

SECTION 119814

DETENTION DOOR HARDWARE

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION

- A. This section includes furnishing and installing detention hardware and related accessories required to complete the work as shown on the drawings, schedules and as specified herein.
- B. Related Sections:
Section 119812 Detention Doors & Frames

1.3 REFERENCES

- A. Comply with the following:
 - 1. ASTM F 1577-05 Test Methods for Detention Locks for Swing Doors
 - 2. ASTM F 1643-05 Test Methods for Detention Sliding Door Locking Device Assembly
 - 3. National Electrical Code, latest edition, for internal electrical requirements for hardware
 - 4. UL 10B-2001
 - 5. UL 10C-2001

1.4 SUBMITTALS

- A. Make submittals in accordance with the requirements of Division 1 Section "Submittals".
- B. Submit specifications, installation instructions and general recommendations for products as required, including locks, hinges, and lock mount covers, bolt keepers, wall bumpers, weatherstripping, thresholds, escutcheons, etc.
- C. Hardware and Keying Schedules: Submit one copy of each schedule type; indicate all products by name and number for each separate opening. Include all other pertinent hardware and keying information.
 - 1. DEC is required to coordinate a detention keying meeting with the architect and user so as not to delay the manufacturer and delivery of the required detention equipment.
 - 2. Make promptly, any corrections or changes necessary in schedules to comply with requirements; resubmit one copy of revised schedules.
- D. Templates for Fabrication:

1. DEC is required to forward templates for each type of detention equipment hardware required to fabricators of work in Division 11 Section 11 19 10, "Detention Hollow Metal" following final review of hardware and keying schedules.
 2. DEC is required to submit wiring diagrams for all electrical devices provided herein.
- E. Locking Device Submittals: Indicate layout plans of each opening, show anchorage and accessory items, dimensions and finishes.
- F. Operating and Maintenance Manual Submittals - Furnish three copies of Operating/ Maintenance Manuals including parts lists for security locks and locking devices.

1.5 QUALITY ASSURANCE

- A. In order to establish standards of quality and performance, the following requirements have been established for approval for each type of product listed.
1. Manufacturers Qualifications: Provide detention 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 of equal scope and magnitude that have been complete and operational for a minimum of five (5) years. The manufacturer shall now be actively engaged in the design and manufacture of security locks, locking devices, and miscellaneous detention hardware and products. All locks, locking devices and related detention hardware shall be manufactured and supplied by the same manufacturer.
 2. Five (5) copies of manufacturer's product specifications and catalog cut sheets and detail and performance data for each type product listed in this section.
 3. Provide data substantiating that products being proposed for this project comply with the requirements stated herein. Provide detailed explanation of the differences of proposed products and the specified products.
 4. Manufacturer shall provide evidence of a written Quality Control System.

1.6 PRODUCT HANDLING

- A. 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 accordance with corresponding information shown on final hardware schedule.
- B. Store products at site to prevent damage or loss until installation is made.
- C. 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-Engineer.

1.7 WARRANTY

- A. Provide manufacturer's standard limited warranty.

1.8 MAINTENANCE

- A. Provide spares in the quantities listed below for each hardware type:
 - 1. Locks: Two of each type used (one left hand, one right hand).
 - 2. Escutcheon: Two of each type used.
 - 3. Cylinder Shield: Two of each type used.
 - 4. Hinges: Six of each type used.
 - 5. Door Position Switch (DPS): Two of each type used (one of each hand, if applicable.)
 - 6. Closer: Two of each type used (one of each hand, if applicable.)
 - 7. Pulls:
 - a. Raised Pull: Two of each type used
 - b. Flush Pull: Two of each type used
 - 2. Wall Bumper: Twelve of each type used
 - 3. Weather Threshold: Two sets, 4' lengths.
 - 4. Pass-Resistant Threshold: Two sets, 4' lengths.
 - 5. Weatherstripping/Smoke Gasketing: Two sets
 - 6. Jamb Switch (Keeper Switch): Two of each type used.
 - 7. Food Pass hardware: Two food pass door sets complete with all hardware:
 - a. 1 ea - Lock
 - b. 2 ea - Hinges
 - c. 1 ea - Pass door with integral pull
 - 8. Kickplate:
 - a. 10" x (door width less 2") x 14 gage stainless steel, US32D finish, with security screws. Provide two.
 - b. 34" x (door width less 2") x 14 gage stainless steel, US32D finish, with security screws. Provide two (per key quantities schedule only).
- B. Locking Device Spare Parts: Provide six complete sets of switches, wheels and motor assemblies.
- C. Fasteners and Accessories:
- D. Furnish five percent extra fasteners and other miscellaneous accessories required for installation.
- E. Furnish, for institution use only, two complete sets of:
 - 1. Special tools required for locking device and hardware maintenance
 - 2. Lock repair kits for each type of lock

