SECTION 08 22 50 – FIBERGLASS FACED DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes but is not limited to:

1. Fiberglass clad doors for exterior use.
2. Factory priming
3. Weatherstripping
4. Thresholds
5. Glazing
6. Delegated design.

B. Related Sections:

1. Section 07 27 00 "Air Barrier" for weather resistive barrier and air barrier.
2. Section 07 62 00 "Sheet Metal Flashing and Trim" for flashing at exterior insulation.
3. Section 07 92 00 "Joint Sealants" for sealants and caulking.
4. Section 08 71 00 "Door Hardware" for door hardware, thresholds and weatherstripping.
5. Section 09 91 20 "Painting" for field painting factory primed doors and frames.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review, discuss, and coordinate the interrelationship of fiberglass doors with other exterior wall components. Include provisions for anchoring, flashing, weeping, sealants, and protecting finishes.
3. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
4. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.
5. Install typical door during pre-installation conference in coordination with other components of the Work.

1.4 SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for fiberglass doors.

B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, operational clearances, and details of installation, including anchor, flashing, and sealant installation.

C. Product Schedule: For fiberglass doors. Use same designations indicated on Drawings.

D. Qualification Data: For manufacturer and Installer.

E. Sample Warranties: For manufacturer's warranties.

F. Manufacturer’s installation instructions.

G. Delegated-Design Submittal: Analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1. Detail anchoring and connection of door systems to substrate.
2. Include design calculations.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A manufacturer capable of fabricating fiberglass doors that meet or exceed performance requirements indicated and of documenting this performance by test reports and calculations.

B. Installer Qualifications: An installer acceptable to fiberglass door manufacturer for installation of units required for this Project.

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of typical wall area as shown on Drawings. Coordinate door mock-up with other related components of the Work requiring mock-ups.
2. Wall area with door mock-up may not be incorporated as part of the Work. Door mock-up to remain on site for reference for duration of Project’s exterior envelope installation. Remove mock-up only with approval of Architect.
3. Install typical door as part of pre-installation conference.
4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver doors and frames cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished doors and frames.

B. Inspect doors and frames on delivery for damage, and notify shipper and supplier if damage is found. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect. Remove and replace damaged items that cannot be repaired as directed.

C. Store doors and frames at building site under cover. Place units on minimum 4-inch- high wood blocking. Avoid using non-vented plastic or canvas shelters that could create a humidity chamber. If door packaging becomes wet, remove cartons immediately. Provide minimum 1/4-inch spaces between stacked doors to permit air circulation.

D. Keep on-site handling to a minimum. Exercise particular care to avoid damage to finishes. Damaged or deteriorated materials shall be removed from the site.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify dimensions of surrounding construction by field measurements so structure will be accurately fitted to door components. Contractor, fabricator and manufacturer shall cooperate to establish and maintain these field dimensions.

1.8 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace fiberglass doors that fail in materials or workmanship including parts and labor within specified warranty period.

1. Failures include, but are not limited to, the following:

    a. Failure to meet performance requirements.
    b. Structural failures including excessive deflection, water leakage, and air infiltration.
    c. Faulty operation of door and hardware.
    d. Deterioration of materials and finishes beyond normal weathering.
    e. Failure of insulating glass.

2. Warranty:

    a. Door and Glass: 3 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Therma-tru

2. Jeld Wen
3. Codel.
4. Masonite
5. PlasPro
6. Approved Substitution.

B. Source Limitations: Obtain doors from single source from single manufacturer.

2.2 DOOR PERFORMANCE REQUIREMENTS

A. Product Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.

1. Doors, profiles, components and materials to be certified under either:

a. The AAMA Certification Program and be labeled with AAMA Gold Certification Label.
b. The WDMA Hallmark Certification Program and indicated with label.

2. Door assemblies to comply with current Energy Star rating for applicable region and bear the regional Energy Star label.
3. Doors to be rated and labeled with NFRC label.

B. Delegated Design: Design anchoring and connection of door systems to substrate to meet indicated performance requirements.

C. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:

1. Minimum Performance Class: LC.
2. Minimum Performance Grade: 30.

a. Lab Structural Test Pressure: 30 x 1.5 = 45.0 psf.
b. Lab Water Test Pressure: 30 x 0.15 = 4.5 psf
c. Field Water Test Pressure: 4.5 x 0.667 = 3.0 psf (with 1/3 reduction)

D. Thermal Transmittance:
1. U-factor, Btu/sq. ft. x h x deg F (1.71 W/sq. m x K) and SHGC or current EnergyStar requirement, whichever is more stringent.

a. Opaque: U-0.16 or less, SHGC, no rating
b. Less than ½ lite: U-0.24 or less, SHGC-0.30 or less
c. Greater than ½ lite: U-0.30 or less, SHGC-0.30 or less.

