

SECTION 08 71 00

DOOR HARDWARE

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Door hardware and related items necessary for complete installation and operation of doors.

1.2 RELATED WORK

- A. Caulking: Section 07 92 00 JOINT SEALANTS.
- B. Application of Hardware: Section 08 14 00, WOOD DOORS, Section 08 11 13, HOLLOW METAL DOORS AND FRAMES, Section 08 41 13, ALUMINUM FRAMED ENTRANCES, Section 08 71 13, AUTOMATIC DOOR OPERATORS, Section 08 71 13.11, LOW ENERGY DOOR OPERATORS, Section 13 49 00, RADIATION PROTECTION.
- C. Painting: Section 09 91 00, PAINTING.
- D. Electrical: Division 26, ELECTRICAL.
- E. Fire Detection: Section 28 31 00, FIRE DETECTION AND ALARM.

1.3 GENERAL

- A. All hardware shall comply with UFAS, (Uniform Federal Accessible Standards) unless specified otherwise.
- B. Provide rated door hardware assemblies where required by most current version of the International Building Code (IBC).
- C. Hardware for Labeled Fire Doors and Exit Doors: Conform to requirements of NFPA 80 for labeled fire doors and to NFPA 101 for exit doors, as well as to other requirements specified. Provide hardware listed by UL, except where heavier materials, large size, or better grades are specified herein under paragraph HARDWARE SETS. In lieu of UL labeling and listing, test reports from a nationally recognized testing agency may be submitted showing that hardware has been tested in accordance with UL test methods and that it conforms to NFPA requirements.
- D. Hardware for application on metal and wood doors and frames shall be made to standard templates. Furnish templates to the fabricator of these items in sufficient time so as not to delay the construction.
- E. The following items shall be obtained from the same manufacturer, except as otherwise specified:
 - 1. Mortise locksets.
 - 2. Hinges for hollow metal and wood doors.

- 3. Surface applied overhead door closers.
- 4. Exit devices.
- 5. Floor closers.

1.4 WARRANTY

- A. Automatic door operators shall be subject to the terms of FAR Clause 52.246-21, except that the Warranty period shall be two years in lieu of one year for all items except as noted below:
 - 1. Locks, latchsets, and panic hardware: 5 years.
 - 2. Door closers and continuous hinges: 10 years.

1.5 MAINTENANCE MANUALS

- A. In accordance with Section 01 00 00, GENERAL REQUIREMENTS Article titled "INSTRUCTIONS", furnish maintenance manuals and instructions on all door hardware. Provide installation instructions with the submittal documentation.

1.6 SUBMITTALS

- A. Submittals shall be in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Submit 6 copies of the schedule per Section 01 33 23. Submit 2 final copies of the final approved schedules to VAMC Locksmith as record copies (VISN Locksmith if the VAMC does not have a locksmith).
- B. Hardware Schedule: Prepare and submit hardware schedule in the following form:

Hardware Item	Quantity	Size	Reference Publication Type No.	Finish	Mfr. Name and Catalog No.	Key Control Symbols	UL Mark (if fire rated and listed)	ANSI/BHMA Finish Designation

- C. Samples and Manufacturers' Literature:
 - 1. Samples: All hardware items (proposed for the project) that have not been previously approved by Builders Hardware Manufacturers Association shall be submitted for approval. Tag and mark all items with manufacturer's name, catalog number and project number.

2. Samples are not required for hardware listed in the specifications by manufacturer's catalog number, if the contractor proposes to use the manufacturer's product specified.

D. Certificate of Compliance and Test Reports: Submit certificates that hardware conforms to the requirements specified herein. Certificates shall be accompanied by copies of reports as referenced. The testing shall have been conducted either in the manufacturer's plant and certified by an independent testing laboratory or conducted in an independent laboratory, within four years of submittal of reports for approval.

1.7 DELIVERY AND MARKING

A. Deliver items of hardware to job site in their original containers, complete with necessary appurtenances including screws, keys, and instructions. Tag one of each different item of hardware and deliver to Resident Engineer for reference purposes. Tag shall identify items by Project Specification number and manufacturer's catalog number. These items shall remain on file in Resident Engineer's office until all other similar items have been installed in project, at which time the Resident Engineer will deliver items on file to Contractor for installation in predetermined locations on the project.

1.8 PREINSTALLATION MEETING

A. Convene a preinstallation meeting not less than 30 days before start of installation of door hardware. Require attendance of parties directly affecting work of this section, including Contractor and Installer, Architect, Project Engineer and VA Locksmith, Hardware Consultant, and Hardware Manufacturer's Representative. Review the following:

1. Inspection of door hardware.
2. Job and surface readiness.
3. Coordination with other work.
4. Protection of hardware surfaces.
5. Substrate surface protection.
6. Installation.
7. Adjusting.
8. Repair.
9. Field quality control.
10. Cleaning.

1.9 INSTRUCTIONS

- A. Hardware Set Symbols on Drawings: Except for protective plates, door stops, mutes, thresholds and the like specified herein, hardware requirements for each door are indicated on drawings by symbols. Symbols for hardware sets consist of letters (e.g., "HW") followed by a number. Each number designates a set of hardware items applicable to a door type.
- B. Keying: All cylinders shall be keyed into existing Great Grand Master Key System . Provide removable core cylinders that are removable only with a special key or tool without disassembly of knob or lockset. Cylinders shall be 7 pin type. Keying information shall be furnished at a later date by the Project Engineer.

