**SECTION 08 7100**

**DOOR HARDWARE**

## PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Hardware for steel HM and wood doors.
2. Weather-stripping and thresholds.
3. Sound seals.
4. Hardware for other sections referencing this section.

1.2 REFERENCES

A. American National Standards Institute/Builders Hardware Manufacturers Association (ANSI/BHMA):
1. A156.1 - Butts and Hinges.
2. A156.2 - Bored and Preassembled Locks and Latches.
3. A156.3 - Exit Devices.
4. A156.4 - Door Controls - Closers.
5. A156.5 - Auxiliary Locks and Associated Products.
6. A156.13 - Mortise Locks and Latches.
7. A156.18 - Materials and Finishes.
8. A156.26 - Continuous Hinges.

B. National Fire Protection Association (NFPA):
1. 80 - Standard for Fire Doors and Windows.
2. 105 - Installation of Smoke Control Door Assemblies.

1.3 SUBMITTALS

A. Submittals for Review:
1. Shop Drawings: Schedule hardware by door type and location; show door size, hand, thickness, edge bevel, hardware components and quantities, keying, and finishes.
2. Product Data: Manufacturer's descriptive data for each component.

B. Closeout Submittals:
1. Copy of approved hardware schedule.
2. Keying list.
3. Keys; tag with mark corresponding to keying schedule.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Minimum 5 years experience in work of this Section.

B. Provide hardware labeled by recognized independent testing laboratory and meeting requirements of NFPA 80 for fire rated doors.

C. Provide smoke gasketing at fire rated doors in accordance with NFPA 105.

D. Conform to American with Disabilities Act, 2010, for type, location and for door opening force requirements.

1.5 DELIVERY, STORAGE AND HANDLING

A. Pack hardware items separately, with fasteners, installation instructions, and templates.

B. Mark containers with item number corresponding to hardware schedule.

1.6 WARRANTIES

A. Furnish manufacturer's 2 year warranty for locksets and latch-sets and door closers.

**PART 2 - PRODUCTS**

2.1 MANUFACTURERS

A. Acceptable Manufacturers - Butt Hinges:
1. Bommer Industries, Inc. (www.bommer.com)
2. Hager Companies. (www.hagerco.com)
3. McKinney Products Co. (www.mckinneyhinge.com)
4. Stanley Hardware. (www.stanleyworks.com)
5. Or eqaul

B. Acceptable Manufacturers - Continuous Hinges:
1. Hager Companies. (www.hagerco.com)
2. McKinney Products Co. (www.mckinneyhinge.com)
3. Pemko Manufacturing Co. (www.pemko.com)
4. Stanley Hardware. (www.stanleyhardware.com)
5. Or equal

C. Acceptable Manufacturers - Locksets, Latch-sets, Deadbolts, and Cylinders:
1. Best Access Systems. (www.bestaccess.com)
2. Corbin Russwin Architectural Hardware. (www.corbin-russwin.com)
3. Schlage Lock Co. (www.schlage.com)
4. Sargent Mfg. (www.sargentlock.com)
5. Yale Security, Inc. (www.yalelocks.com)

D. Acceptable Manufacturers - Closers:
1. Corbin Russwin Architectural Hardware. (www.corbin-russwin.com)
2. Dorma Door Controls, Ltd. (www.dorma-usa.com)
3. LCN Closers. (www.lcnclosers.com)
4. Sargent Mfg. (www.sargentlock.com)
5. Yale Security, Inc. (www.yalelocks.com)

E. Acceptable Manufacturers - Exit Devices:
1. Corbin Russwin Architectural Hardware. (www.corbin-russwin.com)
2. Sargent Mfg. (www.sargentlock.com)
3. Von Duprin. (www.vonduprin.com)
4. Yale Security, Inc. (www.yalelocks.com)

F. Acceptable Manufacturers - Door Seals:
1. Hager Companies. (www.hagerco.com)
2. National Guard Products, Inc. (www.ngpinc.com)
3. Pemko Manufacturing Co. (www.pemko.com)
4. Reese Enterprises, Inc. (www.reeseusa.com)


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## 2.2 MANUFACTURED UNITS

A. Butt Hinges:
   1. Description: ANSI/BHMA A156.1, full mortise type, five knuckle, non rising pin, hole in bottom tip for pin removal.
   2. Exterior out-swinging doors: Provide set screw in barrel making hinge non-removable when door is closed.
   3. Weight: Heavy weight.
   4. Bearing type: Ball bearing.
   5. Size: 4-1/2 x 4-1/2 inches.

