

## SECTION 087100 - DOOR HARDWARE

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

1. Door Finish Hardware for hollow steel and wood doors.
2. Door Finish Hardware for fire rated doors.
3. Door Finish Hardware for aluminum storefront doors.
4. Electrified door hardware.
5. Thresholds, weatherstripping, seals and door gaskets.

#### 1.2 RELATED SECTIONS

1. Division 05 Section "Metal Fabrications" for door access-related bollards.
2. Division 06 Section "Miscellaneous Rough Carpentry."
3. Division 08 Section "Hollow Metal Doors and Frames."
4. Division 08 Section "Flush Wood Doors."
5. Division 08 Section "Aluminum Framed Entrances and Storefronts" for entrance doors to receive hardware specified in this Section including cylinders.
6. Division 16 Sections for connections to electric al power system and for low-voltage wiring work.
7. Division 16 Section "Fire Detection and Alarm" for connections to building fire alarm system.

#### 1.3 REFERENCES

1. ANSI/ICC A117.1 – Standard for Accessibility and Usable Buildings and Facilities; 2003
2. BHMA A156.1 – Standard for Butts and Hinges; 2000
3. BHMA A156.3 – Standard for Exit Devices; 2001
4. BHMA A156.4 – Standard for Door Controls-Closers; 2000
5. BHMA A156.6 – Standard for Architectural Door Trim; 2001
6. BHMA A156.7 – Standard for Template Hinge Dimensions; 2003
7. BHMA A156.8 – Standard for Door Controls-Overhead Stops and Holders; 2000
8. BHMA A156.13 – Standard for Mortise Locks and Latches; 2002
9. BHMA A156.16 – Standard for Auxiliary Hardware; 2002
10. BHMA A156.18 – Standard for Material and Finishes; 2000
11. BHMA A156.19 – Standard for Power Assist and Low Energy Power Operated Doors; 2007
12. BHMA A156.21 – Standard for Thresholds; 2001
13. BHMA A156.22 – Standard for Door Gasketing Systems; 2003
14. BHMA A156.23 – Standard for Electromagnetic Locks; 1999
15. BHMA A156.25 – Standard for Electrified Locking Devices; 2002

16. BHMA A156.26 – Standard for Continuous Hinges; 2000
17. BHMA A156.28 – Standard for Keying Systems; 2000
18. BHMA A156.31 – Standard for Electric Strikes and Frame Mounted Actuators; 2001
19. DHI A115 Series – Specification for Steel Door and Frame Preparation for Hardware; Door and Hardware Institute; current edition
20. DHI (LOCS) – Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; Door and Hardware Institute; 1990
21. NFPA 80 – Standard for Fire Doors and Fire Windows; National Fire Protection Association; 2007
22. NFPA 101 – Code for Safety to Life from Fire in Buildings and Structures; National Fire Protection Agency; 2006
23. UL (BMD) – Building Materials Directory; Underwriters Laboratory, Inc.; current edition

#### 1.4 SUBMITTALS

##### A. Shop Drawings:

1. Submit six (6) copies of the hardware schedule in vertical format as illustrated by the Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Schedules which do not comply will be returned for correction before checking. The hardware schedule shall clearly indicate the architect's hardware set and manufacturer of each proposed item. The schedule shall be reviewed prior to submission by a certified Architectural Hardware Consultant, who shall affix his or her seal attesting to the completeness and correctness of the hardware schedule.
2. Provide two (2) copies of illustrations from the manufacturers catalogs and data in brochure form.
3. Check specified hardware for suitability and adaptability to details and surrounding conditions. Indicate unsuitable items and proposed substitutions in the hardware schedule.
4. Furnish hardware samples for design and finish as requested by the architect. These samples may remain part of the project as long as product is protected from damage and remain in new condition.
5. Provide a keying schedule using keyset symbols referenced in the Door and Hardware Institute manual "Keying Systems and Nomenclature". The keying schedule shall be indexed by door number, keyset and hardware heading number and shall include cross keying instructions and special stamping instructions.

6. Provide a complete and detailed system of operating and elevation diagrams specifically developed for each opening requiring electrified hardware, except openings where only magnetic hold-opens and door position switches are specified. Provide these diagrams with the hardware schedule submittal, for approval. The following shall be included:

- a. System schematic
- b. Point to point wiring diagram
- c. Riser diagram
- d. Elevation of each door
- e. Detail interface between electrified hardware and associated trades

B. Manufacturers Installation Instructions:

1. Provide manufacturers written installation and adjustment instructions for each item of hardware. Send installation instructions to the site with hardware.

C. Maintenance Data:

1. Submit three (3) sets of operating and maintenance manuals containing the following information:
- a. Complete information in the care, maintenance, lubrication, adjustment and preservation of finishes.
  - b. Data on repair and replacement parts.
  - c. Catalog pages for each product.
  - d. Name, address and phone number of the local representative for each manufacturer.

D. Keys:

1. Deliver with identifying tags to the Owner by security shipment direct from the hardware supplier.

E. Warranty:

1. Submit manufacturers written warranty and assure that forms have been completed in the Owners name and registered with the manufacturer.

## 1.5 QUALITY ASSURANCE

A. Perform work in accordance with the following requirements:

1. NFPA 101
2. NFPA 80

- B. **Manufacturers Qualifications:** Company specializing in manufacturing the products specified in this section with a minimum of ten (10) years of documented experience. Obtain each item of hardware (i.e. hinges, latch and locksets, exit devices, closers) from a single manufacturer, although several may be indicated as offering products complying with requirements.
- C. **Hardware Supplier Qualifications:** Company specializing in supplying commercial door hardware with a minimum of ten (10) years of documented experience. The hardware supplier shall have warehousing facilities with-in 100 miles of the project and employ a certified Architectural Hardware Consultant. This consultant shall be available to the architect and general contractor during normal operating hours.
- D. **Substitutions:** Manufacturers and model numbers listed are to establish a standard of quality and design. Any substitution of products not listed in the specifications must be approved by the architect ten (10) days prior to bid date to allow sufficient time for addendum to be added to the bid documents. All requests are to be in accordance with Division 1, General Requirements and are to be in writing, hand delivered to the architect. All requests are to be accompanied by three (3) copies of the manufacturers brochures and a physical sample of each item in the appropriate design and finish.
- E. Six (6) months after substantial completion of the project a factory representative of the provided material shall perform a jobsite walk through. This will be done to determine if products are performing as recommended by the manufacturer and meet all fire and life safety requirements. Deficiencies due to installation shall be corrected by the general contractor and defective material shall be replaced by the hardware distributor.