1.10 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only. In text, hardware items are referred to by series, types, etc., listed in such specifications and standards, except as otherwise specified.
- B. American Society for Testing and Materials (ASTM):
 - F883-04.....Padlocks
 - E2180-07.....Standard Test Method for Determining the Activity of Incorporated Antimicrobial Agent(s) In Polymeric or Hydrophobic Materials
- C. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):
 - A156.1-06.....Butts and Hinges
 - A156.2-03.....Bored and Pre-assembled Locks and Latches
 - A156.3-08.....Exit Devices, Coordinators, and Auto Flush Bolts
 - A156.4-08.....Door Controls (Closers)
 - A156.5-01.....Auxiliary Locks and Associated Products
 - A156.6-05.....Architectural Door Trim
 - A156.8-05.....Door Controls-Overhead Stops and Holders
 - A156.12-05Interconnected Locks and Latches
 - A156.13-05.....Mortise Locks and Latches Series 1000
 - A156.14-07Sliding and Folding Door Hardware

- A156.15-06.....Release Devices-Closer Holder, Electromagnetic
and Electromechanical
- A156.16-08.....Auxiliary Hardware
- A156.17-04Self-Closing Hinges and Pivots
- A156.18-06.....Materials and Finishes
- A156.20-06Strap and Tee Hinges, and Hasps
- A156.21-09.....Thresholds
- A156.22-05.....Door Gasketing and Edge Seal Systems
- A156.23-04.....Electromagnetic Locks
- A156.24-03.....Delayed Egress Locking Systems
- A156.25-07Electrified Locking Devices
- A156.26-06.....Continuous Hinges
- A156.28-07Master Keying Systems
- A156.29-07Exit Locks and Alarms
- A156.30-03High Security Cylinders
- A156.31-07Electric Strikes and Frame Mounted Actuators
- A250.8-03.....Standard Steel Doors and Frames
- D. National Fire Protection Association (NFPA):
 - 80-10.....Fire Doors and Fire Windows
 - 101-09.....Life Safety Code
- E. Underwriters Laboratories, Inc. (UL):
 - Building Materials Directory (2008)

PART 2 - PRODUCTS

2.1 BUTT HINGES

- A. ANSI A156.1. Provide only three-knuckle hinges, except five-knuckle where the required hinge type is not available in a three-knuckle version (e.g., some types of swing-clear hinges). The following types of butt hinges shall be used for the types of doors listed, except where otherwise specified:
 - 1. Exterior Doors: Type A2112/A5112 for doors 900 mm (3 feet) wide or less and Type A2111/A5111 for doors over 900 mm (3 feet) wide. Hinges for exterior outswing doors shall have non-removable pins. Hinges for exterior fire-rated doors shall be of stainless steel material.
 - 2. Interior Doors: Type A8112/A5112 for doors 900 mm (3 feet) wide or less and Type A8111/A5111 for doors over 900 mm (3 feet) wide.
Hinges for doors exposed to high humidity areas (shower rooms, toilet

rooms, kitchens, janitor rooms, etc. shall be of stainless steel material.

B. Provide quantity and size of hinges per door leaf as follows:

1. Doors up to 1210 mm (4 feet) high: 2 hinges.
2. Doors 1210 mm (4 feet) to 2260 mm (7 feet 5 inches) high: 3 hinges minimum.
3. Doors greater than 2260 mm (7 feet 5 inches) high: 4 hinges.
4. Doors up to 900 mm (3 feet) wide, standard weight: 114 mm x 114 mm (4-1/2 inches x 4-1/2 inches) hinges.
5. Doors over 900 mm (3 feet) to 1065 mm (3 feet 6 inches) wide, standard weight: 127 mm x 114 mm (5 inches x 4-1/2 inches).
6. Doors over 1065 mm (3 feet 6 inches) to 1210 mm (4 feet), heavy weight: 127 mm x 114 mm (5 inches x 4-1/2 inches).
7. Provide heavy-weight hinges where specified.
8. At doors weighing 330 kg (150 lbs.) or more, furnish 127 mm (5 inch) high hinges.

C. See Articles "MISCELLANEOUS HARDWARE" and "HARDWARE SETS" for pivots and hinges other than butts specified above and continuous hinges specified below.

2.2 CONTINUOUS HINGES

A. ANSI/BHMA A156.26, Grade 1-600.

1. Listed under Category N in BHMA's "Certified Product Directory."

B. General: Minimum 0.120-inch- (3.0-mm-) thick, hinge leaves with minimum overall width of 4 inches (102 mm); fabricated to full height of door and frame and to template screw locations; with components finished after milling and drilling are complete

C. Continuous, Barrel-Type Hinges: Hinge with knuckles formed around a Teflon-coated 6.35mm (0.25-inch) minimum diameter pin that extends entire length of hinge.

1. Base Metal for Exterior Hinges: Stainless steel.
2. Base Metal for Interior Hinges: Aluminum.
3. Base Metal for Hinges for Fire-Rated Assemblies: Steel.
4. Provide with non-removable pin (hospital tip option) at lockable outswing doors.
5. Where required to clear adjacent casing, trim, and wall conditions and allow full door swing, provide wide throw hinges of minimum width required.

6. Provide with manufacturer's cut-outs for separate mortised power transfers and/or mortised automatic door bottoms where they occur.
7. Where thru-wire power transfers are integral to the hinge, provide hinge with easily removable portion to allow easy access to wiring connections.
8. Where models are specified that provide an integral wrap-around edge guard for the hinge edge of the door, provide manufacturer's adjustable threaded stud and machine screw mechanism to allow the door to be adjusted within the wrap-around edge guard.

2.3 DOOR CLOSING DEVICES

- A. Closing devices shall be products of one manufacturer for each type specified.

