

STANDARD SPECIFICATION  
JANUARY 2010

**DIVISION 8**

**SECTION 8F ALUMINUM ENTRANCE WORK**

8F.01 GENERAL: Comply with all of the Contract Documents.

8F.02 SCOPE OF WORK: Refer to "Division Scope of Work"

**8F.03 WORK NOT INCLUDED**

- A. The following items are excluded from the work of this Section:
1. Caulking provided by Section 7D.
  2. House numbers furnished under Section 5A.

**8F.04 GENERAL REQUIREMENTS**

- A. Prior to submitting a bid, visit the job site and become thoroughly familiar with all field conditions, which may affect the cost or accomplishment of the work as specified, and the time necessary to complete it.
- B. Base all fabricated work on accurate notes and sketches and measurements taken in the field.
- C. Workmanship shall be of highest quality, with all work neatly and accurately done. Joints shall be close and inconspicuous. Work and materials shall be free of dents, stains, scratches, ripples, warp, or other imperfections.
- D. Coat all surfaces of aluminum coming in contact with masonry, concrete, steel or mortar with a heavy coat of bitumen mastic or approved type of asphalt paint. Surfaces of steel sub-frames, reinforcing, anchors etc., shall be insulated from direct contact with aluminum surfaces by a heavy coating as above.
- E. Unless otherwise indicated on contract drawings, or specified, provide all bolts, nuts, washers, screws, rivets, lugs, pins, brackets, clips, anchors and other fastenings used for aluminum or stainless steel of proper alloy and temper, for the purposes used.
- F. The work shall include all reinforcing, cutting, drilling and tapping required for installation of finished hardware for the aluminum doors.
- G. When preparing shop drawing, show gauges, thickness, sizes, and construction of all members, and assembly details of all items. Show details of anchorage to existing adjoining work, hardware anchorage details, and details of required steel reinforcement.

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- H. Prime all reinforcing and bracing steel members with red lead rust inhibitive paint that meets Federal Specifications for Red Lead Paint Mixture E-2C from Grade B paste, Type 11, TT-R-191a.
- I. Aluminum entrance work shall be constructed of aluminum sections consisting of frames, mullions, transom bars, sidelights, glazing, moldings, and weather-stripping.
- J. Hinge side of door and frame shall be 1/4" thick or reinforced with structural steel channel 1/4" thick sub-frame, continuous from top to bottom of frame and door properly isolated from the aluminum.

8F.05 MATERIALS

- A. Aluminum Entrances (doors, frames, sidelights and transoms) shall be as manufactured by All City Glass and Mirror Corp., ESP Construction Corp., Romco Storefronts, Robert Matzkin Co., Inc., or approved equal as determined by Architect/Engineer.
- B. Steel for reinforcement and generally shall be mill steel ASTM A-36.
- C. Doors, frames and sidelights and transoms extrusions shall be 6063-T5 alloy and tempered. Major portions of the door stiles shall be a nominal wall thickness 0.25" (1/4") thick or reinforced with 1/4" thick continuous structural steel channel sub-frames. Doors shall be 2" overall thickness, with vertical stiles a minimum of 5" face dimension, top rail a minimum of 6" face dimensions, bottom rail a minimum of 7" face dimension and center rail a minimum of 8" face dimension. Door frame hinge jamb shall be 0.25" (1/4") thick or reinforced with 1/4" thick continuous structural steel channel sub-frame. The top of door and adjacent frame shall be 1/4" thick or reinforced with a 1/4" thick structural steel channel sub-frame, continuous from side to side of both frame and door and properly isolated from aluminum. Tubular sections shall be 1 3/4" x 4 1/2". Fastener where exposed shall be aluminum, stainless steel or plated steel. Perimeter anchors shall be aluminum or steel provided the steel is properly isolated from the aluminum. Threshold shall be 1/2"x7", cast aluminum saddle with abrasive top.
- D. Bottom panel for door and sidelights (if required) shall be 0.125 inch thick aluminum flat sheets applied to both sides of exterior grade, either: plywood, hardboard or asbestos free board (mineral fiber board) core, with overall thickness 1".
- E. Glass for glazing shall be 1/4" thick tempered glass for entire door and sidelights (and transom if required) for Building Entrance Door. Glass for glazing of Vestibule Doors shall be 1/4" thick wire glass FS DD-G-451, Type III, Kind A (flat) form 1, polished both sides, mesh no.1. "Baroque" Mississippi Glass as Manufactured by Hordis Bros. Inc or approved equal.
- F. Finish-aluminum extrusions and panels shall be given a caustic etch followed by an anodic oxide treatment to obtain either an architectural class 1 anodic coating with color conforming to the Aluminum Association standard AA-M12 C22 A 42/44. Color shall

