
SECTION 08 71 63
DETENTION DOOR HARDWARE

PART 1 GENERAL

1.1 WORK INCLUDES:

- A. Security hardware and necessary setting and adjustment information/assistance for complete security metal doors and frames.

1.2 RELATED WORK

- A. Section 08 34 60 - Security Doors and Frames.
- B. Division 28 for security controls and control wiring to electrically operated hardware.

1.3 REFERENCES

- A. ASTM F1577-2005 Test Methods for Detention Locks for Swing Doors
- B. ASTM F1643-2005 Test Methods for Detention Sliding Door Locking Device Assembly
- C. National Electrical Code, latest edition, for internal electrical requirements for hardware

1.4 SUBMITTALS:

- A. Make submittals in accordance with the requirements of Division 1 Section 01 13 30 - Submittal Procedures and Division 11 Section 11 19 16 - Detention Equipment.
- B. Submit specifications, installation instructions and general recommendations for products as required, including locks, hinges, lock mount covers, bolt keepers, wall bumpers, weather-stripping, thresholds, escutcheons, etc.
- C. As outlined in Division 11 Section 11 19 16 - Detention Equipment, submit one sample of each hardware product, finished as required and tagged with full description for coordination with hardware schedule. Samples will be used as extra stock, if approved. Rejected samples will be returned.
- D. Hardware and Keying Schedules:
 - 1. Submit one reproducible and one copy of each schedule type; indicate all products by name and number or each separate opening. Include all other pertinent hardware information.
 - 2. Door Keying Plans: Submit one reproducible and one copy of each plan. Each plan shall include all building floor plan drawings (1/8-scale minimum) dimensions or other equipment information shall be excluded from this plan. Each plan shall indicate:
 - a. Architectural room numbers
 - b. Electrically controlled or operated doors are to be identified with an "E" symbol
 - c. Lock types are to be prefixed as follows: "M" for mogul, "S" for standard and "P" for paracentric.
 - d. Key marks for each door opening include key switches and food pass identified as part of the opening.
 - e. Key access sides required at each detention opening.
 - f. Make promptly, any corrections or changes necessary in schedules to comply with requirements; resubmit one reproducible and one copy of revised schedules.
 - 3. Templates for Fabrication:
 - a. Forward templates for each type of detention equipment hardware required to fabricators of work in Division 08 Section 08 34 63 - Detention Hollow Metal Doors and Frames following final review of hardware and keying schedules.

- b. Submit wiring diagrams for all electrical devices provided herein.
- c. Indicate permissible tolerances for each type.
4. Closeout Submittals - Furnish three copies of Operating/Maintenance Manuals including parts lists for security locks and locking devices.

1.5 QUALITY ASSURANCE

- A. Throughout the specifications and drawings, types of materials may be specified by the manufacturer's name and catalog number in order to establish standards of quality and performance. If the bidder elects to substitute any other products, he must request the Architect's approval in writing no later than ten (10) days prior to the bid date, and he must receive written approval by addendum. The following are requirements for approval for each type of product listed.
- B. For each facility, list: name and location of installation, date of occupancy by Owner, Owner's representative to contact and telephone number, Construction Manager or General Contractor, and Architect.
- C. Manufacturers Qualifications: Provide security equipment products from manufacturers who have been actively engaged in the production of security equipment for a minimum of ten (10) years in successfully completing projects of equal scope and magnitude with products as herein specified. This evidence shall consist of a list of ten (10) projects that have been complete and operational for a minimum of five (5). The manufacturer shall now be actively engaged in the design and manufacture of security locks, locking devices, furnishings and miscellaneous security hardware and products. All locks, locking devices and related security hardware shall be provided by the same manufacturer.
- D. For each facility, list: name and location of installation, date of occupancy by Owner, Owner's representative to contact and telephone number, Construction Manager or General Contractor, and Architect
- E. Two (2) copies of manufacturer's product specifications and catalog cut sheets and detail and performance data for each type product listed in this section.
- F. Provide data substantiating that products being proposed for this project comply with the requirements stated herein.
 1. List of projects under construction
 2. List of completed projects
 3. List of major suppliers
 4. Approved Detention Hardware Suppliers:
 - a. Southern Steel, San Antonio, TX
 - b. Folger Adam, San Antonio, TX
 - c. Approved equal

1.6 PRODUCT HANDLING

- A. Comply with requirements of Division 11 Section 11 19 16 - Detention Equipment.
- B. For products delivered to door manufacturer and for products delivered to project site, package each item of hardware separately in containers, complete with necessary fasteners, installation instructions and installation templates. Mark each container with item numbers, location of installation in accord with corresponding information shown on final hardware schedule.
- C. Store products at site to prevent damage or loss until installation is made.
- D. Control handling and installation of hardware products which are not immediately replaceable, so that the completion of work will not be delayed by hardware losses, both before and after installation.

