

**PART 1 GENERAL****1.1 SUMMARY**

- A. Section includes hardware for doors.
  - 1. Provide door gaskets, including weatherstripping and seals, and thresholds.
- B. Related Sections:
  - 1. Section 08111 - Steel Doors and Frames.

**1.2 REFERENCES**

- A. American National Standards Institute:
  - 1. ANSI A156.1 - Butts and Hinges.
  - 2. ANSI A156.2 - Bored and Preassembled Locks and Latches.
  - 3. ANSI A156.3 - Exit Devices.
  - 4. ANSI A156.4 - Door Controls - Closures.
  - 5. ANSI A156.8 - Door Controls - Overhead Holders.
  - 6. ANSI A156.13 - Mortise Locks and Latches.
  - 7. ANSI A156.14 - Sliding and Folding Door Hardware.
  - 8. ANSI A156.15 - Closer Holder Release Devices.
  - 9. ANSI A156.16 - Auxiliary Hardware.
  - 10. ANSI A156.18 - Materials and Finishes.
- B. National Fire Protection Association:
  - 1. NFPA 80 - Standard for Fire Doors, Fire Windows.
  - 2. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
- C. Underwriters Laboratories Inc.:
  - 1. UL 10B - Fire Tests of Door Assemblies.
  - 2. UL 305 - Panic Hardware.
  - 3. UL - Building Materials Directory.
- D. Warnock Hersey:
  - 1. WH - Certification Listings.

**1.3 PERFORMANCE REQUIREMENTS**

- A. Fire Rated Openings: Provide door hardware listed by UL or other testing laboratory approved by applicable authorities.
  - 1. Hardware: Tested in accordance with NFPA 252.

**1.4 SUBMITTALS**

- A. Section 01330 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings:
  - 1. Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts.
  - 2. Submit manufacturer's parts lists and templates.
    - a. Submit to the Architect one (1) complete schedule (PDF) of all finish hardware proposed to be furnished for this Work, giving manufacturer's name and catalog number for each item. ONE COPY OF THE SCHEDULE SHALL CONTAIN CATALOG CUTS OF EACH SUPPLIED.
    - b. List each opening and identify the manufacturer of each item; show hand, lock side, size, thickness and material of doors and frames; give manufacturer's complete catalog number for each item; show style and finish of each item; show keying of all locks and locksets. Provide Shop Drawings for special made items.

- c. The approval of the Hardware Schedule does not relieve Contractor of the responsibility of furnishing all hardware required for the project.
- C. Manufacturer's Recommendations: Prior to installation, deliver to all installing personnel complete recommendations from the manufacturers regarding installation methods.
- D. Samples: Submit to the Architect, if requested, properly labeled samples of any items of Finish Hardware scheduled herein or listed in the Detailed Schedule of Hardware. Samples will be returned to the Contractor and then may be incorporated into the Work.
- E. Provide Architect with manufacturer's parts list and maintenance instructions under provisions of Section 01700 for each type of hardware supplied and necessary wrenches and tools required for proper maintenance of hardware.
- F. Manufacturer's Installation Instructions: Submit special procedures, and perimeter conditions requiring special attention.

#### **1.5 CLOSEOUT SUBMITTALS**

- A. Section 01700 - Execution Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of installed cylinders and their master key code.
- C. Operation and Maintenance Data: Submit data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- D. Keys: Furnish locks with removable cores. Keying by SOU.

#### **1.6 QUALITY ASSURANCE**

- A. Perform Work in accordance with the following requirements:
  - 1. ANSI A156 series.
  - 2. NFPA 80.
  - 3. UL 305.