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be Permanodic #40 Dark Bronze, #29 Black, #28 Medium Bronze, #26 Light Bronze or Architectural Class 2 clear anodic coating conforming to the Aluminum Association Standard AA-M12 C22 A31 #17 Clear. Color shall be as selected by Architect/Engineer.

G. Hardware

1. Electrified hinges for Building Entrance and Building Vestibule doors shall be "Zero" 912DB or approved equal, fitted full height of door, surface mounted with throat bearings on 2 9/16" center to center for the full height of the door. Hinges to have staggered screw holes to suit heavy duty applications and high cycling conditions. Hinges to be installed with self tapping undercut head phillips countersunk machine screws and phillips pin head tamperproof screws, finish to match doors. Hinge shall be electrified to activate locksets.

Note: Installation of "Zero" 910DB with electrified "mini" hinge to activate locksets, permissible. "Mini" hinge shall be installed at top portion of the door frame.

2. Locksets shall be "Maglatch" #9032 for Building Entrance door and "Electrolatch", model #9012 for Building Vestibule door as manufactured by Securitech Groups Inc., Maspeth, NY or approved equal, as determined by Architect/Engineer. Lockset shall be a heavy-duty mortise lockset, which contains a 3/4" dead-latch. Interior exiting shall be by depression of a lever handle. Exterior unlocking shall be either by a key and depression of the lever handle or through an interface with the intercom system, which shall send an impulse to momentarily release the lever handle, allowing it to be depressed and retract the latch.

All switches for an electromagnetic lock shall be contained within the trim units. Header frame shall be equipped within an aluminum protective channel securely fastened to receive the electromagnetic lock measuring 2" high, 1.5" deep and 11.75" long. The switches must be completed with all the functions to de-power the electromagnetic lock simultaneously with the movement of either lever handle retracting the latch.

The exterior lever handle shall also contain a slip-clutch apparatus, which will lower without retracting the latch if depressed without insertion of the key or release by the intercom. The hub of the interior lever shall contain a cap, which if removed via "allen" key shall allow for the removal of the spindle. After removal of the spindle, the lockset is to be able to be removed without any removal of the lock trim.

Lockset trim shall be through-bolted with four bolts and one-way threaded caps. Bolts are to be covered by Trim Brackets, which are pop-riveted to the door. A Handle Stop is to be installed on the exterior approximately two inches below the trim to prevent handle rotation over 180 degrees. Heavy-duty trim brackets shall be applied to the exterior lever handle unit. All exposed screws are to be tamper-proof.

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Power required for the locksets is 120VAC /16-24VAC, 30VA – PS30A. Power supply shall be provided as per Division 16A Electric Work, Section16A.12L (Intercom and door buzzer system).

3. Door Closers shall be hydraulic surface mounted, Series 4511 N AVB as manufactured by LCN Closers, Princeton, Illinois or approved equal as determined by Architect/Engineer. The closer shall have full hydraulic, rack and pinion action with a high strength cast iron cylinder. Spring power shall be adjustable to increase power by fifty percent on all sized cylinders. Hydraulic fluid shall be of a type requiring no seasonal adjustment for temperatures ranging from 120 degrees F (49 degrees C) to -30 degrees F (-35 degrees C). Separate tamperproof, non-critical screw valves shall provide independent regulation of latch speed, general speed, and hydraulic back check. All closers shall have heavy-duty solid forged steel arms with saw-resistant steel roll pins inserted in the arm studs to prevent disassembly. All covers shall be metal and utilize a four-point mounting. All exposed fasteners shall have hex-lobular drive with a security pin. All closers shall be of one manufacture and carry a five-year warranty. The sweep period of the closer shall be adjusted so that from an open position of 90 degrees, the door will take at least 3 seconds to move to an open position of approximately 12 degrees. The closer shall provide a maximum opening force of 8.5 lb f (37.N) for both doors (Building Entrance and Building Vestibule doors).

