

STANDARD SPECIFICATION
JANUARY 2010

DIVISION 8

SECTION 8K STEEL ENTRANCE WORK

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

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

8K.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.

8K.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. Entrance work shall be consisting of frames, doors, mullions, transom bars, side lights, glazing, moldings and weather-stripping.
- D. The work shall include all reinforcing (if required), cutting, drilling and tapping for the installation of finished hardware at steel doors and frames.
- E. When preparing shop drawing, show gauges, sizes and construction of all members, and assembly details for all items. Show details of anchorage to existing adjoining work, hardware anchorage details, and details for steel reinforcement.
- F. All frame components shall be made to job templates, shop assembled and given a trial fit for proper and expeditious installation at job. All required and necessary connections, fastenings, holes etc., shall be provided for work of other contiguous trades. All fabrication work and finishes shall be done in shop. Completed and painted entrances and components shall be protected from damages/scratches and shipped to the job site for installation only.

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8K.05 MATERIALS

- A. Steel Entrances (doors, frames, sidelights and transoms) shall be as manufactured by Domco Doors Inc. Brooklyn NY, Optimum Windows & Doors or approved equal as determined by Architect/Engineer.
- B. All steel work shall be of first grade quality.
- C. Doors shall consist of stiles and rails of seam welded hot-rolled steel tubes 11 ga. (1/8" thick). Steel for tubes shall be ASTM A-500.
- D. Top rail shall be 2" x 4" x 1/8", bottom rails shall be 2" x 8" x 1/8". Latch and hinge side style shall be 2" x 4" x 1/8". If required by Architect/Engineer, intermediate horizontal divider at handle level shall be 2" x 4" x 1/8". Securely weld all members together. Door shall be designed to accommodate "Maglatch" or "Electrolatch", as specified. Provide a stainless steel kick plate at bottom rail of the door.
- E. Door frame, sidelight frame and transom frame shall be of the same heavy duty tubular construction as a door. All glazing shall be protected with grilles as described above at Building Entrance only.

Note: Standard hollow metal work, shall not be accepted.

- F. A decorative grille of wrought iron shall be provided at building entrance only. Grille panels at entrance door and sidelights shall be operable swing type with lock, for glass cleaning purpose. Finished grille shall permit clear view through the door. Securely weld all members to each other and to perimeter grille frame. Chosen grille pattern shall have sufficient structural integrity (horizontal / vertical / curved spacers) and all members shall not be easily pried apart. Submit shop drawing of grille for Architect/Engineer review prior to fabrication.
- G. All joints and welds shall be ground down and finished smooth.
- H. Glass shall be held in place by solid square 1/2" x 1/2" glass stop bars. Bars shall be placed around entire perimeter of each glass pane. At exterior face, glass stop bars shall be tack welded to the frame. At interior face, glass stops shall be attached with tamper resistant screws. Provide caulk/gaskets/neoprene spacers as necessary for proper glass installation.
- I. Glazing:

Building Main Entrance:

Glass for glazing shall be 1/4" thick clear tempered glass for door, sidelights and transom. See section 8E.04 A.3 "Glass and Glazing" for requirements.

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Building Vestibule Entrance:

Glass for glazing shall be 1/4" thick polished wire glass for door, sidelights, and transom. See section 8E.04 A.5 "Glass and Glazing" for requirements.

1. All glass shall be set in such manner as to avoid breakage. All glass broken due to faulty setting, shall be replaced. All glass shall be protected from damage until final acceptance. Broken and defective or imperfect glass shall be removed and replaced with glass meeting specifications, at no extra charge.
2. At completion, all dirt stains, excess of silicon sealer, etc. shall be removed and all glass shall be left clean. All glass that cannot be cleaned properly shall be removed and replaced by glazing contractor at no extra cost.

J. Hardware:

1. Hinge for entrance doors (including vestibule doors) shall be edge mounted heavy-gauge "Zero" 910DB (Double Bearing) or approved equal, fitted full height of door with throat bearings on 2 9/16" 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 st/stl screws and phillips pin head tamperproof st/stl screw. In addition Electrified Pass-Trough Mini Hinge shall be installed to activate lockset.
2. Lockset for Building Entrance Door:

Lockset shall be Maximum Vandal-Resistance "Maglatch" model # 9032 as manufactured by Securitech Group, Inc., Maspeth, NY or approved equal, as determined by Architect/Engineer. Lockset shall be a heavy duty mortise latch lock which contains a 3/4" deadlatch. 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.

An electromagnetic lock, containing 1200 lbs. of holding force and measuring 2" high, 1.75" deep and 12.5" long shall be installed. The electromagnetic lock shall be depowered simultaneously with the movement of either lever handle retracting the latch. All switches for the electromagnetic lock shall be contained within the trim units. There is to be no special movement or action required to release the magnet. The electromagnet is to be installed within an steel protective channel securely fastened to the header of the door frame.

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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.

3. Lockset for Vestibule Entrance Door:

Lockset shall be Maximum Vandal-Resistance "Electrolatch" model # 9012 as manufactured by Securitech Group, Inc., Maspeth, NY or approved equal, as determined by Architect/Engineer.

Note: Electromagnet is not required.

4. 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).

5. 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).

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6. 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 1/2"	- (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.)

7. 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 1/2"	- (Securitech)
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.)

8K.06 FABRICATION AND INSTALLATION

- A. All entrance door frames and sidelights shall be 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.
- C. 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 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 to Architect/Engineer.

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- D. Doors - Door stiles and rails shall be accurately joined at corner. All glazing shall be flush, including the horizontal mullions and sills.
- E. Framing - Door framing and sidelight framing shall be accurately joined at corners. All door frames shall have door stops at jambs and head with continuous weather stripping.

8K.07 FINISHES

- A. Surface of steel frame must be free of dirt, grease, fingerprints, rust and other contaminants. A minimum of 3 stage iron phosphate or zinc phosphate metal treatment is required for good adhesion and optimum coating performance properties of primer. Surface primer shall be CC-A19 High Solids Monobake Primer, manufactured by Sherwin Williams Chemical Coatings, or approved equal as determined by Architect/Engineer.

Application:

Recommended film thickness - 1.6 - 2.0 mils
Primer may be applied by conventional, airless, or electrostatic methods.

- B. Primed steel frame shall be free of dirt, grease, fingerprints and other contaminants before finish coat of paint applied. Paint shall be CC-B23 Permaclad® 2400 High Solids Polyester Baking Enamel Intermix System, manufactured by Sherwin Williams Chemical Coatings, or approved equal as determined by Architect/Engineer.

Application:

Recommended film thickness - 1.3 - 1.8 mils
Permaclad® 2400 paint may be applied by conventional, electrostatic bell, disk, or handgun spray methods.

- C. Color and gloss range of finish paint, shall be selected by Project Architect. See Finish Schedule for requirements.

8K.08 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, finishes, etc.

8K.09 VERIFYING DIMENSIONS

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

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8K.10 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