## 1.6 REGULATORY REQUIREMENTS

- A. Conform to applicable code for requirements pertaining to fire rated doors and frames.
- B. **All Hardware on Fire Rated Doors:** Listed and classified by UL as suitable for the purpose specified and indicated.

## 1.7 PRE-INSTALLATION MEETING

- A. Convene one (1) month prior to commencing work of this section with the owner to establish final keying and masterkey groups.
- B. Prior to installation of the hardware, manufacturers representatives for locksets, exit devices and closers shall arrange and hold a jobsite meeting to instruct the installing contractors personnel on the proper installation of their respective products. A letter of compliance, indicating when this meeting is held and who is in attendance, shall be sent to the architect and owner.

- C. The general contractor shall arrange a meeting with the architect and owner to establish security requirements for this project. This meeting shall be conducted prior to erection of interior and exterior partitions to establish wire runs and location of junction boxes and power supplies.

#### 1.8 DELIVERY, STORAGE AND PROTECTION

- A. Package hardware items individually; label and identify each package with door number and hardware item code to match the hardware schedule.
- B. Deliver, store and handle packaged hardware to prevent damage to finishes and deterioration in the product due to the elements.
- C. Inventory door hardware upon receipt and provide a secure lock-up.

#### 1.9 COORDINATION

- A. Coordinate the work with other trades directly affected involving the manufacture or fabrication of internal reinforcement for door hardware.
- B. Furnish two (2) complete sets of templates for door and frame preparation with copies of the final approved hardware schedule. Submit necessary templates and schedules as soon as possible to the hollow metal, wood door and aluminum door (if applicable) fabricators so as not to delay production.
- C. Coordinate Owners keying requirements during the course of the work.
- D. The general contractor shall be responsible for coordination of all Electrical System rough-in and connections to electrified door hardware.
- E. For an aluminum door hardware quotation (if required as a separate contract) contact Akron Hardware Consultants, Inc. [www.akronhardware.com](http://www.akronhardware.com), (800) 321-9602

#### 1.10 WARRANTY

- A. The warranty period shall be one (1) year from the date of substantial completion for all items of hardware unless noted otherwise.
- B. The warranty period for exit devices shall be five (5) years from the date of substantial completion.
- C. The warranty period for manual door closers shall be ten (10) years from the date of substantial completion.

- D. All manufacturers screws and attachments supplied with each hardware item must be installed to maintain the warranty.

#### 1.11 MAINTENANCE PRODUCTS

- A. Provide special wrenches and tools as applicable to each different or special hardware component.
- B. Provide maintenance tools and accessories supplied by the hardware component manufacturer.
- C. Furnish three (3) dozen extra screws and other fasteners of each size, type and finish used with the hardware items provided. These screws and fasteners are to be delivered to the hardware installer for use during installation. All extra screws and fasteners and all special installation tools furnished with the hardware shall be turned over to the owner at the completion of the project.

### PART 2 - PRODUCTS

#### 2.1 ACCEPTABLE MANUFACTURERS

##### A. Hinges:

1. McKinney Products Company (MC)
2. Bommer Industries, Inc. (BM)
3. Lawrence Brothers (LA)

##### B. Continuous Hinges:

1. McKinney Products Company (MC)
2. Markar Architectural Products, Inc. (MA)
3. Zero International (ZE)

##### C. Floor Closers and Pivots:

1. Rixson (RX)
2. Chase Doors (CH)
3. Jackson Corporation (JA)

##### D. Latchsets and Locksets:

1. Corbin Russwin ML2000 Series (CR)
2. Sargent Manufacturing Company 8200 Series (SA)
3. Yale Commercial Locks and Hardware 8800 Series (YA)

- E. Exit Devices:
  - 1. Corbin Russwin ED5000 Series (CR)
  - 2. Sargent Manufacturing Company 80 Series (SA)
  - 3. Yale Commercial Locks and Hardware 7100 Series (YA)
  
- F. Push/Pulls:
  - 1. McKinney Products Company (MC)
  - 2. Hiawatha, Inc. (HI)
  - 3. Trimco (TR)
  
- G. Manual Door Closers:
  - 1. Corbin Russwin DC3000/DC6000 Series (CR)
  - 2. Sargent Manufacturing Company 1431/351 Series (SA)
  - 3. Yale Commercial Locks and Hardware 3501/4400 Series (YA)
  
- H. Automatic Door Openers and Press Wall Switches:
  - 1. Rixson (RX)
  - 2. Norton Door Controls (NO)
  
- I. Overhead Stops and Holders:
  - 1. Rixson (RX)
  - 2. Rockwood Manufacturing Company (RO)
  - 3. Sargent Manufacturing Company (SA)
  
- J. Protection Plates:
  - 1. McKinney Products Company (MC)
  - 2. Hiawatha, Inc. (HI)
  - 3. Trimco (TR)
  
- K. Door Stops:
  - 1. McKinney Products Company (MC)
  - 2. Door Controls International (DC)
  - 3. Trimco (TR)
  
- L. Thresholds:
  - 1. McKinney Products Company (MW)
  - 2. Pemko Manufacturing Company (PE)
  - 3. Zero International (ZE)

- M. Gasketing and Door Bottoms:
1. McKinney Products Company (MW)
  2. Pemko Manufacturing Company (PE)
  3. Zero International (ZE)
- N. Electric Strikes:
1. Hanchett Entry System (HS)
  2. Folger Adam (FO)
  3. Rofu International Corporation (RF)
- O. Electromagnetic Locks:
1. Securitron Security Hardware (SN)
  2. Folger Adam (FO)
  3. Sargent Manufacturing Company (SA)
- P. Door Position Switches:
1. Securitron Security Hardware (SN)
  2. Folger Adam (FO)
  3. Sargent Manufacturing Company (SA)
- Q. Card Access Systems:
1. Corbin Russwin Access 800 Series (CR)
  2. Sargent Manufacturing Company Profile Series (SA)
- R. Knox Box For Fire Department Use:
1. Knox Company (KN), 3200 Series Hinged Door Model to hold access card; Recess mounted in brick veneer; Dark bronze finish.
- S. Key Cabinet:
1. Telkee (TE)
  2. Aladin (AD)
  3. Lund (LU)
- T. Bollards incorporating card reader access and automatic door push plate switches:
1. Specified under Division 05 Section "Metal Fabrications" but to be installed under this section.