B. Continuous Hinges:
   1. ANSI/BHMA 156.26, continuous geared type, aluminum with stainless steel bearings between knuckles.

C. Locksets, Latch-sets, Deadbolts, and Cylinders:
   1. Locksets and latch-sets:
      a. Type: ANSI/BHMA A156.13, mortise, lever handles,
   2. Lever: To be selected from manufacturer's full range of selections
   3. Deadbolts:
      a. Type: ANSI/BHMA A156.5, cylindrical type with 1 inch bolt throw.
      b. Functions: As scheduled.
   4. Strike plates: Curved lip, minimum lip projection necessary to protect door frame and trim and to conceal edges of strike cutout.
   5. Strike boxes: Steel.
   6. Cylinders: Seven pin, solid brass, removable core type.
   7. Keys: Solid brass or nickel silver.
   8. Keying:
      a. Removable core.
      b. Two keys per lock and 6 master keys for permanent locks.
      c. Inscribe keys with lock manufacturer and notation DO NOT DUPLICATE.
      d. Provide 1.25 inch wide bow surface for access by the physically handicapped.

D. Closers:
   1. Description: ANSI/BHMA A156.4, overhead exposed, metal cover, sized to door conditions.
   2. Construction: Cast aluminum body, rack and pinion operation with compression spring, fully hydraulic.
   3. Closing and latching speeds]: Controlled by independently adjustable concealed valves.
   4. Mounting: Surface mounted, non handed with universal regular or parallel arm. Suitable for mounting on 1-3/4 inch minimum door top rail or transom bar without drop plate.
   5. Adjustable opening force and delayed closing in accordance with applicable accessibility code.]

E. Exit Devices:
   1. Description: ANSI/BHMA A156.3, crash bar type.
   2. Type: exposed vertical rod.
   3. Outside trim: To be selected from manufacturer’s full range of selections.

F. Door Stops: Wall and/or Floor mounted, aluminum housing with resilient bumper.

G. Push/Pull] Plates: 16 gage, beveled edges, 4 x 16 inches, secured with through bolts.

H. Door Pull: 12 inches center-to-center of mounting holes.

I. Kick Plates:
   1. Type: 16 gage, beveled edges, secured with flathead countersunk screws.
   2. Size: 8 inches high x door width less 2 inches.

J. Flush Bolts: Manual type, with dustproof strike.

K. Weatherstripping:
   1. Head and jambs:
   2. Sill:
   3. Astragals:

L. Threshold: aluminum

2.3 FINISHES

A. Finishes: To ANSI/BHMA A156.18. Owner to select finish from samples submitted by contractor.

2.4 See drawings for hardware schedule.

**PART 3 - EXECUTION**

3.1 INSTALLATION

A. Install hardware in accordance with approved hardware schedule and manufacturer's instructions.

B. Install mortise items flush with adjacent surfaces.

C. Install locksets, closers, and trim after finish painting.

D. Set thresholds in mastic and secure.

E. Mount closers so that closers and closer arms are not visible on corridor or public side of doors or on exterior of building.

F. Mounting Heights - Finished Floor to Center Line of:
   1. Locksets: 38 inches.
   2. Push and pull plates: 42 inches.
   3. Dead locks: 48 inches.
   4. Cross bar exit devices: 38 inches.
   5. Top hinge: Maximum 10 inches from frame head.
   6. Bottom hinge: Maximum 12-1/2 inches from floor.
   7. Intermediate hinges: Equally spaced.

3.2 PROTECTION

A. Remove or protect hardware until painting is completed.

3.3 ADJUSTING

A. Test and adjust hardware for quiet, smooth operation, free from binding and rattling.

   1. Adjust doors in accordance with applicable accessibility code.

END OF SECTION


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