

**ARCH 478
OFFICE BUILDING**

SECTION 08710

DOOR HARDWARE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. *Hardware for new and salvaged wood doors.*
- B. *Hardware for fire-rated doors.*
- C. *Thresholds.*
- D. *Weatherstripping, seals and door gaskets.*

1.02 RELATED SECTIONS

- A. *Section 08115 - Steel Door Frames.*
- B. *Section 08210 - Flush Wood Doors.*
- C. *Section 08410 - Aluminum Entrances and Storefronts: Coordinate the work to provide complete installation of hardware at new aluminum entrances.*

1.03 REFERENCES

- A. *ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 1998.*
- B. *BHMA A156.1 - American National Standard for Butts and Hinges; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.1).*
- C. *BHMA A156.2 - American National Standard for Bored and Preamsembled Locks & Latches; Builders Hardware Manufacturers Association; 1996 (ANSI/BHMA A156.2).*
- D. *BHMA A156.3 - American National Standard for Exit Devices; Builders Hardware Manufacturers Association; 1994 (ANSI/BHMA A156.3).*
- E. *BHMA A156.4 - American National Standard for Door Controls - Closers; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.4).*
- F. *BHMA A156.5 - American National Standard for Auxiliary Locks & Associated Products; Builders Hardware Manufacturers Association; 1992 (ANSI/BHMA A156.5).*
- G. *BHMA A156.6 - American National Standard for Architectural Door Trim; Builders Hardware Manufacturers Association; 1994 (ANSI/BHMA A156.6).*
- H. *BHMA A156.7 - American National Standard for Template Hinge Dimensions; Builders Hardware Manufacturers Association; 1988 (R1997) (ANSI/BHMA A156.7).*
- I. *BHMA A156.8 - American National Standard for Door Controls - Overhead Stops and Holders; Builders Hardware Manufacturers Association, Inc.; 2000 (ANSI/BHMA A156.8).*
- J. *DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; Door and Hardware Institute; 1990.*
- K. *NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association; 1999.*
- L. *NFPA 101 - Code for Safety to Life from Fire in Buildings and Structures; National Fire Protection Association; 2000.*
- M. *UL (BMD) - Building Materials Directory; Underwriters Laboratories Inc.; current edition.*

1.04 SUBMITTALS

- A. *See Section 01300 - Administrative Requirements, for submittal procedures.*
- B. *Shop Drawings:*
 - 1. *Indicate locations and mounting heights of each type of hardware, schedules, catalog cuts, electrical characteristics and connection requirements.*
 - 2. *Submit manufacturer's parts lists and templates.*

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- C. *Hardware Schedule: Provide a detailed hardware schedule, incorporating the information provided within the schedule at the end of this section, prepared by a certified Architectural Hardware Consultant, for review and approval by Architect/Owner.*
 - 1. *Submit four (4) copies of the finish hardware schedule, organized into "hardware sets" and indicating complete designation of every item required for each door or opening. List in a vertical form. Review of hardware schedule does not relieve the Contractor of responsibility to fulfill project requirements in accordance with contract documents*
 - 2. *Schedule must be in vertical form, including all quantities, stock number, finishes and sizes. List hardware for each door opening separately. Schedules prepared in a coded form are not acceptable and will be returned without review.*
 - 3. *After the schedules have been reviewed, submit four (4) copies of corrected schedules and one (1) copy of catalog cuts of each item and installation and maintenance instructions.*
- D. *Project Record Documents: Record actual locations of installed cylinders and their master key code.*
- E. *Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.*
- F. *Keys: Deliver with identifying tags to owner by security shipment direct from hardware supplier.*

1.05 QUALITY ASSURANCE

- A. *Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.*
- B. *Hardware Supplier Qualifications: Finish hardware shall be supplied by a "Recognized Hardware Supplier" specializing in supplying commercial door hardware with five years of experience in the same area as the project. The supplier shall be a Distributor for the products, not a Broker, and shall maintain a stock and parts inventory of all items supplied on this project for future service to the Owner.*
- C. *Hardware Supplier Personnel: Employ an Architectural Hardware Consultant (AHC) to assist in the work of this section.*