## 2.2 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS

- A. Provide products that comply with the following:
  - 1. Applicable provisions of Federal, State and local codes.
  - 2. ANSI/ICC A117.1 American National Standards for Accessible and Usable Buildings and Facilities.
  - 3. Applicable provisions of NFPA 101 Life Safety Codes.
  - 4. Applicable provisions of NFPA 80 Fire Rated Doors.
  - 5. All hardware on fire rated doors and frames as listed and classified by UL as suitable for the purpose specified and indicated.
- B. Finishes: Identified in the hardware sets at the end of this section.

## 2.3 HINGES

- A. Provide hinges as specified in the hardware sets, with the following provisions:
  - 1. Provide non-removable pin (NRP) feature, utilizing a pointed set screw, at exterior openings and where listed in the hardware sets.
  - 2. Provide electric hinges with standardized wire colors and concealed plug connectors to accommodate up to 12 wires.
  - 3. Coordinate plug connectors so they plug directly into a wiring harness for connection to electric locking devices and power supplies.
  - 4. Provide hinges of original manufacturer only. Aftermarket or third party modification and/or electrification of hinges is not acceptable.
  - 5. Screws shall be flat-head Phillips finished to match the hinge.
  - 6. Drill 5/32 inch hole and use No. 12 x 1-1/4 inch steel threaded to the head wood screws provided by the manufacturer for wood doors.

## 2.4 PIVOTS

- A. Provide pivots as specified in the hardware sets, with the following provisions:
  - 1. Pivot sets shall be selected based upon the weight of the door.
  - 2. Intermediate pivots shall allow for vertical door adjustment with shims at bottom arm.
  - 3. Pivots tested and approved for use for fire rated doors shall have a steel base material plated to the specified finish. Where non-rated or 20 minute rated doors are listed, provide pivots of cast brass or bronze.
  - 4. Provide pivots of the same manufacturer as the floor closer to insure visible components match in appearance and adjustability.

## 2.5 MORTISE LOCKSETS

- A. Provide lock functions and trim as specified in the hardware sets, with the following provisions:
1. Backsets: 2-3/4 inches.
  2. Locks shall have field adjustable, beveled armored front, with a 1/8 inch thickness minimum.
  3. Cylinders shall be manufacturers restricted keyway, six pin.
  4. Latchbolt shall be solid one-piece 3/4 inch throw anti-friction stainless steel.
  5. Deadbolt shall be a full one inch throw made of stainless steel and have two (2) hardened steel roller inserts.
  6. Strikes: Provide wrought boxes and strikes with proper lip length to protect trim but not to project more than 1/8 inch beyond trim, frame or inactive leaf.
  7. Power supplies for electrified mortise locks shall be furnished by the lockset manufacturer. Provide the least number of power supplies required to adequately serve doors with electrified mortise locks.

## 2.6 EXIT DEVICES

- A. Provide exit device series and functions as specified in the hardware sets, with the following provisions:
1. All exit devices shall be UL listed for panic. Exit devices for labeled doors shall be UL listed as "Fire Exit Hardware".
  2. Where lever trim is specified, provide lever design to match lockset levers. Exit device lever trim shall withstand 1000 inch pounds of torque without allowing access and be free-wheeling where listed.
  3. Provide cylinders for exit devices with locking trim and cylinder dogging. Cylinders shall be manufacturers restricted keyway, six pin.
  4. All exit devices shall be heavy duty push rail and cast chassis type construction. Mounting rails shall be formed from a solid single piece of stainless steel, brass or bronze not less than .072 inches thick. Painted or anodized aluminum shall not be considered heavy duty and are not acceptable.
  5. Provide cylinder dogging feature for all non-rated exit devices.
  6. Power supplies for electrified exit devices shall be furnished by the exit device manufacturer. Provide the least number of power supplies required to adequately serve doors with electrified exit devices.

## 2.7 KEYING

- A. All locks and cylinders to be Grandmaster or Masterkeyed to a new restricted keyway key system as required by the owner.
- B. All locks and cylinders to be construction masterkeyed using the lost ball method.
- C. Keying requirements to be coordinated and completed at factory to protect the integrity of the system. Field keying will not be permitted and will be considered as just cause for rejection of supplier.
- D. Cylinders shall be an integral part of the locks as manufactured by specified lock supplier. Substitution of foreign made cylinders or components will not be allowed and also will be cause for rejection of supplier.
- E. All cylinders to be furnished with the manufacturers standard six pin tumbler.
- F. Provide quantities of keys as follows:
  - 1. Six (6) each grandmasterkeys
  - 2. Six (6) each masterkeys each group
  - 3. Ten (10) each construction masterkeys
  - 4. Three (3) each change keys per lock or cylinder
- G. Provide nickel-silver keys.
- H. All keys to be stamped with the keyset symbol and "DO NOT DUPLICATE"
- I. Provide a factory issued bitting list indicating the key cut numbers corresponding with the keyset symbol.
- J. Provide a key control system BHMA grade 1 including key holding hooks, labels, two sets of key tags with self-locking key holders, key gathering envelopes and temporary and permanent markers. Contain system in a metal cabinet with baked enamel finish and locking hardware. The general contractor shall verify that the key cabinet is installed per the owners location.
  - 1. Furnish a wall mounted cabinet with hinged panel door equipped with key holding panels and pin tumbler cylinder door lock.
  - 2. Furnish key holding capacity for 250 percent of the number of locks and cylinders.
  - 3. Furnish a cross index system.
  - 4. Key cabinet to be set-up by the hardware supplier and to include three-way indexing paper schedules in a hard bound binder, CD-ROM disc copy, tagging of change keys and installing tags on the key cabinet hooks.

- K. The hardware supplier shall review the key system with the owners representative after all of the operating keys have been tested in all cylinders by the general contractor, and the construction masterkeying is voided.

## 2.8 CLOSERS

- A. Provide non-sized closers, adjustable to meet maximum opening force requirements of ADA.
- B. Heavy duty arms shall be provided with cast iron heavy duty soffit brackets. Stamped bracket material will not be acceptable.
- C. Provide drop plates, brackets or adaptors for door and frame as required to suit conditions.
- D. Mount closers on room side of corridor doors, interior of exterior doors and stair side of stairway doors, unless noted otherwise.
- E. Provide back-check for all closers.
- F. Back-check and delayed-action feature (where specified) shall be provided with a standard pressure relief valve to protect the door from excessive force.
- G. Closing speed, latching speed and back-check shall be controlled by separate key operated valves. All valves to be captivated.
- H. Closer covers shall be of high impact plastic material of flame retardant grade, secured by machine screws. Projection of the closer body from the door shall not exceed 2-3/16 inches.

