

## SECTION 08 71 00 - DOOR HARDWARE

### PART I - GENERAL

#### 1.1 REFERENCES

- A. ANSI A115 & A156
- B. Illinois Accessibility Code
- C. NFPA 101

#### 1.2 SCOPE

- A. These requirements apply to hardware for all doors, including metal entrance doors that incorporate factory supplied hardware.

#### 1.3 SPECIFIED ELSEWHERE

- A. *Section 08 42 29 – Automatic Entrance Doors* for automatic entry door system.

### PART 2 - PRODUCTS

2.1 HINGES: At exterior entrances that are regularly used by the public, aluminum storefront or curtainwall entrances are typically selected. These entrances shall use adjustable offset pivot hinges as described in B below. Other doors that are primarily service doors, convenience doors for stair, or emergency only doors, may be provided as hollow metal doors and frames. These doors may be provided with stainless steel ball bearing butt hinges. The number of hinges per door leaf shall be determined by the size and weight of the door.

- A. Type of Butt: Steel butts, planished and plated, similar to Stanley 179 are satisfactory for interior doors without closers. For interior doors with closers, heavy weight doors, and high frequency use doors, use ball bearing butts. Fire rated doors shall have steel or stainless based ball bearing butts. Non-ferrous butts shall be used in locations where they will be exposed to moisture.
- B. Adjustable Pivots: Each exterior door shall have adjustable offset pivots and adjustable offset intermediate pivots such as Rixson 195 and M19. This allows adjustment to prevent dragging or rubbing as buildings settle over time and as thresholds heave in the winter months. Non-adjustable template hinges shall not be used on exterior doors. Pivots may be utilized on interior doors. Continuous hinges are not allowed on any interior or exterior doors.
- C. Preferred pivot hinges have a jamb mounted bottom pivot such as the Rixson 195 top and bottom set. Pivots that may be used are:
  - a. Rixson 195 top and bottom set
  - b. ABH 0195 Architectural Builders Hardware Mfg, Inc., Itasca, IL
  - c. DORMA OPJ350 DORMA Architectural Hardware
  - d. Ives 7215 Ives Hardware, A division of Ingersoll Rand
- D. Pivots listed above are top and bottom sets. All require manufacturer's compatible intermediate pivot. Use additional intermediate pivots for heavier doors. Select specific product based on weight of door

#### 2.2 CLOSERS

- A. Concealed in Floor: Closers concealed in floor shall not be permitted.
- B. Mounted on Outside of Exterior Doors: Under no condition shall closers be mounted on the outside of exterior doors.

- C. Parallel Arm Type: Use of parallel arm type closers is not permitted on exterior doors.
- D. When to Provide Closers: Closers shall be provided on building exterior and vestibule doors as well as where required by the Life Safety Code, such as in egress corridors and stairwells. Closers are optional on most other interior doors but are typically provided on doors to restrooms, receiving rooms, kitchens, dining rooms, recreation rooms, lecture rooms, and other frequently accessed public areas. Unnecessary use of closers shall be avoided.
- E. Metal Door Frames Hardware Reinforcement: All metal door frames and metal doors shall be reinforced for overhead closers, whether closers are specified or not. The reinforcement shall be complete profile reinforcement.
- F. Adjustment of Closers: Each closer shall be adjusted so as to close its associated door satisfactorily. However, it shall also be adjusted such that the maximum force for pulling or pushing any hinged interior door is 5 lbf (pounds force) and any exterior hinged door is 8 lbf. The forces specified do not apply to the force required to retract latch bolts or disengage other devices that may hold the door in a closed position.
- G. Acceptable Closer Manufacturers
  - 1. LCN (Preferred manufacturer) (4040XP Preferred model)
  - 2. Norton (7700 Preferred model)

### 2.3 FLUSHBOLTS AND COORDINATORS

- A. The use of automatic flush bolts or door coordinators shall not be permitted.

### 2.4 LOCKSETS

- A. Type: All locksets shall be mortise type.
- B. Materials: All locksets shall be cast or wrought brass or bronze construction with #612 or 626 finish. The exception to this is on the room side of restrooms, custodial rooms, and kitchen areas, where the locksets shall be #626 finish or chrome plated bright #625. No plating is required on stainless steel hardware.
- C. Acceptable Lockset Manufacturers
  - 1. Best Lock
  - 2. Sargent
  - 3. Schlage

### 2.5 EXIT DEVICES

- A. Devices with electric latch retraction shall be motor driven rather than solenoid.
- B. Vertical Rod Type: Vertical rod type exit devices shall be used on double doors *only*. On exterior double doors, rim devices utilizing a center mullion is preferred.
- C. Cylinder Dogging: All exit devices on exterior doors shall incorporate cylinder “dogging”.
- D. Mounting: Through-bolting is not recommended provided the door is specified with proper reinforcement to accept surface mounted exit device.
- E. Acceptable Exit Device Manufacturers
  - 1. Von Duprin
  - 2. Precision
  - 3. Sargent

### 2.6 KICK / ARMOR PLATES

- A. Kick / Armor Plates: Provide stainless steel kick plates on doors subject to high frequency use. Doors that are equipped with closers should also be equipped with kick / armor plates.

Kick / armor plates on push side are sufficient. Kick / armor plates shall be beveled on all four sides and have counter sunk screw holes.

## 2.7 DOOR STOPS

- A. Door Stops: Shall be provided on all doors. Utilize overhead, stop arm closers or wall stops when using floor stops would present a tripping hazard.

## 2.8 RUBBER SILENCERS

- A. Resilient Rubber Silencers: Shall be provided with each door frame.

## 2.9 MAGNETIC HOLD OPEN DEVICES

- A. Electric/magnetic Hold Open Devices: Shall only be provided when allowed by code and where specifically requested. A manual switch shall be provided in the associated fire alarm system that permits releasing of all doors without sounding an alarm.

## PART 3 - EXECUTION

### 3.1 HINGES

- A. Type of Butt: Steel butts, planished and plated, similar to Stanley 179 are satisfactory for interior doors without closers. For interior doors with closers, heavy weight doors, and high frequency use doors, use ball bearing butts. Fire rated doors shall have steel or stainless based ball bearing butts. Non-ferrous butts shall be used in locations where they will be exposed to moisture.

END OF SECTION **08** 71 00

This section of the *U of I Facilities Standards* establishes minimum requirements only.  
It should not be used as a complete specification.