

**SECTION 08 7100
DOOR HARDWARE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for wood, aluminum, and hollow metal doors.
- B. Hardware for fire-rated doors.
- C. Electrically operated and controlled hardware.
- D. Lock cylinders for doors or access panels that hardware is specified in other sections.
- E. Thresholds.
- F. Weatherstripping, seals and door gaskets.

1.02 REFERENCE STANDARDS

- A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- B. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.
- C. BHMA A156.6 - American National Standard for Architectural Door Trim; 2010.
- D. BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; 2010.
- E. BHMA A156.14 - American National Standard for Sliding and Folding Door Hardware; 2013.
- F. BHMA A156.17 - American National Standard for Self Closing Hinges & Pivots; 2014.
- G. BHMA A156.18 - American National Standard for Materials and Finishes; 2012.
- H. BHMA A156.21 - American National Standard for Thresholds; 2014.
- I. BHMA A156.22 - American National Standard for Door Gasketing and Edge Seal Systems, Builders Hardware Manufacturers Association; 2012.
- J. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2009.
- K. NFPA 80 - Standard for Fire Doors and Other Opening Protectives; 2016.
- L. NFPA 101 - Life Safety Code; 2015.
- M. UL (DIR) - Online Certifications Directory; current listings at database.ul.com.

1.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project.
- C. Hardware Schedule: Detailed listing of each item of hardware to be installed on each door. Use door numbering scheme as included in the Contract Documents. Identify electrically operated items and include power requirements.
- D. Keying Schedule: By Owner.
- E. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention.
- F. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- G. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- H. Project Record Documents: Record actual locations of concealed equipment, services, and conduit.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Verify with Spectrum Plant Operations regarding final manufacturer selections.
- B. Assa Abloy Brands; Corbin Russwin, Curries, McKinney, Norton, or Sargent: www.assaabloydss.com. This is Spectrum's preferred vendor for all products. Deviations from this manufacturer must be approved in writing by Spectrum PM.
- C. Allegion Brands; LCN or Von Duprin: www.allegion.com/us.
- D. DORMA USA, Inc: www.dorma.com.
- E. Substitutions: Not permitted.

2.02 GENERAL REQUIREMENTS

- A. Provide door hardware specified, or as required to make doors fully functional, compliant with applicable codes, and secure to the extent indicated.
- B. Provide items of a single type of the same model by the same manufacturer.
- C. Provide products that comply with the following:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. Accessibility: ADA Standards and ICC A117.1.
 - 3. Applicable provisions of NFPA 101, Life Safety Code.
 - 4. Fire-Rated Doors: NFPA 80.
 - 5. Hardware on Fire-Rated Doors, Except Hinges: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.
 - 6. Hardware for Smoke and Draft Control Doors (Indicated as "S" on Drawings): Provide hardware that enables door assembly to comply with air leakage requirements of the applicable code.
 - 7. Products Requiring Electrical Connection: Listed and classified by UL (DIR) as suitable for the purpose specified and indicated.
- D. Function: Lock and latch function numbers and descriptions of manufactures series as listed in hardware schedule.
- E. Electrically Operated and/or Controlled Hardware: Provide all power supplies, power transfer hinges, relays, and interfaces required for proper operation; provide wiring between hardware and control components and to building power connection.
- F. Finishes: Provide door hardware of the same finish unless otherwise indicated.
 - 1. Primary Finish: Satin chrome plated over nickel on brass or bronze, 626 (approx US26D).
 - 2. Secondary Finish: Stainless Steel (US32D), Kickplates, Wall Stops, & Push Plates.
 - a. Use secondary finish in kitchens, bathrooms, and other spaces containing chrome or stainless steel finished appliances, fittings, and equipment; provide primary finish on one side of door and secondary finish on other side if necessary.
 - 3. Finish Definitions: BHMA A156.18.
 - 4. Exceptions:
 - a. Where base metal is specified to be different, provide finish that is an appearance equivalent according to BHMA A156.18.
 - b. Hinges for Fire-Rated Doors: Steel base metal with painted finish.
 - 5. No Antimicrobial finish coatings to be added to any hardware.

2.03 LOCKS AND LATCHES

- A. Locks: Provide a lock for every door, unless specifically indicated as not requiring locking.
 - 1. If no hardware set is indicated for a swinging door provide an office lockset.