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- E. Deliver all keys in one shipment by secure carrier (hand carrier or registered mail) from manufacturer directly to authorized representative of the Owner, as directed by the Architect. Include transmittal and forward copy of same to the Architect.

1.7 WARRANTY

- A. Comply with requirements of Division 11 Section 11 19 16 - Detention Equipment.

1.8 MAINTENANCE

- A. Provide spares in the quantities listed below for each hardware type:
- B. Locks: One of each type and swing used.
- C. Escutcheon: Four of each type used.
- D. Cylinder Shield: Four of each type used.
- E. Hinges: Six of each type used.
- F. Door Position Switch (DPS): Four of each type used
- G. Closer - A: Two of each type and hand used.
- H. Pulls:
 - 1. Door Pull: Four of each type used
 - 2. Flush Pull: Four of each type used
 - 3. Wall Bumper: Twelve of each type used
 - 4. Weather Threshold: Two sets, 4' lengths.
 - 5. Pass-Resistant Threshold: Four sets, 4' lengths.
 - 6. Weather-stripping/Smoke Gasket: Four sets
 - 7. Jamb Switch (Keeper Switch): Three of each type used.
 - 8. Food Pass hardware: Three complete food pass assemblies complete with all associated hardware:
 - a. 2 ea. - Lock
 - b. 4 ea. - Hinges
 - 9. Fasteners and Accessories:
 - a. 1. Furnish five percent extra fasteners and other miscellaneous accessories required for installation.
 - 10. Furnish, for institution use only, four complete sets of special tools required for locking device and hardware maintenance lock repair kits.
 - 11. One repair parts list and assembly drawings bound in a manual for all security products supplied in this section.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Catalog numbers of the first manufacturers listed have been used to establish the quality required. The only other manufacturers approved are listed. Other manufacturers seeking approval shall do so in writing per General Requirements and shall list exact catalog numbers and description of the items proposed to furnish.
- B. Brookline Industries, Chicago, IL
 - 1. Rixon, Inc.; Franklin Park, IL
 - 2. Folger Adam Co.; San Antonio, TX
 - 3. Glynn-Johnson Corp.; Chicago, IL

4. Hager Hinge Co.; St. Louis, MO
5. Metalcraft, Inc.; Minneapolis, MN
6. H. B. Ives Div.; New Haven, CT
7. LCN Closers; Princeton, IL
8. Norton Closer Div.; Charlotte, NC
9. Pemko Mfg. Co.; Emeryville, CA
10. Reese Enterprises; Rosemount, MN Southern Folger Southern Folger Detention Equipment Co., San Antonio, TX Southern Steel Southern Steel Co.; San Antonio, TX

2.2 SCREWS, FASTENERS AND TOOLS

- A. Furnish exposed fasteners to match item fastened. Make fastener of the same metal as item fastened, except use plated brass or stainless steel for all aluminum items. Provide twenty (20) spares of each type of fastener used for anchoring hardware.
- B. Provide torx-head (star design with center pin) security fasteners for exposed fasteners on all security hardware, regardless of manufacturer. Provide to owner six (6) tool holders and six (6) bits for each different size screw. Holders and bits shall be left at project after installation and become property of the user.
- C. Provide two (2) alignment tools for medium security locks.

2.3 HINGE

- A. Series/Manufacturer:
 1. 204FMSS/Southern Steel
 2. 4-1/2FM-ICS/Folger Adam
 3. Description:
 - a. 4-1/2 x 4-1/2, 3/16" thick leaves maximum
 - b. Stainless steel leaves, stainless steel non-removable pin, two hardened steel ball bearings, three knuckles with HT hospital tips.
 - c. 1/2"-diameter pin to lock hinge in closed position
 - d. Provide quantities as follows:
 - e. Doors less than 5 ft high - 1 pair
 - f. Doors over 5 ft to 7 ft 6 in - 1-1/2 pair
 - g. Doors over 7 ft 6 in to 10 ft - 2 pair
 - h. Doors over 3 ft 8 in wide - 2 pair

2.4 TYPICAL CELL DOOR LOCK

- A. Electrically unlocked manual sliding cell door locking system.
 1. Product/Model#:
 - a. Southern Steel 4110L
 2. Functions:
 - a. Unlock and manually open door to the fully open and locked position.
 - b. Unlock and manually close door to the fully closed and locked position.
 - c. Each door shall automatically move a few inches upon being unlocked.
 - d. Each door shall automatically deadlock upon closing at a minimum of three concealed points. Front locking not acceptable.

