

SECTION 08342

FIBERGLASS REINFORCED DOOR AND DOOR FRAME SYSTEMS

PART GENERAL

SECTION INCLUDES

Fiberglass Reinforced Plastic (FRP) Doors.

Fiberglass Door Frames.

Fiberglass Louvers.

Fiberglass Reinforced Plastic (FRP) Transoms.

RELATED SECTIONS

Section 08710 - Door Hardware.

Section 08800 - Glazing.

REFERENCES

ASTM D 523 - Standard Test Method for Specular Gloss.

ASTM D 635 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position.

ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

ASTM E 152 - Standard Methods of Fire Tests of Door Assemblies.

NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.

SDI 100 - Recommended Specifications for Steel Doors and Frames.

UL 10B - Standard for Fire Tests of Door Assemblies.

UL 305 - Standard for Panic Hardware.

SYSTEM DESCRIPTION

Performance Requirements:

Door opening assemblies:

Maximum flame spread 25 in accordance with ASTM E 84, self-extinguishing in accordance with ASTM D 635.

USDA accepted.

Fire rated assemblies: Comply with requirements of UL10B, NFPA 252, and ASTM E 152; UL _____ rating, with doors and frames bearing rating labels.

Fire rated assemblies: Comply with requirements of UL10B, NFPA 252, and ASTM E 152; UL ratings indicated on drawings, with doors and frames bearing rating labels.

SUBMITTALS

Submit under provisions of Section 01300.

Product Data: Manufacturer's printed product data indicating characteristics of products specified in this Section.

Shop Drawings:

Plans: Indicate location of each door opening assembly in project.

Elevations: Dimensioned elevation of each type door opening assembly in project; indicate sizes and locations of door hardware, and lites and louvers, if specified.

Details: Installation details of each type installation condition in project; indicate installation details of glazing, if specified.

Schedule: Indicate each door opening assembly in project; cross-reference to plans, elevations, and details.

Selection Samples: Manufacturer's standard color chips.

Verification Samples: Two (2) samples to verify color match.

Manufacturer's Instructions: Printed installation instructions for door opening assemblies.

Warranty Documents: Manufacturer's standard warranty documents, executed by manufacturer's representative, countersigned by Contractor.

DELIVERY, STORAGE, AND HANDLING

Packing, Shipping, Handling and Unloading: Package door opening assemblies in manufacturer's standard containers.

Store door assemblies in manufacturer's standard containers, on end, to prevent damage to face corners and edges.

WARRANTY

Manufacturer's Warranty: Manufacturer's 10-year warranty against failure due to corrosion from specified environment.

PART PRODUCTS

MANUFACTURERS

Acceptable Manufacturers: FIB-R-DOR Division of Advance Fiberglass, Inc.; P.O. Box 13268, Maumelle, AR 72113; ASD. Tel: (800) 342-7367, Fax: (501) 758-9496

Requests for substitutions will be considered in accordance with provisions of Section 01600.

Substitutions: Not permitted.

Manufacturer must have been in the business of manufacturing fiberglass doors and frames for a minimum of ten (10) years and be able to provide documented references of performance.

MATERIALS

Fiberglass Mat: Minimum 1.5 ounces per square foot.

Resins: Manufacturer's formulation for fabricating units to meet specified requirements.

Anchors: Manufacturer's standard stainless steel expansion anchors for existing openings, and stainless steel masonry tee anchors for new construction.

Fasteners: Stainless steel.

Glazing: Type specified in Section 08800; factory

installed.

MANUFACTURED UNITS

Non-rated Fiberglass Reinforced Plastic (FRP) Doors:

Thickness: 1-3/4 inches.

Thermal Insulating Value: 'R' factor 11.

Construction:

Core: End-grain balsa wood, resin-impregnated.

Door Plates: Molded in one continuous piece, resin reinforced with hand-laid glass fiber mat, nominal 1/8 inch thick, minimum 15 mil gel-coated surface.

Door Edges: Minimum three (3) layers resin-reinforced glass fiber mat, nominal 3/8 inch thick, machine tooled.

Sizes: Indicated on drawings.

Finish: Smooth gloss surface, minimum value 88 in accordance with ASTM D 523.

Color: _____.

Fire-rated Fiberglass Reinforced Plastic (FRP) Doors:

Thickness: 1-3/4 inches.

Thermal Insulating Value: 'R' factor 11.

Construction:

Core: Fire-resistant mineral core.

Door Plates: Molded in one continuous piece, resin reinforced with hand-laid glass fiber mat, nominal 1/8 inch thick, minimum 25 mil gel-coated surface.

Door Edges: Minimum two (2) layers resin-reinforced glass fiber mat, nominal 1/4 inch thick, machine tooled.

Sizes: Indicated on drawings.

Finish: Smooth gloss surface, minimum value 88 in accordance with ASTM D 523.

Color: _____.