4. Hardware for Building Entrance Door shall consist of following:

1 Lockset/Electromagnet with protective aluminum channel	# 9032 Maglatch	- (Securitech)
1 Continuous Aluminum Hinge	# 912DB x AA or D	- (Zero Int.)
or		
1 Continuous Aluminum Hinge with;	# 910DB x AA or D	- (Zero Int.)
1 Mini Electrified Hinge.	# ECH-FM x AA or D, 2 ½"	- (Securitech)
1 Door Closer with Metal Housing	# 4510T Series	- (LCN)
1 Sill Protection Sweep	# 39 x A or D	- (Zero Int.)
1 Kick Plate with Beveled Edges	34" x 7" x .05" x US32D	- (Don-Jo)
1 Floor Stop	# 1445 x US26D or to suit	- (Don-Jo)
1 Door Saddle with epoxy abrasive top	# 6570A-E [ ⚡ ]	- (Zero Int.)

5. Hardware for Building Vestibule Door shall consist of following:

1 Lockset	# 9012Electrolach	- (Securitech)
1 Continuous Aluminum Hinge	# 912DB x AA or D	- (Zero Int.)
or		
1 Continuous Aluminum Hinge with;	# 910DB x AA or D	- (Zero Int.)
1 Mini Electrified Hinge.	# ECH-FM x AA or D, 2 ½"	- (Securitech)

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1 Door Closer with Metal Housing	# 4510T Series	- (LCN)
1 Kick Plate with Beveled Edges	34" x 7" x .05" x US32D	- (Don-Jo)
1 Floor Stop	# 1445 x US26D or to suit	- (Don-Jo)
1 Door Saddle	# 6570A [Ⓢ]	- (Zero Int.)

8F.06 FABRICATION AND INSTALLATION

- A. All entrance door frames and sidelights fabricated in compliance with shop drawings approved by Architect/Engineer.
- B. All work shall be installed so that no fastenings are exposed on the faces of the exposed work unless shown on the contract drawings and the finally approved shop drawings. Exposed surfaces shall be true, even and smooth without buckles, waves and indentations. All exposed welds, where permitted, shall be ground, dressed and polished. Assemble all work carefully and accurately, and finish it straight, smooth and even, level and plumb, so that it is free from defects or deformities of any type. Fit all exposed joints accurately, and finish it straight, smooth and even, level and plumb, so that is free from defects or deformities of any type. Fit all exposed joints accurately, weld securely so welds are concealed and do not affect anodized finish and are watertight in exterior work. Finish them smoothly and flush so that they are practically invisible. Defective work of any character, whether in materials or workmanship, will be rejected and shall be repaired or replaced to the satisfaction of and at no additional cost.
- C. Doors - Door stiles and rails shall be accurately joined at corner with heavy concealed reinforcement brackets secured with bolts or screws, and shall be MIG welded. Doors shall have snap in stops with glazing gaskets on both sides of the glass and secured by two counter sunk, tamper resistant pinhead phillips screws or other approved type. All glazing shall be flush, including the horizontal mullions and sills and held in place by glazing gaskets.
- D. Framing- Door framing and sidelight framing shall be accurately joined at corners with shear blocks and screws. Glazing shall be done with an extruded aluminum fin-stop and screw in 1/2" x 1/2" molding .090 wall thickness or greater. Screws to be tamper resistant pin head phillips screws or other approved types. All door frames shall have door stops at jambs and head with continuous weather stripping.

8F.07 SHOP DRAWINGS

- A. Shop drawings shall be submitted to Architect/Engineer, for approval of work specified herein, including all details, sizes of members, gauges, anchors, attachments etc.

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8F.08 VERIFYING DIMENSIONS

- A. All openings to be field measured to insure proper fit.

8F.09 GUARANTEES

- A. Guarantee all items of work furnished and installed under this Section for (1) one year, in addition to manufacturer's standard warranties. All guarantees to be from the date, when **Final Certificate of Occupancy** is issued from Department of Buildings.

END OF SECTION