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- e. Door can be selectively unlocked by means of individual switches located on a remote control panel or by any group of preselected doors.
 - f. Blocking of one door shall not interfere with the operation of any other door in the group.
 - 3. Manual Operation:
 - a. Emergency Manual Release Cabinet
 - 1) In the event of a power outage, it shall be possible to go to the Emergency Release Cabinet where a wheel or lever shall be provided to permit the following functions:
POSITION #1 - Normal Remote Electric Operation
 - (a) POSITION #2 - Key Release - allows for key release at individual doors without interfering with the operation of other doors
 - (b) POSITION #3 - Group Emergency Release All Doors - Moving the lever to this position manually unlocks all doors in the group. Doors unlocked in this mode will not relock when closed
 - (c) Doors manually unlocked must be freewheeling to permit ease of movement.

2.5 CUFF/FOOD SLOT HARDWARE

- A. Model / Manufacturer
 - 1. Lock - Southern Steel 1017AM-1
 - 2. Hinges - Southern Steel 203FP
 - 3. See Door Schedule for locations.

2.6 TYPICAL ZONE OR PERIMETER DOOR - 8" LOCK JAMB

- A. Model/Manufacturer:
 - 1. 10120AE-2 120 Volt / Southern Steel
 - 2. 120E Series 120 Volt / Folger Adam
- B. Functions:
 - 1. Electric remote switch activates solenoid which retracts a latch-bolt.
 - 2. Latch-bolt remains retracted until door is opened approximately 2", then releases and automatically latches and deadlocks when the door is closed.
 - 3. Mechanical function shall retract the latch-bolt with a mogul key at the door and remain retracted until the door is opened approximately 2" then releases and automatically latches and deadlocks when the door is closed.
- C. Features:
 - 1. Deadlock indication switch.
 - 2. Strike with security fasteners.
 - 3. Mogul Cylinder
 - 4. Faceplate with security fasteners.
 - 5. Plug connector.
 - 6. High Torque motor.
 - 7. Fail Secure.
 - 8. Mounting fasteners.

2.7 TYPICAL MECHANICAL JAMB MOUNTED LOCK

- A. Mechanical Operation:
- B. Series/Manufacturer:

1. 1080AM / Southern Steel
- C. Door mounted deadbolt
- D. Paracentric cylinder
- E. Provide keeper with built-in limit switch where scheduled.

2.8 TYPICAL CORRIDOR SLIDER

- A. Maximum security remote controlled rack and pinion keyed sliding door locking system device for individual sliding doors
 1. Product/Model#:
 - a. Southern Steel 3165LX.b
 2. Functions
 - a. Unlock, open and lock open a 3'-0" door in not more than seven (7) seconds.
 - b. Unlock, close and deadlock close a 3'-0" door in not more than seven (7) seconds.
 - c. Stop the movement of any door in mid-travel by applying approximately 40/45 lbs. of pressure on the door.
 - d. Instantly reverse the direction of the door. In the event the door is blocked, the door shall automatically continue to the open or closed position when the obstruction is removed.
 - e. Normal force exerted by a door in travel is 40/45 lbs.
 - f. The locking device shall be designed so that there will be no projecting lugs on the receiver column. Door shall automatically deadlock closed at a minimum of three points. Front locking shall not be acceptable.
 3. Manual Operation:
 - a. In the event of power failure, the door shall have capabilities of being unlocked with a paracentric or mogul key from either one or both sides of door.
 - b. The paracentric or mogul key cylinder shall be located within a 10 gauge steel, hip high, manual release pilaster adjacent to the closing jamb of the door. Door can be moved by hand and does not automatically deadlock until pilaster handle is returned to the home position.
 - c. Provide electrical paracentric key switch (PK) or mogul key switch (PKM), if required, provided at each door to permit full electrical operation to unlock open, lock open, unlock closed, lock closed, stop or reverse sliding door direction at any point of travel. Door must not go to the closed position automatically. The control console provides power to the key switch and must have the ability to override the key switch at any time. The control circuitry must be designed to prohibit the simultaneous operation from the control console and the key switch.
 - d. Doors manually unlocked must be freewheeling to permit ease of movement.
 4. Components:
 - a. All motors shall be 1/8 horsepower, single phase, 115V, 60 Hertz, as manufactured by a nationally recognized manufacturer.
 - b. Hanger carrier to be 3/16" thick steel plate, full width of door.
 - c. Hanger carrier rollers to be turned from solid steel 3" OD.
 - d. Rollers are to have anti-friction ball bearings with hardened members and grease shield on both sides.
 5. Housing:
 - a. The horizontal mechanism housing shall be constructed of 7 gauge mild steel.