2. Trim: Provide lever handle or pull trim on outside of all locks unless specifically stated to have no outside trim.
 3. Lock Cylinders: Provide key access on outside of all locks unless specifically stated to have no locking or no outside trim.
- B. Manufacturers:
 1. Assa Abloy Brands; Sargent 10 Line: www.assaabloydss.com.
 2. Assa Abloy Brands; Corbin Ruswin CL3300: www.assaabloydss.com.
 - C. Lock Cylinders: Owner Provided.
 - D. Keying: Grand master keyed.
 - E. Latches: Provide a latch for every door that is not required to lock, unless specifically indicated "push/pull" or "not required to latch".
 - F. Lever Handle: "L" style levers to be used at all doors requiring latching.

2.04 HINGES

- A. Hinges: Provide hinges on every swinging door.
 1. Provide five-knuckle full mortise butt hinges unless otherwise indicated.
 2. Provide ball-bearing hinges at all doors having closers.
 3. Provide hinges in the quantities indicated.
 4. Provide non-removable pins on exterior outswinging doors.
 5. Where electrified hardware is mounted in door leaf, provide power transfer hinges.
- B. Manufacturers - Hinges:
 1. Assa Abloy Brands; McKinney: www.assaabloydss.com.
 2. Ives: www.us.allegion.com.

2.05 PIVOTS

- A. Pivots: Comply with BHMA A156.17.
- B. Manufacturers - Pivots:
 1. Assa Abloy Brands, McKinney or Rixson; _____: www.assaabloydss.com.

2.06 PUSH/PULLS

- A. Push/Pulls: Comply with BHMA A156.6.
 1. Provide push and pull on doors not specified to have lockset, latchset, exit device, or auxiliary lock.
 2. On solid doors, provide matching push plate and pull plate on opposite faces.
- B. Manufacturers - Push/Pulls:
 1. Assa Abloy Brands; Rockwood: www.assaabloydss.com.

2.07 CYLINDRICAL LOCKSETS

- A. Final lock cores to be provided by owner, coordinate with Spectrum Plant Operations, quantities, schedule, and other information required to complete project,
- B. Manufacturers - Cylindrical Locksets:
 1. Assa Abloy Brands; Medeco: www.assaabloydss.com.
 2. Assa Abloy Brands; Sargent 10 Line: www.assaabloydss.com.
 3. Assa Abloy Brands; Corbin Ruswin CL3300: www.assaabloydss.com
- C. Do not prep for Interchangeable Core

2.08 MORTISE LOCKSETS

- A. Final lock cores to be provided by owner, coordinate with Spectrum Plant Operations, quantities, schedule, and other information required to complete project,
- B. Manufacturers - Mortise Locksets:
 1. Assa Abloy Brands; Medeco: www.assaabloydss.com.
 2. Assa Abloy Brands; Sargent 10 Line: www.assaabloydss.com.
 3. Assa Abloy Brands; Corbin Ruswin CL3300: www.assaabloydss.com

- C. Do not prep for Interchangable Core

2.09 PUSH BUTTON LOCKSETS

- A. Manufacturers - Push Button Locksets.
 - 1. Allegion Brand; Schlage CO-100
- B. Do not prep for Interchangable Core

2.10 FLUSHBOLTS AND COORDINATORS

- A. Manufacturers - Flushbolts:
 - 1. Assa Abloy Brands; Rockwood: www.assaabloydss.com.

2.11 MAGNETIC LOCKS

- A. Manufacturers - Magnetic Locks:
 - 1. Securitron Magnalock.

2.12 ELECTRIC STRIKES

- A. Manufacturers - Electric Strikes:
 - 1. HES 1006-J.

2.13 EXIT DEVICES

- A. Manufacturers - Exit Devices:
 - 1. Assa Abloy Brands; Sargent: www.assaabloydss.com.
 - 2. Von Duprin, an Allegion brand: www.allegion.com/us.

2.14 CLOSERS

- A. Closers: Complying with BHMA A156.4.
 - 1. Provide surface-mounted, door-mounted closers unless otherwise indicated.
 - 2. Provide a door closer on every exterior door.
 - 3. Provide a door closer on every fire- and smoke-rated door. Spring hinges are not an acceptable self-closing device unless specifically so indicated.
 - 4. On pairs of swinging doors, if an overlapping astragal is present, provide coordinator to ensure the leaves close in proper order.
 - 5. Through bolt all closers. No lag bolts are acceptable.
- B. Manufacturers - Surface Mounted Closers:
 - 1. Assa Abloy Brands; Corbin Russwin or Sargent: www.assaabloydss.com.
 - 2. LCN, an Allegion brand: www.allegion.com/us.
 - 3. DORMA USA, Inc; 7400 Series, 8600 Series, 8900 Series, and TS93: www.dorma.com. Aluminum doors only.