1.06 REGULATORY REQUIREMENTS

- A. *Conform to the Seattle Building Code as adopted by the City of Seattle for requirements applicable to all finish hardware, doors and frames.*
- B. *All Hardware on Fire-Rated Doors: Listed and classified by UL as suitable for the purpose specified and indicated.*
- C. *Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.*

1.07 PRE-INSTALLATION MEETING

- A. *Convene one week prior to commencing work of this section.*

1.08 DELIVERY, STORAGE, AND PROTECTION

- A. *Package hardware items individually; label and identify each package with door opening code to match hardware schedule.*

1.09 COORDINATION

- A. *Coordinate the work with other directly affected sections involving manufacture or fabrication of internal reinforcement for door hardware.*
- B. *Coordinate the work of this section with Section 08410 - Aluminum Entrances and Storefronts.*
- C. *Furnish templates for door and frame preparation.*
- D. *Sequence installation to ensure utility connections are achieved in an orderly and expeditious manner.*

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E. Coordinate Owner's keying requirements during the course of the Work.

1.10 WARRANTY

- A. See Section 01780 - Closeout Submittals, for additional warranty requirements.
- B. Provide ten year warranty for door closers.
- C. Provide one year warranty against defects in workmanship and operation, backed by a factory guarantee of the hardware manufacturer.

1.11 MAINTENANCE PRODUCTS

- A. Provide special wrenches and tools applicable to each different or special hardware component.
- B. Provide maintenance tools and accessories supplied by hardware component manufacturer.

1.12 EXTRA MATERIALS

- A. Provide two extra key lock cylinders for each master keyed group.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Hinges: MCKINNEY
 - 1. Acceptable Substitutions: LAWRENCE, STANLEY
 - 2. Butt sizes are to be modified if door trim interferes with fullest possible degree of opening for doors.
 - 3. Quantity: 1-1/2 pair up to and including 90" in height and 2 pair over 90" in height for each leaf.
 - 4. For unusual size or weight doors, furnish type, size and quantity recommended by the Butt Manufacturer.
 - 5. Lockable outswing Doors to have nonremovable pins (NRP set screw in barrel).
 - 6. Finish: Exterior - 32D, Interior - 26D.
- B. LockSets, Latchsets, and Cylinders: Sargent - 10 Line Series.
 - 1. Design: LP
 - 2. Provide wrought box strikes.
 - 3. Provide rolled lip strikes of minimum length to protect trim.
 - 4. Finish: 26D
- C. Closers: Sargent - 1431 Series.
 - 1. Spray Closers to match adjacent hardware.
 - 2. Whether specified or not provide the proper feet to suit the conditions and the proper length arm to allow fullest degree of opening for doors.
 - 3. Provide drop plates where required.
 - 4. Contractor shall install all the screws required for the foot. Thru-bolts to be used on wood doors.
 - 5. Provide special closer mounting as required where interference with weatherstrip or sound seal occurs.
 - 6. Mount closer on room side of door, not in corridor.
 - 7. The hardware distributor will adjust all the door closers at the jobsite. The closers will operate smoothly and meet ADA opening requirements. The hardware distributor will return to the jobsite six (6) months after completion. The hardware distributor will check all the closer and re-adjust them as required for smooth operation.
- D. Exit Devices: Sargent - 80 Series
 - 1. Provide model as listed in hardware groups.
 - 2. Finish: 32D
 - 3. Glass bead kits if required.
 - 4. Provide Thru Bolts on wood doors.

