# SECTION 08 70 00
# HARDWARE

## PART 1 - GENERAL:

### 1.1 SUMMARY

A. This section includes the following:

1. Commercial door hardware.
2. Electrified door hardware.

B. Substitutions:

1. The quality of all items of hardware has been clearly indicated by the manufacturer's name and product number. Only products as listed in the hardware schedule are acceptable.

### 1.2 REFERENCES

A. Door & Hardware Institute (DHI):

1. Recommended Locations for Builders Hardware for Standard Steel Doors and Frames, 1990 Edition.
2. Scheduling Sequence and Scheduling Format.
3. Processing Hardware Schedules and Templates.

B. Commonwealth of Virginia Construction Code:

1. 2012 Edition.

C. National Fire Protection Association (NFPA):

1. Standard No. 80 "Fire Doors & Windows", 2010 Edition.
2. Standard No. 101 "Life Safety Code", 2009 Edition.

D. American National Standards Institute (ANSI):

1. Standard A156.18 "Materials and Finishes".
2. Standard A156.23 "Electromagnetic Locks".
3. Standard A156.24 "Delayed Egress Locks".
4. Standard A117.1 "Accessible and Usable Buildings and Facilities", 2003 Edition.

E. Governing Codes:

1. Where conflict occurs between above codes and standards the most stringent requirement governs.

### 1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Details of electrified door hardware, including wiring diagrams.

C. Door Hardware Schedule & Format:

1. Door Hardware Sets: Prepared by an Architectural Hardware Consultant, detailing fabrication and assembly of door hardware, as well as procedures and diagrams.

a. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents. Vertical schedules only. Horizontal schedules will not be accepted.
b. The Finishing Hardware Schedule is to follow the guidelines and format as set forth in the DHI publication "*Scheduling Sequence and Scheduling Format*".
c. Content: Include the following information:
   1) Identification number, location, hand, fire rating and material of each door and frame.
   2) Type, style, function, size, quantity, and finish of each door hardware item. Include description and function of each lockset and exit device.
   3) Complete designations of every item required for each door or opening including name and manufacturer.
   4) Description of each electrified door hardware function, including location, sequence of operation, and interface with other building control systems.

D. Other Submittals:

1. Two complete sets of catalog cuts are to accompany the Finishing Hardware Schedule. The list of cuts is to include the item, manufacturer, and item number.
2. Name, address, and phone number of automatic door operator installer.
3. Letter from automatic door operator manufacturer certifying that the above listed installer is a factory-authorized installer.

E. Samples:

1. Furnish samples on a timely basis upon request of Architect.
2. Send samples to Architect or Owner as directed.
3. All hardware samples remain the property of the hardware supplier, and are to be returned prior to completion of the project.

F. Templates:

1. Send hardware template information for pre-fitted wood doors, plastic faced doors, aluminum doors, metal doors and frames, together with a copy of approved hardware schedule to the respective door and frame manufacturers or fabricators not later than 7 days after approval of schedule. These related trades are also to supply the necessary shop drawings to the hardware supplier, upon request.
2. Coordinate templates between manufacturers of different hardware items to allow installation of various hardware items without interference between items. Special templates may be necessary, even though they may not be listed.
3. Clearly indicate on templates, under door clearances for exit devices, automatic flush bolts to ensure latching, and thresholds having built-in or applied stops.
4. The submission for templates and template list are to follow the procedure as set forth in the D.H.I. publication, "For Processing Hardware Schedules and Templates".

G. Wiring Diagrams:

1. Furnish wiring diagrams for scheduled items requiring power.
2. Furnish elevation drawings for each door showing location of electric hardware; include point to point wiring and riser, diagrams and power requirements. See Part 3, "Doors with Electric Hardware", for operating and function requirements.
3. Submit wiring diagrams and door elevations with hardware submittal.

H. Keying Schedule:

1. Upon receipt of approved hardware schedule, arrange meeting between hardware supplier and Owner, through Architect, to obtain necessary keying information.
2. Submit 6 copies of keying schedule indicating door numbers in numerical sequence, and its particular keying. Obtain approval before proceeding.

I. Contract Closeout Submittals:

1. Comply with Section 01770.

2. Hardware Data and Maintenance Manuals: At time of acceptance of work, deliver two maintenance manuals. Include the following for each hardware item having operative parts:

   a. Catalog data.
   b. Isometric drawings, which identify and list part numbers.
   c. Installation templates including special templates.
   d. Installation instruction.
   e. Manufacturer's maintenance instruction and maintenance schedule; include special lubricate and fluids information.
   f. Assemble data in a clearly identified 3-ring binder.
   g. Manufacturer bitting list.
   h. Include in each manual one updated copy of hardware schedule, listing hardware installed, including changes and revisions approved by Architect during construction.

