48 hours prior to installation.
C. Install doors to comply with manufacturer's written instructions, referenced quality standard and as indicated.

D. Factory fitted doors: Align in frames for uniform clearance at each edge.
E. Set doors plumb, level, square and true.
F. In the field trimming:
    1. Trim door height by cutting door bottom edges to a maximum of ¾" per NFPA 80.
    2. Trimming of fire rated doors in width can only be done by the manufacturer or a certified machining distributor under special guidance of the manufacturer.
G. Drill pilot holes for screws and bolts using templates provided by hardware manufacturer.
H. Exercise caution when drilling pilot holes and installing hinges so that pilot holes are not over drilled and screws are not over-torqued. Follow manufacturer's installation instructions.
I. Reseal exposed tops and bottom rails of any doors that required site alteration with an approved wood sealer.
J. Hardware installation: See Division 8 Section "Door Hardware".
K. Clean prefinished doors with a rag in concert with water or standard household cleaners such as Fantastik®, Formula 409®, or an equivalent product. Following use of the cleaner, the cleaned surface should be "rinse wiped" with clean water and wiped dry to remove any remaining residue.

3.3 ADJUSTING

A. Operating: Re-hang or replace doors that do not swing or operate freely.
B. 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 08210 (08 14 23)

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