E. Sound Transmission Class (STC): Rated for not less than 27 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.

F. Forced-Entry Resistance: Comply with CAWM 301-90.

2.3 FIBERGLASS FACED ENTRY DOORS

A. Configuration: Solid, half-glass, paneled and flush configurations, as indicated on Drawings.

B. Face: 1/16 inch thick fiberglass composite cladding. Composite to be formed with long fiber injection, incorporating multiple layers of resins, tinted resins, base colors and reinforcing materials.

C. Door Thickness: 1-3/4”

D. Face Texture: Smooth (No wood grain).

E. Door Edges: Kiln-dried lumber or laminated structural lumber.

F. Insulated Core: Polyurethane, foamed-in-place;

G. Internal Styles and Rails: Kiln-dried lumber or laminated structural lumber.

H. Hardware Blocking and Reinforcement: Solid kiln-dried lumber or laminated structural lumber.

I. Glazing Stops: Molded or extruded fiberglass composite. Non-removable on exterior side of door. Verify profile does not interfere with door hardware functions.

J. Relite Kit: Full or half-glass configurations with internal blinds, as indicated on Drawings. Provide accessible blinds at accessible units.

1. Overall Glass Unit Thickness: One inch.
2. Glass Thickness: 1/8 inch.
3. Internal blinds: Tilt-only; white.
4. Sealing System: Polyisobutylene glazing tape

K. Glazing: Manufacturer’s standard for performance requirements. Tempered.

L. Sidelight: As shown on Drawings. Integral with door frame. Manufacturer’s standard as indicated on Drawings. Tempered glass.

M. Wood Frame: Manufacturer’s standard, treated with wood preservative

N. Weather Stripping: Provide full-perimeter weather stripping as indicated on hardware schedule.

O. Fasteners: As recommended by door manufacturer. Noncorrosive and compatible with door members, trim, hardware, anchors, and other components.

1. Exposed Fasteners: Do not use exposed fasteners to the greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

P. Sealants: Comply with requirements of AAMA 800.

Q. Thresholds:

1. Provide accessible aluminum thresholds at all doors per hardware schedule.
2. Threshold maximum ½” inch high.

R. Hinges: Provide hinges per hardware schedule.

2.4 FABRICATION

A. General: Fabricate door and frame units to be rigid, neat in appearance, and free from defects including warp and buckle. Fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site.

B. Clearances: Not more than 1/8 inch at jambs and heads, except not more than 1/4 inch between pairs of doors. Not more than 3/4 inch at bottom.

C. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat or oval heads for exposed screws and bolts.

D. Hardware Preparation: Prepare doors and frames to receive mortised and concealed hardware according to final door hardware schedule and templates provided by hardware supplier.

   a. Prepare doors and frames for hardware provided included as part of entry system and for hardware provided by others, as indicated in Section 08 71 00.
   b. Comply with applicable requirements in ANSI A250.6 and ANSI A115 Series specifications for door and frame preparation for hardware.

E. Reinforce doors to receive surface-applied hardware. Drilling and tapping for surface-applied hardware may be done at Project site.

F. Locate hardware as indicated on Shop Drawings or, if not indicated, according to ANSI A250.8.

G. Factory install glass and glazing materials in doors.

2.5 FINISHES

A. Fiberglass Clad Doors: Manufacturer's standard, factory-applied prime coat, suitable for field paint application.

B. Composite Frames: Manufacturer's standard, factory-applied prime coat, suitable for field paint application.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install doors and accessories according to Shop Drawings, manufacturer's data, and as specified.

B. Door Installation: Comply with ANSI A250.8. Fit doors accurately in frames, within clearances specified in ANSI A250.8. Shim as necessary to comply with SDI 122 and ANSI/DHI A115.1G.

3.2 ADJUSTING AND CLEANING

A. Prime-Coat Touchup: Immediately after installation, sand smooth any damaged areas of prime coat and apply touch up of compatible air-drying primer.

B. Adjust doors for smooth and balanced door movement.

C. Protection Removal: Immediately before final inspection, remove protective wrappings from doors and frames.

PART 4 - EXECUTION

4.1 EXAMINATION

A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.

C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

4.2 INSTALLATION

A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.

B. Install doors level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.

C. Erection Tolerances:

1. Variations from Plumb: ±1/8” maximum in door height.
2. Variations from Level: ± 1/8” maximum in 10’ run, non-cumulative.
3. Variations from Square: ± 3/16” maximum diagonally.

4.3 ADJUSTING, CLEANING, AND PROTECTION

A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.

B. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.

1. Keep protective films and coverings in place until final cleaning.

C. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

D. Protect door surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

END OF SECTION 08 22 50