J. Certifications:

1. Arrange for hardware supplier to visit site, and certify the following:

   a. Hardware is installed and operating in a satisfactory manner.
   b. Hardware is installed as listed on approved door hardware submittal, including changes and revisions approved by Architect during construction.
   c. Submit certifications in writing addressed to Owner in care of Architect.

## 1.4 SYSTEM DESCRIPTION

A. Performance Requirements:

1. Furnish hardware complying with NFPA 80, and certified for use on fire-rated openings complying with UBC 7-2 (1997) and UL10c.
2. Furnish hardware listed by Underwriters' Laboratories or other approved testing agency.
3. Hardware for fire-rated openings: Comply with NFPA 80.
4. Hardware for non-fire-rated openings: Comply with ANSI A117.1.

## 1.5 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by lock manufacturer.

B. Supplier Qualifications:

1. Recognized supplier to have, full-time, on staff an Architectural Hardware Consultant (AHC) certified by the Door and Hardware Institute.
2. Hardware supplier's AHC to be available at all reasonable times during course of work to meet personally with Owner, Architect or Contractor for hardware consultation.
3. Supplier willing to agree in writing to maintain parts inventory of items supplied for future service to Owner.
4. Supplier to furnish all the hardware listed in this Section 08710 Finishing Hardware. All material is to be furnished totally including the hardware for Aluminum Doors, as listed in the sets. No items may be excluded. Hardware listed as installed, is to be furnished and installed as part of the Finishing Hardware Bid. The installation is to be by an authorized installer as listed in the sets or by Addendum. The successful bidder is to furnish a letter from the factory certifying that the installer is a factory authorized installer. If either of these criteria is not met, the result will be the rejection of the bid or shop drawings, which could also result in the cancellation of contract or purchase order.

C. Source Limitations: Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that

are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable

D. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252

E. Electric Hardware:

1. Unless noted otherwise in Division 16, furnish electric hardware items rated 24 VDC.
2. Coordinate electrical hardware requirements with Division 16 work for electrical distribution, fire alarm, and security systems.

F. Pre-Installation Conference:

1. Arrange for hardware supplier to meet with installer and discuss installation of hardware, templates and unique hardware applications.

G. Submittal Review Conference:

1. Hardware supplier to arrange a meeting with Contractor, Architect, and owner for the review of hardware, hollow metal, and wood door shop drawings.
2. The hardware supplier attendee is to be an AHC.
3. Representatives from the hollow metal and wood door manufacturers are also to attend. Representatives are to be factory employees, or factory sales agents. Wholesale warehouse employees are not acceptable.
4. Allow for one 8-hour working day.
5. Meeting location is to be determined by the Architect.

## 1.6 DELIVERY, STORAGE AND HANDLING

A. Delivery:

1. All hardware is to be in its original package, properly wrapped. Package each item of hardware separately with necessary fasteners, screws, bolts, tampins, keys and installation templates.
2. Deliver packages clearly identified with heading number and door number as approved on hardware schedule.

B. Storage:

1. General Contractor or Construction Manager to provide storage area for hardware, which is dry, secure, and complete with shelving and tables for unpacking and sorting. A locked room is to be provided by the General Contractor or Construction Manager for storage of the finishing hardware.
2. Upon delivery, the General Contractor or Construction Manager and the hardware supplier to check in the hardware against the approved Finishing Hardware Schedule, and place the items on the shelves.
3. After delivery, the General Contractor or Construction Manager is responsible for the hardware against theft, misplacement, defacements, etc

## 1.7 WARRANTY

A. Special Warranties:

1. Submit manufacturer's standard written product warranty signed by manufacturer's authorized official, guaranteeing to repair or replace defective products during the following warranty periods:

a. Hinges: Life of Building Guarantee. (Only for 3-knuckle hinges).

b. Continuous Hinges: 10-year warranty on total hinge (not just bearings).
c. Door Closers: 10-year warranty.
d. Door Closers with electric or pneumatic components: 2-year warranty.
e. Exit Devices: 3-year warranty.
f. Locksets: 3-year warranty.
g. Remainder of hardware: 1-year warranty.