## 2.9 FLOOR CLOSERS

- A. Provide floor closers as specified in the hardware sets, with the following provisions:
  - 1. Floor closers shall be furnished with a rust proof cycolac cement case. Furnish four machine screws for attachment.
  - 2. Floor closers shall have a helical torsion spring with adjustable spring power. Double acting closers shall have adjustable independent springs and closing speed valves for each direction of door swing. Compression springs will not be acceptable.
  - 3. Floor closers shall have independent adjustment valves for closing speed, latch speed, back check and delayed action. All features shall be adjustable without removing the door or threshold. Separate and independent piston and cylinder for hydraulic back check shall be provided. Dual action valves are not acceptable.

4. Provide non-hold open units unless otherwise listed in the hardware sets. Where hold open units are required, furnish closers designed for specific degree of opening built into the spindle assembly and at same point as the dead stop. Where hold open is listed, provide one of the following:
  - a. AHO – Automatically holds open at the specified degree.
  - b. SHO – Selective hold open may be switched ON/OFF by a separate valve
5. Provide floor closers with permanent solid one-piece non-removable spindles that allow vertical adjustment of the door. Provide specific size extended one piece spindles to match the undercut of the door.
6. For exterior doors, provide floor closers with built-in dead stop and installed with overhead stop; coordinated to provide simultaneous cushion and dead stop at the top and bottom of the door. Closers, pivots and overhead stops shall be of the same manufacturer to assure proper templating and door coordination.
7. Where closers are indicated for doors required to be accessible to the physically disabled (PH prefix), provide units complying to ICC/ANSI A117.1, or other governing codes and standards, with provisions for opening force and delayed action closing.
8. Exterior doors shall be provided with sealed cement cases.
9. Provide floor closers of the same manufacturer as pivot sets to insure visible components match in appearance and adjustability.
10. Floor closers shall have the capability of being shimmed without removing the door.
11. Provide one 185 “Quickspotter” or similar device for each four floor closers furnished.

## 2.10 AUTOMATIC DOOR OPENERS

- A. Low energy openers shall have the following adjustments:
  1. Motor assist shall be adjustable from 0-30 seconds in five second increments.
  2. Door control shall be adjustable to provide compliance with the requirements of the Americans with Disabilities Act (ADA).
  3. Door closing force and back check shall be adjustable.
  4. Motor start up delay.
  5. Vestibule interference delay.
  6. Electric lock delay.
  7. Door hold open delay up to 30 seconds.

- B. Opener shall be for opening the door only. Opener shall be used in conjunction with floor closer that has separate and independent closing speeds with back-check turned to the lightest setting.
- C. All opener units shall have a three position selector mode switch that shall permit units to be switched "ON" to monitor for function activation, "HO" for indefinite hold open function, or "OFF" which shall deactivate all control functions but will allow standard door operations by means of the floor closer.
- D. All openers shall have push and go function to activate power operator or power assist functions.
- E. All openers shall have inputs for smoke ventilation doors, which allow doors to power open upon fire alarm activation and hold open indefinitely or until fire alarm is reset.
- F. All opener units shall have a presence detector input to prevent a closed door from opening or a door that is fully opened from closing.
- G. All opener units shall have a hold open toggle input to allow remote activation for indefinite hold open; door shall close the second time the input is activated.
- H. All openers shall have vestibule inputs to allow for sequencing operation of two units.
- I. All openers shall have an SPDT relay for interfacing with latching or locking devices.

## 2.11 DOOR TRIM AND PROTECTIVE PLATES

- A. Kickplates shall be .050 gauge and two (2) inches less the door width at single openings, and one (1) inch less the door width at pairs of doors, unless otherwise specified. Push plates, pull plates, door pulls and miscellaneous door trim shall be as shown in the hardware sets.
- B. Provide all protection plates with countersunk screw holes and pan head machine or self tapping screws.

## 2.12 OVERHEAD STOPS AND HOLDERS

- A. Provide overhead stops and holders as specified in the hardware sets, with the following provisions:
  - 1. All overhead stops and holders shall be provided with extruded bronze channels and arms.
  - 2. All overhead stops and holders shall be provided with metal end caps finished to match the channel.

## 2.13 THRESHOLDS, WEATHERSTRIPPING AND DOOR SEALS

- A. Provide thresholds as specified in the hardware sets, with the following provisions:
1. Refer to drawings for special details. Provide accessories, shims and fasteners.
  2. Where thresholds are indicated to be used with floor closers or pivots, they shall be provided by the same manufacturer. Thresholds shall be fluted on ramp portion.
  3. Provide machine screws and expansion bolts for all thresholds at concrete floors.
  4. Provide self-tapping fasteners for weatherstripping and door seals being applied to hollow metal frames.
  5. Where thresholds are specified at openings exposed to pools or high corrosive areas stainless steel or zinc plated fasteners shall be provided.

## 2.14 ELECTRIC STRIKES

- A. Provide electric strikes as specified in the hardware sets with the following provisions:
1. All electric strikes shall exceed BHMA standard 501, Grade 1, and shall be UL listed for Burglary Resistance 1034.
  2. Electric strikes shall be constructed of stainless steel for corrosion resistance, strength and durability.
  3. Mortise electric strikes shall have been tested to withstand a forcing strength of 3,000 pounds and a minimum of two million cycles of operation.
  4. Electric strikes shall be furnished with one (1) 2004 SMART Pac II for each electric strike.
  5. Electric strikes shall have a five (5) year limited warranty.

## 2.15 ELECTROMAGNETIC LOCKS

- A. Provide electromagnetic locks as specified in the hardware sets with the following provisions:
1. Electromagnetic locks shall be produced by an ISO 9001 certified manufacturer.
  2. Electromagnetic locks shall have a minimum holding force of 1200 LBF.
  3. Electromagnetic locks shall operate using dual voltage accepting 12VDC or 24VDC without the alteration of any settings at the time of installation.
  4. Electromagnetic locks shall be equipped with an SPDT magnetic bond sensing device to monitor whether sufficient magnetic holding force exists to ensure adequate locking. The bond sensor shall be fully concealed within the electromagnet to resist tampering or damage.
  5. Electromagnetic locks shall be equipped with a concealed adjustable time delay option to re-lock the door within one to 90 seconds.
  6. The strike plate shall be mounted using a steel sex bolt and roll pins to provide a floating movement to ensure automatic self-alignment with the lock.