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: Southern Steel, Folder Adams, R.R. Brinks or Airteq.

2.2 MECHANICAL DETENTION HARDWARE AND LOCKING DEVICES

- A. Mechanical lever tumbler locks: General: Lever tumbler locks shall operate with paracentric key. Key all lever tumbler locks into one keying system. Key locks alike in groups or key differently to approved keying schedule. Master keying is not an option for lever tumbler locks. Include lock mounting, escutcheons, strike and mounting screws for complete

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application. Use Torx tamper resistant screws on cylinder escutcheons, lock mounting and strike.

- B. Maximum security dead latch:
 - 1. Product/Model#:
 - a. Folger Adam #70 Series
 - b. Southern Steel 1070A
 - c. AirTeq 5070 Series.
 - 2. Material:
 - a. Case: Ductile iron case or formed steel case and cover
 - b. Cover: Cold rolled steel, 3/8 inch thick. For ductile iron case
 - c. Latch bolt: Cold rolled steel, electro-galvanized, 3/4 inch thick with two 1/4 inch diameter hardened steel roller pins, 3/4 inch throw.
 - d. Deadlock actuator: Cold rolled steel, electro-galvanized, 1/2 inch thick, 1/2 inch travel.
 - e. Cylinder: Investment cast, silicon brass alloy, for key one side or key both sides.
 - 3. Performance:
 - a. Lock shall comply with UL10B Fire Tests of Door Assemblies; Class A - 3 hour rating.
 - b. Key unlocks and retracts latch bolt. Deadlocked by actuator when closed. Key removable in latched and deadlocked position.
 - 4. Accessories:
 - a. Lock mountings: G for grille doors, HM for hollow metal doors and P for plate doors.
 - b. Strike: 3/16 inch steel with dust box to protect bolt.
 - c. Strike: 3/16 inch steel with dust box and switch to monitor latch bolt position.
- B. Snap latch for food passes:
 - 1. Product/Model#:
 - a) Folger Adam #17 Series
 - b) Southern Steel 1017A
 - c) AirTeq 5017 Series.
 - 2. Material:
 - a) Case: Ductile iron case or formed steel case and cover.
 - b) Cover: Cold rolled steel, 1/4 inch thick. For ductile iron case.
 - c) Latch bolt: Investment cast stainless steel or cold rolled steel, 7/16 inch throw.
 - d) Cylinder: Investment cast, silicon brass alloy, for key one side.
 - 3. Performance: Key operated latch. Key removable in latched position.
 - 4. Accessory: Combination keeper-pull fabricated for food pass doors.
- C. Deadlock for access panels, key cabinets and electrical panels:
 - 1. Product/Model#:
 - a) Folger Adam #10 Series
 - b) Southern Steel 1010A
 - 2. Material:
 - a) Case: Ductile iron case or formed steel case and cover.
 - b) Cover: Cold rolled steel, 1/4 inch thick. For ductile iron case.
 - c) Deadbolt: Cold rolled steel, electro-galvanized, 3/4 inch thick, 5/8 inch throw.
 - d) Cylinder: Investment cast, silicon brass alloy, for key one side or key both sides.