## 1.8 MAINTENANCE

A. Instructions:

1. Arrange for hardware supplier to provide a training program for Owner's maintenance personnel for instruction in proper use, servicing, adjustment and maintenance of door hardware. Training is to occur on Owner's premise, unless otherwise agreed to by Owner.
   a. Provide one 8-hour working day.
   b. This session is to be videotaped and handed over to owner.

2. Prior to acceptance of work, submit to architect a confirmation letter between hardware supplier and Owner setting a date to commence training 30 days after acceptance of work.

B. Maintenance Service:

1. Approximately 6 months after acceptance of work, arrange to have installer of hardware in company with representatives of lock, exit device and closer manufacturers contact Owner and make arrangements for an inspection of hardware. Time and date of inspection at Owner's convenience.
2. Re-adjust each piece of operating hardware for proper and smooth operation; consult with Owner's personnel pertaining to additional maintenance procedures; clean and lubricate hardware as needed; replace and provide new hardware which has deteriorated due to faulty materials or improper installation.
3. Submit written report covering current and predictable problems of substantial nature in performance of hardware to Architect.

C. Tools:

1. After final adjustment of door hardware, turn over to Owner tools furnished during

# PART 2 - PRODUCTS:

## 2.1 SCHEDULED DOOR HARDWARE

A. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3.2 "Door Hardware Sets". Products are identified by using door hardware designations, as follows:

1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required. No substitutions permitted unless equals listed below.

## 2.2 HINGES, GENERAL

A. No removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed. Furnish at all reverse beveled locked doors.

## 2.3 HINGES

A. Butts and Hinges: BHMA A156.1.

B. Electric hinges to have Lynx quick connect Molex connectors.

C. Manufacturers:

1. Hager Companies (HA).
2. McKinney Hinge Company (MK)

## 2.4 CONTINUOUS HINGES

A. Continuous Hinges: BHMA 156.26.

B. Electric continuous hinges to have Lynx quick connect Molex connectors and removable module.

C. Manufacturer:

1. Hager Companies (HA).
2. McKinney Hinge Company (MK)

## 2.5 LOCKS AND LATCHES, GENERAL

A. Accessibility Requirements: Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf.

B. Latches and Locks for Means of Egress Doors: Comply with NFPA 101.

C. Electrified Locking Devices: BHMA A156.25.

D. Electric locks to have quick connect Molex connectors. Electric modification of Schlage Locksets by Architectural Control Systems Inc (ACSI).

E. Lock Trim:

1. Levers: Schlage 06A

F. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors.

G. Backset: 2-3/4 inches (70 mm), unless otherwise indicated.

H. Strikes: Manufacturer's standard strike with strike box for each latchbolt or lock bolt, with curved lip extended to protect frame, finished to match door hardware set.

## 2.6 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: Function numbers and descriptions indicated in door hardware sets comply with the following:

1. Mortise Locks: BHMA A156.13.

B. Mortise Locks: Stamped steel case with steel or brass parts;
BHMA A156.13**,** Grade 1, Series 1000.

1. Manufacturers:
   a. Schlage Lock Company; an Ingersoll-Rand Company (SC).

## 2.7 AUXILIARY LOCKS AND LATCHES

A. Auxiliary Locks: BHMA A156.5**,** Grade 1

1. Manufacturers:
   a. Schlage Lock Company; an Ingersoll-Rand Company (SC).

## 2.8 EXIT LOCKS AND EXIT ALARMS

A. Exit Locks: BHMA A156.29, Grade 1, surface mounted, battery powered, housed in metal case; with red-and-white lettering reading "EMERGENCY EXIT PUSH TO OPEN--ALARM WILL SOUND."

B. Stand-Alone Exit Alarms: BHMA A156.29, Grade 1, mounted separate from door and activated by door movement switch.

C. Manufacturers:

1. Von Duprin; an Ingersoll-Rand Company (VD).

## 2.9 DOOR BOLTS

A. Bolt Throw: Comply with testing requirements for length of bolts required for labeled fire doors.

B. Dustproof Strikes: BHMA A156.16, Grade 1.

1. Manufacturers:
   a. Hager Companies (HA).
   b. Rockwood Manufacturing (RO).
   c. Furnish at all manual, automatic and self latching bolts.