2.4 OVERHEAD CLOSERS

- A. Conform to ANSI A156.4, Grade 1.
- B. Closers shall conform to the following:
 1. The closer shall have minimum 50 percent adjustable closing force over minimum value for that closer and have adjustable hydraulic back check effective between 60 degrees and 85 degrees of door opening.
 2. Where specified, closer shall have hold-open feature.
 3. Size Requirements: Provide multi-size closers, sizes 1 through 6, except where multi-size closer is not available for the required application.
 4. Material of closer body shall be forged or cast.
 5. Arm and brackets for closers shall be steel, malleable iron or high strength ductile cast iron.
 6. Where closers are exposed to the exterior or are mounted in rooms that experience high humidity, provide closer body and arm assembly of stainless steel material.
 7. Closers shall have full size metal cover; plastic covers will not be accepted.
 8. Closers shall have adjustable hydraulic back-check, separate valves for closing and latching speed, adjustable back-check positioning valve, and adjustable delayed action valve.
 9. Provide closers with any accessories required for the mounting application, including (but not limited to) drop plates, special soffit plates, spacers for heavy-duty parallel arm fifth screws,

- bull-nose or other regular arm brackets, longer or shorter arm assemblies, and special factory templating. Provide special arms, drop plates, and templating as needed to allow mounting at doors with overhead stops and/or holders.
10. Closer arms or backcheck valve shall not be used to stop the door from overswing, except in applications where a separate wall, floor, or overhead stop cannot be used.
 11. Provide parallel arm closers with heavy duty rigid arm.
 12. Where closers are to be installed on the push side of the door, provide parallel arm type except where conditions require use of top jamb arm.
 13. Provide all surface closers with the same body attachment screw pattern for ease of replacement and maintenance.
 14. All closers shall have a 1 ½" (38mm) minimum piston diameter.

2.5 DOOR STOPS

- A. Conform to ANSI A156.16.
- B. Provide door stops wherever an opened door or any item of hardware thereon would strike a wall, column, equipment or other parts of building construction. For concrete, masonry or quarry tile construction, use lead expansion shields for mounting door stops.
- C. Where cylindrical locks with turn pieces or pushbuttons occur, equip wall bumpers Type L02251 (rubber pads having concave face) to receive turn piece or button.
- D. Provide floor stops (Type L02141 or L02161 in office areas; Type L02121 x 3 screws into floor elsewhere. Wall bumpers, where used, must be installed to impact the trim or the door within the leading half of its width. Floor stops, where used, must be installed within 4-inches of the wall face and impact the door within the leading half of its width.
- E. Where drywall partitions occur, use floor stops, Type L02141 or L02161 in office areas, Type L02121 elsewhere.
- F. Provide stop Type L02011, as applicable for exterior doors. At outswing doors where stop can be installed in concrete, provide stop mated to concrete anchor set in 76mm (3-inch) core-drilled hole and filled with quick-setting cement.
- G. Omit stops where floor mounted door holders are required and where automatic operated doors occur.

- H. Provide appropriate roller bumper for each set of doors (except where closet doors occur) where two doors would interfere with each other in swinging.
- I. Provide appropriate door mounted stop on doors in individual toilets where floor or wall mounted stops cannot be used.
- J. Provide overhead surface applied stop Type C02541, ANSI A156.8 on patient toilet doors in bedrooms where toilet door could come in contact with the bedroom door.
- K. Provide door stops on doors where combination closer magnetic holders are specified, except where wall stops cannot be used or where floor stops cannot be installed within 4-inches of the wall.
- L. Where the specified wall or floor stop cannot be used, provide concealed overhead stops (surface-mounted where concealed cannot be used).

2.6 OVERHEAD DOOR STOPS AND HOLDERS

- A. Conform to ANSI Standard A156.8. Overhead holders shall be of sizes recommended by holder manufacturer for each width of door. Set overhead holders for 110 degree opening, unless limited by building construction or equipment. Provide Grade 1 overhead concealed slide type: stop-only at rated doors and security doors, hold-open type with exposed hold-open on/off control at all other doors requiring overhead door stops.

2.7 FLOOR DOOR HOLDERS

- A. Conform to ANSI Standard A156.16. Provide extension strikes for Types L01301 and L01311 holders where necessary.

2.8 LOCKS AND LATCHES

- A. Conform to ANSI A156.2. Locks and latches for doors 45 mm (1-3/4 inch) thick or over shall have beveled fronts. Lock cylinders shall be Schlage Everest 7-pin Small Format with restricted keyway "B145". The contractor can purchase these cores through Ewert Wholesale Hardware, 1-800-451-0200. Contractor shall provide temporary plugs to fill the core and allow lock function until the permanent lock cores is later installed by VA Locksmith. COTR can provide sole source justification letter
Cylinders for all locksets shall be removable core type. Cylinders shall be furnished with construction removable cores and construction master keys. Cylinder shall be removable by special key or tool. Construct all cores so that they will be interchangeable into the core housings of all

mortise locks, rim locks, cylindrical locks, and any other type lock included in the Great Grand Master Key System. Disassembly of lever or lockset shall not be required to remove core from lockset. All locksets or latches on double doors with fire label shall have latch bolt with 19 mm (3/4 inch) throw, unless shorter throw allowed by the door manufacturer's fire label. Provide temporary keying device or construction core of allow opening and closing during construction and prior to the installation of final cores.

B. In addition to above requirements, locks and latches shall comply with following requirements:

1. Mortise Lock and Latch Sets: Conform to ANSI/BHMA A156.13. Mortise locksets shall be series 1000, minimum Grade 2. All locksets and latchsets, except on designated doors in Psychiatric (Mental Health) areas, shall have lever handles fabricated from cast stainless steel.

Provide sectional (lever x rose) lever design matching existing hardware sets currently installed in the most recently completed construction project on site. No substitute lever material shall be accepted. All locks and latchsets shall be furnished with 122.55 mm (4-7/8-inch) curved lip strike and wrought box. At outswing pairs with overlapping astragals, provide flat lip strip with 21mm (7/8-inch) lip-to-center dimension. Lock function F02 shall be furnished with emergency tools/keys for emergency entrance. All lock cases installed on lead lined doors shall be lead lined before applying final hardware finish. Furnish armored fronts for all mortise locks.

Where mortise locks are installed in high-humidity locations or where exposed to the exterior on both sides of the opening, provide non-ferrous mortise lock case.

2. Cylindrical Lock and Latch Sets: levers shall meet ADA (Americans with Disabilities Act) requirements. Cylindrical locksets shall be series 4000 Grade I. All locks and latchsets shall be furnished with 122.55 mm (4-7/8-inch) curved lip strike and wrought box. At outswing pairs with overlapping astragals, provide flat lip strip with 21mm (7/8-inch) lip-to-center dimension. Provide lever design to match design selected by Architect or to match existing lever design. Where two turn pieces are specified for lock F76, turn piece on inside knob shall lock and unlock inside knob, and turn piece on outside knob shall unlock outside knob when inside knob is in the

locked position. (This function is intended to allow emergency entry into these rooms without an emergency key or any special tool.)

