



## Specifications

### *Sound Retardant Swinging Wood Door Assemblies*

#### Part 1 - General

##### 1.1 Description

- a) **Work Included:** Provide Sound Retardant Wood Swinging Door Systems where shown on drawings and specified herein.
- b) **Related Work:** Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - Except for the items specifically listed in this Section, finish paint and finish hardware such as locksets, panic devices, and door closers are furnished and installed under other sections of these Specifications.

##### 1.2 Quality Assurance

- a) **Experience:** Provide work of this Section designed and furnished by one manufacturer. Use a manufacturer who has been engaged in the manufacture of Sound Retardant Wood Swinging Door systems for at least five (5) years immediately prior to the start of this work, who has a history of successful production acceptable to the Architect and is certified for chain-of-custody by an FSC-accredited certification body when FSC wood is specified.

##### 1.3 Related Sections

- a) **Section 06 20 00:** Finish Carpentry
- b) **Section 06 40 00:** Architectural Woodwork
- c) **Section 08 70 00:** Finish Hardware
- d) **Section 08 80 00:** Glazing
- e) **Section 09 90 00:** Paints and Coatings

##### 1.4 References

- a) **ASTM A366:** Standard Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality.
- b) **ASTM A1011:** Standard Specification for Steel, Hot-Rolled Sheet and Strip, Commercial.
- c) **ASTM B117:** Standard Method of Salt Spray (Fog) Testing
- d) **ASTM D1735:** Standard Practice for Testing Water Resistance of Coating Using Water Fog Apparatus.
- e) **ASTM E90:** Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss in Building Partitions.
- f) **ASTM E336:** Standard Test Method for Measurement of Airborne Sound Insulation in Buildings.
- g) **ASTM E413:** Classification for Determination of Sound Transmission Class

- h) **UL10C:** Positive Pressure Fire Tests of Door Assemblies.
- i) **NFPA 80:** Standard for Fire Doors and Fire Windows
- j) **HMMA 840:** Installation and Storage of Hollow Metal Doors and Frames.
- k) **WDMA Industry Standard I.S. 1-A-21**
- l) **AWI Standards, Current Edition**
- m) **LEED 2013 v4**

## 1.5 Submittals

- a) **Shop Drawings:** Submit a schedule of items to be provided under this Section along with shop drawings in sufficient detail to show fabrication, installation, anchorage and interface of the work of this section with the work of adjacent trades.
- b) **Acoustical Certification:** Provide certification that the door construction utilized has been tested at an independent laboratory in accordance with ASTM E90, and that the STC rating determined in accordance with ASTM E413, is not less than that specified in Part 2 of this Section. The laboratory referenced in the certification must be qualified under the National Voluntary Accreditation Program (NVLAP) of the U.S. Bureau of Standards. Certification must reference laboratory name, test report number, and date of test; substitution of test data not in accordance with ASTM E90 and E413 will not be acceptable.
- c) **LEED Certification:** Provide certification for each of the following credits as described.
  - 1. Credit MR-4: For products having recycled content, provide documentation indicating percentage by weight of post-consumer and pre-consumer/post-industrial recycled content.
  - 2. Credit MR-5: For products that comply with requirements for regional materials, documents indicating location of product manufacturer that contributes towards this credit. Include statement indicating distance to the project and cost of the product.
  - 3. Credit MR-7: Provide certificates of chain-of-custody by manufacturers, suppliers and distributors certifying that the products specified be made from certified wood were made from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2 Principals and Criteria. Installers of wood products are not required to have chain-of-custody certification.
  - 4. Credit IEQ 4.4: For adhesives and composite wood products, provide documentation indicating that the product contains no added Urea formaldehyde.
- d) **Finish Samples:** Provide one (1) veneer cut and finish sample for each type used on the project.
- e) **Secondary Requirements:** Fire Resistance- If required, certify that assemblies have been tested in accordance with Standard for Safety UL10C for positive pressure requirements of labeled fire doors and frames, and meet the applicable requirements of NFPA 80. When positive pressure fire ratings are required, Category B frame mounted intumescent shall be used.
- f) **Installation Instructions:** Provide recommended installation procedures which, upon approval by the architect, will become the basis for acceptance or rejection of the actual procedures used for installation.
- g) **Warranty:** Upon completion of the work of this Section, provide the Architect with two (2) copies of the manufacturer's standard written five (5) year warranty.

## Part 2 -Products

### 2.1 Design

- a) **Design Basis and Type:** Sound Retardant Wood Swinging Door System designs are based on those manufactured by Overly Door Company, Greensburg, PA 15601. Tel 800-979-7300, Fax 724-830-2871.
- b) **Performance:** Sound Retardant Wood Swinging Door System to be Overly Model No. ( ) or equal with STC rating of ( ) when tested as an operable system in accordance with ASTM E90 and ASTM E413.
- c) **Components:** Assemblies to be complete with metal frame, wood door(s), sealing system (based on model specified), and Cam-Lift hinges (when required for model specified). If vision lights are specified for doors, metal loose stops (type based on model specified), glass and glazing shipped loose to be field installed.

