

## DOOR HARDWARE

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

## 1.2 SUMMARY

- A. This Section includes items of finish hardware that are required for swing, sliding, and folding doors, except hardware specified in the same sections as the doors and door frames on which it is installed.
- B. Products furnished but not installed:
  - 1. Finish Hardware furnished in this Section, installed under the following Sections:
    - a. Division 08 Section "Aluminum Entrances and Storefronts."
- C. Related Sections include the following:
  - 1. Division 08 Section "Hollow Metal Doors and Frames"
  - 2. Division 08 Section "Aluminum-Framed Entrances and Storefronts" .

## 1.3 QUALITY ASSURANCE

- A. Single Source Responsibility:
  - 1. Obtain each category of hardware (hinges, latch and locksets, exit devices, closers, etc.) from a single manufacturer.
- B. Supplier Qualifications:
  - 1. An established finish hardware supplier who is a factory authorized distributor for all products required, and has display samples, inventory, and qualified personnel trained and experienced in preparing Hardware Schedules, issuing templates, and ordering, furnishing, and servicing finish hardware for architecturally designed projects.
  - 2. Supplier or supplier's representative shall meet with Owner to determine keying requirements.
- C. Preinstallation Seminar:
  - 1. Before the installation of finish hardware begins, the Contractor/Construction Manager shall request that a hardware installation seminar for the installation of closers and exit devices be conducted by the manufacturer's representative of these products. Seminar to be held at job site and attended by all installers of hardware. Examples: Aluminum doors and carpentry installers. Seminar will address proper coordination and installation of exit devices, door closers, and weatherstripping, as detailed in the finish hardware schedule for this project, with the use of installation manuals, hardware schedule, templates, physical product samples, and exit device installation videos.

## 1.4 SUBMITTALS

A. Hardware Schedules:

1. Submit proper number of Hardware Schedules to allow the Architect to retain two copies for his use, plus the number of copies required by the Contractor/Construction Manager for his distribution and use; but, do not submit more than six copies. Include the following:
  - a. Door index, listing all doors by Architect's number, with Schedule page number where Hardware is itemized.
  - b. Complete preface sheet, in the same order as the Specification, listing product categories only and manufacturers' names of items being furnished, as follows:

<u>CATEGORY</u>	<u>SPECIFIED</u>	<u>SCHEDULED</u>
Hinges	Manufacturer A	Manufacturer B
Locksets	Manufacturer X	Manufacturer X
Kick Plates	Open	Manufacturer Z

- c. Hardware locations: Refer to paragraph 3.1.B, Templates and Hardware Locations.
- d. Opening Description: Single or pair, number, room locations, hand, active leaf, degree of swing, size, material, frame material, and UL Listed.
- e. Hardware Description: Quantity, category, product number, and finish.
- f. Headings that refer to the specified Hardware Set Numbers.
- g. To facilitate checking, follow scheduling sequence specified in Hardware Sets and as outlined in Sequence and Format for the Hardware Schedule published by DHI.
- h. Product data of each hardware item, and shop drawings where required, for special conditions and specialty hardware.
- i. "Vertical" scheduling format only. "Horizontal" schedules will be returned "Not Approved".
  - j. Typed copy.
  - k. Double spacing of lines containing product details.
  - l. 8-1/2 x 11 inch sheets.
  - m. Consecutively numbered pages.
  - n. U.S. Standard finish symbols or BHMA finish symbols.

2. Do NOT submit hardware catalog cuts.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Label each item of hardware with the appropriate door number and Hardware Schedule heading number, and deliver to the installer so designated by the Contractor/Construction Manager.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General:

1. Requirements for function, size, and other distinctive qualities for finish hardware are specified in the "Hardware Sets" at the end of this Section.

## B. Hinges:

1. Furnish class BB1279 and size 4-1/2 x 4-1/2 inches, unless specified otherwise. Numbers specified are Hager.
  - a. Hager
  - b. McKinney
2. Stop and Strike:
  - a. Hager 455
  - b. McKinney DS-6 x DLS
3. Dust Proof Strikes: Include flat, rectangular mounting plates, and furnish with all flush bolts, except at openings having thresholds.
  - a. Any member of BHMA

## C. Locksets and Latchsets:

1. Cylindrical Locksets and Latchsets with Lever Trim:
  - a. Function numbers are Schlage. At lead lined doors, supply lead lined roses and lead sleeves for latch bolts.
    - 1) Schlage D
    - 2) Approved equal from Arrow, Sargent or Yale.
  - b. Trim:
    - 1) Schlage Sparta
    - 2) Approved equal from Arrow, Sargent or Yale.
    - 3)

## D. Exit Devices:

1. Function designations are Von Duprin.
  - a. Von Duprin 98
2. Trim:
  - a. Von Duprin 696

## E. Closers:

1. Review the door frame and plan details to determine the proper length of arm and the degree of swing. State the degree of door swing in the Hardware Schedule. Provide accessories such as drop and adapter plates, panel adapters, thick-hub shoes, blade stop spacers, and shoe supports as required to install door closers correctly.

