SECTION 08710
FINISH HARDWARE

PART 1 - GENERAL

1.1 SUMMARY:

A. Section Includes:
   1. Items known commercially as finish hardware or builders hardware, required for swing, sliding, or folding doors.
   
   2. Types of finish hardware:
      a. Hinges.
      b. Pivots.
      c. Spring hinges.
      d. Lock cylinders and keys.
      e. Lock and latchsets.
      f. Bolts.
      g. Exit devices.
      h. Push/Pull units.
      i. Sliding door equipment.
      j. Closers.
      k. Overhead holders.
      l. Miscellaneous door control devices.
      m. Door trim units.
      n. Protection plates.
      o. Weatherstripping for exterior doors.
      p. Sound stripping for interior doors.
      q. Automatic drop seals (door bottoms).
      r. Astragals or meeting seals on pair of doors.
      s. Thresholds.
      t. Automatic door operators.
      u. Electrically activated panic hardware.

B. Related Sections:
   1. Section 06200 - Finish Carpentry: Installation of finish hardware.
   2. Section 08100 - Metal Doors and Frames.
   3. Section 08210 - Wood Doors.
   4. Section 08740 - Electro-Mechanical Hardware.
   5. Hardware for Special Door Units: Refer to applicable special door sections.
   6. Divisions 6 and 12: Casework hardware.

1.2 REFERENCES:

B. Fire-Rated Openings:

1. National Fire Protection Association (NFPA) Standard No. 80. This requirement takes precedence over other requirements for such hardware.

2. Underwriters Laboratory (UL).


C. Emergency Exit Devices:

1. Fire-Rated Doors: Provide UL or WHI label on exit devices indicating "Fire Exit Hardware".

1.3 SUBMITTALS:

A. Manufacturer's technical product data of each item of hardware.

B. Hardware Schedule:

1. Organize hardware schedule into "hardware sets" indicating complete designations of every item.

2. Include specific hardware directions for every door opening.

C. Templates:

1. Hardware templates to fabricators of other work which is to receive finish hardware.

1.4 QUALITY ASSURANCE:

A. Supplier Qualifications:

1. Recognized builders hardware supplier, with warehousing facilities, who has been furnishing hardware in the Denver-Metro area for a period of not less than 3 years.

2. Employs an experienced AHC certified hardware consultant, available for consultation during the course of the work.

1.5 WARRANTY:

A. Mechanical failure on door closers for 5 years.

B. Blanket coverage on locksets for 5 years.

C. Failure on parts of all hardware except door closures for 2 years.
PART 2 - PRODUCTS

2.1 HINGES:

A. Manufacturers:

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B. Five knuckle, button tip, full mortise template type with non-rising loose pins and ball or oilite bearings.

C. Exterior Doors: 4 ball bearing, non-ferrous .180 or .190 gage hinges with non-removal pin construction or non-rising loose pin with security set screw.
   1. Doors to 36" Width: 4.5" x 4.5" hinges.
   2. Doors over 36" Width: 5" x 5" hinges.

D. Interior Doors: Ball bearing type, wrought steel construction, with .134 or .145 gage.
   1. Doors to 36" Width: 4.5" x 4.5" hinges.
   2. Doors over 36" Width: 5" x 5" hinges.

E. Number of Hinges:
   1. Minimum 3 hinges per door leaf for doors 84" or less in height.
   2. One additional hinge for each 24" of additional height.

2.2 LOCKS:

A. Manufacturers:

NOTE: Do not use L9080PEU Version. Reference UCB Standards Section 08740, Part 2.3.

1. New Construction and Major Rekeying: Schlage L9000 Series (no substitutions) with the following characteristics:
   a. Non-handed case.
   b. Ability to reverse locking hub without opening case cover.
   c. Independent spindles.

2. Minor Rekeying at Remodel Work: Match existing key system.

B. Heavy duty mortise type.

C. Supply all locks with construction cylinders to secure the building until replaced by Owner with "Medeco" cylinders at job completion. All locks must accommodate "Medeco" cylinders.
cylinders.

D. Lock Throw: 3/4" minimum throw of latch and 1" minimum throw of deadbolt.

E. Trim: Cast lever and cast escutcheon, Schlage Lock Co. #03L (no substitutions).

F. Finish:
   2. Remodel Projects: Match finish of existing hardware in adjacent areas.

2.3 DOOR CLOSERS:

A. Manufacturer:
   1. LCN (no substitutions).
   2. Closer Series is 4040 or 4041, may be used with "CUSH" arm if required.
      a. Provide EDA arm (Extra Duty Arm) on parallel arm applications.
      b. Provide "CUSH" arm where required.
   3. Through bolted on all doors unless otherwise directed by Owner.
   5. Interior Doors: Delayed action and conform to UFAS requirements.