C. Surface Bolts: BHMA A156.16, Grade 1.

1. Manufacturers:
   a. Hager Companies (HA).
   b. Rockwood Manufacturing (RO).

D. Manual Flush Bolts: BHMA A156.16**,** Grade 1; designed for mortising into door edge.

1. Manufacturers:
   a. Hager Companies (HA).
   b. Rockwood Manufacturing (RO).

E. Automatic and Self-Latching Flush Bolts: BHMA A156.3**,** Grade 1; designed for mortising into door edge.

1. Manufacturers:
   a. Hager Companies (HA).
   b. Rockwood Manufacturing (RO).

## 2.10 EXIT DEVICES

A. Exit Devices: BHMA A156.3, Grade 1.

B. Accessibility Requirements: Provide operating devices that do not require tight grasping, pinching, or twisting of the wrist and that operate with a force of not more than 5 lbf (22 N).

C. Exit Devices for Means of Egress Doors: Comply with NFPA 101. Exit devices shall not require more than 15 lbf (67 N) to release the latch. Locks shall not require use of a key, tool, or special knowledge for operation.

D. Fire Exit Devices: Devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252.

E. Removable Mullions: BHMA A156.3.

F. Fire-Exit Removable Mullions: Provide removable mullions for use with fire exit devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252. Mullions shall be used only with exit devices for which they have been tested.

1. All Mullions to be equipped with key removable feature.

G. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

1. Operation: Rigid.

H. Outside Trim: Lever with cylinder; material and finish to match locksets, unless otherwise indicated.

1. Match design for locksets and latchsets, unless otherwise indicated.

I. Through Bolts: For exit devices and trim on metal doors.

J. Electric Exit Devices: Electric exit devices to have quick connect Molex connectors. Electric modification of Von Duprin Exit Devices by Architectural Control Systems Inc (ACSI).

K. Manufacturers:

1. Von Duprin; an Ingersoll-Rand Company (VD).

## 2.11 LOCK CYLINDERS

A. Standard Lock Cylinders: BHMA A156.5**,** Grade 1.

B. Cylinders: Manufacturer's standard tumbler type, constructed from brass or bronze, stainless steel, or nickel silver, and complying with the following:

1. Number of Pins: Seven.
2. Cylinders to be interchangeable core. Furnish brass construction cores.
3. Permanent Cores: By owner.

C. Manufacturers:

1. Schlage Lock Company; an Ingersoll-Rand Company (SC).

## 2.12 KEYING

A. Keying System: Temporary cores to be construction master keyed. Final keying of permanent cores by owner

## 2.13 CLOSERS

A. Door Closers for Means of Egress Doors: Comply with NFPA 101. Door closers shall not require more than 5 lbf to open door to minimum required width. Except exterior doors and fire doors which must positively latch.

B. Hold-Open Closers/Detectors: Coordinate and interface integral smoke detector and closer device with fire alarm system.

C. Size of Units: Unless otherwise indicated, comply with manufacturer's written recommendations for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

D. Surface Closers: BHMA A156.4**,** Grade 1. Provide type of arm required for closer to be located on non-public side of door, unless otherwise indicated.

1. Manufacturers:
   a. LCN Closers; an Ingersoll-Rand Company (LCN).

## 2.14 PROTECTIVE TRIM UNITS

A. Size: 2 inches less than door width on push side and 1inch less than door width on pull side, by height specified in door hardware sets.

B. Plates are to be .050 thick, with beveled 4 edges (B4E) and countersunk holes (CSK)

C. Manufacturer:

1. Hager Companies (HA)
2. Rockwood Manufacturing (RO).

## 2.15 DOOR GASKETING

A. Standard: BHMA A156.22.

B. General: Provide continuous weather-strip gasketing on computer room and exterior doors, and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

1. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
2. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
3. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

C. Smoke-Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke-control ratings indicated, based on testing according to UL 1784.

1. Provide smoke-labeled gasketing on 20-minute-rated doors and on smoke-labeled doors.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated, based on testing according to ASTM E 1408.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Gasketing Materials: ASTM D 2000 and AAMA 701/702.

G. Door Thresholds: Assure installation meets applicable accessibility requirements. Select threshold appropriate to wall thickness and floor conditions. Model number and manufacturers listed in Hardware Schedule intended as an example only.

H. Overlapping astragals are installed on the pull side of the active door for out swinging doors and on the push side of the inactive door on in swinging doors.

I. Manufacturers:

1. Hager Companies (HA).
2. Pemko (PE).

## 2.16 MISCELLANEOUS DOOR HARDWARE

A. Door stops: Install wall or floor mounted door stops where necessary to prevent door from hitting adjacent walls or other interferences.

