

SECTION 08711 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Commercial door hardware specified and required to complete the building, except those items that are specifically excluded from this section of the specification.

1.2 SUBMITTALS

A. Product Data: Include installation details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and format indicated in the Door Hardware Schedule at the end of this Section.

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.

- a. Organize door hardware sets in same order as in the Door Hardware Schedule at the end of this Section.

3. Content: Include the following information:

- a. Type, style, function, size, label, hand, and finish of each door hardware item.
- b. Manufacturer of each item.
- c. Fastenings and other pertinent information.
- d. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
- e. Explanation of abbreviations, symbols, and codes contained in schedule.
- f. Mounting locations for door hardware.
- g. Door and frame sizes and materials.

1.3 QUALITY ASSURANCE

A. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

B. Regulatory Requirements: Comply with provisions of the following:

1. ADA: Comply with Americans with Disabilities Act (ADA), "Accessibility Guidelines for Buildings and Facilities (ADAAG)".
2. NFPA 101: Comply with the following for means of egress doors:
 - a. Latches, Locks, and Exit Devices: Not more than 8 lb/f to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
 - b. Door Closers: Not more than 8 lb/f to set door in motion and not more than 8 lbf to open door to minimum required width.
 - c. Thresholds: Not more than 1/2 inch high.
- C. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with NFPA 80.
 1. Labels: Where exit devices are required on fire-rated doors, provide UL label on exit device indicating "Fire Exit Hardware".

1.4 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware

1.5 WARRANTY

- A. Warranty Periods: 1 year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in this Section.
 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Schedule. Products are identified by using door hardware designations, as follows:
 1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

2.2 PRODUCTS AND MANUFACTURERS

- A. General: The following is a listing of products, specified manufacturers, and other acceptable manufacturers.
- B. Or approved quality substitute by architect

| PRODUCTS | SPECIFIED MANUFACTURER | OTHER ACCEPTABLE MANUFACTURERS |
|------------------------|-------------------------------|---------------------------------------|
| Hinges | Hager | Stanley, McKinley, Bommer |
| Pivot Sets | Schlage | Rixson, Corbin/Russwin, Ives |
| Locks & Latches | Schlage | Falcon, Sargent, Corbin/Russwin |
| Exit Devices | Von Duprin | Monarch, LCN, Precision |
| Door Closers | LCN, Norton | Norton, Dorma, LCN |
| OH Stops/holders | Glynn Johnson | Rixson |
| Wall Stops/Floor | Glynn Johnson | Rockwood, Hager, Trimco, Ives |
| Stops, Flushbolts | Glynn Johnson | Rockwood, Hager, Ives |
| Kick Plates | Ives, Rockwood | Rockwood, Hager, Ives |
| Threshold/Weatherstrip | National Guard | Pemko, Reese |
| Silencers | Glynn Johnson | Rockwood, Hager, Trimco, Ives |
| Key Cabinet | Lund | Key Control |
| Drip Strip | National Guard | Hager |

2.3 HINGES AND PIVOTS

- A. Standards: Comply with the following:
 - 1. Hinges: BHMA A156.1.
 - 2. Template Hinge Dimensions: BHMA A156.7.
 - 3. Pivots: BHMA A156.4.
- B. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.
- C. Fasteners: Comply with the following:
 - 1. Machine Screws: For metal doors and frames. Install into drilled and tapped holes.
 - 2. Wood Screws: For wood doors and frames.
- D. Exterior Hinges: Stainless steel. Provide non-removable pins on exterior, out swinging doors, unless otherwise indicated.

2.4 LOCKS AND LATCHES

- A. Locksets: "AL" series, Saturn design as manufactured by Schlage.
 - 1. Acceptable Substitution: T-Series design as manufactured by Falcon Lock, 10-line Sargent Lock
 - 2. Acceptable Substitution: "D" Series, Rhodes design as manufactured by Schlage.
 - 3. Acceptable Substitution: NSD lever design as manufactured by Corbin/Russwin.