Non-rated Fiberglass Frames:

Construction: One-piece pultruded fiberglass reinforced plastic, minimum 1/4 inch wall thickness, jamb-to-head joints mitered and reinforced with FRP clips and stainless steel fasteners; conforming to SDI requirements for performance equivalent to 16 gage steel frames.

Frame profile: 5-3/4 inches deep, 2 inches wide face; double rabbeted with 5/8 inch high stop.

Sizes: Indicated on drawings.

Finish: Satin finish, with true and consistent color throughout frame thickness.
Color: White pigmented.
Color: Gray pigmented.
Color: _____ gelcoated.

Fire-rated Frames: UL approved, and as follows:
Construction: Type 304 stainless steel.
Construction: Cold-rolled steel, primer finish.
Sizes: For door sizes and frame profiles indicated on drawings.

Frame Anchors: Types recommended by manufacturer for project conditions.

Louvers in Non-rated Doors:
Construction: Molded solid vanes; pultruded fiberglass reinforced plastic construction.
Sizes: Indicated on drawings.
Finish: Satin finish, with true and consistent color throughout frame thickness.
Color: White pigmented.
Color: Gray pigmented.

Louvers in Fire-rated Doors: UL approved for indicated fire resistance rating.

Lites in Non-rated Doors:
Stops: Pultruded fiberglass reinforced plastic construction.
Glazing: Specified in Section 08800.
Sizes: Indicated on drawings.
Fasteners: Stainless steel screws.

Lites in Fire-rated Doors: UL approved, and as follows:
Frames: Type 304 stainless steel.
Frames: Cold-rolled steel, gray primer finish.
Frames: Cold-rolled steel, bronze baked enamel finish.
Glazing: Specified in Section 08800.
Sizes: Indicated on drawings.
Fasteners: Stainless steel screws.

Fiberglass Reinforced Plastic (FRP) Transoms: Match adjacent door construction and color.

Door Hardware: Specified Section 08710.

Door Hardware: Supplied by door manufacturer, UL-listed

for fire-rated openings, and as follows:

Hinges: Location and quantity indicated on approved shop drawings, and as follows:

Type: Full-mortise, ball-bearing stainless steel butts, 4-1/2 inches by 4-1/2 inches template; stainless steel fasteners.

Acceptable product: Fib-R-Dor BB51.

Closers:

Type: Standard service.

Acceptable product: International 984.

Closers:

Type: Severe service.

Acceptable product: LCN 4041-EDA-SRI-ALXTB.

Closers:

Type: Stainless steel arms.

Acceptable product: Norton 1604SS.

Kick Plates: 18 gage stainless steel, with beveled edges and brushed finish; stainless steel fasteners.

Locksets and Latchsets: Ball knob, exposed surfaces of stainless steel, Grade 2.

Locksets and Latchsets: Ball knob, exposed surfaces of stainless steel, Grade 1.

Push/Pulls: Stainless steel, with beveled edges and brushed finish, size 3-1/2 inches by 15 inches; stainless steel fasteners.

Exit Devices:

Type: Conforming to UL 305; equipped with pull handle and thumb latch.

Acceptable product: RIM 19-R Series.

FABRICATION

Fiberglass Reinforced Plastic (FRP) Doors:

Minimum glass fiber to resin ratio: 30 percent.

Mortise for lockset, and recess for strike plate in lock stile.

Embed steel reinforcement for hinges in fiberglass matrix; provide for hinge leaf recesses in hinge stile.

Fiberglass Frames:

Mortise for lock strike, and recess for strike plate in lock jamb.

Reinforce for hinges and other indicated hardware.

PART EXECUTION

EXAMINATION

Verification of Conditions:

Openings are correctly prepared to receive doors and frames.

Openings are correct size and depth in accordance with shop drawings.

Installer's Examination:

Have installer examine conditions under which construction activities of this section are to be performed and submit written report if conditions are unacceptable.

Transmit two copies of installer's report to Architect within 24 hours of receipt.

Beginning construction activities of this section before unacceptable conditions have been corrected is prohibited.

Beginning construction activities of this section indicates installer's acceptance of conditions.

Verify that glazing has been factory-installed.

INSTALLATION

Install door opening assemblies in accordance with shop drawings, SDI 100, and manufacturer's printed installation instructions, using installation methods and materials specified in installation instructions.

Installation of door hardware is specified in Section 08710.

Install door hardware in accordance with manufacturer's printed instructions, using through-bolts to secure surface applied hardware.

Site Tolerances: Maintain plumb and level tolerances specified in manufacturer's printed installation instructions.

ADJUSTING

Adjust doors in accordance with door manufacturer's maintenance instructions to swing open and shut without binding, and to remain in place at any angle without being moved by gravitational influence.

Adjust door hardware to operate correctly in accordance with hardware manufacturer's maintenance instructions.

CLEANING

Clean surfaces of door opening assemblies and sight-exposed door hardware in accordance with manufacturer's maintenance instructions.

PROTECTION OF INSTALLED PRODUCTS

Protect door opening assemblies and door hardware from damage by subsequent construction activities until final inspection.

END OF SECTION