

SECTION 08 14 33 COMPOSITE STILE AND RAIL MDF DOORS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Standard and fire rated type wood doors with raised or flat panels.
 - 2. Prefit and premachined stile and rail composite doors.
- B. Related Sections:
 - 1. Division – 00
 - A. Section 00 11 53 – Request for Qualifications
 - 2. Division – 01 ORGANIZATIONS & SERVICES
 - A. Section 01 30 00 - Administrative Requirements
 - B. Section 01 40 00 - Quality Requirements
 - C. Section 01 50 00 - Temporary Facilities and Controls
 - D. Section 08 78 36 - Warranties
 - E. Section 01 81 00 – Performance Requirements
 - F. Section 01 90 00 – Life Cycle Activities
 - 3. Division – 06 WOOD & PLASTICS
 - A. Section 06 10 00 - Rough Carpentry.
 - B. Section 06 40 00 - Architectural Woodwork.
 - C. Section 06 48 00 - Wood Frames.
 - D. Section 06 82 00 – Composite Trim.
 - 4. Division – 08 DOORS & WINDOWS
 - A. Section 08 01 00 – Operation and Maintenance of Openings
 - B. Section 08 11 00 - Hollow Metal Doors and Frames.
 - C. Section 08 14 00 – Flush Wood Doors.
 - D. Section 08 71 00 – Finish Hardware.
 - E. Section 08 81 00 - Glazing: Glass and glazing for doors.
 - 5. Division - 09 PAINTING AND COATING
 - A. Section 09 91 23 – Interior Painting
 - 6. Division 10 – Wardrobe and Closet Specialties
 - A. Section 10 57 36 – Closet Doors
 - 7. Division 26 LOW VOLTAGE
 - A. Section 26 27 00 – Low Voltage Distribution Equipment

1.2 REFERENCES

- A. American National Standards Institute (ANSI)
 - 1. A115-W – 1995, WOOD DOOR HARDWARE STANDARDS Hardware Preparations.
 - 2. A117.1 – 1998, Accessible and Usable Buildings and Facilities.
 - 3. ANSI A208.1 – Urea-formaldehyde Emissions
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM E 119-00a, Standard Test Methods for Fire Tests of Building Construction and Materials.
 - 2. ASTM D-1037 –91 American Society for Testing and Materials: Standard Methods for Evaluating the Properties of Wood-Based Fiber and Particle Board Panel Materials.
- C. Door and Hardware Institute (DHI)
 - 1. Locations for architectural hardware for standard steel doors and frames, 1990.
 - 2. Sequence and format for the hardware schedule, January 1996.
 - 3. Hardware for Labeled Fire Doors, February 1993 edition.
 - 4. Hardware for Health Care Facilities, June 1983.
 - 5. Abbreviations and Symbols, September 1983.
- D. California Air Resource Board (CARB)
 - 1. Phase II – Urea Formaldehyde Emission Limits

- E. Americans with Disabilities Act 2010 (ADA)
 - 1. 2010 ADA Standards for Accessible Design
- F. International Building Code (IBC 2015)
- G. National Fire Protection Association (NFPA)
 - 1. NFPA-80 Standard for Fire Doors and Windows, 2010 edition.
 - 2. NFPA-80A Recommended Practice for Protection of Buildings from Exterior Fire Exposures, 2001 edition.
 - 3. NFPA-101 Life Safety Code, 2000 edition.
 - 4. NFPA-101A Guide on Alternative Approaches to Life Safety, 2012 edition.
 - 5. NFPA-101B Code for Means of Egress for Buildings and Structures, 2012 edition.
 - 6. NFPA-105 Recommended Practice for the Installation of Smoke-Control Door Assemblies, 1999 edition.
 - 7. NFPA-252 Standard Methods of Fire Tests of Door Assemblies, 2003 edition.
- H. Steel Door Institute (SDI)
 - 1. SDI-105-98 Recommended Erection Instructions for Steel Frames.
 - 2. SDI-117-93 Manufacturing Tolerances for Standard Steel Doors and Frames.
 - 3. SDI-122-99 Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
 - 4. SDI-124-98 Maintenance of Standard Steel Doors and Frames.
- I. Underwriters Laboratories (UL)
 - 1. UL 10C/UBC7-2-97 Fire Tests of Door Assemblies Positive Pressure
 - 2. UL 1784-90 Air Leakage Tests of Door Assemblies
 - 3. Door Assemblies Air Leakage Test (1784-90)
- J. Intertek Testing Service (ITS/ETL)
- K. Uniform Building Code (UBC):
 - 1. UBC 7-2 1997, Fire Test of Door Assemblies.
- L. Window and Door Manufacturers Association (WDMA)
 - 1. IS-6A - 2013 Industry Standard for Stile and Rail Doors.

