

SECTION 08711 - DOOR HARDWARE

PART 1 - GENERAL

SUMMARY

This Section includes the following:

Commercial door hardware.

SUBMITTALS

Product Data: For each product indicated.

Door Hardware Schedule: Organized into door hardware sets indicating type, style, function, size, label, hand, manufacturer, fasteners, location, and finish of each door hardware item. Include description of each electrified door hardware function, including sequence of operation.

Keying Schedule: Detail Owner's final keying instructions for locks.

Product certificates.

QUALITY ASSURANCE

Supplier Qualifications: Person who is or employs a qualified DHI Architectural Hardware Consultant.

Keying Conference: Conduct conference at Project site. Incorporate keying conference decisions into final keying schedule.

Keys: Deliver keys to manufacturer of key control system Owner.

Templates: Obtain and distribute templates for doors, frames, and other work specified to be factory prepared for installing door hardware.

Certified Products: Provide door hardware that is listed in BHMA directory of certified products.

WARRANTY

Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within warranty period.

Warranty Period for Manual Closers: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

MANUFACTURERS

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Basis-of-Design Product: Product named for each door hardware item indicated in Door Hardware Sets establishes the basis of design. Provide either the named product or a comparable product by one of the manufacturers specified for each type of hardware item.

DOOR HARDWARE

Scheduled Door Hardware: Provide door hardware according to Door Hardware Sets at the end of Part 3. Manufacturers' names are abbreviated.

PIVOTS AND HINGES

General: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

Hinge Base Metal: Unless otherwise indicated, provide the following:

Exterior Hinges: Stainless steel, with stainless-steel pin.

Interior Hinges: Steel, with steel pin.

Hinges for Fire-Rated Assemblies: Steel, with steel pin.

Nonremovable Pins: Provide set screw in hinge barrel that prevents removal of pin while door is closed; for outswinging exterior doors.

Screws: Phillips flat-head screws; screw heads finished to match surface of hinges.

Metal Doors and Frames: Machine screws (drilled and tapped holes).

Wood Doors and Frames: Wood screws.

MECHANICAL LOCKS AND LATCHES

Bored Lockset Design: As scheduled.

Dummy Trim: Match lever lock trim and escutcheons.

Lock Throw: Comply with labeled fire door requirements.

Backset: 2-3/4 inches (70 mm), unless otherwise indicated.

EXIT DEVICES

Panic Exit Devices: Listed and labeled for panic protection, based on testing according to UL 305.

Fire Exit Devices: Complying with NFPA 80 that are listed and labeled for fire and panic protection, based on testing according to UL 305 and NFPA 252.

Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

Outside Trim: Pull with cylinder; material, finish, and design to match locksets and latchsets, unless otherwise indicated.

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OPERATING TRIM

Push-Pull Design: As scheduled.

CLOSERS

Surface-Mounted Closers:

Closer Holder Release Devices: BHMA A156.15.

Size of Units: Factory-sized, adjustable to meet field conditions and requirements for opening force.

PROTECTIVE TRIM UNITS

Protective Trim Units: Sized **1-1/2 inches (38 mm)** less than door width on push side and **1/2 inch (13 mm)** less than door width on pull side, by height scheduled or indicated. Fasten with exposed machine or self-tapping screws.

Material: Metal.

STOPS AND HOLDERS

Stops and Holders: Provide floor stops for doors, unless wall or other type stops are scheduled or indicated. Do not mount floor stops where they will impede traffic. Where floor or wall stops are not appropriate, provide overhead holders.

DOOR GASKETING AND THRESHOLDS

Door Gasketing: Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

Air Leakage: Not to exceed **0.50 cfm per foot (0.000774 cu. m/s per m)** of crack length for gasketing other than for smoke control, as tested according to ASTM E 283.

Gasketing Materials: Comply with ASTM D 2000 and AAMA 701/702.

Thresholds: Of type scheduled or indicated.

SLIDING AND FOLDING DOOR HARDWARE

Folding Door Hardware: Complete sets consisting of overhead rails, hangers, supports, bumpers, floor guides, and accessories indicated.

Interior Doors: Provide door hardware for interior bifolding doors when not furnished as part of door package.

Bifolding Door Hardware: Rated for door panels weighing up to **50 lb (23 kg)**.

CYLINDERS, KEYING, AND STRIKES

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Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver.

Number of Pins: Six.

High-Security Grade: BHMA Grade 1A, listed and labeled as complying with UL 437 (Suffix A).

Permanent Cores: Manufacturer's standard; finish face to match lockset.

Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

Strikes: Manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set.

FABRICATION

Base Metals: Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18 for finishes. Do not furnish manufacturer's standard materials if different from specified standard.

Fasteners: Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated. Provide steel machine or wood screws or steel through bolts for fire-rated applications.

Spacers or Sex Bolts: For through bolting of hollow metal doors.

Fasteners for Wood Doors: Comply with requirements of DHI WDHS.2, "Recommended Fasteners for Wood Doors."

Finishes: Comply with BHMA A156.18.

PART 3 - EXECUTION

INSTALLATION

Examine doors and frames for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

Steel Door and Frame Preparation: Comply with DHI A115 series. Drill and tap doors and frames for surface-applied hardware according to SDI 107.

Wood Door Preparation: Comply with DHI A115-W series.

Mounting Heights: Comply with the following requirements, unless otherwise indicated:

Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."

Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

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Adjust and reinforce attachment substrates as necessary for proper installation and operation. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with accessibility requirements.

Door Closers: Adjust sweep period so that from an open position of 70 degrees, the door will take at least three seconds to move to a point **3 inches (75 mm)** from the latch, measured to the leading edge of the door.

DOOR HARDWARE SETS

General: Provide hardware for each door to comply with requirements of Section "Door Hardware," hardware set numbers indicated in door schedule, and in the following schedule of hardware sets.

Hardware sets indicate quantity, item, manufacturer and product designation, size, and finish or color, as applicable.

Set #1: Doors No. 1, 6, 7

12	Hinges	BB1191	4.5x4.5	US10	HA
4	Exit Devices	8813	FETL	10	SA
4	Door Pulls	4J		US10	HA
4	Closers	1231PS	w/Hold Opens	EB	SA
4	Saddle Thresholds	425 x 36"		AL	NA
4	Gasketing Sets	160	2x36" + 4x84"	AL	NA
4	Door Bottoms	EPDM x 36"			SE

Set #2: Door No. 2, 3, 8

9	Hinges	BB1279	4.5 x 4.5	US10	HA
3	Exit Device	8813	FETL	US10	SA
3	Closers	350UO		EB	SA
3	Door Plates	30S	4 x 16	US10	HA
3	Door Pulls	4J		US10	HA

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Set #3: Doors No. 4, 9, 11, 12

12	Hinges	BB1191	4.5 x 4.5	US10	HA
4	Locksets	7LG37	LSL	US10	SA
4	Wall Bumpers	236W		US10	HA

Set #4: Doors No. 5, 10, 13, 14

12	Hinges	BB1279	4.5 x 4.5	US10	HA
4	Locksets	7LU65	LSL	US10	SA
4	Wall Bumpers	236W		US10	HA

END OF SECTION 08711