#### **1.7 QUALIFICATIONS**

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Hardware Supplier: Company specializing in supplying institutional door hardware with minimum three years documented experience.
- C. Qualifications of Supplier:
  - 1. Hardware supplier shall be, or have in his employment, a qualified Hardware Consultant who shall be available on a 24-hour notice at the jobsite by request of the Architect to consult, advise and assist in the installation of the Finish Hardware. He shall attend a Keying Conference with the Owner and Architect and provide a Keying Schedule resulting from this Conference.
  - 2. At the completion of the project and prior to final job closeout, the Hardware Supplier Consultant shall visit the Project and inspect all Hardware as installed. He shall advise the Architect by letter that all Hardware is per specification, properly installed and correctly adjusted, or note matters that require correction.
  - 3. Hardware Supplier shall be a Factory Direct Distributor for all products and services required for this Project and shall so certify in his Hardware schedule submittal.
- D. It is the intent of this specification to provide general guidelines for the quality, function and design of the architectural finish hardware. It is the specific responsibility of the hardware supplier to furnish products which are fully functional, in full compliance with

state and local building codes, fire codes and handicap codes. Any supplier bidding on this section of work will notify the Architect, prior to bidding, of discrepancies, or will be assumed to have included correct material to make this compliance.

- E. Products Requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., as suitable for purpose specified and indicated.

## **1.8 PRE-INSTALLATION MEETINGS**

- A. Not Required

## **1.9 DELIVERY, STORAGE, AND HANDLING**

- A. Section 01600 - Product Requirements: Product storage and handling requirements.
- B. Package hardware items individually with necessary fasteners, instructions, and installation templates, when necessary; label and identify each package with door opening code to match hardware schedule.

## **1.10 COORDINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Coordinate Work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware and recessed items.
  - 1. Provide templates or actual hardware as required to ensure proper preparation of doors and frames.
- C. Sequence installation to accommodate required utility connections.
- D. Coordinate Owner's keying requirements during course of Work.

## **1.11 WARRANTY**

- A. Section 01700 - Execution Requirements: Product warranties and product bonds.
- B. Furnish two year manufacturer warranty for all hardware except surface closers which shall be guaranteed for 10 years.

## **1.12 MAINTENANCE MATERIALS**

- A. Section 01700 - Execution Requirements: Maintenance materials.
- B. Furnish special wrenches and tools applicable for each different and for each special hardware component.
- C. Furnish maintenance tools and accessories supplied by hardware component manufacturer.

## **1.13 KEYING**

- A. Furnish locks with removable cores. Final keying by SOU.

# **PART 2 PRODUCTS**

## **2.1 HARDWARE**

- A. Provide hardware and related accessories listed in the Schedule at the end of this Section, complete to function intended.
- B. Doors and frames used in positive pressure opening assemblies shall meet UBC 7-2-97 and UL 10C in areas where this has been adopted by local authority having jurisdiction. This specification includes gasketing for smoke only. Intumescent gasketing to be provided with wood door assemblies Section 08210.

## **2.2 ACCEPTABLE MANUFACTURERS**

## A. Manufacturers:

<u>PRODUCT</u>	<u>MANUFACTURER</u>
BUTTS	HAGER
LOCKSETS	SARGENT
OCCUPANCY IND.	SCHLAGE
LATCHGUARD	IVES
CLOSERS	SARGENT
EXIT DEVICE	VON DUPRIN
PUSH/PULL	TRIMCO
KICKPLATES	IVES
FLUSHBOLT	IVES
FLOOR STOPS	TRIMCO
WALL STOPS	IVES
OVERHEAD STOP	GLYNN-JOHNSON
THRESHOLD	PEMKO
DOOR SWEEPS	PEMKO
DRIP CAP	PEMKO
GASKET	STEELCRAFT

- B. Furnish all hardware fastenings to metal, or other material requiring template hardware, to template so that all finish hardware and work of all trades will fit together in proper manner as intended by the Drawings and Specifications.
- C. It shall be the responsibility of the Hardware Supplier to furnish complete information, templates and template hardware to special door and frame manufacturers for application at the factory, unless otherwise directed, and coordinate the hardware specified and to be furnished with these suppliers.

**2.3 COMPONENTS**

- A. General Hardware Requirements: Where not specifically indicated, comply with applicable ANSI A156 standard for type of hardware required. Furnish each type of hardware with accessories as required for applications indicated and for complete, finished, operational doors.
1. Templates: Furnish templates or physical hardware items to door and frame manufacturers sufficiently in advance to avoid delay in Work.
  2. Reinforcing Units: Furnished by door and frame manufacturers; coordinated by hardware supplier or hardware manufacturer.
  3. Fasteners: Furnish as recommended by hardware manufacturer and as required to secure hardware.
    - a. Finish: Match hardware item being fastened.
  4. Fire Ratings: Provide hardware with UL listings for type of application involved.
- B. Design: All fasteners shall harmonize with the hardware as to material and finish.

