

SAMPLE SPECIFICATIONS

FIBERGLASS DOORS AND FRAMES

PART 1 GENERAL

1.01 DESCRIPTION

A. WORK INCLUDED

1. Openings as shown in the schedule, on the plans and bound into these specifications.
2. The removal of existing doors, frames, glass, etc as noted. (OPTIONAL)
3. The installation of new opening systems that include aluminum frames, fiberglass doors, fiberglass panels, door hardware as scheduled in the specifications.
4. HEAVY DUTY WIDE STILE FRP DOORS

1.02 QUALITY ASSURANCE

A. MANUFACTURER'S CERTIFICATION

Manufacturer is to have a minimum of 5 years experience in the production of pre-hardwared and pre-assembled door systems, using the type of materials specified for this project.

B. WARRANTIES

1. Wide Stile FRP doors will carry a 25 year limited warranty on doors structural integrity, main frame, and the lamination between face sheets and core.
2. THE ENTIRE SYSTEM (excluding hardware) will be guaranteed for 10 years.
3. Each door hardware component will carry its own manufactures warranty and should not be confused with the warranty of the FRP door and frame.

C. TEST REPORTS AND PERFORMANCE REQUIREMENTS

Entrance systems must comply with requirements for system performance characteristics as determined by the testing methods that follow:

Two copies of test reports covering the test procedures as listed are to be included with the submittals.

1. COMPLETE SYSTEM REQUIREMENT TESTS – Complete system units that include door, frame and hardware are to meet the following criteria:
 - a. THERMAL TRANSMITTANCE TESTS:
 1. U-factors expressed in Btu/hr-ft(2)-F – AAMA 1503-98-.072
 2. R-value expressed in hr-ft(2)-F/Btu-ASTM 1503-98- 1.39

b. STRUCTURAL PERFORMANCE TESTS

1. Air infiltration:
ASTM E283 @ 1.57 psf (25 mph) – 0.31 cfm/ft (2)
ASTM W182 @ 6.24 psf (50 mph) – 0.97 cfm/ft (2)
2. Water Penetration:
ASTM E331 – 15 Min Cycle – NO ENTRY
3. Uniform Load – ASTM E330 – (+) – 112.5 psf

c. STRUCTURAL INTEGRITY TESTS:

1. Exit Bar Pull Off Test – 7975 lbs. minimum load resistance before exit bar disengages from door
2. Closer Pull Off – 8000 lbs. minimum load resistance before closer disengages from door

d. WINDBORNE DEBRIS RESISTANCE TESTS:

1. Missile Impact Test – PA201 – 94 – PASSED
2. Cyclic Wind Pressure Test – PA203 – 94 – 60PSF
3. Forced Entry Test – SFBC 3603.2 – 300 lbs. – PASSED

2. DOOR LEAF REQUIREMENT TESTS – Door leaf without frame or hardware and with a minimum lite cut out of 12" x 24" is to meet the following criteria:

- a. CONCENTRATED LOAD BOW TEST – 5000 lbs minimum load with no permanent deflection to door leaf
- b. TORSION TWIST TEST - @300 lbs. minimum load with no permanent set to door leaf.

3. FACE SHEET REQUIREMENT TESTS – FRP material and FRP face sheets with core material are to meet the following criteria:

- a. CENTER DOOR SECTION (face sheet/core/face sheet)
 1. Gardner Impact Test – ASTM D5420 – 413.72 in-lb.
- b. FRP MATERIAL (MR84)
 1. Flexural Strength Test – ASTM D790 13.3 x 103
 2. Izod Impact Strength Test – ASTM D256 – 15 ft-lb/in thickness
 3. Barcol Hardness – ASTM D5420 – 50

1.03 MANUFACTURERS

A. ACCEPTABLE MANUFACTURERS

VALE DOOR – Collingdale, Pa.

A This is a PERFORMANCE SPECIFICATION. There are no Patents, Contractual Agreements, or any other type of restrictions that limit competition with the products described in this Performance Specification. However, it should be noted that the manufacturer listed in this specification would have to make some modifications to their standard products and new dies and designs may be required to adhere to the demands of this specification.