7. Power supplies for electromagnetic locks shall be furnished by the lockset manufacturer. Provide the least number of power supplies required to adequately serve doors with electromagnetic locks.
8. Provide a lifetime warranty for all electromagnetic locks and accessories.

#### 2.15 CARD ACCESS SYSTEMS

- A. Provide a complete system to include proximity card readers, proximity controllers and powers supplies at each specified opening. Reader to mount to wall and have a four inch read range.
- B. Proximity cards are not to exceed 2 ½" x 3 ½" x .065 size.
- C. Include system components to allow for user training and customized development of each opening.
- D. Proximity reader and proximity cards to have a lifetime warranty.

#### 2.16 KNOX BOX

- A. Provide manufacturer's recess mounting for model specified. Secure box in masonry recess by fastening to galvanized steel plate mounted to rear side of masonry.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify that doors and frames are ready to receive work and dimensions are as instructed by the manufacturer.
- B. The general contractor shall ensure that the building is secured and free from weather elements prior to installing interior hardware. Examine hardware before installation to ensure it is free from defects.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION

- A. Install hardware in accordance with the manufacturers instructions and applicable codes. Where cutting and fitting is required to install hardware onto or into surfaces that are later to be painted or finished in any other way, coordinate removal, storage and reinstallation or application of surface protection with finishing work specified in Division 9 sections. Do not install surface mounted items until finishes have been completed on the substrates involved.
- B. Use templates provided by the hardware item manufacturer.
- C. Install hardware on fire rated doors and frames in accordance with code and NFPA 80.
- D. Set units level. Plumb and true to line and location. Adjust and reinforce attachment to substrate as necessary for proper installation and operation.
- E. Set thresholds for exterior and acoustical openings in full bed of butyl-rubber or polyisobutylene mastic sealant forming a tight seal between threshold and surface to which it is set.
- F. Boxed power supplies shall be located as indicated, or if not indicated, above accessible ceilings or in equipment rooms. Verify location with the architect.
- G. Wires pulled per riser diagrams and electrical equipment mounted per installation instructions. Contractor shall be responsible for systems start-up, programming and computer training to end user. Include wire runs, gang boxes and junction boxes for openings specified to have future card readers.
- H. Mounting heights for hardware from finished floor to centerline of hardware item:
  - 1. For steel doors and frames and wood doors comply with DHI Recommended Locations for Architectural Hardware for Steel Doors and Frames.
  - 2. Hardware locations for steel and wood doors shall be the same.

### 3.3 ADJUSTING

- A. Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilation equipment, and to comply with referenced accessibility requirements.
- B. Clean hardware surfaces soiled by installation or by work in adjacent areas.

3.4 PROTECTION OF FINISHED WORK

- A. Do not permit adjacent work to damage door hardware or finish.

3.5 DOOR HARDWARE SETS: CS – Core/Shell Doors; TF – Tenant Fit-out Doors

Base Building

SET # CS01

Doors: 1S-1

3 Hinge	T4A3786 4 1/2 X 4 1/2 NRP	P	MC
1 Fire Exit Device MK	ED5200A x PR955 x restricted keyway x CMK x		630
1 Closer	DC6210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Door Stop	FS29	US26D	MC
1 Door Seal	MCKS88 BL x 17'		MW

SET # CS02

Doors: 1S-2

1 Electric Continuous Hinge	MCK-25HD x 83" x ACC8	Clear	MC
1 Electric Latch Retraction Exit Device	ED5200 x P957 x M52 x M94 x restricted keyway x CMK x MK x 24VDC		630
1 Closer	DC6210 A3 M83	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Overhead Stop	9-336 x 90 deg	630	RX
1 Threshold	MCK2005 AV x 36" x 1/4-20 ms & la		MW
1 Door Seal	MCK316 AS (1pc-36" x 2pcs-84")		MW
1 Door Bottom Seal	MCK345 ANB x 36"		MW
1 Drip Strip	MCK346 C x 40"		MW
1 Proximity Card Reader	WM800		CR
1 Controller	781N		CR
1 Door Position Switch	DPS-M-BK		SN
1 Wiring Diagram	Furnished by hardware supplier		XX

- Card reader to be used by authorized persons to gain entry from the exterior side of the opening.
- Card reader to be used to retract the latch of the electric latch retraction exit device

SET # CS03

Doors: 1001

2 Floor Closer	27SHO x 90 deg x SC x less floor plate	626	RX
2 Intermediate Pivot	M19	626	RX
2 Push/Pull Bar mounting	PB812 x 32" center to center x Type G/N	US32D	MC
1 Automatic Door Opener <i>(For RHR leaf of pair only)</i>	2910 x 120VAC	689	RX
2 Press Wall Switch	29669 x 24VDC		RX
2 Overhead Stop	1-336 x 90 deg	630	RX
1 Threshold	Type 5 x 400 x 72" x 1/4-20 ms & la	AL	RX
2 Door Bottom Seal	MCK345 ANB x 36"		MW
1 Astragal	(2) MCK297 AS x 84"		MW
1 Drip Strip	MCK346 C x 76"		MW
2 Electromagnetic Lock	M62-B x 24VDC	US32D	SN
1 Motion Sensor	XMS x 24VDC		SN
1 Emergency Push Button	EEB2 X 24VDC		SN
1 Proximity Card Reader	WM800		CR
1 Power Supply	BPS-24-1		SN
1 Digital Timer	DT-7		SN
1 Battery Back-up	B-24-5		SN
1 Wiring Diagram	Furnished by hardware supplier		XX
1 Knox Box	3200 x recessed mount x RMK		KN

- Door seal furnished by frame manufacturer.
- Card reader to be used by authorized persons to gain entry from the exterior side of the opening during after-hours operation.
- Card reader to be used to deactivate the electromagnetic locks and allow for use of the exterior press wall switch.
- Digital timer to be used to deactivate the electromagnetic locks and activate the exterior press wall switch for normal operation and activate the electromagnetic locks and deactivate the exterior press for after hours operation.
- Motion sensor to be used to deactivate the electromagnetic locks and allow for immediate egress at all times.
- Interior press wall switch to deactivate the electromagnetic locks and activate the automatic door opener at all times.
- Automatic door opener to work simultaneously with opener in Hardware Set 4.
- Both card reader and push plate switch, activating automatic door operator, are to be mounted in customized steel bollards furnished under Division 05 Section "Metal Fabrications but to be installed under this section.
- Knox Box to be recessed in masonry pier identified on plans.