3. Performance: Key operated deadlock. Key removable in locked and unlocked positions.
4. Accessories:
 - a) Lock mountings: HM for hollow metal door, P for plate doors and G for Grating door.
 - b) Strike: 3/16 inch steel with dust box to protect bolt and mounting screws.

2.3 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. 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 (2) keys for each required individual key cabinet.
- D. A complete, detailed schematic chart of the keying system will be required. The hardware supplier will also be required to enter the key symbols for all doors on additional floor plans that will be supplied by the Architect. Two (2) copies of the schematic keying chart and architectural floor plans shall be turned over to the user at the completion of the project. The cost for this service shall be included with the cost of materials at the time of bidding.

2.4 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 security-head (star design with center pin) security fasteners for exposed fasteners on all detention hardware, regardless of manufacturer. Furnish 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. Fastener type: All exposed or accessible fasteners shall be TORX security type as follows:
 1. Tamper-resistant center pin reject style, fasteners that may be removed only with manufacturer's specially designed extraction tool.
 - a) Acceptable Product: "Torx Plus" Security Torx five lobe fasteners with pin reject by Acument Global Technologies, Holdbrook Manufacturing Inc., Tamperproof Screw Co, Inc., or approved equal.
 - b) Provide length suitable for the application.
 - c) Unless otherwise required, provide flat head, flush to surface fasteners.

2.5 ACCESSORIES

- A. Surface hinge:

1. Product/Model#
 - a) Folger Adam 3FS
 - b) Southern Steel 203FS
 2. Material/Description:
 - a) Full surface, 3/8-inch thick heavy duty Cast, malleable iron leaves.
 - b) Hardened hinge pin, 1/2" diameter, flush fitted with knurled end to pressed into a blind hole prevent tampering and removal.
- B. Mortised institutional hinge:
1. Product/Model#:
 - a) Southern Folger 204FMSS/4-1/2FM-KS
 2. Material/Description
 - a) Full mortised, 0.188 inch thick investment-cast stainless steel leaves.
 - b) Two reinforced polymer bearings with lubricant designed specifically for stainless steel pin. Assembly to exhibit low coefficient of friction.
 - c) Stainless steel hinge pin, non-removable and fully concealed.
 - d) Provide quantities as follows:
 - (1) Doors less than 5 ft high - 1 pair
 - (2) Doors over 5 ft to 7 ft 6 in - 1-1/2 pair
 - (3) Doors over 7 ft 6 in to 10 ft - 2 pair
 - (4) Doors over 3 ft 8 in wide - 2 pair
- C. Loop door pull:
1. Product/Model#:
 - a) Southern Folger 212C
 2. Material/Description
 - a) Material: Cast stainless steel.
 - b) Finish: US32D.
- D. Recessed door pull:
1. Product/Model#:
 - a) Southern Folger 214S
 2. Material/Description
 - a) Single direction finger grips.
 - b) Optional: Bi-directional grips for sliding doors.
 - c) Material: Cast stainless steel.
 - d) Finish: US32D.
- E. Fire/Smoke Gasketing/Threshold
1. Seal begins compressing at 1/4". Compresses to seal up to a 1/16" gap.
 2. Seal is extruded from high-temperature silicone; effective between -58°F and 450°F.
 3. Self-extinguishing and non-toxic. Unaffected by sunlight, ozone and ultraviolet rays.
Impervious to fungus and mildew; will not deteriorate under normal exposure.
 4. Meets FAR 25.853 Airworthiness Standards for Compartment Interiors.
Smoke tested in accordance with UBC 7-2 and UL 1784-01; meets the requirements of NFPA 105 "Standard for the Installation of Smoke Door Assemblies and Other Opening Protectives".
 5. Air infiltration tested in accordance with ASTM E-283-04. Air infiltration is only .09 CFM / ft of crack.

6. For use with listed steel frames and/or classified steel covered composite, hollow metal doors rated up to and including 3 hours; wood and plastic covered composite doors rated up to and including 1-1/2 hours; and wood core doors rated for 20 minutes without hose stream. When applied to the door and frame assembly in accordance with the manufacturers installation instruction, the assembly will comply with UBC 7-2 (1997) part II.
7. Secured with stainless steel, head-head security screws.

