

Section 08110

STEEL DOORS AND FRAMES

PART 1 - GENERAL

1-1. SCOPE. This section covers the furnishing and installation of hollow metal doors and frames. Unless otherwise indicated or specified, all steel doors shall be flush type.

Finish hardware is covered in the Finish Hardware section.

1-2. GENERAL. Doors, frames, and appurtenances shall be furnished and installed as specified herein and in accordance with the details and arrangements indicated on the drawings.

Doors, frames, and appurtenances furnished under this section shall be fabricated and assembled and erected, in full conformity with drawings, specifications, engineering data, instructions, and recommendations of the manufacturer unless exceptions are noted by Engineer.

1-3. SUBMITTALS. Complete detail drawings of all items specified herein shall be submitted in accordance with the Submittals section. Drawings shall show elevations of each door type; details of each frame type; location or identification of each item; typical and special details of construction; methods of assembling sections; location and installation requirements for hardware; size, shape, and thickness of materials; joints; connections; and finish.

1-4. DELIVERY, STORAGE, AND HANDLING. Shipping shall be in accordance with the Shipping section. Handling and storage shall be in accordance with the Handling and Storage section.

Materials shall be handled, transported, and delivered in a manner which will prevent bends, dents, scratches, or damages of any kind. Damaged materials shall be promptly replaced.

**PART 2 - PRODUCTS**

**2-1. PERFORMANCE AND DESIGN CRITERIA.**

2-1.01. Governing Standard. Except as modified or supplemented herein, all steel doors and frames shall conform to the requirements of ANSI/SDI 100, Grade II, Model 2.

2-1.02. Metal Thicknesses. Metal thicknesses and gages of steel sheet metal specified herein are the minimum required. Gages refer to US Standard gage.

2-1.03. Nomenclature. The nomenclature used herein conforms to ANSI A123.1.

2-2. ACCEPTABLE PRODUCTS. Internally reinforced doors and accompanying frames shall be equivalent to the following:

- The Ceco Corporation "Medallion"
- Curries Manufacturing Company "Series 747T"
- Pioneer Industries "Series C"
- Republic Builders Products "DS Series"

Flush panel doors with foamed-in-place urethane core and accompanying frames shall be equivalent to the following:

- The Ceco Corporation "Imperial"
- Pioneer Industries "CHT Series"

2-2.01. Fire Doors. Not used.

2-3. MATERIALS. Materials used in the manufacture of steel doors and frames shall be as follows:

Doors and Frame	ASTM A366 or A569, stretcher leveled, commercial quality sheet steel with smooth, clean surface.
Internal Reinforcing	ASTM A366, cold-rolled steel.
Fillers for Internally Reinforced Doors	Mineral wool or fiberglass.

Urethane Core for Foamed-in-Place Doors

Liquid urethane, expanded in place self-bonding, self-hardening, and self-extinguishing.

Anchoring Devices

Zinc-plated where exposed; zinc-plated or galvanized where concealed.

Expansion Anchors

As specified in the Anchorage in Concrete and Masonry section.

2-4. **FRAMES.** Frames for doors shall be formed of steel to the sizes, 16 gage, and shapes required.

2-4.01. **Workmanship.** The finished work shall be strong, rigid, neat, and free from defects. Molded members shall be fabricated straight and true, with corner joints well formed, and with fastenings concealed where practicable.

2-4.02. **Joints.** Joints for frames shall be mitered or butted and continuously welded on the reverse side to produce rigid joints which are invisible on the face of the frame. Frame bottoms shall be held rigidly in position by spreader bars to maintain proper alignment during shipment and erection.

2-4.03. **Hardware Provisions.** Frames shall be prepared at the factory for the specified hardware. Frames shall be mortised, reinforced, drilled, and tapped for mortised hardware, and shall be reinforced for surface-applied hardware. Cover boxes shall be provided in back of all hardware cutouts. Frames for all doors except weatherstripped doors shall be punched to receive silencers, three holes on the lock side of single door frames and one hole for each leaf in heads of double door frames. Lock strikes shall be set out and adjusted to provide clearance for silencers.

Concealed metal reinforcements shall be provided for hardware in at least the following thicknesses:

Hinge reinforcement	10 gage
Strike reinforcement	14 gage
Closer reinforcement	12 gage
Other reinforcement	14 gage

2-4.04. **Mullions and Transom Bars.** Not used.

(SACWSD )  
(LIFT STATION NO. 2 EXPANSION )  
(162323.0300 )  
(11/25/08 )

08110  
-3-

2-4.05. Reinforcing. Not used.

2-4.06. Wall and Floor Anchors. Metal anchors of the sizes and shapes required for the adjoining type of wall construction shall be provided. Jamb anchors shall be fabricated from steel, of at least the same thickness as the frames. Anchors shall be located near the top and bottom of each frame and at intermediate points spaced not more than 32 inches apart.

For frames set in masonry, jamb anchors shall be at least 10 inches long, adjustable, and corrugated or other deformed type.