SET # CS04

Doors: 1002

2 Floor Closer	27SHO x 90 deg x less floor plate	626	RX
2 Intermediate Pivot	M19	626	RX
2 Push/Pull Bar mounting	PB812 x 32" center to center x Type G/N	US32D	MC
1 Automatic Door Opener <i>(For RHR leaf of pair only)</i>	2910 x 120VAC	689	RX
1 Press Wall Switch	29669 x 24VDC		RX
2 Overhead Stop	1-336 x 90 deg	630	RX
1 Threshold	Type 5 x 400 x 72" x 1/4-20 ms & la	AL	RX
2 Door Bottom Seal	MCK18062 CNB x 36"		MW
1 Astragal	(2) MCK297 AS x 84"		MW

- Door seal furnished by frame manufacturer
- Automatic door opener to work simultaneously with opener in Hardware Set 3

SET # CS05

Doors: 1002A, 1007A, 1007B, 2C-2, IC-1

3 Hinge	T4A3786 4 1/2 X 4 1/2 NRP	26D	MC
1 Office Lockset	ML2051 PSA x restricted keyway x CMK x MK	626	
1 Closer	DC3210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
1 Door Seal	MCKS88 BL x 17'		MW

SET # CS05.1

Doors: 2C-1, 2C-4A, 2C-4B

3 Hinge	T4A3786 4 1/2 X 4 1/2	26D	MC
1 Office Lockset	ML2051 PSA x restricted keyway x CMK x MK	626	
1 Closer	DC6200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
1 Door Seal	MCKS88 BL x 17'		MW

SET # CS06

Doors: 1003

3 Hinge	T4A3786 5 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK		626
1 Closer	DC3200	689	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET # CS07

Doors: 1004, 2001

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK		626
1 Closer	DC3200	689	CR
1 Wall Stop	WS01	US32D	MC
1 Door Seal	MCKS88 BL x 17'		MW

SET # CS07.1

Doors: 1005, 1006B

3 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK		626
1 Closer	DC3210 A3	689	CR
<i>(For door 1005 only)</i>			
1 Closer/Stop	DC3210 A4	689	CR
1 Wall Stop	WS01	US32D	MC
<i>(For door 1005 only)</i>			
1 Door Seal	MCKS88 BL x 17'		MW

SET # CS08

Doors: 1006A

3 Hinge	T4A3786 5 X 4 1/2 NRP	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK		626
1 Closer	DC3210 A3	689	CR
1 Wall Stop	WS01	US32D	MC
1 Door Seal	MCKS88 BL x 18'		MW

SET # CS09

Doors: 1007

2 Floor Closer	27SHO x 90 deg x less floor plate	626	RX
2 Intermediate Pivot	M19	626	RX
2 Push/Pull Bar mounting	PB812 x 32" center to center x Type G/N	US32D	MC
2 Overhead Stop	1-336 x 90 deg	630	RX
1 Threshold	Type 5 x 400 x 72" x 1/4-20 ms & la	AL	RX
2 Door Bottom Seal	MCK18062 CNB x 36"		MW
1 Astragal	(2) MCK297 AS x 84"		MW

- Door seal furnished by frame manufacturer

SET # CS10

Doors: 1008

2 Floor Closer	27SHO x 90 deg x SC x less floor plate	626	RX
2 Intermediate Pivot	M19	626	RX
2 Push/Pull Bar mounting	PB812 x 32" center to center x Type G/N	US32D	MC
2 Overhead Stop	1-336 x 90 deg	630	RX
1 Threshold	Type 5 x 400 x 72" x 1/4-20 ms & la	AL	RX
2 Door Bottom Seal	MCK345 ANB x 36"		MW
1 Astragal	(2) MCK297 AS x 84"		MW
1 Drip Strip	MCK346 C x 76"		MW
2 Electromagnetic Lock	M62-B x 24VDC	US32D	SN
1 Motion Sensor	XMS x 24VDC		SN
1 Emergency Push Button	EEB2 X 24VDC		SN
1 Proximity Card Reader	WM800		CR
1 Power Supply	BPS-24-1		SN
1 Digital Timer	DT-7		SN
1 Battery Back-up	B-24-5		SN
1 Wiring Diagram	Furnished by hardware supplier		XX

- Door seal furnished by frame manufacturer.
- Card reader to be used by authorized persons to gain entry from the exterior side of the opening during after-hours operation.
- Card reader to be used to deactivate the electromagnetic locks.
- Digital timer to be used to deactivate the electromagnetic locks for normal operation and activate the electromagnetic locks for after hours operation.
- Motion sensor to be used to deactivate the electromagnetic locks and allow for immediate egress at all times.
- Card reader to be mounted in customized bollard furnished under Division 05 Section "Metal Fabrications" but to be installed under this section.

SET # CS11

Doors: 2S-1, 2S-2

3 Hinge	T4A3786 4 1/2 X 4 1/2	P	MC
1 Fire Exit Device	ED5200A x PR910	630	CR
1 Closer	DC6200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Door Stop	FS29	US26D	MC
1 Threshold	MCK171 A x 36" x 1/4-20 ms & la		MW
1 Door Seal	MCKS88 BL x 17'		MW
1 Door Bottom Seal	MCK315 CN x 36"		MW

SET # CS12

Doors: 2002

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset MK	ML2057 PSA M21 x restricted keyway x CMK x		626
1 Closer	DC3200	689	CR
1 Door Stop	FS16	US26D	MC
1 Threshold	MCK171 A x 36" x 1/4-20 ms & la		MW
1 Door Seal	MCKS88 BL x 17'		MW
1 Door Bottom Seal	MCK234 AV x 36"		MW

SET # CS13

Doors: 2003

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK		626
1 Closer	DC3200	689	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET # CS-MISC

Doors: MISC

1 Software	Accessware CD-ROM 200		CR
1 Proximity Card	HID ProxCard II		CR
1 PDA	Palm Zire Z31		CR
1 Hours of Training	Furnished by hardware supplier-not to exceed eight hours		XX