- 3. Auxiliary locks shall be as specified under hardware sets and conform to ANSI A156.5.
- 4. Locks on designated doors in Psychiatric (Mental Health) areas shall be paddle type with arrow projection covers and be UL Listed. Provide these locks with paddle in the down position on both sides of the door. Locks shall be fabricated of wrought stainless steel.
- 5. Privacy locks in non-mental-health patient rooms shall have an inside thumbturn for privacy and an outside thumbturn for emergency entrance. Single occupancy patient privacy doors shall typically swing out; where such doors cannot swing out, provide center-pivoted doors with rescue hardware (see HW-2B).

2.9 PUSH-BUTTON COMBINATION LOCKS

- A. ANSI/BHMA A156.13, Grade 1. Battery operated pushbutton entry.
- B. Construction: Heavy duty mortise lock housing conforming to ANSI/BHMA A156.13, Grade 1. Lever handles and operating components in compliance with the UFAS and the ADA Accessibility Guidelines. Match lever handles of locks and latchsets on adjacent doors.
- C. Special Features: Key override to permit a master keyed security system and a pushbutton security code activated passage feature to allow access without using the entry code.

2.10 ELECTRIC STRIKES

- A. ANSI/ BHMA A156.31 Grade 1.
- B. General: Use fail-secure electric strikes at fire-rated doors.

2.11 KEYS

- A. Stamp all keys with change number and key set symbol. Furnish keys in quantities as follows:

Locks/Keys	Quantity
Cylinder locks	2 keys each
Cylinder lock change key blanks	100 each different key way
Master-keyed sets	6 keys each
Grand Master sets	6 keys each
Great Grand Master set	5 keys

Control key	2 keys
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- B. Psychiatric keys shall be cut so that first two bittings closest to the key shoulder are shallow to provide greater strength at point of greatest torque.

2.12 ARMOR PLATES, KICK PLATES, MOP PLATES AND DOOR EDGING

- A. Conform to ANSI Standard A156.6.
- B. Provide protective plates and door edging as specified below:
 - 1. Kick plates, mop plates and armor plates of metal, Type J100 series.
 - 2. Provide kick plates and mop plates where specified. Kick plates shall be 254 mm (10 inches) or 305 mm (12 inches) high. Mop plates shall be 152 mm (6 inches) high. Both kick and mop plates shall be minimum 1.27 mm (0.050 inches) thick. Provide kick and mop plates beveled on all 4 edges (B4E). On push side of doors where jamb stop extends to floor, make kick plates 38 mm (1-1/2 inches) less than width of door, except pairs of metal doors which shall have plates 25 mm (1 inch) less than width of each door. Extend all other kick and mop plates to within 6 mm (1/4 inch) of each edge of doors. Kick and mop plates shall butt astragals. For jamb stop requirements, see specification sections pertaining to door frames.
 - 3. Kick plates and/or mop plates are not required on following door sides:
 - a. Armor plate side of doors;
 - b. Exterior side of exterior doors;
 - c. Closet side of closet doors;
 - d. Both sides of aluminum entrance doors.
 - 4. Armor plates for doors are listed under Article "Hardware Sets". Armor plates shall be thickness as noted in the hardware set, 875 mm (35 inches) high and 38 mm (1-1/2 inches) less than width of doors, except on pairs of metal doors. Provide armor plates beveled on all 4 edges (B4E). Plates on pairs of metal doors shall be 25 mm (1 inch) less than width of each door. Where top of intermediate rail of door is less than 875 mm (35 inches) from door bottom, extend armor plates to within 13 mm (1/2 inch) of top of intermediate rail. On doors equipped with panic devices, extend armor plates to within 13 mm (1/2 inch) of panic bolt push bar.

5. Where louver or grille occurs in lower portion of doors, substitute stretcher plate and kick plate in place of armor plate. Size of stretcher plate and kick plate shall be 254 mm (10 inches) high.
6. Provide stainless steel edge guards where so specified at wood doors. Provide mortised type instead of surface type except where door construction and/or ratings will not allow. Provide edge guards of bevel and thickness to match wood door. Provide edge guards with factory cut-outs for door hardware that must be installed through or extend through the edge guard. Provide full-height edge guards except where door rating does not allow; in such cases, provide edge guards to height of bottom of typical lockset armor front. Forward edge guards to wood door manufacturer for factory installation on doors.

2.13 EXIT DEVICES

- A. Conform to ANSI Standard A156.3. Exit devices shall be Grade 1; type and function are specified in hardware sets. Provide flush with finished floor strikes for vertical rod exit devices in interior of building. Trim shall have cast satin stainless steel lever handles of design similar to locksets, unless otherwise specified. Provide key cylinders for keyed operating trim and, where specified, cylinder dogging.
- B. Surface vertical rod panics shall only be provided less bottom rod; provide fire pins as required by exit device and door fire labels. Do not provide surface vertical rod panics at exterior doors.
- C. Concealed vertical rod panics shall be provided less bottom rod at interior doors, unless lockable or otherwise specified; provide fire pins as required by exit device and door fire labels. Where concealed vertical rod panics are specified at exterior doors, provide with both top and bottom rods.
- D. Where removable mullions are specified at pairs with rim panic devices, provide mullion with key-removable feature.
- E. At non-rated openings with panic hardware, provide panic hardware with key cylinder dogging feature.
- F. Exit devices for fire doors shall comply with Underwriters Laboratories, Inc., requirements for Fire Exit Hardware. Submit proof of compliance.