For frames set in hardened concrete or existing masonry walls, anchorage shall be provided as indicated on the drawings.

Door frames shall be provided with a 16 gage thick base clip at each jamb for floor anchorage. Clips shall be sized and drilled for at least two 3/8 inch diameter anchoring devices. Where floor fill occurs at a door opening, the bottom of the frame shall terminate at the indicated finished floor level and shall be supported by adjustable extension clip angles anchored to the structural slab.

2-4.07. Stops and Beads. Not used.

2-5. DOORS. Doors indicated on the drawings as hollow metal, including doors with glazed and louvered openings, shall be as specified herein. Doors shall be prepared to receive the hardware specified in the Finish Hardware section.

2-5.01. Workmanship. Doors shall be rigid, neat in appearance, and free from defects. Molded members for glazed doors shall be formed straight and true, with joints coped or mitered, well formed, and in true alignment. All welded joints on exposed surfaces shall be dressed smooth so that they are invisible after finishing.

2-5.02. Sizes and Clearances. Doors shall be of 1-3/4 inch thickness, and type indicated on the drawings, of the sizes and design indicated. Clearances for doors, except fire doors, shall be 1/8 inch at jambs and heads, 1/4 inch at meeting stiles of pairs of doors, and 3/4 inch at bottom, unless otherwise indicated.

2-5.03. Construction. Doors shall have 18 gage thick seamless outer sheets. Side edges of doors shall be flush and closed watertight. All seams shall be continuously welded and ground smooth. Doors shall be prepared at the factory for hardware, for glazing, and for louvers as indicated on the drawings. Door edges shall be beveled or rounded.

Flush internally reinforced doors shall have fillers placed in the spaces between reinforcing members and shall be reinforced by 22 gage thick or thicker vertical steel stiffeners installed on 6 inch] centers and welded to face sheets.

Flush foam-filled doors shall have all internal spaces completely filled with a rigid urethane core foamed in place and chemically bonded to the interior surfaces of the door.

Outswinging exterior doors shall be finished flush at the top, with all seams and joints closed watertight as specified for side edges.

2-5.04. Hardware Provisions. Doors shall be mortised, reinforced, drilled, and tapped for mortised hardware. Reinforcing units shall be provided for locksets. Reinforcing plates shall be provided for mortised and surface-applied hardware in at least the following thicknesses:

Hinge reinforcement	10 gage
Surface-applied closers and hold-open arms	12 gage
Other reinforcement	14 gage

Where concealed overhead door closers are required, the necessary cutouts, reinforcement, and provisions for fasteners shall be made in the heads of doors.

The locations of hardware items shall be in accordance with DHI "Recommended Locations for Builders' Hardware for Standard Steel Doors and Frames".

2-5.05. Stops and Beads. Not used.

2-5.06. Astragals. Not used.

2-5.07. Louvers. Not used.

2-6. FIRE DOORS AND FRAMES. Not used.

(SACWSD )  
(LIFT STATION NO. 2 EXPANSION )  
(162323.0300 )  
(11/25/08 )

2-7. SHOP FINISH. A primer shall be applied to all surfaces of ferrous metal furnished under this section. Metal surfaces shall be cleaned and given a phosphate or equivalent treatment to ensure maximum corrosion protection and paint adherence. A dip or spray coat of synthetic resin, rust-inhibitive metallic oxide, or rust-inhibitive zinc chromate primer shall be applied to all surfaces, then baked or oven-dried. Finished surfaces shall be smooth and free from irregularities.

PART 3 - EXECUTION

3-1. INSTALLATION. Frames shall be set in position, plumbed, aligned, and braced securely until permanent anchors are set. Frames shall be anchored to floors with expansion anchors or as indicated on the drawings. Jamb anchors shall be built into walls and secured to adjoining construction. Spreader bars shall remain in place until frames have been built into the walls.

3-1.01. Transom Panels. Not used.

End of Section

Section 08620

SKYLIGHTS

PART 1 - GENERAL

1-1. SCOPE. This section covers the furnishing and installation of skylights as indicated on the drawings.

1-2. GENERAL. Skylights shall be furnished and installed as specified herein and in accordance with the details and arrangements indicated on the drawings. Fasteners as required for mounting the skylights and curbs shall be provided.

1-3. SUBMITTALS. Complete specifications, detailed drawings, and setting and erection drawings covering roof accessories shall be submitted for review in accordance with the procedures set forth in the Submittals section.

1-4. PROTECTION. Skylights shall be protected from damage at all times. Damaged units shall be replaced. Any roofing adhesive, splicing cement, lap sealant, paint, or other foreign materials which have accumulated on surfaces on the plastic shall be removed by the methods recommended by the skylight manufacturer.

PART 2 - PRODUCTS

2-1. SERVICE CONDITIONS. The skylights shall be provided as indicated herein.

2-2. LOCATION. Provide the following skylights at the locations indicated on the drawings:

2 – "Model 5276" (49-1/4 inch by 72-1/2 inch maximum curb outside dimension).