Tenant

SET #TF01 - Corridor

Doors: 100C-1

6 Hinge	T4A3786 4 1/2 X 4 1/2 NRP	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
2 Flush Bolt	FB01M-12"	US26D	MC
1 Dust Proof Strike	DPS1	US32D	MC
1 Closer	DC3210 A3	689	CR
<i>(For active leaf of pair only)</i>			
1 Kickplate	KP50 8" x 35" CSK HB4E	US32D	MC
1 Kickplate	KP50 8" x 11" CSK HB4E	US32D	MC
2 Wall Stop	WS01	US32D	MC
2 Silencer	S1M		MC

Wood astragal furnished by door manufacturer

SET #TF02 - Corridor

Doors: 100C-4, 131B, 150C-4, 250C-4

3 Hinge	T4A3786 4 1/2 X 4 1/2 NRP	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Closer	DC6210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF02.1 - Corridor

Doors: 150A, 150B

3 Hinge	T4A3786 4 1/2 X 4 1/2	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Closer	DC6200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF03 - Triage

Doors: 102

3 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF03.1 - Classroom

Doors: 239

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF04 - Exam

Doors: 103, 104, 105

3 Hinge	T4A3786 5 X 4 1/2	26D	MC
1 Passage Set	ML2010 PSA	626	CR
1 Kickplate	KP50 8" x 46" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 47" CSK HB4E	US32D	MC
1 Door Stop	FS29	US26D	MC
3 Silencer	S1M		MC
1 Coat Hook	CH03	US26D	MC

SET #TF05 - Patient Toilet

Doors: 106, 115, 158, 159, 177B

1 Center Hung Pivot	370	626	RX
1 Privacy Set	ML2060 PSA x less strike	626	CR
1 Combination Strike & Stop	CSS-9 x required width x offset hung	26D	MC
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
1 Door Seal	MCK369 APK (1pc-36" x 2pcs-84")		MW

SET #TF06 - Pharmacy

Doors: 116

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x less strike x CMK x MK	626	CR
1 Electric Strike	1006 x 1000-KM x 24VDC x 2004	630	HS
1 Closer	DC3200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC
1 Proximity Card Reader	WM800		CR
1 Door Position Switch	DPS-W-BK		SN
1 Power Supply	BPS-24-1		CR
1 Wiring Diagram	Furnished by hardware supplier		XX

Card reader to be used by authorized persons to gain entry from the corridor side of the opening

Card reader to be used to activate the electric strike

SET #TF06.1 - Control

Doors: 165A

3 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x less strike x CMK x MK	626	CR
1 Electric Strike	1006 x 1000-KM x 24VDC x 2004	630	HS
1 Closer	DC3210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC
1 Proximity Card Reader	WM800		CR
1 Door Position Switch	DPS-W-BK		SN
1 Power Supply	BPS-24-1		CR
1 Wiring Diagram	Furnished by hardware supplier		XX

Card reader to be used by authorized persons to gain entry from the corridor side of the opening

Card reader to be used to activate the electric strike

SET #TF07 - Office

Doors: 118, 128, 129, 133, 202, 203, 212, 228, 229, 231, 232, 233, 234, 235, 236, 256, 259, 265, 117

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Office Lockset	ML2051 PSA x restricted keyway x CMK x MK	626	CR
1 Wall Stop	WS01	US32D	MC
1 Door Stop (For door 234 only)	FS29	US26D	MC
3 Silencer	S1M		MC
1 Coat Hook	CH03	US26D	MC

SET #TF08 - Janitor

Doors: 119

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF09 - Soiled Utility

Doors: 120

3 Hinge	T4A3786 4 1/2 X 4 1/2	26D	MC
1 Hospital Classroom Lockset	7837 PT x less cylinder x vertical paddle	32D	SA
1 Mortise Cylinder	1000-118-A02-6 x restricted keyway x CMK x MK	626	CR
1 Closer	DC6200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Door Stop	FS29	US26D	MC
3 Silencer	S1M		MC

SET #TF09.1 - Clean Utility

Doors: 122

3 Hinge	T4A3786 4 1/2 X 4 1/2 NRP	26D	MC
1 Hospital Classroom Lockset	7837 PT x less cylinder x vertical paddle	32D	SA
1 Mortise Cylinder	1000-118-A02-6 x restricted keyway x CMK x MK	626	CR
1 Closer	DC6210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF10 - Storage

Doors: 121

3 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
1 Closer	DC3210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF10.1 - Storage

Doors: 130, 163, 225, 227A, 237, 242

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
1 Closer	DC3200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF11 - Conference/Consulting

Doors: 126, 131A, 180, 211, 221, 222, 223, 224

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Passage Set	ML2010 PSA	626	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF12 - Toilet

Doors: 127, 254, 262

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Privacy Set	ML2060 PSA	626	CR
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF13 - Exam

Doors: 132

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Passage Set	ML2010 PSA	626	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF14 - Public Toilet

Doors: 240, 241, IBC102

3 Hinge	T4A3786 4 1/2 X 4 1/2	26D	MC
1 Privacy Set	ML2060 PSA	626	CR
1 Closer	DC6230	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF14.1 - Public Toilet

Doors: IBC103

3 Hinge	T4A3786 4 1/2 X 4 1/2	26D	MC
1 Privacy Set	ML2060 PSA	626	CR
1 Closer/Stop	DC6210 A11	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
3 Silencer	S1M		MC

SET #TF15 - Procedure

Doors: 151, 170, 171, 172, 251, 268

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC
1 Coat Hook	CH03	US26D	MC

SET #TF16 - Electric

Doors: 151A

6 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
2 Flush Bolt	FB01M-12"	US26D	MC
1 Dust Proof Strike	DPS1	US32D	MC
1 Closer/Stop (For active leaf of pair only)	DC3210 A4	689	CR
1 Overhead Stop (For inactive leaf of pair only)	10-136 x 90 deg	652	RX
2 Silencer	S1M		MC

Wood astragal furnished by door manufacturer

SET #TF17 - Changing

Doors: 153, 154, 160, 176

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Privacy Set	ML2060 PSA	626	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF18 - Trash

Doors: 155

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
1 Closer	DC3200	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
1 Threshold	MCK169 A x 36" x 1/4-20 ms & la		MW
1 Door Seal	MCKS88 BL x 17'		MW
1 Door Bottom Seal	MCK234 AV x 36"		MW