2.5 EXIT DEVICES

- A. Exit Devices: Von Duprin 35/98 Series in types and functions specified.
 - 1. Acceptable Substitution: Apex Series as manufactured by Monarch
- B. Closed Head Bolts (Sex Nuts and Bolts): Provide for door exit devices.

2.6 CYLINDERS AND KEYING

- A. Cylinders: All locks and cylinders shall be 6-pin Schlage. Lock manufacturer shall issue all bit-tings in order to create a new grand master key system.
- B. Construction Keying: Comply with the following:
 - 1. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.
- C. Keying System: All locks and cylinders to be construction master keyed in a manner that does not require the cylinders to be removed.
- D. Keys: Provide nickel-silver keys complying with the following:
 - 1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:
 - a. Notation: "DO NOT DUPLICATE".
 - 2. Quantity: Provide Two (2) each change keys per lock and Six (6) each construction master keys and Six (6) each grand master and master keys.

2.7 CLOSERS

- A. Closers: LCN 1461 series having non-ferrous covers, forged steel arms separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring power. Closers shall be furnished with parallel arm mounted on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Furnish with non-hold open arms unless otherwise indicated.
 - 1. Acceptable Substitution: Norton 8200, Dorma 7600, Norton 8500
- B. 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.
- C. Closed Head Bolts (Sex Nuts and Bolts): Provide for closers.

2.8 PROTECTIVE TRIM UNITS

- A. Trim Units: As follows.
- B. Materials: Fabricate protection plates from the following:
 - 1. Stainless Steel: 0.050 inch thick; beveled top and 2 sides; 32D finish.
- C. Fasteners: Provide manufacturer's standard exposed fasteners for door trim units consisting of either machine or self-tapping screws.

2.9 STOPS AND HOLDERS

- A. General: Doorstops shall be furnished for all doors.
- B. Wall Stops: Furnish wall stops for all doors, unless other type stops are indicated or required.
- C. Floor Stops: Furnish floor stops for doors, unless wall or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic.
- D. Silencers: Glynn Johnson GJ64, or equal, for all new interior hollow metal frames. Provide two silencers for each double-door frame and three silencers for each single-door frame.

2.10 DOOR GASKETING

- A. General: Refer to the Hardware Schedule.

2.11 DRIPS

- A. Drip: National Guard 16A aluminum strip length width of door + 4".

2.12 THRESHOLDS

- A. General: Refer to the Hardware Schedule.

2.13 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

2.14 FINISHES

- A. Standard: Comply with door hardware schedule.
 - 1. Exterior Hinges: Stainless Steel (US32D).
 - 2. Interior Hinges: Satin Chrome (US26D).
 - 3. Door Closers: Aluminum (Alum).
 - 4. Locks: Satin Chrome (BHMA 626) (US26D).
 - 5. Exit Devices: Satin Chrome (US26D).
 - 6. Overhead Holders: Satin Chrome (US26D).
 - 7. Flat Goods: Satin Chrome (US26D) or Stainless Steel (US32D).
 - 8. Thresholds: Mill Finish Aluminum.
- B. Protection: Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: Comply with DHI A115 series.
 - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to SDI 107.
- B. Wood Doors: Comply with DHI A115-W series.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically 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."
- B. Installation: Install each door hardware item to comply with manufacturer's written instructions.

3.4 FIELD QUALITY CONTROL

- A. Post-Installation Walk-Through: Provide authorized hardware manufacturer's representative to perform inspection.
 - 1. Inspection shall be to insure proper installation, and to make any and all adjustments to installed hardware.
- B. Hardware Replacement: Replace door hardware items that have deteriorated or failed due to faulty design, materials, or installation of door hardware units.
- C. Security: Provide secure lock-up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items that are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses both before and after installation.
- D. Protection: Protect exposed hardware installed on doors during the construction phase.

3.5 DOOR HARDWARE SCHEDULE

See Architecture Drawing sheet IA204 for Hardware Schedule.

END OF SECTION 08711