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5. Provide all Mullions with key removable feature 12-L980.
- E. Push & Pulls
 1. Manufacturer Listed: TICE
 2. Acceptable Substitutions: TRIMCO, IVES, DON JO.
 3. Finish: 32D
- F. Kick, Mop and Armor Plates
 1. Manufacturer Listed: TICE
 2. Acceptable Substitutions: TRIMCO, IVES
 3. Plates shall be mounted with oval head screws of matching finish.
 4. Size: All plates shall be furnished with width as required to provide 1/4" clearance at side of doors and stops (see door types for required size).
 5. Finish: US32D - Stainless Steel.
 6. Kick Plates will be 10" x 2" less total door width.
 7. Armor Plates will be 34" x 2" less total door width.
- G. Stops and Holders
 1. Manufacturer Listed: TRIMCO
 2. Acceptable Substitutions: GLYNN-JOHNSON, IVES
 3. There shall be stops to protect all walls, cabinet work or hardware operation. Wall stops shall be used wherever possible, unless otherwise called for in hardware types.
 4. Overhead Stops Manufacturer Listed: ABH
 5. Finish: 26D
 6. Wall Stops: TRIMCO #1270 WX.
 7. Floor Stops: TRIMCO #1215.
- H. Weatherstrip and Threshold
 1. Manufacturer Listed: PEMKO
 2. Acceptable Substitutions: REESE, NATIONAL GUARD.
 3. Where it occurs weatherstrip shall be applied to both sides of a mullion.
 4. All thresholds to have PEMKO FHSL-25 Fasteners.
- I. Flush Bolts, Dust Proof Strikes, Coordinator
 1. Manufacturer Listed: IVES
 2. Acceptable Substitutions: TRIMCO, GLYNN-JOHNSON
 3. Furnish closer mounting brackets as required by frame details.
 4. Finish: 26D.
- J. Door Silencers
 1. Manufacturer Listed: GLYNN-JOHNSON
 2. Acceptable Substitutions: TRIMCO
 3. Quantity: Furnish three (3) for each single door frame and four (4) for each double frame.
 4. Type 64 or 65.
- K. Special Tools
 1. Provide two (2) sets of any "SPECIAL TOOLS" to the Owner which may be required for installation, removal and maintenance of hardware by the Owner.

2.02 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS

- A. Provide products that comply with the following:
 1. Applicable provisions of Federal, State, and local codes.
 2. ANSI/ICC A117.1, American National Standard for Accessible and Usable Buildings and Facilities.
 3. Applicable provisions of NFPA 101, Life Safety Code.
 4. Fire-Rated Doors: NFPA 80.
 5. All Hardware on Fire-Rated Doors: Listed and classified by UL as suitable for the purpose specified and indicated.
 6. Products Requiring Electrical Connection: Listed and classified by UL as suitable for the purpose specified and indicated.

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B. *Finishes: BHMA 626, unless noted otherwise.*

2.03 KEYING

- A. *Keying shall be established at a key conference attended by the Owner/Architect and Hardware Distributor. Provide permanent key schedules in a format acceptable to the Owner. All permanent keys shall be hand delivered or sent via registered mail directly to the Owner.*
- B. *The hardware distributor will provide construction cores for all locks. When the job is completed, the hardware distributor will provide the permanent cylinders. The hardware distributor will install all of the permanent cylinders in the locks at the jobsite.*
- C. *Keys: Provide 3 for each cylinder unit (except as amended at key conference).*
- D. *Masterkeys: Provide 12 for each new set established.*
- E. *Grandmaster Keys: Provide 3.*
- F. *Cylinders: Sargent or Falcon*

2.04 KEY CABINET

- A. *Provide key control system including: Envelopes, labels, tags, receipt forms, and standard metal cabinet.*
- B. *Cabinet Size: Size for project keys plus 10 percent growth.*
- C. *Horizontal metal strips for key hook labeling with clear plastic strip cover over labels.*
- D. *Finish: Baked enamel, white color.*

PART 3 EXECUTION

3.01 EXAMINATION

- A. *Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.*

3.02 INSTALLATION

- A. *Skilled mechanics to install hardware in accordance with manufacturer's instructions and to Architect/Owner's satisfaction. Conform to BHMA, UBC and UL requirements as referenced.*
- B. *Use templates provided by hardware item manufacturer.*
- C. *Install hardware on fire-rated doors and frames in accordance with code and NFPA 80.*
- D. *Mounting heights for hardware from finished floor to center line of hardware item:*
 - 1. *For steel frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."*
 - 2. *For wood doors: Comply with DHI "Recommended Locations for Architectural Hardware for Wood Flush Doors."*
 - 3. *Hardware placement: Locate hardware on doors as follows:*
 - a. *Dimensions are from the finished floor to centerline unless shown otherwise.*
 - 1) *Butts: As per approved metal jambs.*
 - 2) *Lock/Latch Knobs 40" center line strike.*
 - 3) *Exit Device Cross Bar: 41", except adjust mounting height to clear door lites, consult Architect.*
 - 4) *Deadlock Cylinder: 48"*
 - 5) *Push Latches: 42" centerline strike*
 - 6) *All other items per manufacturer's instructions or as directed.*
 - 4. *After erection and glazing, check and adjust all operating hardware.*
- E. *After installation, clean interior and exterior metal surfaces of all mortar, plaster, paint or other contaminants.*
- F. *Make further adjustments during guarantee period.*
- G. *Repair hardware which has been damaged by use when damage is caused by faulty installation.*

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3.03 FIELD QUALITY CONTROL

- A. Provide an Architectural Hardware Consultant to inspect installation and certify that hardware and installation has been furnished and installed in accordance with manufacturer's instructions and as specified.