B. Auxiliary Hardware: BHMA A156.16, Grade 1.

1. Manufacturers:
   a. Hager Companies (HA).
   b. Rockwood manufacturing (RO).

## 2.17 ELECTRIC DOOR HARDWARE

A. Boxed Power Supplies: Modular unit in NEMA ICS 6, Type 4 enclosure; filtered and regulated; voltage rating and type matching requirements of door hardware served; and listed and labeled for use with fire alarm systems.

B. Furnish wire harness in the doors for electric locks and exits and in the frame from the hinge to the ceiling above the frame.

C. Manufacturer:

1. McKinney for Ingersoll Rand

### 2.18 MATERIAL FINISHES

A. All finishes as listed in the sets. Locks are US26D except the locks in the infrastructure yard wall which are US32D.

## PART 3 - EXECUTION:

### 3.1 INSTALLATION

A. Steel Doors and Frames: Comply with DHI A115 Series. Drill and tap doors and frames for surface-applied door hardware according to ANSI A250.6.

B. Wood Doors: Comply with DHI A115-W Series.

C. Mounting Heights: Mount door hardware units at heights indicated as follows unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

D. Boxed Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings. Verify location with Architect.

E. Configuration: Provide one power supply for each door opening that requires a power supply other than 24v. All 24v to be provided by security contractor.

F. Comply with DHI "Recommended Locations for Builder's Hardware" and hardware manufacturers instructions

### 3.2 HARDWARE SETS

A. The following schedule is furnished for whatever assistance it may afford the Contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware heading, provide door or item with hardware same as required for similar purposes. Hardware supplier is responsible for handing and sizing all products as listed in the hardware heading. Quantities listed are for each pair of doors, or for each single door.

B. Manufacturer’s Abbreviations:

1. VD – Von Duprin
2. SC – Schlage
3. RO – Rockwood
4. LC – LCN
5. PE – Pemko
6. MC - McKinney

**SET #001**

| | | | | |
|---|---|---|---|---|
| 2 | Electric Hinge | T4A3786 4 1/2 x 4 1/2 QC8 | 26D | MC |
| 6 | Hinges | T4A3786 4 1/2 X 4 1/2 NRP | 26D | MC |
| 1 | Fire Exit Device | 9827L-F x 996L-R&V ER-36 RG-27 | US26D | VO |
| 1 | Fire Exit Device | 9827EO-F ER-36 RG-27 | US26D | VO |
| 1 | Rim Cylinder | 12E-72 L/C | 626 | BE |
| 1 | Const Core | Green | 626 | BE |
| 1 | ACSI VR MOD | VR-1570-9927-24VDC-AE-LC | | |
| 1 | RX MOD | VR-9827EO-AE-LC | | |
| 2 | Closer | 4040 XP EDA DEL SRT | AL | LC |
| 2 | Protection Plate | K1050 10 x LTS | US32D | RO |
| 2 | Wall Bumper | 409 | US32D | RO |
| 2 | ElectroLynx Harness | QC-C1500P | | MC |
| 2 | ElectroLynx Harness | QC-C012P | | MC |
| 1 | Smoke Seal | S88 BL x LTS | | PE |
| 1 | Length Adhesive Seal | S771 C x LTS | | PE |
| 2 | Auto Door Bottom | 420 APKL x LTS | | PE |
| 1 | Threshold | 228 A x LTS | | PE |

NOTE: Reader, Door Contact, Power Supply (except at EL Exit Devices) and wiring by Security. Reader unlocks lever for entry. Exit by IS lever or push pad. No ADB's at Shell doors.

**SET #001A**

Same as #001 except add

| | | | |
|---|---|---|---|
| 2 | Astragals | 305 CN x LTS x TPS | PE |

**SET #002**

| | | | | |
|---|---|---|---|---|
| 1 | Electric Hinge | T4A3786 4 1/2 x 4 1/2 QC8 | 26D | MC |
| 3 | Hinges | T4A3786 4 1/2 X 4 1/2 NRP | 26D | MC |
| 1 | Lockset | L9070BD 06A | 626 | SC |
| 1 | Const Core | Green | 626 | BE |
| 1 | Closer | 4040 XP EDA DEL SRT | AL | LC |
| 1 | Protection Plate | K1050 10 x LTS | US32D | RO |
| 1 | Wall Bumper | 409 | US32D | RO |
| 1 | ACSI Mortise Lock Mod. | M1520-AE-1-L9080-24VDC-LC | | |
| 1 | ElectroLynx Harness | QC-C1500P | | MC |
| 1 | ElectroLynx Harness | QC- To suit door | | MC |
| 1 | Smoke Seal | S88 BL x LTS | | PE |
| 1 | Auto Door Bottom | 420 APKL x LTS | | PE |
| 1 | Threshold | 228 A x LTS | | PE |

NOTE: Reader, Door Contact, Power Supply (except at EL Exit Devices) and wiring by Security. Reader unlocks lever for entry. Exit by IS lever or push pad.