2.15 STOPS AND HOLDERS

- A. Stops: Complying with BHMA A156.8; provide a stop for every swinging door, unless otherwise indicated.
 - 1. Provide wall stops, unless otherwise indicated.
 - 2. If wall stops are not practical, due to configuration of room or furnishings, provide overhead stop.
 - 3. Stop is not required if positive stop feature is specified for door closer; positive stop feature of door closer is not an acceptable substitute for a stop unless specifically so stated.
- B. Manufacturers - Overhead Holders/Stops:
 - 1. Assa Abloy Brands, Rixson or Sargent: www.assaabloydss.com.
- C. Manufacturers - Wall and Floor Stops/ Holders:
 - 1. Assa Abloy Brands, McKinney: www.assaabloydss.com.

2.16 GASKETING AND THRESHOLDS

- A. Gaskets: Complying with BHMA A156.22.

1. On each door in smoke partition, provide smoke gaskets; top, sides, and meeting stile of pairs. If fire/smoke partitions are not indicated on drawings, provide smoke gaskets on each door identified as a "smoke door" and 20-minute rated fire doors.
 2. On each exterior door, provide weatherstripping gaskets, unless otherwise indicated; top, sides, and meeting stiles of pairs.
 - a. Where exterior door is also required to have fire or smoke rating, provide gaskets functioning as both smoke and weather seals.
 3. On each exterior door, provide door bottom sweep, unless otherwise indicated.
 4. On doors indicated as "sound-rated", "acoustical", or with an STC rating, provide sound-rated gaskets and automatic door bottom; make gaskets completely continuous, do not cut or notch gaskets for installation.
- B. Thresholds: Complying with BHMA A156.21.
1. At each exterior door, provide a threshold unless otherwise indicated.
- C. Manufacturers - Gasketing and Thresholds:
1. Assa Abloy Brands; Pemko: www.assaabloydss.com.

2.17 SLIDING AND BIFOLDING DOOR HARDWARE

- A. Sliding and Bifolding Door Hardware: Complying with BHMA A156.14.
- B. Bypassing Door Hardware: Track, hanger fasteners, guides, and pulls; size track and hangers according to manufacturer's recommendations for weight of doors.

2.18 PROTECTION PLATES AND ARCHITECTURAL TRIM

- A. Protection Plates:
1. kickplate: Provide on push side of every door with closer, except aluminum storefront and glass entry doors.
- B. Manufacturers - Protection Plates and Architectural Trim:
1. Assa Abloy Brands; Rockwood: www.assaabloydss.com.

2.19 FIRE DEPARTMENT LOCK BOX

- A. Manufacturers - Fire Department Lock Box:
1. Knox Company; Knox-Box Rapid Entry System: www.knoxbox.com.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive work; labeled, fire-rated doors and frames are present and properly installed, and dimensions are as indicated on shop drawings.
- B. Verify that electric power is available to power operated devices and of the correct characteristics.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.
- B. Use templates provided by hardware item manufacturer.
- C. Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.
- D. Mounting heights for hardware from finished floor to center line of hardware item. As indicated in the following list; unless noted otherwise in Door Hardware Sets Schedule or on the drawings.
- E. Set exterior door thresholds with full-width bead of elastomeric sealant on each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.03 ADJUSTING

- A. Adjust work under provisions of Section 01 7000 - Execution and Closeout Requirements.
- B. Adjust hardware for smooth operation.
- C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.04 CLEANING

- A. Clean adjacent surfaces soiled by hardware installation. Clean finished hardware per manufacturer's instructions after final adjustments has been made. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.05 PROTECTION

- A. Protect finished Work under provisions of Section 01 7000 - Execution and Closeout Requirements.
- B. Do not permit adjacent work to damage hardware or finish.

3.06 ELECTRONIC LOCKS

- A. GC and EC responsible for setting door frames, providing raceways and boxes for power and data to locations as indicated on drawings,
- B. GC and Hardware Vendor responsible for all door hardware (electronic strikes and magnetic locks) per this specification section.
- C. Owners Low Voltage contractor is responsible to pull all required low voltage cables and terminate at boxes or device locations as indicated on drawings.
- D. Owners Security Vendor responsible for installing and programming devices. See Specification Sections 28 1300 Access Control, and 28 2300 Video Surveillance.

END OF SECTION 08 7100