B. APPROVED EQUAL PRODUCTS

Equal products by manufacturers not listed in this specification will be considered only if those products are in strict compliance with the demands of this performance specification. The manufacturer name, address, phone number and any modifications needed to a standard product must be noted on the bid reply form.

C. APPROVAL PROCEDURE

1. Submit manufacturer's technical data for each type (STILE CLASSIFICATION) of door. Include all frame & door sections, elevations, and details.
2. Two copies of current test reports are to be included with the submittals.
3. Submit two samples of each door STILE CLASSIFICATION that shows rails, stiles core, joint construction and edge trim.

D. SHOP DRAWINGS

1. Submit SIX sets of shop drawings for the fabrication and installation of the Doors and Frames, and associated components of the work. Included wall elevations and detail sections of every typical composite member. Show frame anchoring, frame repairs to existing frames, glazing details, interior and exterior wall repairs and any other component or accessory required to complete each door opening
2. Include details of main frame corner joint construction on doors, Stile and Rail size, Core material, Vision lite moldings, Louvers and Factory Finishing Specifications.
3. Details of HARDWARE REINFORCING Material, Size & Thickness, Locations on both door(s) and frame and Method of attachment.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. IDENTIFICATION

Each door, frame and any additional components will be tagged with a mark or number which correlates with the designation system used for shop drawings.

B. PROTECTION

All material will be protected during transit and storage from soiling and deterioration.

PART 2 DOORS, FRAMES AND PANELS

2.01 DOOR SYSTEM CLASSIFICATIONS:

1. VALE DOOR SOLUTIONS V600

2.02 MATERIALS

A. ALUMINUM MEMBERS

1. Doors, frames, miscellaneous components, and entrance systems accessories are to be from the same manufacturer. Splitting the source for these items will not be permitted.
2. Provide alloy and temper as recommended for resistance to corrosion and color control. Aluminum member references are ASTM B 221 for extrusions and ASTM B 209 for sheets

2.03 ALUMINUM FRAMES:

A. STANDARD CLOSED BACK FRAMES shall be of extruded aluminum 6063-T5 alloy and a wall thickness of .125".

1. VERTICAL MEMBERS – All vertical frame jambs and mullions will be full height of opening
2. SECTIONS – Tube sections will be 2" x 8" with joints connected by use of reinforcing clips and machine screws
3. Finish is 313, or as selected by the architect
4. All exposed screws must be stainless steel with spanner heads
5. CLOSED BACK FRAMES are 2" X 8" X .125" tubing (or equal)

2.04 FIBERGLASS (FRP) PANELS

A. ALUMINUM EDGED FIBERGLASS (FRP) PANELS

- 1.. CONSTRUCTION - Panels will be constructed of two sheets of .120 fiberglass sheets bonded to ¾" core material. Panel thickness will be 1". An aluminum frame surrounds the perimeter of the panel, and measures 1" x 1" x 1" with 1/8" wall thickness.

WOOD EDGED PANELS WILL NOT BE ACCEPTED.

2. CORE material will be 24-psi density polystyrene with a FLAME SPREAD rating of no more than 25. CORE MATERIAL MUST HAVE A PROVEN RECORD FOR USE IN PANEL FABRICATION – WITHOUT DELAMINATING URETHANE CORES will not be accepted
3. FRP face sheets will be .120 minimum thickness with a pebble like surface
4. COLOR will be selected from Vale color chart.
5. Provide U.V. Protection equal to "Kal-Lite" premium greenhouse "Resin-Acrylic" modified as a U.V. Inhibitor.
6. PANELS are by Vale model VC90 (OR EQUAL)

2.05 EXTRA HEAVY DUTY FIBERGLASS WIDE STILE (FRP) DOORS

A. STRUCTURAL MAIN FRAME – Doors have an aluminum main frame constructed from extruded aluminum 6063 – T6 alloy. Doors are 1 3/4" thick. Main frame tube is to be a single extruded unit measuring 1 1/2" x 5 3/4" (O.D.) on both side stiles and 6" (O.D.) Top and Bottom rails. Spliced extrusions that are joined together to measure 6" will not be accepted.