**2.4 FINISHES**

- A. Dull Chrome US26D.

**2.5 DOOR CLOSERS**

- A. All surface door closers shall be size as specified. Check degree of opening for all closers. Brackets or drop plates of proper type and size to be provided where necessary. No exposed fasteners.

- B. It shall be the responsibility of the hardware supplier to verify the proper mounting of the closers.

## **2.6 DOOR SILENCERS**

- A. Three silencers for single doors, four for pairs of doors. GJ #65. Omit at doors with weatherstripping or draftseal.

## **2.7 HINGES**

- A. Provide non-removable pins on any outswinging, exterior door hinges.

## **2.8 DOOR STOPS**

- A. Door stops to be provided for all doors.
- B. Stop numbers refer to types. Door stops are to be placed at point of contact. In certain locations, it may be advantageous to place stop on the door.
- C. Substitute floor for wall or wall for floor stop where door function requires.

## **2.9 LOCK AND LATCH DESIGN**

- A. All keyed locks shall be 6 pin.
- B. Strikes to have extended lip where required to protect trim from being marred by latch bolt.
- C. For ease of maintenance, it is mandatory that all cylindrical lock cylinders be furnished so cylinders can be removed without removing lock from door.
- D. All lock chassis must be equipped with neoprene, or other material washer, under inside rose to prevent rose from loosening on the doors. It is also mandatory that a key to be used to remove cylinder knob, whether in locked or unlocked position.
- E. Backset: 2-3/4 inch standard, 3-3/4 inch where required to clear weatherstripping.

# **PART 3 EXECUTION**

## **3.1 EXAMINATION**

- A. Section 01300 - Administrative Requirements: Coordination and project conditions.
- B. Verify doors and frames are ready to receive door hardware and dimensions are as indicated on shop drawings.

## **3.2 INSTALLATION**

- A. Coordinate mounting heights with door and frame manufacturers. Use templates provided by hardware item manufacturer.
- B. Mounting Heights From Finished Floor to Center Line of Hardware Item: Comply with manufacturer recommendations and applicable codes where not otherwise indicated.
  - 1. Locksets: 38 inch.
  - 2. Push/Pulls: 42 inch.
  - 3. Dead Locks: 48 inch.
  - 4. Push Pad Type Exit Devices: 42 inch.
  - 5. Cross Bar Type Exit Devices: 38 inch.
  - 6. Top Hinge: Jamb manufacturer's standard, but not greater than 10 inches from head of frame to center line of hinge.
  - 7. Bottom Hinge: Jamb manufacturer's standard, but not greater than 12-1/2 inches from floor to center line of hinge.

- 8. Intermediate Hinges: Equally spaced between top and bottom hinges and from each other.
- 9. Hinge Mortise on Door Leaf: 1/4 inch to 5/16 inch from stop side of door.
- C. The hardware supplier shall visit the job site and instruct the hardware installer in the proper use and interpretation of the Hardware Schedule and templates and shall instruct him in the proper installation of hardware at the time of delivery of the hardware and at whatever other times the Architect or General Contractor shall deem necessary.

**3.3 FIELD QUALITY CONTROL**

- A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Architectural Hardware Supplier inspect installation and certify hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

**3.4 ADJUSTING**

- A. Section 01700 - Execution Requirements: Testing, adjusting, and balancing.
- B. Adjust hardware for smooth operation.

**3.5 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Section 01700 - Execution Requirements: Protecting installed construction.
- B. Do not permit adjacent work to damage hardware or hardware finish.

**3.6 SCHEDULE**

**GROUP 1**

**CURVED FACE DOORS**

3 EA BUTTS WTBB1168 4.5 x 4.5 NRP  
1 EA DUMMY PULL 10U94  
1 EA DEADBOLT 485  
1 EA HINGE PIN DOOR STOP 70

US26D HAGER  
26D SARGENT  
26D SARGENT  
B26D IVES