1.3 SUBMITTALS

- A. General Requirements:
 - 1. Scope of work is to provide simulated stile and rail wood doors in compliance with the approved shop drawings, approved finish hardware schedule and approved door and frame schedule.
 - 2. Composite doors to meet positive pressure Category B requirements.
- B. Shop Drawings and Product Data:
 - 1. Submit in accordance with Section 01 33 00.
 - 2. Indicate general construction, jointing methods, hardware and louver locations, and locations of cutouts for glass if required.
 - 3. Provide 6 copies of the approved door and frame schedule in the DHI horizontal format with shop drawings.
- C. Schedules:
 - 1. Provide door and frame schedule in the DHI horizontal format.
 - 2. Door and frame schedule to be prepared by a CDC (Certified Door Consultant) or someone of comparable experience.
- D. Product Data:
 - 1. Provide catalog cuts of each item.
- E. Samples:
 - 1. Submit 12" x 12" corner sample of each different type of door, i.e. Sticking Configuration, Panel Configuration.
- F. Operations and Maintenance Data:

At date of acceptance provide owner with 1 copy of an owners Operations and Maintenance Manual. This manual is to be a 3-ring loose-leaf binder with the project name and address on the front cover and spine. In this manual are to be 1 copy of the following items:

 - 1. As Built Door & Frame Schedule.
 - 2. As Built Shop Drawings.
 - 3. As Built Finish Hardware Schedule.
 - 4. Door Manufacturer's Installation Instructions.
 - 5. Each related specification Section.

6. Name, address and phone number of the simulated stile and rail door manufacturer.
 7. Name, address and phone number of the local manufacturers representative.
 8. Name, address and phone number of the material supplier and contact person.
 9. Manufacturers' care and maintenance instructions.
- G. Certification:
1. Submit certification that doors and frames comply with UBC 7-2 1997.

1.4 QUALITY ASSURANCE

- A. Manufacturer: Shall be a company specializing in the manufacturing of composite stile and rail doors as specified in the section for a minimum of 10 years. All stile and rail doors specified in this section MDF, and Fire doors shall be supplied and manufactured by one company. All details including panels, sticking, profiles, and stile and rail dimensions shall match.
- B. Fire-Rated Composite Stile and Rail Doors: Provide composite doors which are identical in materials and construction to units tested in door and frame assemblies in accordance NFPA 252 and which are labeled and listed for ratings indicated by ITS – Warnock Hersey, UL or other testing and inspection agency acceptable to authorities having jurisdiction.
 1. Doors: Comply with UBC 7-2 1997 where required.
 2. Comply with UL-10C Category A and Category B.
- C. Supplier Qualifications: Supplier to have a full time Certified Door Consultant (CDC) on staff or someone of comparable experience. Supplier to have been engaged in this type of business for 3 or more years.
- D. Certification of Label Construction:
 1. Warnock Hersey, Inc (WH)
 2. Intertek (ITS/ETL)
 3. Underwriters Laboratories, Inc. (UL)
- E. Substitutions: Apply for product substitutions in compliance with the requirements set fourth in Division 01 25 00 and no less than 10 business days prior to bid date.

1.5 DELIVERY STORAGE AND HANDLING

- A. Site Conditions: Storage area for composite stile and rail doors is to be in a dry, well ventilated, conditioned and secure area with controlled and stabilized humidity per manufacturers' recommendations.
- B. Marking and Packaging:
 1. Doors to be marked per the approved door and frame schedule.
 2. Bravo Doors to be palletized and shrink wrapped.
- C. Delivery: Coordinate delivery with Installer not less than 3 weeks prior to delivery.
- D. Storage:
 1. Shall comply in accordance with Section 01 60 00, Product Requirements
 2. Follow the manufacturer's Care and Installation guidelines.
 3. Store Doors flat and palletized with not more that 20 door leafs per pallet.
 4. Doors to be a minimum of 6" above floor while in storage.
 5. Store Doors on a level surface.
 6. Cover doors to keep clean and avoid discoloration with an opaque covering that does not permit light to penetrate. Cover must allow air circulation.
- E. Handle doors with clean, white soft cotton gloves to prevent contamination by hand oils and dirt. Gloves are to be provided by whoever handles doors at any given time.
- F. Do not drag doors across one another or across other surfaces.
- G. Handle doors per manufacturers' recommendations.

