ALUTECH CORP.
Manufacturer of quality aluminum doors and frames.

MODEL 260E

SECTION 08120

FLUSH ALUMINUM DOORS AND FRAMES

PART I GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required to deliver and install aluminum doors, frames, panels and appurtenances as shown on drawings, as scheduled and as specified herein.

1.02 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1. American Society for Testing and Materials (ASTM)

a. B 209 1989 aluminum and aluminum-alloy sheet and plate

b. B 221 1988 aluminum and aluminum-alloy extruded bar, rod, wire, shape and tube

1.03 SUBMITTAL

A. Shop drawings shall include the following:

Elevations of each door type
Size of doors and frames
Metal thickness
Details of door and frame construction
Methods of anchorage
Glazing details
Provisions for and location of hardware
Schedule showing each door, frame, and swing of door

B. Hardware templates shall be furnished to the door manufacturer by the contractor for correct hardware location.

C. Manufacturer's descriptive literature shall include detailed specifications, door configurations and swing guide.

D. Certificates of compliance: Manufacturer's certificates by an Independent Testing Laboratory attesting that doors, frames, and accessories meet the following requirements:

D1. Dade County # PA202 Design Load for +95psf or - 95psf Which equals 195 mph wind speed.

a. Air and Water Infiltration Test Per ASTM # 283 and # 331

1. Air leakage rate of no more than (1.25 cubic feet/min-ft).

2. No visible water leakage at the end of the test.

b. Uniform Static Air Pressure Test Per Dade County # PA202

1. Test load of 71 psf to maximum of 143 psf, which is a Wind Speed of 170 mph to 220 mph.

c. Large Missile Impact Test Results per # PA201

1. Projectile Test velocity of 50 fps (feet per second)

d. Cyclic Wind Pressure Test Results per # PA203

1. 600 cycles at 43 psf (131 mph wind speed), 70 cycles at 51 psf (143 mph), one cycle at 110 psi (210 mph wind speed) positive pressure and negative pressure.

e. Forced Entry Test per South Florida Building Code # 3603.2

1.04 DELIVERY, STORAGE, AND PROTECTION

A. Inspect materials delivered to the site for damage. Unload and store with minimum handling. Provide storage space in dry location with adequate ventilation, free from dust or water, and easily accessible for inspection and handling. Store materials neatly on the floor, properly stacked. Do not cover doors and frames with tarp, polyethylene film, or similar coverings. Protect finish surfaces during shipping and handling using manufacturer's standard method.

PART 2 - PRODUCTS

2.01 FLUSH ALUMINUM DOORS AND FRAMES

A. Swing type aluminum doors and frames of size, design, and location indicated. Provide doors complete with frames, framing members, transoms and accessories.

B. Aluminum alloy for doors and frames:
ASTM B 221, alloy 6063-T5 for extrusions. ASTM B 209, alloy and temper best suited for aluminum sheets and finish required.

C. Fasteners

1. All screws and miscellaneous fasteners shall be stainless steel, or other corrosion resistant material.

2.02 MATERIAL FOR FLUSH ALUMINUM DOORS

A. Flush doors: aluminum doors shall be nominal 1-3/4" thick flush design, series **260E** as manufactured by ALUTECH CORPORATION, 8548 NW 64th street, Miami, Florida 33166, (800) 966-2080 fax: (305)591-8481. Door edges shall have a strong, rigid aluminum sub-frame with integral edge caps. The sub-frame shall be connected by a 3/8" cadmium plated steel tie rod top and bottom. No snap-on or applied door edge at hinge or lock edge.

B. Face sheet: face sheet shall be one piece **.060"** Smooth or vertical ribbed aluminum of anodizing quality, with a minimum tensile strength of 22,000 psi. Face sheets shall be concealed under a 1/2" edge cap full perimeter.

C. Insulated core: all voids between sub-frames shall be filled with a EPS foam board that is fire retardant. EPS core and sub frame shall be laminated between two sheets of 1/8" tempered hardboard for impact reinforcing.

D. Lamination: subframe, insulated core, hardboard and skins shall be bonded together with a thermosetting adhesive under 110 lbs. pressure to form a water, heat, and chemical resistant bond.

E. Aluminum sub-frame: aluminum sub-frame shall have an integral edge cap to insure proper protection from the weather. Sub-frame shall be connected by a 3/8" cadmium plated steel tie rod top and bottom. Overall door tolerance shall be plus or minus 1/16". Extrusion tolerances shall be as set by the American Aluminum Manufacture's Association.

F. Vision Window:

1. Vision panel openings shall be cut to proper size to allow the window to fit so that it will conceal 1/2" under the window flange. Glass mouldings shall be non-removable on the outside of the door. Mouldings shall be square cut with butt joints. Weatherstripping used for moulding shall be Thermoplastic Rubber type with a color of black only. Conforming to Government Specifications # ASTM C 864 Spec., ASTM C 542 Spec and NAAMA SG-1-70 Std. Inside mouldings to have Thermoplastic Rubber and are removable. Inside of window to be trimmed with an angle that covers cutout-opening edges by 1/2".