B. Size of Units:
   1. Adjust closers to comply with the manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather, wind conditions, and anticipated frequency of use.

2.4 EXIT DEVICES:

A. Manufacturer:
   1. Von Duprin, Inc. (no substitutions).
   2. Vertical rods shall be surface mount only.
   3. Series shall be Von Duprin #99 (or #33 if necessary).

B. Exit Device Dogging: Except on fire-rated doors, wherever closers are provided on doors
equipped with exit devices, equip the units with allen-key dogging device to hold the push bar down and the latch bolt in the open position.

C. Fire Rated Exit Devices: Provide with U.L. Label showing listing for "Fire Exit Hardware."
D. Through-bolt on all doors including center cases, end cases, rod guides and latches.

2.5 DOOR TRIM, STOPS, AND HOLDERS:

A. Manufacturers:

1. Hager
2. Trimco
3. Rockwood
4. Quality
5. Master Manufacturers, Inc.
6. Glynn-Johnson
7. Approved substitute.

B. Door Stops:

1. Locate in position to permit maximum door swing but not to present a hazard or obstruction.

C. Push/Pull Units and Kick Plates:

1. Manufacturer's standard exposed fasteners.
2. Through-bolted push/pull units for matched pairs, but not for single units.
3. Trim Plates: .050" in thickness.
4. Protection Plates (armor, kick, or mop): Minimum 2" less than door width on stop side and minimum 1/2" less than door width on pull side.
5. Wheelchair Entries: Kickplates shall be a minimum 12" high.

D. Thresholds:

1. Height and slope shall conform to ANSI A117.1 and UFAS requirements.
2. Equip all exterior openings with flat corrugated thresholds, with abrasive surfaces.

A. Overhead Holders:

1. Use surface mounted devices unless otherwise approved by the Owner.
2. Through bolt mount on all doors unless otherwise approved by

PROVIDE SOLID BLOCKING IN WALLS FOR WALL MOUNTED STOPS TO PREVENT "PUNCH THROUGH" BY DOOR ACTION.

SEE SECTION 08740. ELECTROMECHANICAL HARDWARE FOR SPECIAL REQUIREMENTS WHERE APPROVED OR REQUIRED.
3. Do not use devices with "hold-open" feature, electromagnetic or otherwise, for doors which are to be used for “airlock” vestibules (typically at exterior doors), or stairwells that serve as vestibules.

B. Automatic Flush Bolts and Coordinators:

1. Do not use automatic flush bolts or coordinators unless otherwise approved by the Owner or required by Code.

2.6 DOOR STRIP UNITS:

A. Manufacturers:

1. Pemko.
2. Reese.
4. Master Manufacturers, Inc.
5. National Guard.
6. Approved substitute.

B. Continuous Weatherstripping:

1. At each edge of every exterior door leaf.
2. At each edge of computer room doors.

C. Smoke Seal Applications: As required to meet all applicable codes.

1. Provide National Guard No. 2525 or approved substitute.

B. Fasteners:

1. Manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops, and similar units).

2. Noncorrosive fasteners as recommended by manufacturer for application indicated.

C. Weatherstrip and Smoke Seals:

1. Silicone rubber seal; vinyl not acceptable.

2.7 FINISHES:

A. Match the finish of the locksets.
B. Closers: Paint to match locksets.
C. Thresholds and Weatherstrip Housing: Aluminum with natural aluminum finish.
D. Coordinate all the various manufactured items furnished on this work to ensure an acceptable uniform finish.

2.8 KEYING:

A. Final cylinders and keying shall be "Medeco" purchased by the Owner and installed by the Contractor.

2.9 AUTOMATIC DOOR OPERATORS:

A. Manufacturer:

1. LCN-Pneumatic only (no substitutions). Power cutoff switch. Reference UCB Standards 08740, Part 2.1, B.

B. Handicap Accessibility Features: Design system to allow handicap access after-hours when building is secured. Provide devices which may be left turned on after-hours without causing damage or undue wear to the device or any other associated hardware.

C. Rod and Arm Assembly Shoes: Through bolt on all doors.

D. Wall Plate Actuators: Hard wire all actuators to electrical supply. Do not use RF (battery operated) actuators.

E. Key Switches: Must accept Owner-installed cylinders. Provide SDC 700 Series or Von Duprin 900 Series.

2.10 ELECTRICALLY ACTIVATED PANIC HARDWARE:

A. Manufacturer:

1. Von Duprin 99EL or 33EL with PS873x2 BB and PT-2 (no substitution except at certain historical locations).

PART 3 - EXECUTION

Not Used

END OF SECTION 08710