- b. Housing covers shall be constructed of 10 gauge mild steel. All openings shall be baffled.
 - c. The vertical lock bar housing shall be constructed of 1/8" mild steel tube to be 1" x 2" and the lock bar to be constructed of 5/8" square cold rolled bar steel, free moving within housing.
 - d. Hinged Cover Panels: Cover panel is hinged to cover box assembly for maintenance access. All hinged housing covers shall be locked to the track box with Torx head w/center pin security screws.
6. Finish: Paint entire assembly, except track, rollers and drive mechanism, with rust inhibitive primer.

2.9 CLOSER

- A. Manufacturer: LCN 2210 or 2215DPS Concealed door closer with DPS where required.

2.10 DOOR POSITION SWITCH

- A. Manufacturer: Southern Steel Model No. 220MRS where required.
 - 1. Coordination: See Door Schedules on drawings for locations where Door Position Switches are required. Door location requirements will be identified with DPS in the Door Schedule.
 - 2. Door and Frame Prep: Coordinate door and frame prep for the Door Position Switch with door and frame manufacturer(s).

2.11 FINISHES

ITEM		U/S SYMBOL	SYMBOL	DESCRIPTION
Hinges, Exterior	US32D		630	Satin Stainless Steel
Hinges, Interior Locks & Pulls	US26D	US26D	626	Satin Chrome 626 Satin Chrome
Closers		AL		689 Aluminum Painted

- 1. US32D 630 Satin Stainless Steel
- 2. US26D 626 Satin Chrome

2.12 CYLINDERS, KEYS AND KEYING

- A. The security locks will incorporate three (3) separate keying systems: one for pin tumbler (mogul cylinder) one for lever tumbler (paracentric) and one for commercial cylinder locks. Each keying system's keys shall be die stamped for identification corresponding to the hardware supplier's final schematic keying chart
- B. Mogul cylinder locks shall be master keyed as directed. Provide cut change keys, and master keys as required.
- C. Builder's hardware cylinders shall be master keyed as directed. Provide cut change keys and master keys as required.
- D. For all individual key designations, to each required individual Key Cabinet, there shall be two (2) keys provided. For each master key designation, there shall be three (3) keys for each required individual key cabinet.

2.13 KEY CABINET

- A. Key control shall be furnished with a capacity of 1.75 times the number of individual key designations.
- B. Cabinets shall have concealed-type hinge and rounded sides.
- C. Panels must have individual hook and label pockets formed as an integral part of the panel, for both paracentric and mogul key types, as required.
- D. Keys shall not leave the manufacturer's custody without prior arrangements for delivery and authorization from the Owner.

2.14 DOOR AND HARDWARE SCHEDULE

- A. See attached door and hardware schedules this section and provide, conforming to project specifications and drawings.

HARDWARE SET # DH-1

For Each Door: A102, A103, A109, A109A, A112, A113, A120, A126, A126A, A148

1 ea.	3165LX.b.HCPKM-2	120 Volt Rack and Pinion Slider
1 ea.	212C	Loop Pull
1 ea.	214S	Recessed Door Pull
1 ea.	1010AM-2	Mechanical Deadbolt
2 ea.	936KS	Key Switch

*Add kickplate where required

HARDWARE SET # DH-2

For Each Door: A104, A105, A110, A111, A115, A116, A117, A118, A121, A132, A146A, A151

3 ea.	204FMSS	4 ½ x 4 ½ Mortised Hinge
1 ea.	10120AE-2	120 Volt Electro-Mechanical Dead Latch
1 ea.		Cylinder extension
2 ea.	212C	Loop Pull
1 ea.	2215-DPS	Concealed Closer w/ DPS
1 ea.	420	Detention Door Stop
3 ea.	307D	Door Silencer

*Add extra hinge at doors over 3'-0" wide

*Add kickplate where required

HARDWARE SET # DH-3.0

For Each Door: A114, A119

3 ea.	204FMSS	4 ½ x 4 ½ Mortised Hinge
1 ea.	1080AM-1	Mechanical Dead Bolt
1 ea.	4CL	Monitored Strike
2 ea.	212C	Loop Pull
3 ea.	307D	Door Silencer
1 ea.	420	Detention Door Stop
1 ea.	2215-DPS	Concealed Closer w/ DPS

HARDWARE SET # DH-4.0

For Each Door: A102A, AD-1, AD-2, AD-3, AD-4, AD-5

3 ea.	204FMSS	4 ½ x 4 ½ Mortised Hinge
1 ea.	1080AM-1	Mechanical Dead Bolt
1 ea.	4CL	Monitored Strike

1 ea.	200 MRS TBS	Magnetic DPS
1 ea.	214S	Recessed Door Pull

END OF SECTION 08 71 63