2.14 FLUSH BOLTS (LEVER EXTENSION)

- A. Conform to ANSI A156.16. Flush bolts shall be Type L24081 unless otherwise specified. Furnish proper dustproof strikes conforming to ANSI A156.16, for flush bolts required on lower part of doors.
- B. Lever extension manual flush bolts shall only be used at non-fire-rated pairs for rooms only accessed by maintenance personnel.
- C. Face plates for cylindrical strikes shall be rectangular and not less than 25 mm by 63 mm (1 inch by 2-1/2 inches).
- D. Friction-fit cylindrical dustproof strikes with circular face plate may be used only where metal thresholds occur.
- E. Provide extension rods for top bolt where door height exceeds 2184 mm (7 feet 2 inches).

2.15 FLUSH BOLTS (AUTOMATIC)

- A. Conform to ANSI A156.3. Dimension of flush bolts shall conform to ANSI A115. Bolts shall conform to Underwriters Laboratories, Inc., requirements for fire door hardware. Flush bolts shall automatically latch and unlatch. Furnish dustproof strikes conforming to ANSI A156.16 for bottom flushbolt. Face plates for dustproof strike shall be rectangular and not less than 38 mm by 90 mm (1-1/2 by 3-1/2 inches).
- B. At interior doors, provide auto flush bolts less bottom bolt, unless otherwise specified, except at wood pairs with fire-rating greater than 20 minutes; provide fire pins as required by auto flush bolt and door fire labels.

2.16 DOOR PULLS WITH PLATES

- A. Conform to ANSI A156.6. Pull Type J401, 152 mm (6 inches) high by 19 mm (3/4 inches) diameter with plate Type J302, 90 mm by 350 mm (3-1/2 inches by 14 inches), unless otherwise specified. Provide pull with projection of 70 mm (2 3/4 inches) and a clearance of 51 mm (2 inches). Cut plates of door pull plate for cylinders, or turn pieces where required.

2.17 PUSH PLATES

- A. Conform to ANSI A156.6. Metal, Type J302, 200 mm (8 inches) wide by 350 mm (14 inches) high. Provide metal Type J302 plates 100 mm (4 inches wide by 350 mm (14 inches) high) where push plates are specified for

doors with stiles less than 200 mm (8 inches) wide. Cut plates for cylinders, and turn pieces where required.

2.18 COMBINATION PUSH AND PULL PLATES

- A. Conform to ANSI 156.6. Type J303, stainless steel 3 mm (1/8 inch) thick, 80 mm (3-1/3 inches) wide by 800 mm (16 inches) high), top and bottom edges shall be rounded. Secure plates to wood doors with 38 mm (1-1/2 inch) long No. 12 wood screws. Cut plates for turn pieces, and cylinders where required. Pull shall be mounted down.

2.19 COORDINATORS

- A. Conform to ANSI A156.16. Coordinators, when specified for fire doors, shall comply with Underwriters Laboratories, Inc., requirements for fire door hardware. Coordinator may be omitted on exterior pairs of doors where either door will close independently regardless of the position of the other door. Coordinator may be omitted on interior pairs of non-labeled open where open back strike is used. Open back strike shall not be used on labeled doors. Paint coordinators to match door frames, unless coordinators are plated. Provide bar type coordinators, except where gravity coordinators are required at acoustic pairs. For bar type coordinators, provide filler bars for full width and, as required, brackets for push-side surface mounted closers, overhead stops, and vertical rod panic strikes.

2.20 THRESHOLDS

- A. Conform to ANSI A156.21, mill finish extruded aluminum, except as otherwise specified. In existing construction, thresholds shall be installed in a bed of sealant with ¼-20 stainless steel machine screws and expansion shields. In new construction, embed aluminum anchors coated with epoxy in concrete to secure thresholds. Furnish thresholds for the full width of the openings.
- B. For thresholds at elevators entrances see other sections of specifications.
- C. At exterior doors and any interior doors exposed to moisture, provide threshold with non-slip abrasive finish.
- D. Provide with miter returns where threshold extends more than 12 mm (0.5 inch) from fame face.

2.21 WEATHERSTRIPS (FOR EXTERIOR DOORS)

- A. Conform to ANSI A156.22. Air leakage shall not to exceed 0.50 CFM per foot of crack length ($0.000774\text{m}^3/\text{s}/\text{m}$).

2.22 MISCELLANEOUS HARDWARE

- A. Access Doors (including Sheet Metal, Screen and Woven Wire Mesh Types):
Except for fire-rated doors and doors to Temperature Control Cabinets, equip each single or double metal access door with Lock Type E76213, conforming to ANSI A156.5. Key locks as directed. Ship lock prepaid to the door manufacturer. Hinges shall be provided by door manufacturer.
- B. Cylinders for Various Doors: Key cylinders same as entrance doors of area in which partitions and door occur, except as otherwise specified. Provide cylinders to operate locking devices where specified for following partitions and doors:
 - 1. Wicket door.
- C. Mutes: Conform to ANSI A156.16. Provide door mutes or door silencers Type L03011 or L03021, depending on frame material, of white or light gray color, on each steel or wood door frame, except at fire-rated frames, lead-lined frames and frames for sound-resistant, lightproof and electromagnetically shielded doors. Furnish 3 mutes for single doors and 2 mutes for each pair of doors, except double-acting doors. Provide 4 mutes or silencers for frames for each Dutch type door. Provide 2 mutes for each edge of sliding door which would contact door frame.

2.23 FINISHES

- A. Exposed surfaces of hardware shall have ANSI A156.18, finishes as specified below. Finishes on all hinges, pivots, closers, thresholds, etc., shall be as specified below under "Miscellaneous Finishes." For field painting (final coat) of ferrous hardware, see Section 09 91 00, PAINTING.
- B. 626 or 630: All surfaces on exterior and interior of buildings, except where other finishes are specified.
- C. Miscellaneous Finishes:
 - 1. Hinges --exterior doors: 626 or 630.
 - 2. Hinges --interior doors: 652 or 630.
 - 3. Pivots: Match door trim.
 - 4. Door Closers: Factory applied paint finish. Dull or Satin Aluminum color.