1.6 GUARANTEE/WARRANTY

- A. Guarantee: Provide manufacturer's guarantee for all composite stile and rail doors. Guarantee period:
 1. Lifetime on interior and interior fire rated applications.
 2. Submit in accordance with Section 01 70 00 Execution and Closeout Requirements.

Doors exhibiting defects in materials or workmanship including warp and delamination within guarantee period shall be replaced with new doors.

PART 2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

- A. ABS Manufacturing – 8360 Elder Creek Road – Sacramento, CA 95828; Phone: (888) 454-2888; Fax: (888) 454-2889
- B. Substitutions will be considered under Section 01 25 00 provided sample of substitution is submitted to architect along with sample of specified product for comparison. Only those products specifically approved by addendum will be considered acceptable.

2.2 MATERIALS

- A. Millennium MDF Bravo Doors with Molding:
 - 1. Door Construction: Dual edge "Integralok" with full face stile dimension, Furnish 1-3/8" or 1-3/4" thick doors.
 - 2. 1-3/8" Flat Panel Doors: 11/16" Premium grade primed MDF (Medium Density Fiberboard) skins which are sandwiched 3/8" MDF board panels. Provide 1" Fir Stiles on each outer and inner vertical edge precision routed into and sandwiched between the MDF skins. Stiles and rails assembled with dowel construction.
 - 3. Door Construction for 1-3/4" Flat Panel Doors: 7/8" Premium grade primed MDF skins which are sandwiched 11/16" MDF board panels. Provide 1" Fir Stiles on each outer and inner vertical edge precision routed into and sandwiched between the MDF skins. Stiles and rails assembled with dowel construction.
 - 4. Door Construction 1-3/8" Raise Panel Doors: 11/16" Premium grade primed MDF skins which sandwich individual raised panels in one of the following panel thickness – 11/16" or 1". Provide 1" Fir Stiles on each inner and outer vertical edge precision routed into and sandwiched between the MDF skins. Stiles and rails assembled with dowel construction.
 - 5. Door Construction 1-3/4" Raise Panel Doors: 7/8" Premium grade primed MDF skins which sandwich individual raised panels in one of the following panel thickness – 1" or 1-1/4". Provide 1" Fir Stiles on each inner and outer vertical edge precision routed into and sandwiched between the MDF skins. Stiles and rails assembled with dowel construction.
 - 6. Door Construction 1-3/4 20-Minute Fire Rated Doors: Panels shall be indicated. [11/16" Flat] / [1-1/4" Single Hip Raise] / [1-1/4" Scoop Raise]. Manufactured from premium grade primed MDF. 7/8" Premium grade primed MDF skins which sandwich individual raised panels. Category B provide 1" Fir Stiles on each inner and outer vertical edge precision routed into and sandwiched between the MDF skins. Stiles and rails assembled with dowel construction.
 - 7. Adhesive: Use only moisture resistant Type 1 glue in the internal construction of the door.
 - 8. Molding: Furnish only premium MDF molding in profile shall be indicated. Bond molding into a precision-machined cavity created by CAD driven numerically controlled routing equipment. Provide the following molding profile(s): [small bolection] / [large bolection]
- B. Smoke Control Doors
 - 1. Doors to comply with UL 1784-90 Air Leakage Test of Door Assemblies. Attach a secondary smoke label to the door.
 - 2. Frame Applied Seals: Provide smoke seals by others as required to meet labeling requirements.
- C. Fire Rated Millennium MDF Doors with and without Molding
 - 1. Doors to comply with UL-10C, Category B. Attach proper fire label to door.
 - 2. Door construction to be manufacturer's standard construction for fire rated doors to comply with necessary test procedures and codes.
 - 3. Provide the following molding profile(s) on the fire rated doors: [small bolection] / [large bolection]

2.3 FABRICATION

- A. Fabricate composite stile and rail doors in accordance with requirements of WDMA I.S. 6A - 2013 Quality Standards.
- B. Fabricate fire rated doors in accordance with requirements of ITS – Warnock Hersey or Underwriters' Laboratories, with metal label on each door including UL-10C.