2.03 ALUMINUM DOOR FRAMES

A. Aluminum door frames shall be series FR575 1–3/4” X 5-3/4” open back with an integral door stop or FR450 1-3/4” X 4-1/2” open back with a snap on door stop. Use countersunk stainless steel phillips screws for exposed fastenings. Mill joints in frame members to a hairline fit, reinforce, and secure mechanically. Minimum wall thickness for frames 0.125 Inch. Minimum wall thickness for glazing beads, moldings and trim: 0.050 Inch. Shapes shown are representations of design, function, and required profile. Dimensions shown are minimum. Shapes of equivalent design, dimensions, profile, and function may be used subject to engineers approval.

B. Material: Frame members shall be made of 6063-T6 extruded aluminum alloy with a minimum wall thickness of 0.125” for the FR575 and 0.090” for the FR450S frame and a minimum yield strength of 28,750 PSI. All screws and miscellaneous fasteners shall be stainless steel, or other corrosion resistant material.

C. Construction: Frame shall be squared cut to provide neat hairline joints. Jambs and header shall be fastened with stainless steel screws. All frames shall be mortise for hinges and lock strike plates. Surface mounted hardware shall be drilled and tapped in the field. Hinge, lock and strike reinforcing plate shall be made of ¼” aluminum plate 6063-T6 alloy.

D. Installation: inspect will condition, if necessary make any wall repairs or adjustments before installation of door frame. Assemble door frame by attaching jambs to header using (3) #10x1” pan head screws on the FR575 and (2) #8x1 on the FR450S” frame (do not fill jambs or header with mortar). Erect FR575 hinge jamb to wall and FR450S frame to wall with as per anchor schedule on sheet 4 of 6 starting at 7” from top. After hinge side is installed, start with lock sided and repeat the same procedure. Use shims at hinge and lock side to properly leveled, squared, and plumbed frame if necessary (maximum shim space to be ¼”)

E. Hardware: Each door shall be equipped with (3) 4 ½” x 4 ½” x .134” hinge, attached to door and frame with (4) 12-24 flat head machine screw, (1) yale 5407 cylindrical lock 2-3/4” backset and 2-1/8” bore with a 4-7/8” stainless steel strike plate, (1) bumper threshold 1” high, and (1) door sweep #DS-10 or equal.

F. Protection & Cleaning: After erection, the general contractor shall adequately protect exposed portions of aluminum surfaces from damage by plaster, lime, acid, cement, or other harmful compounds. After installation, all aluminum shall be cleaned with soapy water or other mild cleaning solution.

G. Weatherstripping used for glazing shall be Santoprene Thermoplastic Black Rubber type conforming to Government

Specification # ASTM C 864 Spec., ASTM C 542 Spec and NAAMA SG-1-70 Std., and with a Duramador of at least '67' per ASTM D 2240 Hardness (Shore A), and must meet or exceed the following: ASTM D 297 Specific Gravity ASTM D 412 Tensile Strength, Ultimate Elongation,and 100% Modulus ASTM D 746 Brittleness Temp ASTM D 395B Compression Set Percent ASTM D 624 Tear Resistance

H. Anchors:

1. Provide anchors of stainless steel, or other corrosion resistant material to secure frames to adjacent construction. Place anchors near top and bottom of each jamb and at intermediate points not more than 25 inches apart.

2.04 PROVISIONS FOR HARDWARE

A. Hardware is specified in section 08710, "Finish Hardware". Hardware templates and hardware shall be delivered to the door manufacturer for use in fabrication of aluminum doors and frames. Cut, reinforce, drill, and tap doors & frame in accordance with hardware manufactures recommendations. Surface-applied hardware, push plates, kick plates, and mop plates shall be drilled and tapped in the field. Provide hinge reinforcements of 1/4" aluminum flat bar and secure to door edge or frames with stainless steel machine screws.

2.05 PROVISIONS FOR GLAZING

A. Provide extruded aluminum snap-in glazing beads on interior sides of door, provide extruded aluminum, theft-proof, snap-in glazing beads or fixed glazing beads on exterior or security side of door. Glazing beads shall have vinyl insert glazing gaskets. Design glazing beads to receive glass of thickness indicated or specified. Glazing is specified in section 08800, "glazing."

2.06 ALUMINUM FINISHES:

A. Finish shall be 204-R1 clear (natural) anodize, designation AA-M10-C22-A31, Architectural Class II (0.4 Mil to 0.7 Mil).

PART 3 - EXECUTION

3.01 Installation:

A. Plumb, square, level, and align frames and framing members to receive doors and transoms. Anchor frames to adjacent construction as indicated and in accordance with manufacturer's printed instructions. After erection and glazing, adjust hardware to operate properly.

3.02 Protection from dissimilar materials

A. Dissimilar metals

1. Where aluminum surfaces come in contact with metals other than stainless steel, zinc, or small areas of white bronze, General contractor shall protect from direct contact by one or a combination of the following methods:

a. Paint the dissimilar metal with one coat of heavy- bodied bituminous paint.

b. Apply a good quality caulking material between the aluminum and the dissimilar metal.

c. Use a non absorptive tape or gasket in permanently dry locations.

B. Masonry and concrete

1. General contractor shall provide aluminum surface in contact with mortar, concrete, or other masonry materials with one coat of heavy-bodied bituminous paint.

3.03 PROTECTION

A. The general contractor shall adequately protect exposed portions of aluminum surfaces from damage by plaster, lime, acid, cement, or other harmful compounds.

3.04 CLEANING

A. Upon completion of installation, thoroughly clean door and frame surfaces in accordance with door manufacturer's recommended procedure. Do not use abrasive, caustic, or acid cleaning agents.