B. MAIN FRAME WALL THICKNESS

- | | |
|-------------------------|---|
| 1. Side Stiles | Minimum 3/16" thick hinge edge wall |
| 2. Top and Bottom Rails | Minimum 1/8" thick outside edge wall (tie rod spline built into tube) |
| 3. All Rails and Stiles | Minimum 1/8" thick face walls |
| 4. All Rails and Stiles | Minimum 1/8" thick inside edge wall |

C. MAIN FRAME JOINERY – Assembly for the meeting joints of the Rails and Stiles on the main frame are to be MORTISE & TENON on all four joints. Secured with: 2 Tie Rods in Head Rail and 1 Tie Rod in Bottom Rail.

“WELDED JOINTS WILL NOT BE ACCEPTED”

D. FACE SHEETS – Face sheets will be fiberglass reinforced polyester. .120" thick and have A pebble-like embossed finish. Face sheet color to be selected from Vale's color chart. FRP face sheets are MR84 high impact FRP MATERIAL that has been tested by ASTM D5420 Gardner Impact Test rating no lower than 413.72 in-lb (or equal)

E. CORE MATERIAL – will be 25 psi density polystyrene with a flame spread rating of no more than 25.

F. INTER-LOC EDGE TRIM – All aluminum trim is completely removable. All parts of the door are REPLACEABLE and REPAIRABLE in the field. No fastening devices are exposed on the Stile Edge Trims.

SNAP-ON OR SCREW-ON STILE TRIM WILL NOT BE ACCEPTED.

Edge Trim finish is 313, or as selected by architect

G. WEATHER STRIPPING – Center stiles of pairs will have pile weather-stripping .500 backing width, .5" pile height.

H. HARDWARE REINFORCING – CLOSER reinforcing to be 3/4" aluminum inserted into head rail.

Other surface applied hardware is reinforced with the standard mainframe tube wall thickness of 1/8" . Reinforcing for mortise and concealed hardware is to be done per template requirements.

SEX OR THRU BOLTS WILL NOT BE ACCEPTED

2.06 VISION LITES

A. FABRICATION – Vision lite trim moldings will be aluminum extrusion – 6063-T5 alloy and removable from the inside only. All exposed screws must be stainless steel with spanner heads.

B. Divided Lites will be FACTORY glazed using ¼" or 1" thick glass as listed on the door schedule. Hardware that conflicts with the location of the vision lite kit and any other door hardware will not be accepted. Replacing glass must be done without removing any other hardware.

C. Lite Kit Finish is 313 or as selected by architect

D. DOOR VISION KITS are by THE DOOR MANUFACTURER ONLY.

2.07 RECESSED FLUSH PULLS

A. FABRICATION – Recessed pull handle 6" x 8 ½" x 1-9-16" manufactured from all extruded aluminum 6063-T5 alloy. Unit is welded together. Pull will be finished to match door edge trim or as specified. All exposed screws must be stainless steel with spanner heads.

B. SAFETY FEATURE - Pull is to be secured to main frame of door WITHOUT any of fastening devices EXPOSED to the FINGERS when hand is inserted into pull to open door.

C. Pull is to be supplied and installed at factory by door manufacturer. All necessary reinforcements and modifications to the door for receiving the recessed flush pull is to be done at the factory. Pull is also guaranteed for 10 years.

Pull Finish is 313 or as selected by architect.

D. RECESSED FLUSH PULLS are by THE DOOR MANUFACTURER ONLY

PART 3 MISCELLANEOUS MATERIALS:

3.01 GLASS AND GLAZING

A. GLASS – For door vision lites and frame panels will be ¼" clear tempered safety glass (ASTM C 1048, TYPE I) or Sheet glass (ASTM C 1048, TYPE II) which has been heat strengthened by manufacturer's standard process. GLASS color will be clear.

B. GLAZING – Door vision lites will be glazed at the factory. All other glazing will be done in the field.

End of Section