- C. Provide blocking for hardware per hardware manufacturers requirements for hardware to be installed without thru-bolts.
- D. Factory prime doors for field finish.
- E. Bevel lock and hinge edges of single acting doors 3 degrees or 1/8 inch in 2 inches.
- F. Prepare doors to receive hardware. Refer to Section 08 71 00 - Hardware and NFPA 80 for hardware requirements including UL-10C
 - 1. Prefit and bevel to net opening size less approximately 1/4 inch in width on single swing doors 3/16" inch in width for paired doors. Provide 1/4 inch clearance above finished floor, unless otherwise indicated on drawings. Provide 1/8 inch clearance at top of door.
 - 2. Slightly ease vertical edges.
 - 3. Bottom Rail to remain full 10" face after under-cut in compliance with ANSI/ICC A117.1
Fire Rated Pair of Doors; greater than 20 minute: Supply overlapping astragals or metal edge sets only as required by NFPA 80 2010 or by door manufacturer's fire door authorities. If an astragal is required, to comply with fire rated labeling requirements for pairs of fire rated doors, provide door manufacturer's standard tested astragal as required.

2.4 SOURCE QUALITY CONTROL

- A. Inspect all doors prior to shipment, any doors that are damaged, not machined properly, or defective, shall be repaired to manufacturers' quality standards for new doors, or be replaced prior to shipment.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine installed door frames before hanging doors.
- B. When installing in existing door frames, verify the following requirements for new door comply in the areas of; width, height, swing, and hardware locations to seamlessly install new doors.
- C. Verify frames comply with indicated requirements for type, size, location, and swing characteristics, and have been installed with plumb jambs, and heads.
- D. Proceed with installation only after any deficiencies, or unsatisfactory conditions have been corrected.
- E. Inspect jobsite to ensure a dry and secure area that meets manufactures' storage recommendations is available and ready to receive the doors prior to delivery of the doors.

3.2 PREPARATION

Prior to delivery of composite doors, and while doors are being stored, the storage area shall:

- 1. Be free of trash and debris.
- 2. Meet manufacturers' recommendation for storage of composite doors.
- 3. Be conditioned and have stabilized humidity control.

3.3 INSTALLATION

All doors shall meet the follow recommendations;

- 1. Handle doors in accordance with recommendations of WDMA I.S.-6A, Care and Installation at Jobsite.
- 2. Condition doors to average temperature and humidity in area of installation not less than 48 hours prior to installation. Store door per recommendations of WDMA I.S.-6A Care and Installation at Jobsite.
- 3. Install doors in a clean and workmanlike manner, free from hammer or tool marks, open joints, or slivers.
- 4. Set doors plumb, level, square, and true. Install doors after building humidity is at an acceptable level.
- 5. Remove and replace all warped, twisted, bowed, or otherwise damaged doors. Do not install doors that cannot be properly fitted to the frames.
- 6. Adjust doors and hardware and other moving or operating parts to function smoothly and correctly.
- 7. The field finish shall follow the WDMA I.S.-6A Care and Handling at Jobsite instruction for field applied finishes.
- 8. Protect the work of other trades damage from the installation of doors and frames.
- 9. Install doors in accordance with the following;
 - A. Manufacturers' published and listed, instruction, recommendations, and tolerances.
 - B. NFPA-80
 - C. SDI-105
 - D. Approved Finish Hardware Schedule
 - E. Approved Door and Frame Schedule
 - F. Approved Shop Drawings
 - G. All applicable codes and requirements

3.4 CARE AND FINISHING

- A. Finish doors in accordance with manufacturers' Care and Finish instructions.
- B. All six side of door shall be sealed, including top and bottom.

3.5 ADJUSTING AND CLEANING

Prior to final acceptance and at no additional cost to owner:

- A. Adjust doors to meet required tolerances:
- B. General Contractor to clean doors per manufacturer's instructions, doors shall be free from all foreign materials.
- C. Repair damaged doors per manufacturer's instructions and guidelines.
- D. Replace damaged doors that cannot be repaired to the manufacturer's standards of quality.
- E. Replace defective doors.

3.6 PROTECTION

- A. Keep poly bags on doors until date of acceptance.
- B. Protect doors from damage by other trades.
- C. Keep area around doors free from trash and debris.
- D. Protect doors as directed under Section 01 70 00.

END OF SECTION