- 5. Thresholds: Mill finish aluminum.
- 6. Cover plates for floor hinges and pivots: 630.
- 7. Other primed steel hardware: 600.
- D. Hardware Finishes for Existing Buildings: U.S. Standard finishes shall match finishes of hardware in (similar) existing spaces except where otherwise specified.
- E. Special Finish: Exposed surfaces of hardware for dark bronze anodized aluminum doors shall have oxidized oil rubbed bronze finish (dark bronze) finish on door closers shall closely match doors.

2.24 BASE METALS

- A. Apply specified U.S. Standard finishes on different base metals as following:

Finish	Base Metal
652	Steel
626	Brass or bronze
630	Stainless steel

PART 3 - EXECUTION

3.1 HARDWARE HEIGHTS

- A. Locate hardware on doors at heights specified below, with all hand-operated hardware centered within 864 mm (34 inches) to 1200 mm (48 inches), unless otherwise noted:
- B. Hardware Heights from Finished Floor:
 - 1. Exit devices centerline of strike (where applicable) 1024 mm (40-5/16 inches).
 - 2. Locksets and latch sets centerline of strike 1024 mm (40-5/16 inches).
 - 3. Deadlocks centerline of strike 1219 mm (48 inches).
 - 4. Hospital arm pull 1168 mm (46 inches) to centerline of bottom supporting bracket.
 - 5. Centerline of door pulls to be 1016 mm (40 inches).
 - 6. Push plates and push-pull shall be 1270 mm (50 inches) to top of plate.
 - 7. Push-pull latch to be 1024 mm (40-5/16 inches) to centerline of strike.
 - 8. Locate other hardware at standard commercial heights. Locate push and pull plates to prevent conflict with other hardware.

3.2 INSTALLATION

A. Closer devices, including those with hold-open features, shall be equipped and mounted to provide maximum door opening permitted by building construction or equipment. Closers shall be mounted on side of door inside rooms, inside stairs, and away from corridors. At exterior doors, closers shall be mounted on interior side. Where closers are mounted on doors they shall be mounted with sex nuts and bolts; foot shall be fastened to frame with machine screws.

B. Hinge Size Requirements:

Door Thickness	Door Width	Hinge Height
45 mm (1-3/4 inch)	900 mm (3 feet) and less	113 mm (4-1/2 inches)
45 mm (1-3/4 inch)	Over 900 mm (3 feet) but not more than 1200 mm (4 feet)	125 mm (5 inches)
35 mm (1-3/8 inch) (hollow core wood doors)	Not over 1200 mm (4 feet)	113 mm (4-1/2 inches)

C. Hinge leaves shall be sufficiently wide to allow doors to swing clear of door frame trim and surrounding conditions.

D. Where new hinges are specified for new doors in existing frames or existing doors in new frames, sizes of new hinges shall match sizes of existing hinges; or, contractor may reuse existing hinges provided hinges are restored to satisfactory operating condition as approved by Resident Engineer. Existing hinges shall not be reused on door openings having new doors and new frames. Coordinate preparation for hinge cut-outs and screw-hole locations on doors and frames.

E. Hinges Required Per Door:

Doors 1500 mm (5 ft) or less in height	2 butts
Doors over 1500 mm (5 ft) high and not over 2280 mm (7 ft 6 in) high	3 butts
Doors over 2280 mm (7 feet 6 inches) high	4 butts

F. Fastenings: Suitable size and type and shall harmonize with hardware as to material and finish. Provide machine screws and lead expansion shields to secure hardware to concrete, ceramic or quarry floor tile, or

solid masonry. Fiber or rawl plugs and adhesives are not permitted. All fastenings exposed to weather shall be of nonferrous metal.

- G. After locks have been installed; show in presence of Resident Engineer that keys operate their respective locks in accordance with keying requirements. (All keys, Master Key level and above shall be sent Registered Mail to the Medical Center Director along with the bitting list. Also a copy of the invoice shall be sent to the Resident Engineer for his records.) Installation of locks which do not meet specified keying requirements shall be considered sufficient justification for rejection and replacement of all locks installed on project.

3.3 FINAL INSPECTION

- A. Installer to provide letter to VA Resident/Project Engineer that upon completion, installer has visited the Project and has accomplished the following:
1. Re-adjust hardware.
 2. Evaluate maintenance procedures and recommend changes or additions, and instruct VA personnel.
 3. Identify items that have deteriorated or failed.
 4. Submit written report identifying problems.

3.4 DEMONSTRATION

- A. Demonstrate efficacy of mechanical hardware and electrical, and electronic hardware systems, including adjustment and maintenance procedures, to satisfaction of Resident/Project Engineer and VA Locksmith.

3.5 HARDWARE SETS

- A. Following sets of hardware correspond to hardware symbols shown on drawings. Only those hardware sets that are shown on drawings will be required. Disregard hardware sets listed in specifications but not shown on drawings.
- B. Hardware Consultant working on a project will be responsible for providing additional information regarding these hardware sets. The numbers shown in the following sets come from BHMA standards.

Hardware Group No. 01

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HINES, ILLINOIS

DOOR HARDWARE

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
1	EA	CONT. HINGE	112HD (A31031G)	628	ANSI
1	EA	PANIC HARDWARE	99-NL-OP-LESS TRIM-1439 (Grade 1, Type 1, Function 03)	US26D	ANSI
1	EA	SFIC RIM CYLINDER	80-159	626	SCH
1	EA	MORTISE CYLINDER	80-301	626	SCH
2	EA	PERMANENT CORE	80-037	626	SCH
1	EA	90 DEG OFFSET PULL	8190 10" O	630	IVE
1	EA	OH STOP	100S (C01541)	630	ANSI
1	EA	SURFACE CLOSER	4040XP MC (C05011/C05041 PT-4A, PT-4C, PT-4D, PT-4H)	689	ANSI
1	EA	TOP JAMB MTG PLATE	4040-18TJ	689	LCN
1	EA	DOOR SWEEP	323A	AL	REE
1	EA	THRESHOLD	S282A 10-24 MSA	AL	REE

WEATHER SEAL BY ALUMINUM DOOR MANUFACTURER.