SET #TF19 - X-ray

Doors: 156

1 Intermediate Pivot	ML19	626	RX
1 Pivot	L147	626	RX
1 Hospital Classroom Lockset	74 7837 PT x less cylinder x vertical paddle	32D	SA
1 Mortise Cylinder	1000-118-A02-6 x restricted keyway x CMK x MK	626	CR
1 Kickplate	KP50 8" x 46" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 47" CSK HB4E	US32D	MC
1 Door Stop	FS29	US26D	MC
3 Silencer	S1M		MC

Lead lined door

SET #TF20 - X-ray/CT Scan

Doors: 157, 166

2	Pivot	L147	626	RX
2	Intermediate Pivot	ML19	626	RX
1	Hospital Classroom Lockset	74 7837 PT x less cylinder x vertical paddle	32D	SA
1	Mortise Cylinder	1000-118-A02-6 x restricted keyway x CMK x MK	626	CR
2	Flush Bolt	FB01M-12"	US26D	MC
1	Dust Proof Strike	DPS1	US32D	MC
1	Kickplate	KP50 8" x 47" CSK HB4E	US32D	MC
1	Kickplate	KP50 8" x 23" CSK HB4E	US32D	MC
1	Mop Plate	KP50 4" x 47" CSK HB4E	US32D	MC
1	Mop Plate	KP50 4" x 23" CSK HB4E	US32D	MC
2	Door Stop	FS29	US26D	MC
2	Silencer	S1M		MC

Lead lined door

Lead lined astragal furnished by door manufacturer

SET #TF21 - Toilet

Doors: 157A

1	Pivot	L147	626	RX
1	Intermediate Pivot	ML19	626	RX
1	Privacy Set	ML2060 PSA M29	626	CR
1	Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1	Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1	Wall Stop	WS01	US32D	MC
3	Silencer	S1M		MC

Lead lined door

SET #TF22 - Work Room

Doors: 161

1 Pivot	L147	626	RX
1 Intermediate Pivot	ML19	626	RX
1 Office Lockset	ML2051 PSA M29 x restricted keyway x CMK x MK	626	CR
1 Closer	DC3200 x lead lined cover	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
1 Door Seal	MCKS88 BL x 17'		MW

Lead lined door

SET #TF23 - Control/Staff Lounge

Doors: 162, 166A

1 Pivot	L147	626	RX
1 Intermediate Pivot	ML19	626	RX
1 Passage Set	ML2010 PSA M29	626	CR
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

Lead lined door

SET #TF24 - MRI

Doors: 164

1 Proximity Card Reader	WM800		CR
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Lead lined door

Balance of hardware furnished by door manufacturer

SET #TF25 - MRI

Doors: 164A

Lead lined door

All hardware furnished by door manufacturer

SET #TF26 - Supplies

Doors: 167A, 167B

6 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
1 Dummy Lever	ML2050 PSA	626	CR
2 Flush Bolt	FB01M-12"	US26D	MC
1 Dust Proof Strike	DPS1	US32D	MC
2 Overhead Stop	10-236 x 90 deg	652	RX
2 Silencer	S1M		MC

Wood astragal furnished by door manufacturer

SET #TF27 - Storage

Doors: 168A

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Storeroom Lockset	ML2057 PSA x restricted keyway x CMK x MK	626	CR
1 Door Stop	FS29	US26D	MC
3 Silencer	S1M		MC

SET #TF28 - Changing

Doors: 174, 175

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Privacy Set	ML2060 PSA	626	CR
1 Overhead Stop	10-336 x 90 deg	652	RX
3 Silencer	S1M		MC

SET #TF29 - Toilet

Doors: 177A

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Privacy Set	ML2060 PSA	626	CR
1 Kickplate	KP50 4" x 34" CSK HB4E	US32D	MC
1 Mop Plate	KP50 4" x 35" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF30 - Ultrasound

Doors: 178, 179

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Overhead Stop (Pull side mount)	10-336 x 90 deg x 545X	652	RX
3 Silencer	S1M		MC

SET #TF30.1 - Coats/Supply

Doors: 253

3 Hinge	TA2714 4 1/2 X 4 1/2 NRP	26D	MC
1 Classroom Lockset	ML2055 PSA x restricted keyway x CMK x MK	626	CR
1 Overhead Stop	10-336 x 90 deg	652	RX
3 Silencer	S1M		MC

SET #TF31 - Corridor

Doors: 150C-3

5 Hinge	T4A3786 5 X 4 1/2	26D	MC
1 Electric Hinge (Install at middle hinge-active leaf only)	T4A3786 5 X 4 1/2 QC8	26D	MC
1 Mortar Guard	MG-16	2C	MC
1 Electrified Lockset	ML20905 PSA x restricted keyway x CMK x MK x 24VDC	626	CR
2 Flush Bolt	FB01M-12"	US26D	MC
1 Dust Proof Strike	DPS1	US32D	MC
1 Closer (For active leaf of pair only)	DC6200	689	CR
1 Kickplate	KP50 8" x 47" CSK HB4E	US32D	MC
1 Kickplate	KP50 8" x 23" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
1 Door Stop	FS29	US26D	MC
2 Silencer	S1M		MC
1 Proximity Card Reader	WM800		CR
2 Door Position Switch	DPS-W-BK		SN
1 Power Supply	BPS-24-1		CR
1 Wiring Diagram	Furnished by hardware supplier		XX

Wood astragal furnished by door manufacturer  
 Card reader to be used by authorized persons to gain entry from the push side of the opening  
 Card reader to be used to unlock the outside lever of the electrified lockset

SET #TF32 - Copy

Doors: 201

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Passage Set	ML2010 PSA	626	CR
1 Overhead Stop (Pull side mount)	10-336 x 90 deg x 545X	652	RX
3 Silencer	S1M		MC

SET #TF33 - Multipurpose

Doors: 226, 227

3 Hinge	T4A3786 4 1/2 X 4 1/2 NRP	26D	MC
1 Fire Exit Device	ED5200A x PR955 x restricted keyway x CMK x MK	630	CR
1 Closer	DC6210 A3	689	CR
1 Kickplate	KP50 8" x 34" CSK HB4E	US32D	MC
1 Wall Stop	WS01	US32D	MC
3 Silencer	S1M		MC

SET #TF34 - Exam

Doors: 238, 255, 257, 258, 260, 261, 264, 266, 267, 269

3 Hinge	TA2714 4 1/2 X 4 1/2	26D	MC
1 Passage Set	ML2010 PSA	626	CR
1 Overhead Stop (Pull side mount)	10-336 x 90 deg x 545X	652	RX
3 Silencer	S1M		MC
1 Coat Hook	CH03	US26D	MC

END OF SECTION