### 2.2 Fabrication

- a) **Materials:** Frames for Sound Retardant Wood Swinging Doors to be constructed from formed sheet steel or structural shapes and bars. Sheet steel shall be commercial quality, level, cold rolled steel conforming to ASTM A1008 or hot rolled, pickled and oiled steel conforming to ASTM A1011. Steel shapes shall comply with ASTM A36 and steel bars with ASTM A108, Grade 1018.
- b) **Door Design:** Sound Retardant Wood Swinging Doors shall be a [1-3/4"] [2-3/4"] thickness construction with sizes as indicated on Architect approved shop drawings. No visible seams shall be permitted on door faces. Internal sound retardant core and perimeter door edge construction to be manufacturer's standard for the specified model. No lead or asbestos shall be permitted in door construction to achieve STC performance. Face veneer species cut and color to be as selected from manufacturer's full range of available colors and patterns. No lead or asbestos shall be permitted in door construction to achieve performance requirements.
- c) **Frame Design:** Sound Retardant Metal Frames shall be 14 gauge minimum welded units with integral trim and shipped with temporary spreader. Knock-down frames are not acceptable. After installation, field splices required because of shipping limitations must be field welded by certified welders per manufacturer's instructions and in accordance with AWS D1.1/D1.3.
- d) **Cam Lift Hinges:** When required to achieve STC, manufacturer to furnish laboratory test data certifying hinges have been cycled a minimum of 1,000,000 while supporting a minimum door weight of 350 pounds.
- e) **Hardware Reinforcements:** Factory mortise, reinforce, drill and tap frames for all mortise hardware as required by hardware manufacturer's template. Factory mortise and reinforce doors for all mortise hardware. Provide necessary reinforcement plates as required for surface mounted hardware; all drilling and tapping to be done in field by installer. Provide dust cover boxes on all frame mortises.
- f) **Anchors:** Provide suitable anchors to properly install frames in partition types shown on Architects drawings.
- g) **Frame Painting and Cleaning:** After fabrication of frames, all tool marks and surface imperfections shall be removed and exposed faces of all welded joints dressed smooth. Chemically treat all surfaces to insure maximum paint adhesion and coat with a water-based rust-inhibitive primer.
- h) **Door Finishing:** Factory finishing of Sound Retardant Wood Swinging Doors shall be done in accordance with AWI Quality Standards. Factory finishing to be water-base stain and ultraviolet (UV) cured polyurethane sealer to comply with EPA Title 5 guidelines for Volatile Organic Compound (VOC) emissions limitations. Finish must meet or exceed performance standards of AWI TR#6 catalyzed polyurethane.

## Part 3 - Execution

### 3.1 Site Storage and Protection of Materials

- a) **Receipt:** Upon receipt of product, all materials shall be thoroughly inspected and all discrepancies, deficiencies and/or damages shall be immediately reported to the supplier in writing
- b) **Frame Storage:** Store all frames on planks or dunnage in a dry location in a vertical position, spaced by blocking to permit air circulation between units. Cover all material or store in a controlled area to protect from damage.
- c) **Door Storage:** Do not deliver or install doors until spaces are enclosed, weather tight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 degrees F and relative humidity between 25 and 55 percent during remainder of construction.

### 3.2 Installation

- a) **Prior to installation,** secure the services of a qualified representative of the manufacturer to visit the job site and instruct the contractor's personnel in proper installation and adjustment of the assemblies or secure services of manufacturer's factory trained and authorized installer to perform installation of assemblies.
- b) **Install work of this Section** in strict accordance with approved shop drawings and manufacturer's recommended installation instructions. Field finishing of wood doors, when required, shall be done with manufacturer's recommended finishing guidelines for the particular face veneer species supplied.
- c) **Upon installation,** secure the services of a qualified representative of the manufacturer to visit the jobsite and inspect the complete installation of the door and frame assemblies, test all components thru a minimum of ten (10) cycles of operation and direct installer in correcting any non-conforming items found.
- d) **Distortion:** Upon installation, doors shall be allowed to acclimate through a full cycle of seasons, for a period not to exceed one (1) year, after which distortion shall be checked in accordance with NWWDA 1.S 1-A.

### 3.3 Field Testing

- a) Secure the services of a qualified Independent Testing agency to test door and frame installations selected by Owner/Architect in accordance with ASTM E336. Installed product shall perform no less than five (5) [FSTC] [NIC] rating points below the specified STC rating. Any installations which fail to meet these criteria shall be examined, re-worked and re-tested until compliance is obtained.