CARD ACCESS SYSTEM, READER, WIRING AND CONNECTIONS BY SECURITY PROVIDER.

Hardware Group No. 02

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	224HD EPT (A31031G)	US28	ANSI
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC FIRE EXIT HARDWARE	LX-RX-LC-QEL+-9927-EO-F-LBR-SNB (Grade 1, Type 2LBR, Function 01)	626	ANSI
1	EA	ELEC FIRE EXIT HARDWARE	LX-RX-LC-QEL+-9927-L-F-LBR-996-06-SNB (Grade 1, Type 2LBR, Function 08)	626	ANSI
2	EA	OH STOP	100S (C01541)	630	ANSI
2	EA	AUTO OPERATOR	7000	689	HOR
2	EA	ACTUATOR	AS REQUIRED	630	HOR
1	SET	DOOR SEAL	797B	BLK	REE
1	SET	DOOR SEAL	798B	BLK	REE
2	EA	DOOR CONTACT	679-05WD	BL	SCE
1	EA	POWER SUPPLY	PS902	LGR	VON
1	EA		PROVIDE RISER DIAGRAMS		

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HINES, ILLINOIS

DOOR HARDWARE

2 EA ARMOR PLATE
2 EA MOP PLATE

CARD ACCESS SYSTEM, READER, WIRING AND CONNECTIONS BY SECURITY PROVIDER.
ACCESS SYSTEM CONTROLS OUTSIDE ACTUATOR ON/OFF.

Hardware Group No. 03

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	SET	CONST LATCHING BOLT	FB51P (Type 27)	630	ANSI
1	EA	DUST PROOF STRIKE	DP2 (L14011)	626	ANSI
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
2	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
2	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
2	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE
1	SET	DOOR SEAL	798B	BLK	REE

Hardware Group No. 04

				Rated	
Qty		Description	Catalog Number	Finish	Mfr
6	EA	HW HINGE	5BB1HW 4.5 X 4.5 NRP (A8111)	652	ANSI
2	EA	POWER TRANSFER	EPT10	689	VON
1	SET	AUTO FLUSH BOLT	FB41P (Type 25)	630	ANSI
1	EA	DUST PROOF STRIKE	DP2 (L14011)	626	ANSI
1	EA	EU STOREROOM LOCK	RX-L9080GDEU 06A	626	SCH
1	EA	COORDINATOR	COR X FL (Type 21A)	US28	ANSI
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4040XP EDA MC (C05021 PT-4A, PT-4C, PT-4D, PT-4H)	689	ANSI
2	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

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HINES, ILLINOIS

DOOR HARDWARE

1	SET	DOOR SEAL	798B	BLK	REE
1	EA	DESK MOUNT BUTTON	660-PB	628	SCE
2	EA	DOOR CONTACT	679-05WD	BL	SCE
2	EA	ARMOR PLATE			
2	EA	MOP PLATE			
1		ASTRAGAL			

CARD ACCESS SYSTEM, READER, POWER SUPPLY, WIRING AND CONNECTIONS BY SECURITY PROVIDER.

DESK MOUNT PUSH-BUTTON FOR REMOTE RELEASE @ STN. 2-104.

FIELD VERIFY AND COORDINATE EXISTING HARDWARE PREPS AND COORDINATE FOR PROPER APPLICATION.

Hardware Group No. 05

				Rated	
Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	5BB1 4.5 X 4.5 NRP (A8112)	652	ANSI
1	SET	CONST LATCHING BOLT	FB51P (Type 27)	630	ANSI
1	EA	DUST PROOF STRIKE	DP2 (L14011)	626	ANSI
1	EA	STOREROOM LOCK	L9080GD 806A 06A (F07)	626	ANSI
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	COORDINATOR	COR X FL (Type 21A)	US28	ANSI
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4040XP EDA MC (C05021 PT-4A, PT-4C, PT-4D, PT-4H)	689	ANSI
2	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
2	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1		ASTRAGAL			

Hardware Group No. 06

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH

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HINES, ILLINOIS

DOOR HARDWARE

1	EA	CLOSER	4040XP REG MC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

Hardware Group No. 07

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	CLOSER	4040XP REG MC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

Hardware Group No. 08

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	OH STOP	100S (C01541)	630	ANSI
1	EA	SURFACE CLOSER	4040XP MC REG ST	689	LCN
1	EA	TOP JAMB MTG PLATE	4040-18TJ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

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SECTION 08 71 00

DOOR HARDWARE

Hardware Group No. 09

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE	6212 FSE DS (E59321)	630	ANSI
1	EA	OH STOP	100S (C01541)	630	ANSI
1	EA	SURFACE CLOSER	4040XP EDA MC (C05021 PT-4A, PT-4C, PT-4D, PT-4H)	689	ANSI
1	EA	PA MOUNTING PLATE	4040-18PA	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE
1	EA	DESK MOUNT BUTTON	660-PB	628	SCE
1	EA	POWER SUPPLY	PS902	LGR	VON

DESK MOUNT PUSH BUTTON RELEASE @ WORK STATION 2-104.

Hardware Group No. 10

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE	6212 FSE DS (E59321)	630	ANSI
1	EA	AUTO OPERATOR	7000	689	HOR
2	EA	ACTUATOR	AS REQUIRED	630	HOR
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE
1	EA	DESK MOUNT BUTTON	660-PB	628	SCE
1	EA	POWER SUPPLY	PS902	LGR	VON

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HINES, ILLINOIS

SECTION 08 71 00

DOOR HARDWARE

DESK MOUNT PUSH BUTTON RELEASE @ WORK STATION 2-104.

Hardware Group No. 11

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 NRP (A8111)	652	ANSI
1	EA	CLASSROOM LOCK	L9070GD 06A (F32)	626	ANSI
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	ELECTRIC STRIKE	6212 FSE DS (E59321)	630	ANSI
1	EA	SURFACE CLOSER	4040XP EDA MC (C05021 PT-4A, PT-4C, PT-4D, PT-4H)	689	ANSI
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE
1	EA	DOOR CONTACT	679-05WD	BL	SCE

CARD ACCESS SYSTEM, READER, POWER SUPPLY, WIRING AND CONNECTIONS BY SECURITY PROVIDER.