**SET #003**

| | | | | |
|---|---|---|---|---|
| 1 | Electric Hinge | T4A3786 5 x 4 1/2 QC8 | 26D | MC |
| 3 | Hinges | T4A3786 5 x 4 1/2 NRP | 26D | MC |
| 1 | Fire Exit Device | 9875L-F x 996L-M | US26D, US32D | VO |
| 1 | Mortise Cylinder | 1E-74 L/C C4 | 626 | BE |
| 1 | Const Core | Green | 626 | BE |
| 1 | Closer | 4040 XP EDA DEL SRT | AL | LC |
| 1 | Protection Plate | K1050 10 x LTS | US32D | RO |
| 1 | Wall Bumper | 409 | US32D | RO |
| 1 | ACSI Mortise Exit Conversion | ME-1520-9875-24VDC-AE-LC | | |
| 1 | ElectroLynx Harness | QC-C1500P | | MC |
| 1 | ElectroLynx Harness | QC-C012P | | MC |
| 1 | Smoke Seal | S88 BL x LTS | | PE |
| 1 | Auto Door Bottom | 420 APKL x LTS | | PE |
| 1 | Threshold | 228 A x LTS | | PE |

NOTE: Reader, Door Contact, Power Supply (except at EL Exit Devices) and wiring by Security. Reader unlocks lever for entry. Exit by IS lever or push pad.

**SET #004**

| | | | | |
|---|---|---|---|---|
| 8 | Hinges | T4A3786 4 1/2 X 4 1/2 NRP | 26D | MC |
| 2 | Fire Exit Device | 9847EO-F ER-ADJ10 LBRAFL | US32D | VO |
| 2 | Closer/Stop | 4040 XP CUSH DEL SRT | AL | LC |
| 2 | Protection Plate | K1050 10 x LTS | US32D | RO |
| 1 | Smoke Seal | S88 BL x LTS | | PE |
| 1 | Length Adhesive Seal | S771 C x LTS | | PE |
| 1 | Threshold | 228 A x LTS | | PE |

**SET #005**

| | | | | |
|---|---|---|---|---|
| 1 | Electric Hinge | T4A3786 4 1/2 x 4 1/2 QC8 | 26D | MC |
| 7 | Hinges | T4A3786 4 1/2 X 4 1/2 NRP | 26D | MC |
| 1 | Set Flush Bolts | 2845 | US26D | RO |
| 1 | Dust Proof Strike | 570 | US26D | RO |
| 1 | Lockset | L9070BD 06A | 626 | SC |
| 1 | Const Core | Green | 626 | BE |
| 1 | Coordinator | 2672 | BLK | RO |
| 2 | Closer | 4040 XP EDA DEL SRT | AL | LC |
| 2 | Protection Plate | K1050 10 x LTS | US32D | RO |
| 1 | ElectroLynx Harness | QC-C1500P | | MC |
| 2 | Mounting Bracket | 2601C | US28 | RO |
| 1 | ElectroLynx Harness | QC- To suit door | | MC |
| 1 | Smoke Seal | S88 BL x LTS | | PE |
| 1 | Length Adhesive Seal | S771 C x LTS | | PE |
| 1 | Threshold | 228 A x LTS | | PE |
| 1 | ACSI Mortise Lock Mod | M1520-AE-I-L9080-24VDC-LC | | |

NOTE: Reader, Door Contact, Power Supply (except at EL Exit Devices) and wiring by Security. Reader unlocks lever for entry. Exit by IS lever or push pad.

**SET #006**

Exterior Man Gates:

| | | | |
|---|---|---|---|
| | Prehung | By Others | |
| 1 | Exit Device | 98NL x 990NL-R&V | US26D, US32D |
| 1 | Rim Cylinder Housing | 80-129 | US26D |
| 1 | Cylinder Core | Construction | |
| 1 | Cylinder Core | Perm. By Owner | |
| 1 | Closer/Stop | 4040 XP SCUSH | AL |
| 1 | Electric Strike | 6111 | US26D |

NOTE: See Set 003 except Reader on both sides. Coordinate hardware with gate details.

**END OF SECTION**