F. Weatherstrip

1. Includes mounting screws and a cam.
2. Includes end plates that provide a clean, finished look and prevent debris from entering operating mechanisms.
3. Smoke Tested - UL1784 - tested in accordance with UL 1784-2001 Air Leakage Tests of Door Assemblies, and meet the performance criteria for allowable air leakage as specified in NFPA 105-99 Installation of Smoke Control Door Assemblies. Meets the requirements for category H - Smoke Seals.

2.6 FINISHES:

| | U/S Symbol | ANSI Symbol | Description |
|------------------|------------|----------------|------------------|
| Hinges, Exterior | US32D | 630 | Satin Stnls Stl |
| Hinges, Interior | US26D | 626 | Satin Chrome |
| Locks & Pulls | US26D | 626 | Satin Chrome |
| Closers | AL | 689 | Aluminum Painted |
| Push, Kick | US32D | 630 | Satin Stnls Stl |
| Stops | US26D | 626 | Satin Chrome |

2.7 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 mogul key types, as required.
- D. Keys shall not leave the manufacturer's custody without prior arrangements for delivery and authorization from the Owner.

2.8 SECURITY SPARE LOCKS AND LOCK PARTS

- A. Shall be provided for the Owners' stock as follows:
- B. One complete set of security screwdrivers for all sizes of security screws used on this project.
- C. One repair parts list and assembly drawings bound in a manual for all security products supplied in this section.

2.9 DOOR AND HARDWARE SCHEDULE

- A. The hardware group/sets listed below indicate the items of hardware required for each opening. It is the bidder's responsibility to accurately furnish the proper sizes, quantities, weights, gage and function as required by these specifications and as recommended by manufacturers involved.

Hardware Set # DH-1

For Each Door:

| | | |
|------|-------------|---|
| 1 ea | 4110LHCPK-2 | 24 volt Kick Release Manual Corridor Slider |
| 1 ea | 1010A-2 | Mechanical Deadlock for Emergency Release |
| 1 ea | 930A-2 | Three Position Maintained Keyswitch |
| 1 ea | 212C | Loop Pull |
| 1 ea | 214S | Recessed Pull |

Hardware Set # DH-2

For Each Door:

| | | |
|------|---------|-------------------------------|
| 1 ea | 1300TS | Manual Cell Slider |
| 1 ea | 1030A-1 | Mechanical Automatic Deadlock |
| 1 ea | 212C | Loop Pull |
| 1 ea | 214S | Recessed Pull |

Hardware Set # DH-3

For Each Door:

| | | |
|------|---------|--|
| 3 ea | 204FMSS | 4 ½ x 4 ½ Mortised Hinge |
| 1 ea | 1070A-2 | Mechanical Combination Spring and Deadlock |
| 2 ea | 212C | Loop Pull |
| 1 ea | 2210 | Concealed closer |
| 1 ea | 420 | Detention Door Stop |
| 3 ea | 307D | Door Silencer |

Hardware Set # DH-4

For Each Door: 24" x 24" Plumbing Access Doors

| | | |
|------|---------|---------------------|
| 1 ea | 1010A-1 | Mechanical Deadlock |
| 2 ea | Hinges | By Door Mfg |

PART 3 - EXECUTION

3.1 GENERAL

- A. Comply with requirements of Division 11 Section “Basic Detention Equipment Requirements.”

3.2 INSTALLATION

- A. Comply with requirements of Division 11 Section “Basic Detention Equipment Requirements.”
- B. All shipping of detention equipment hardware and coordination with other detention equipment shall be the responsibility of the Detention Equipment Supplier.

3.3 FIELD QUALITY CONTROL

- A. Comply with requirements of Section “Basic Detention Equipment Requirements.”

3.4 ADJUSTMENT AND REPAIRING

- A. Comply with requirements of Section “Basic Detention Equipment Requirements.”

3.5 PROTECTION AND CLEANING

- A. Comply with requirements of Section, “Basic Detention Equipment Requirements.”

END OF SECTION