Hardware Group No. 12

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
1	EA	OFFICE/ENTRY LOCK	L9050GD 06A L583-363 (F04)	626	ANSI
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

Hardware Group No. 13

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
1	EA	OFFICE/ENTRY LOCK	L9050GD 06A L583-363 (F04)	626	ANSI

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HINES, ILLINOIS

DOOR HARDWARE

1	EA	OH STOP	100S (C01541)	630	ANSI
1	EA	TOP JAMB MTG PLATE	4040-18TJ	689	LCN
1	SET	DOOR SEAL	797B	BLK	REE
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI

Hardware Group No. 14

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	EA	CLASSROOM LOCK	L9070GD 06A (F32)	626	ANSI
1	EA	SFIC EVEREST CORE	80-037 (E09241L)	626	ANSI
1	EA	OH STOP	100S (C01541)	630	ANSI
1	EA	SURFACE CLOSER	4040XP MC REG ST	689	LCN
1	EA	TOP JAMB MTG PLATE	4040-18TJ	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

MOUNT CLOSER PER SPECIAL TEMPLATE.

Hardware Group No. 15

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	EA	CLASSROOM LOCK	L9070GD 06A (F32)	626	ANSI
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	CLOSER	4040XP REG MC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

Hardware Group No. 16

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HINES, ILLINOIS

DOOR HARDWARE

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
1	EA	CYL X TURN DEAD LOCK	L460GD L583-363 (E06071D)	626	ANSI
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	PUSH PLATE	8200 4" X 16" CFT	630	IVE
1	EA	PULL PLATE	8303 10" 3.5" X 15" CFC	630	IVE
1	EA	AUTO OPERATOR	7000	689	HOR
2	EA	ACTUATOR	AS REQUIRED	630	HOR
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

Hardware Group No. 16.1

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 3.5" X 15"	630	IVE
1	EA	CLOSER	4040XP EDA MC	689	HOR
2	EA	ACTUATOR	AS REQUIRED	630	HOR
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	OH STOP	100S (C01541)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

Hardware Group No. 17

Not Rated

Qty		Description	Catalog Number	Finish	Mfr
1	EA	INTERMEDIATE PIVOT	7226 INT (C07321)	626	ANSI
1	EA	PIVOT SET	7226 SET (C07162)	626	ANSI
1	EA	PASSAGE SET	L9010 06A XL11-515 (F01)	626	ANSI
1	EA	OH STOP	100S (C01541)	630	ANSI
1	SET	DOOR SEAL	797B	BLK	REE

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HINES, ILLINOIS

SECTION 08 71 00

DOOR HARDWARE

Hardware Group No. 18

					Not Rated	
Qty		Description	Catalog Number	Finish	Mfr	
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI	
1	EA	STOREROOM LOCK	L9080GD 06A (F07)	626	ANSI	
1	EA	PERMANENT CORE	80-037	626	SCH	
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI	
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI	
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI	

Hardware Group No. 19

					Not Rated	
Qty		Description	Catalog Number	Finish	Mfr	
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI	
1	EA	PRIVACY LOCK	L9040 06A 10-072 630 09-662 630 (F22)	626	ANSI	
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI	
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI	
1	EA	OH STOP & HOLDER	100H (C01511)	630	ANSI	
2	SET	DOOR SEAL	786A	AL	REE	

Hardware Group No. 20

					Not Rated	
Qty		Description	Catalog Number	Finish	Mfr	
3	EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI	
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL	
1	EA	MORTISE CYLINDER	80-133	626	SCH	
1	EA	PERMANENT CORE	80-037	626	SCH	
1	EA	OH STOP & HOLDER	100H (C01511)	630	ANSI	
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI	
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI	

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HINES, ILLINOIS

SECTION 08 71 00

DOOR HARDWARE

Hardware Group No. 21

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	OH STOP & HOLDER	100H (C01511)	630	ANSI
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI

Hardware Group No. 22

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
3	EA	HW HINGE	5BB1HW 4.5 X 4.5 (A8111)	652	ANSI
1	EA	ELECT MORTISE LOCK	PDL3500 LC	US26D	ALL
1	EA	MORTISE CYLINDER	80-133	626	SCH
1	EA	PERMANENT CORE	80-037	626	SCH
1	EA	KICK PLATE	8400 10" X 2" LDW (J102)	630	ANSI
1	EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI
1	EA	WALL STOP	WS406CVX (L52101)	630	ANSI

Hardware Group No. 23

				Not Rated	
Qty		Description	Catalog Number	Finish	Mfr
1	SET	TRACK & HDW	325		GRA
1	SET	WALL MOUNT BRACKET			
1	EA	WALL MOUNT FASCIA			
2	EA	END STOP CATCH			GRA
1	EA	FLOOR GUIDE	7015		GRA

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RENOVATE CARDIOLOGY DEPARTMENT, BLDG 200

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HINES, ILLINOIS

DOOR HARDWARE

1 SET DOOR PULL, 3/4" RND PR 8102 6" J 630 IVE

Hardware Group No. 24

Qty	Description	Catalog Number	Finish	Mfr
	HARDWARE BY DOOR / FRAME MANUFACTURER			

Hardware Group No. 25

Qty	Description	Catalog Number	Finish	Mfr	Not Rated
3 EA	HINGE	5BB1 4.5 X 4.5 (A8112)	652	ANSI	
1 EA	STOREROOM LOCK	L9080GD 06A (F07)	626	ANSI	
1 EA	PERMANENT CORE	80-037	626	SCH	
1 EA	OH STOP	100S (C01541)	630	ANSI	
1 EA	SURFACE CLOSER	4040XP MC REG ST	689	LCN	
1 EA	TOP JAMB MTG PLATE	4040-18TJ	689	LCN	
2 EA	MOP PLATE	8400 4" X 1" LDW (J103)	630	ANSI	

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