2-3. MATERIALS. Skylights shall be "High-lite Model MTB, Duo-lite" as manufactured by Plasticrafts or equal. Dome shall be completely factory-assembled, acrylic, double-glazed unit consisting of the following:

(SACWSD )  
(LIFT STATION NO. 2 EXPANSION )  
(162323.0300 )  
(11/03/08 )

Outer Pane	No. 2404 bronze.
Light Transmittance	49 percent.
Solar Transmittance	56 percent.
Inner Pane	Clear.

Unit shall be assembled on a 0.70 extruded aluminum curb frame which provides a thermal conductivity barrier, condensate captivation, and capillary break. Gaskets shall be of a closed cell, nonhardening material. Aluminum retaining frame to be minimum 0.062 inch thick. All corners shall be welded. Glazing shall meet or exceed minimum thickness as specified by AAMA.

Skylights shall be designed for mounting on a prefabricated metal curb as indicated on the drawings.

2-4. FINISH. Exposed surfaces of aluminum assemblies shall be mill finished.

### PART 3 - EXECUTION

3-1. INSTALLATION. Skylights shall be installed in accordance with the manufacturer's directions and shall be flashed as stipulated in the Roof Covering section and as indicated on the drawings. Skylights shall be fabricated and installed to provide a watertight and weathertight assembly.

End of Section

Section 08700

FINISH HARDWARE

PART 1 - GENERAL

1-1. SCOPE. This section covers finish hardware for steel doors, and padlocks which must be keyed to match door locks.

1-2. GENERAL.

1-2.01. Templates. Each hardware manufacturer shall deliver to the door and frame manufacturer a template for each item of mortised and surface-applied hardware. Each template shall be labeled with the manufacturer's name, hardware item, opening number, and location on the door or frame where the item is to be installed.

1-3. SUBMITTALS. A complete schedule of finish hardware shall be submitted in accordance with the submittals section. The schedule shall indicate each item of hardware required for each opening, manufacturer's name, manufacturer's number or symbol, and finish.

1-4. PACKAGING. Each item of hardware shall be packaged separately in an individual container complete with screws, keys, special wrenches, instructions, and installation templates necessary for accurately locating, setting, adjusting, and attaching the hardware. Each container shall be marked with the number of the opening to which the hardware item is to be applied.

PART 2 - PRODUCTS

2-1. ACCEPTABLE MANUFACTURERS. The catalog numbers which appear in the Hardware Schedule identify products of the first-named of the manufacturers listed herein for each hardware item. Equivalent products of the other manufacturers listed herein will also be acceptable.

Butts	Stanley, Hager, or Lawrence.
Locksets and Padlocks	Schlage, Yale, or Russwin.
Closers	LCN, Sargent, or Russwin.

Thresholds, Cast Abrasive

Wooster, American Abrasive,  
or Stubbs.

Weatherstripping

Reese, Zero, or Pemko.

2-2. FINISH. The required finish shall be as indicated by the catalog number listed in the Hardware Schedule herein. Exterior surfaces of door closers shall be finish painted with shop-applied aluminum paint. Machine screws, bolts, and other exposed attachments shall be finished to match hardware.

2-3. KEYING. All cylinder locks and padlocks shall be keyed to match the existing keying system.

### PART 3 - EXECUTION

3-1. INSTALLATION. Hardware shall be accurately fitted, securely applied, carefully adjusted, and lubricated in accordance with the manufacturer's instructions.

3-1.01. Location. Unless otherwise directed by the Engineer, the locations of hardware items shall be in accordance with DHI "Recommended Locations for Builders' Hardware for Standard Steel Doors and Frames".

3-1.02. Thresholds. The ends of thresholds shall be notched to fit the applicable door frame profile. Thresholds shall be anchored to concrete by means of 5/16 inch diameter stainless steel flat head countersunk machine screws and expansion anchors spaced at 8 inch centers. Thresholds shall be set in asphalt roofing cement conforming to ASTM D4586, Type II.

3-2. PROTECTION. Special care shall be taken to protect finished surfaces of hardware during installation. Hardware on which the finish has been damaged prior to final acceptance of the work shall be replaced with new hardware at no additional cost to the Owner.

3-3. HARDWARE SCHEDULE. Hardware shall be furnished in accordance with the following schedule. Doors are listed by opening number. A complete set of hardware is listed for each opening.

(SACWSD )  
(LIFT STATION NO. 2 EXPANSION )  
(162323.0300 )  
(11/10/08 )

08700  
-2-

Opening No.	Item	No. Req'd	Catalog No.
D-101	Padlock		345-101-626
	Butts		3FBB191-630 4-1/2" x 4-1/2" NRP
	Lockset		1D53PD-Ply-630
	Closer	1	4210
	Threshold, cast abrasive		1115 Alumogrit 6" x 1/2"
	Weatherstripping		
	Head and jambs	1 set	DS70D
	Sill		1323D

End of Section

(SACWSD )  
(LIFT STATION NO. 2 EXPANSION )  
(162323.0300 )  
(11/10/08 )