- a. LCN 4000 Smoothee series:
  - 1) Surface: Non-Sized. Adjustable from size 1 through size 5.
  
- F. Kick Plates:
  - 1. Furnish 10 x 0.050 inches x door width less 1-1/2 inches at single doors, and less one inch at pairs.
    - a. Where glass or louvers prevent this height, supply with height equal to height of bottom rail less two inches.
    - b. When specified to be installed above surface mounted automatic door bottoms, deduct height of door bottoms.
    - c. Drill and countersink screw holes for oval head undercut screws. Pan head screws are not acceptable.
  
- G. Bottom Sweeps:
  - 1. Surface: Attach to outside faces of doors, to make contact with thresholds.
    - a. Hager 750SNX
    - b. National Guard 200NA
    - c. Pemko 315CN
    - d. Reese 323C
  
- H. Weatherstripping:
  - 1. Apply to head and jamb stops with no cutouts for stop-applied hardware.
    - a. National Guard 700NA
    - b. Reese 755C
  
- I. Thresholds:
  - 1. Numbers specified are National Guard, and Safe-T-Metal. Products from other manufacturers are acceptable if equal in material, shape, thickness, and contain equal bumper gaskets and foot seals.
  - 2. Thresholds of sufficient width to project beyond faces of doors and frames shall be coped around frame and mullion stops and faces, equal in length to full masonry openings, excluding side lights, when faces of frames are not flush with adjacent walls.
  - 3. When faces of frames are flush with adjacent walls, such thresholds shall be coped similarly at stops and mullions but not in front of faces of frames.
  - 4. Thresholds without projection shall be equal in length to door openings and coped at frame and mullion stops only.
  - 5. Furnish one unit or assembly per door openings, at batteries, butted together with only hairline joints.
  - 6. Furnish Rixson thresholds with floor closers.
  
- J. Stop Strips:

1. Attach to horizontal surface of threshold to butt against inside face of door in closed position.
  - a. National Guard 4N
  - b. Pemko 1842AS
  
- K. Cylinders and Keying: All hardware components capable of being locked shall be provided with a cylinder as listed below. Cylinders shall be mortise or rim type as required by function of locking device. Provide cams or tail pieces as required.
  1. Furnish cylinders factory master and grand master keyed to a new six pin grand master system, according to Owner's instructions. Furnish two change keys for each cylinder, three master keys for each master key set, and three grand master keys for system.
  2. Supply cylinders with interchangeable construction cores for use during the construction period. When so directed, and in the presence of the Owner's Representative, replace construction cores with final cores.
  
- L. Fasteners:
  1. Furnish fasteners of the proper type, size, quantity, and finish.
    - a. Use machine screws and lead anchors for attaching hardware to concrete or masonry.
    - b. Use wall grip inserts at hollow wall construction.
    - c. Install exit devices with fasteners supplied by the exit device manufacturer.
    - d. Attach closers with wood or machine screws.
  
- M. Finishes:
  1. Generally, Satin Chrome, US26D.
    - a. Lock Guards: Steel, Prime Painted, USP.
    - b. Exit device touchpads, push and pull hardware, trim protector bars, kick plates, armor plates, door edgings, overhead holders and stops, and wrought bumpers: Satin Stainless Steel, US32D.
    - c. Extruded Thresholds: Mill Finish Aluminum.
    - d. Closers: Powder Coated Finish Aluminum; at exterior doors, protect all closer cylinders, arms, drop, finish, and adapter plates with Special Rust Inhibiting (SRI) finish.
  
- N. Quantities
  1. Furnish one hinge for each 30 inches of door height or fraction thereof.

### PART 3 – EXECUTION

#### 3.1 INSTALLATION

##### A. General:

1. Install hardware according to manufacturers' printed instructions and to template dimensions.
2. Refer to Cylinders and Keying in Part 2 of this Section regarding replacement of construction cores with final cores.

##### B. Templates and Hardware Locations:

1. Furnish hardware made to template. Supply required templates and hardware locations to the door and frame manufacturers.
2. Dimensions are from finish floor to centerline of items.
3. Include this list in Hardware Schedule.

<u>CATEGORY</u>	<u>DIMENSION</u>
Hinges	Door Manufacturer's Standard
Lockset Levers	Door Manufacturer's Standard
Exit Device Touchbars	Manufacturer's Template
Offset Pulls	46"
Pulls	Suitable for Exit Devices
Push Plates	45"
Pull Plates	42"

C. Inspecting, Adjusting, and Demonstrating:

1. Provide the services of a hardware supplier's or manufacturer's representative to inspect and adjust each item of hardware to ensure proper installation and operation of every unit.
2. Replace units that cannot be adjusted to operate freely and smoothly or as intended for the application made.
3. Instruct the Owner's personnel in adjustment and maintenance of the hardware.

3.2 HARDWARE SETS:

1. See Hardware Schedule indicated on drawings

\*\*END OF SECTION\*\*