3.04 ADJUSTING

- A. Adjust hardware for smooth operation.

3.05 PROTECTION OF FINISHED WORK

- A. Protect finished Work under provisions of Section 01700.
B. Do not permit adjacent work to damage hardware or finish.

3.06 SCHEDULE

- A. Hardware Groups:

HW-1

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	LOCK SA	63-10G05 LP	
1	CLOSER SA	1431	
1	KICKPLATE	TI	B4E
1	WALL STOP	TR	1270 WV
1	SET HOT SEAL	PE	HSS2000
1	SET SMOKE GASKET	PE	S44D

HW-2

3	EA. BUTTS	MC	T2714 4.5 X 4.5
1	LOCK SA	63-10G04 LP	
1	WALL STOP	TR	1270 WV
3	SILENCERS	IV	64

HW-3

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	LOCK SA	63-10G04 LP	
1	CLOSER SA	1431	
1	KICKPLATE	TI	B4E
1	WALL STOP	TR	1270 WV
1	SET HOT SEAL	PE	HSS2000
1	SET SMOKE GASKET	PE	S44D

HW-4

3	EA. BUTTS	MC	T2714 4.5 X 4.5
1	LOCK SA	63-10G05 LP	
1	WALL STOP	TR	1270 WV
3	SILENCERS	IV	64

HW-5

3	EA. BUTTS	MC	T2714 4.5 X 4.5
1	LATCH SA	10U15 LP	
1	WALL STOP	TR	1270 WV
3	SILENCERS	IV	64

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HW-6

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	LATCH SA	10U15 LP	
1	CLOSER SA	1431	
1	KICKPLATE	TI	B4E
1	WALL STOP	TR	1270 WV
1	SET HOT SEAL	PE	HSS2000
1	SET SMOKE GASKET	PE	S44D

HW-7

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	EXIT DEVICE	SA	63-12-8813 ETP
1	CLOSER SA	1431	
1	KICK PLATE	TI	B4E
1	WALL STOP	TR	1270 WV
1	SET SMOKE GASKET	PE	S44D

HW-8

3	EA. BUTTS	MC	T4A3786 4.5 X 4.5
1	EXIT DEVICE	SA	12-8815 ETP
1	KICK PLATE	TI	B4E
1	MAG. HOLDER	ABH	2120
1	SET SMOKE GASKET	PE	S44D

HW-9

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	LOCK SA	63-10G04 LP	
1	CLOSER SA	1431 CPS	
1	KICKPLATE	TI	B4E
1	SET SMOKE GASKET	PE	S44D

HW-10

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	LOCK SA	12-8815 ETP	
1	CLOSER SA	1431	
1	KICKPLATE	TI	B4E
1	WALL STOP	TR	1270 WV
1	SET SMOKE GASKET	PE	S44D

HW-11

3	EA. BUTTS	MC	TA2714 4.5 X 4.5
1	PRIVACY	SA	10U65 LP
1	CLOSER SA	1431	
1	KICKPLATE	TI	B4E
1	WALL STOP	TR	1270 WV
1	SET SMOKE GASKET	PE	S44D

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HW-12

2	CONTINUOUS HINGES	PE	CFM81SLFHD
1	EXIT DEVICE	SA	63-8610 X 106
1	EXIT DEVICE	SA	8610
2	PULLS TI	46 X SPANNER CAPS	
2	CLOSERS	SA	1431
2	FLOOR STOP	IV	446
1	THRESHOLD	PE	276A
2	DOOR BOTTOM	PE	315CN
	SET WEATHERSTRIP		BY DOOR SUPPLIER

END OF SECTION